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Original Communications.

CONSUMPTION AMONG THE INDIANS.*

By WASHINGTON MATTHEWS, M. D.,
SURGEON, UNITED STATES ARMY.

THE subject of consumption among our North American aborigines presents some interesting problems to the climatologist.

We have permanently established on our soil three of the most diverse varieties of the human species. Two of these have been introduced within a recent historic period; the third has dwelt in the land during a lapse of time which may be estimated only by the geologist; yet we find to-day among the autochthons a much higher death-rate than among the exotic races. From the census of 1880 we learn that the death-rate—*i. e.*, the number of deaths during the year to one thousand of population—is for the three races as follows: Europeans, 17.74; Africans, 17.28; aboriginal Americans, 23.6.

Now the question arises, To what particular cause or causes is this high rate of mortality among the Indians especially due? On this point the Tenth Census seems to leave us not a moment in doubt. In Vol. XI—that on “Vital Statistics,” by Dr. J. S. Billings, U. S. A.—we find a table (14) and a diagram (p. xxxvii) showing for whites, colored, and Indians, the proportions of deaths from specified diseases in one thousand deaths from known causes. The diagram is based on the table; but I will allude more to the former, since it gives at a glance the solution to our question. In this diagram there are twenty causes of death specified, and under each the three races are indicated by spaces differently shaded.

Under the heading of “Other Diseases of the Respiratory System” the mortality of the red and black races is about the same. Under eleven headings the black exceeds notably the red in mortality. Only under eight heads does the red notably exceed the black in its death-rate. Six of these are: accidents, diarrhoeal diseases, measles, affections of pregnancy, scrofula and tabes, and venereal diseases. Of the latter Dr. Billings says (*op. cit.*, p. xxxvi): “The high proportion of deaths among the Indians which is reported as due to venereal diseases is noteworthy, but probably a part of this is due to a greater readiness to name the true cause among these people than exists among the whites.”

From my own experience of the ease with which Indian women travail, and the universal corroborative testimony of explorers and ethnographers, I marvel at the figures given under “affections of pregnancy,” which, though not forming an important factor in the Indian death-rate, seem more fatal to the Indian than to the negro. In diarrhoeal diseases the Indian rate is not greatly in excess of that of the other classes. Measles, although most fatal in the Indians, gives a mortality of only 61.78 in a thousand. Notwithstanding the perils of a hunter's life, and of life under any circum-

stances on the frontier, we find that in deaths from injuries, although the rate for Indians is more than that for whites, it is less than for the colored race. But it is under the head of consumption that the Indian column is seen to rise conspicuously from 186 in the colored race to 286 in the Indian. A glance at the diagram shows that this is their specially fatal disease. Scrofula and tabes, being so closely allied to consumption, the numbers under this heading do little more than add to the testimony regarding the prevalence of the latter malady.

Comparing the Indian and white races, we find that from ten of the twenty causes the mortality of the latter is notably greater, under two headings it is nearly the same, and again we see under the title “Consumption” the Indian column rising far above the white, which is about 166 in a thousand—*i. e.*, 20 less than the colored.

The probable inaccuracy of these Indian statistics is fully recognized in the Report, and it may be fairly urged in many cases, but with less justice, I imagine, with regard to consumption than with regard to many other causes of death. In its earlier stages consumption is a malady which often only the most skilled diagnostician can detect; yet in its later stages it is easily recognized. Above all, a death from consumption—using the term in the broad sense, in which it is necessarily employed here and in the vital statistics—is rarely assigned to another cause even by the layman.

We will next endeavor to determine if this disease always existed among the Indians to the same extent that it does now, or if it has increased of late years under the influence of the many complex causes which, not clearly analyzing, we are accustomed to epitomize in the expression “contact with civilization.”

My own professional experience among our American aborigines includes a period of twenty-one years, and was gained among the Indians of a dozen different States and territories. Wherever I have sojourned I have always made it a point to give my professional services to Indians ungrudgingly and gratuitously, and for this reason I have had as good opportunities for observing their ailments as usually fall to the lot of the civilized physician. In no place where I have practiced among them have I failed to observe or learn of cases of consumption except in Owen's Valley, California, a locality which is favored with perhaps the most salubrious climate within our borders. It may have existed there, but it did not come to my knowledge during a residence of nearly one year in an Indian population of about eight hundred. Yet even here symptoms of scrofula were not entirely wanting.

My first experience with Indians as a physician was among some of the wildest tribes then existing on our continent, among those least influenced by civilization, prosperous, well nourished, dwelling in the heart of the buffalo-range, and in what has proved to be—since the days of white occupation and the advent of the census-taker—a very healthful climate, the climate of the upper Missouri and Yellowstone Valleys. With certain preconceived notions of the healthfulness of the free out-door life and simple diet of the savage, and a conviction of the salubrity of

* Read before the American Climatological Association at its third annual meeting.

the dry and elevated plains on which I found him, I was astonished to find that such a disease as consumption existed at all, and still more astonished to find it by no means infrequent.

As the years went by, and it fell to my lot to revisit, at long intervals of time, tribes which I had known in earlier days, I became impressed with the idea that this disease was on the increase among them. I well knew how easily I might be deceived in this matter. It was not in my power to collect complete data. I could only draw conclusions from the cases falling within my personal experience, and this experience was subject to limitations which had nothing to do with the prevalence of the disease. In former days the Indians had great confidence in their own shamans and little in white physicians; hence they consulted us less than at present. In the old times they were wealthy and could afford to pay their extortionate medicine-men for their mummeries; in latter years their poverty compelled them to seek treatment which they could obtain for nothing. Furthermore, when they subsisted largely by hunting, they were much of their time abroad on the prairies and less under our observation.

Notwithstanding the possibility of my being led astray, it seemed evident to me that consumption increased among Indians under civilizing influences, and that its increase was not in a direct ratio to that of other diseases, but in a constantly augmenting ratio—again, that it varied greatly in different tribes.

I should have hesitated, however, to occupy your time with a recital of my convictions or impressions, based on personal experience, were it not that of late years some data have been collected which tend to strengthen them.

As the census reports for 1880 give the vital statistics for one year only, they can not afford any direct evidence as to the increase or decrease of any disease among Indians from year to year; but they give us some data from which we may draw reasonable inferences. They present us with two sets of tables for the Indians—one for those living on reservations, the other for those not on reservations, whom I will call Indians at large. Over two thirds of the latter class live in the States, less than one third in the territories. The Indians at large who reside in the States may broadly be said to represent those who have been brought most fully under the influence of civilization; those dwelling in the territories are for the most part residents of the most healthful sections within our borders (for instance, several thousand of the Pueblos of Arizona and New Mexico are included), and they must serve to reduce considerably the general death-rate and the consumption-rate of the class to which they belong. (By "consumption-rate" I mean the number of deaths from consumption in a thousand deaths from all known causes.) The reservation Indians, on the contrary, with some minor exceptions, are those who have been most recently subdued and brought under civilizing influences.

Let us compare the consumption-rates of these two classes. The rate for the reservation Indians is 184; that for the Indians at large is 373. In other words, the consumption-rate for the less civilized Indians is but 49 per

cent, of that of the more civilized. But it may be urged that these figures are not so conclusive as they might, at the first glance, appear to be in determining the mere influence of civilization, since we have not taken into consideration the general consumption-rate of the different localities where the Indians in question are found, and it would be impossible to do so with any accuracy from the published data. I have, however, had access to some of the original reports, in manuscript, from which the statistics of the reservation Indians are drawn, and with these to aid me I have been able to compare the consumption-rates of different local groups of Indians with one another, and with the surrounding general consumption-rate. As far as I have instituted such comparisons, they seem to increase rather than diminish the force of the civilization factor.

The following is the consumption-rate among reservation Indians in thirteen different States and territories: Nevada, 45; California, 70; Arizona, 83; Colorado, 107; Nebraska, 150; Montana, 176; Dakota, 200; Oregon, 240; Idaho, 250; Washington, 302; Michigan, 333; Wisconsin, 361; New York, 625.

It is seen in the foregoing table that in States east of the Mississippi—the oldest States—where the Indians have been longest under civilizing influences, the consumption-rate is the highest.

Now, the general consumption-rate of Dakota is 94, that of the rural districts of New York 152—much less than twice as great; while the Indian consumption-rate of New York is three times that of Dakota. Of the younger States and territories Washington has the highest Indian consumption-rate, yet it is only half the rate of New York, while the general consumption-rate of Washington (136) approximates that of New York closely. Of the States east of the Mississippi, Michigan has the lowest Indian consumption-rate, yet its rate is higher than that of Washington, while its general consumption-rate (137) is about the same. Again, take Wisconsin, in which the Indian consumption-rate is higher than in Washington, and the general consumption-rate (109) is lower.

In the office of the Indian Bureau in Washington, D. C., I have examined some of the reports of the agency physicians from the beginning of the fiscal year ending June 30, 1875, to the end of the fiscal year ending June 30, 1880. It becomes apparent in examining these reports that they are often very imperfect. In some it is evident that no deaths are recorded except those happening to occur in the practice of the physician—a practice often exceedingly limited. Again, there are often long hiatuses of many months in the series of reports, occasioned by the removal of a physician from office and tardiness in furnishing a successor. It is to be regretted, too, that it has not been always the policy of the Interior Department to furnish the Indians with regular medical graduates to treat their diseases and report on their sanitary condition. Still we may conclude that the reports are of some value for purposes of comparison. It is probable that they do not record proportionally more deaths from consumption than from other causes—in short, it is to be supposed that the consumption-rates are comparable.

Proceeding on this supposition, I have computed this rate for two sub-tribes of the great Dakota nation—sub-tribes of the same blood, not expatriated, living in climates not materially different from those which they have enjoyed for a century, and differing from one another only in degree of civilization. These are the people of Santee Agency, Nebraska, and those of Pine Ridge, Dakota. The former are much the more civilized. Many of them have taken lands in severalty, and are citizens of the United States. Nearly all the adults read and write, wear clothing like ours, and are professing Christians. In the fiscal year of 1875 the consumption-rate of Santee was 631, that of Pine Ridge but 96; in the fiscal year of 1880 the rate of the former was 294, while in Pine Ridge no deaths were reported from consumption (but only 6 deaths from all causes in a population of over 7,000 are reported). In comparing, however, the statistics of Santee with those of Rosebud Agency, where there is another community of wild Dakotas, we find the showing for the civilized Indians not so bad. In the fiscal year of 1875 the wilder Indians had the lower consumption-rate (476 to 631), but in 1880 they had the higher rate (388 to 294).

As exhibiting progressive change in the consumption-rate in any one locality, the period of six years referred to above is too short. As far as I have worked out the consumption-rate for more than two years, I have found such great fluctuations that I do not hope for good data for generalization in so brief a period. I have, however, selected the reports from two Dakota agencies, Fort Berthold and Cheyenne River, hoping they might afford us some basis for an opinion. I have chosen these agencies for the simple reason that I have knowledge of the agency physicians, and feel confidence in their reports. The rate of Fort Berthold, computed from the records of the Indian Office, is as follows: For the fiscal years ending June 30, 1875, 41; 1876, 538; 1877, 500; 1878, 250; 1879, 133; 1880, 187.

Here we see that the rate of 1880 is considerably greater than that of 1875, but that during three of the intermediate years the rate is higher than in the last year.

For the rate of Cheyenne River I am indebted to the courtesy of my old and valued friend, Dr. C. E. McChesney, formerly agency physician and now Indian agent at Cheyenne River. The rate is as follows: For the calendar years 1878, 407; 1879, 550; 1880, 425; 1881, 417; 1882, not given; 1883, 561; 1884, 639; 1885, 649.

Here we find that, excepting a slight fall in 1880 and 1881, the increase in the consumption-rate is constant and marked.

In all the examples I have given I have endeavored to select tribes whose climatic environment has not been materially changed since the advent of the white man. The tribes of the Indian Territory, who are largely immigrants in that section, and other removed tribes, have been excluded.

If the evidence adduced is admitted to have value, it goes to show that consumption increases among Indians under the influence of civilization—*i. e.*, under a compulsory endeavor to accustom themselves to the food and the habits of an alien and more advanced race—and that climate is no calculable factor of this increase.

It might be supposed that after many years of contact with this civilization, after several generations of "survival of the fittest" to cope with the new condition of things, and after no small dilution of the Indian blood by inter-marriage with the exotic races, a state of tolerance to this disease would be produced; but the consumption-rate of the Indians of New York seems to indicate that a century is not time sufficient to establish such a tolerance.

Although I am not without some theories, based on personal observation, as to the special causes of this excessive tendency of the Indian race to consumption, I have not been able, in the brief hours I have devoted to this paper, to explain these theories fully, and show how they may be tested by the light of external evidence. Perhaps it is not necessary that I should do so before a body who are here to investigate chiefly the influence of climate. The term civilization is too broad, too inexact. What particular element of this civilization is the baneful one? is the question which will naturally be asked. Why does this civilization affect the Indian differently from the negro, who has as lately been introduced to its chastening influence, and is surrounded by conditions even more unsanitary? Recent investigations have demonstrated that the old notion of the red race being a dying race is incorrect. Ethnologically, it is a disappearing race; biologically, it is a living and increasing race. But, even if it were a dying race, why should consumption be its special enemy? Is it because of the meager rations of some poorly supplied agency? If so, why is it so prevalent in well-supplied agencies, and why most prevalent, or at least showing the highest rate, in New York, where the Indians are well-to-do, self-sustaining husbandmen? It is a general supposition on the frontier that it is change in diet which is the most potent remote cause of consumption among Indians. I have heard it said that hard bread killed more than hard bullets. It was a favorite expression of the late General Harney, the famous Indian fighter, that the cheapest way to settle the Indian question would be to take them all into New York and board them at the Fifth Avenue Hotel. His plan was excellent in more ways than one. I once knew a case of a previously healthy Indian camp of about two thousand people where, in one winter, when the buffalo left their country and they subsisted on flour and bacon furnished by the Government, the majority were attacked with scurvy, and about seventy died of the disease. Fine flour and bacon have, no doubt, had their share in the destructive work. But the consumption-rate, I find, is high at agencies where the supply of fresh beef is liberal—to judge from the annual reports of the Indian Commissioner—and it is high among the Indians of New York and Michigan, who have as varied a diet as their white neighbors. "Idiosyncrasy of race" and a score more of theories, trivial and profound, might be advanced and shaken at the first question.

The Manhattan Eye and Ear Hospital.—It appears by the Seventh Annual Report that during the year ending September 30, 1886, 9,134 new patients were treated; 7,272 in the eye and ear department, 1,244 in the throat department, and 618 in the department for diseases of the nervous system.

PROLAPSE OF THE LARYNGEAL VENTRICLES.*

By G. W. MAJOR, M.D.,

MONTREAL, CANADA.

PROLAPSE of the laryngeal ventricles, though of somewhat rare occurrence, is much more frequently met with than eversion. It may be as well here to insist upon the need of discriminating between these two conditions, and thus avoid misconception. In deciding upon the term to be applied to a given case, we are of necessity influenced by the extent of displacement. If we were, however, to more carefully consider whether eversion, in its literal sense, were present, we should no doubt be more accurate in our observations. In other words, prolapse does exist without eversion of the sacculus, while eversion can not occur without prolapse having been a factor for some period, however brief, in its development. On the other hand, prolapse may vary very much in degree, from merely filling the laryngeal orifice of the ventricle to dimensions sufficient to entirely destroy voice production and seriously embarrass respiration.

After the articles on this subject by Moxon, Morell Mackenzie, Lefferts, Massei, Waldenburg, Gruber, J. Solis-Cohen, John N. Mackenzie, and Elsberg, literature so familiar, it would be but mere repetition to go into a detailed general statement of the conditions so minutely described by these authors as met with in displacement of the ventricles.

Five cases in all have been seen by the writer: two of these examples of eversion, and three of simple prolapse of varying extent.

CASE I.—W. W., aged twenty-five, railroad clerk. His family history is good; father died of paralysis, aged sixty-two years; mother living, aged fifty-five. In all, ten children were born, eight still living, varying in age from seventeen to thirty-three years, while two died in infancy.

In March of 1883 the patient contracted a bad cold, accompanied by severe cough, but is quite positive that his voice was not then affected. In May of the same year he consulted his usual medical attendant about his condition, and was prescribed an ordinary linctus. In the following June hoarseness *gradually* developed, and continued with aggravation up to the time of his first visit.

On January 30, 1884, when he came under notice, there was evidence of impaired general health, speaking fatigued him, produced local irritation, and provoked fits of a dry, rasping cough. In walking his breathing was difficult, and altogether the man presented the appearance of one whose air-supply was less than normal. His voice was almost extinct. On examination, the larynx and surrounding parts were found to be intensely congested and the arytenoid bodies swollen.

On full inspiration, the right vocal cord was found discolored, thickened, and eroded, and was visible throughout its length, but not its breadth. The line of separation between the cord and the ventricular band was absent, but its situation was occupied by a red flesh-like roll of almost equal dimensions throughout its course.

The left vocal cord, on full inspiration, was invisible through its entire length, and its field was covered by a fold of red tissue tapering at either extremity.

* Read before the American Laryngological Association at its eighth annual congress.

On phonation, these bodies retracted somewhat, meeting, however, at their central point, gradually shading off anteriorly and posteriorly, and having small triangular spaces with the apices directed inward, through which the vocal cords were with difficulty visible.

On attempting a high note, the displaced ventricles were forced still farther apart, the ventricular bands advancing, in order, as it were, to re-enforce the vocal cords. A chest examination detected no signs of pulmonary disease. There had been a progressive loss of weight and strength.

Local treatment was carried out steadily for sixteen months, with satisfactory results, as far as the general condition of the larynx was concerned, but with little material improvement to the prolapsed ventricles.

In May, 1885, treatment was omitted for four months, owing to the writer's absence in Europe. The patient followed out his instructions either ineffectually or unfaithfully, for, when he was examined in October of that year, a large mass, presumably tuberculous, had developed on the laryngeal face of the right arytenoid, extending somewhat into the commissure. The lungs also showed well-marked signs of deposit, while the general health had greatly suffered.

Under careful treatment, this mass has since almost entirely disappeared, the ventricles still retaining their abnormal position.

This case was exhibited at the last fortnightly meeting of the Medico-Chirurgical Society, at Montreal, in April of this year.

CASE II.—Mrs. R., an old subject of specific disease, had been under observation some years previously for caries of the jaw. This woman was admitted into the Montreal General Hospital in an insensible condition, with well-marked convulsive movements of the right side of the body. After partial recovery, her attendant requested a laryngoscopic examination to account for aphonia and stridulous breathing, evidently suspecting a central lesion as the cause. The right sacculus was found completely everted, and protruded beyond the median line. This accident must have occurred during the eclampsia, as previously, though her voice had suffered from old laryngeal syphilis, there had been no difficulty in breathing. Post mortem, the right wing of the thyroid showed signs of old disease, and the ventricle was found completely everted.

CASE III.—H. D., aged thirty-two, a cab-driver, contracted syphilis in October, 1874, and had remained under treatment for several months.

On February 11, 1884, he applied for relief for aphonia and attacks of suffocation. On examining the larynx, there was noted eversion of the right ventricle which covered the corresponding cord completely on quiet respiration, and on full inspiration protruded far beyond the median line. On attempted phonation, it receded somewhat within the ventricular opening.

On examining the scalp, large syphilitic ulcers were found.

Astringent sprays were applied locally, and full doses of iodide of potassium, increased *guttatim*, were ordered. During the six or eight weeks that the patient remained under observation some slight improvement followed. The man passed from under notice, and was not again seen until the 29th of April, 1885 (rather more than a year afterward), when sent for for purposes of class demonstration. The ventricle was found to have *spontaneously* reposit itself, and but very slight traces of prolapse existed. He stated that, shortly after his last visit, he had contracted acute articular rheumatism, and during the illness the breathing had gradually improved; the voice, however, owing to chronic catarrhal causes, still remained hoarse.

This case seems remarkable, if not unique, and mainly induced the publication of these records.

CASE IV.—M. B., a railroad contractor, came under treatment last winter for laryngeal stenosis. He had contracted syphilis eighteen years before; in the course of the disease his larynx was involved, and he had been aphonic ever since. On examination, the left vocal cord was found wanting, and a small, pale, pink roll (prolapse) above its level represented it. The voice, such as it was, was produced by the ventricular band of the affected side, probably assisted by the prolapsed ventricle.

CASE V.—T. P., aged twenty-nine, barber by trade, a subject of pulmonary tuberculosis, was referred from the wards of the Montreal General Hospital during the past winter for examination and report. There were laryngeal signs of tuberculosis and commencing ulceration. Both laryngeal ventricles were found prolapsed, obscuring the vocal cords through four fifths of their breadth. Applications of a weak solution of chloride of zinc, and insufflations of iodoform, morphine, and gum acacia gave decided relief.

In deciding upon the character of these cases, the means employed were palpation and ability to replace with a laryngeal probe, as well as the observation of partial retirement on phonation. Some of the cases reported as prolapse have been, in point of fact, cases of eversion proper. The terms prolapse and eversion have been, to some extent at least, used synonymously, and hence the creation of some confusion. The conditions which favor displacement, if we exclude pressure from without from whatever cause, the violence of coughing, and that of spasmodic attacks, seem to be various constitutional states which play an important rôle in its production. In the five instances under consideration, three examples occurred in individuals of syphilitic habit, while the remaining two were in subjects of tuberculosis.

Among the cases previously recorded by the authorities before named, cancer, tubercle, syphilis, or chronic catarrhal conditions prevailed.

ANTISEPTICS:

ARE THEY ESSENTIAL TO SUCCESS IN SURGICAL AND OBSTETRICAL PRACTICE?*

By S. H. BENTON, M. D.,

BROOKLYN.

It is with a certain degree of hesitation that I offer the society a short paper on a subject which has doubtless long since been settled to the satisfaction of all its members—viz.: the use of antiseptics in the treatment of wounds and labor cases. I shall not discuss the scientific aspect of antiseptics, or the bacterian problem, but shall confine my remarks mostly to the more gross and practical points observed by a general practitioner who has not, perhaps, had enough experience with antiseptic agents to become very enthusiastic over them.

He would, indeed, be a bold man, if not a bad one, who proclaimed this system a phantasmagoria, a product evolved from the fertile imagination of the advanced medical thinker. Such an one would be immediately frowned down, and silently relegated to that oblivion which his temerity justly

deserved. At the same time, is it not barely possible that the profession is a little over-persuaded on this subject, and asked to accept as facts many statements that, at the best, are only theories? I do not allege that this is so, but is it not possible?

I am thoroughly in sympathy with any method, mechanical or therapeutical, that will aid us in achieving better results in surgery in the future than in the past, and sincerely hope that the signs of the times are not deceiving us; when every woman shall bring forth and every patient shall pass from under the surgeon's knife with perfect impunity to health and long life. If this attainment is reached, it must be, according to the latest writers, by the use of antiseptics.

There has probably been no discovery by modern pathologists that has astonished the medical world more than the discovery, with the microscope, in animal secretions, of certain living micro-organisms which are classed as bacteria, the existence of which in the living tissue is looked upon as highly pernicious, and, if not destroyed by local treatment, are absorbed into the general circulation and thereby cause septicæmia, pyæmia, and a long list of diseases called blood-poisoning.

Just how to meet this great army and extinguish it is occupying the minds of medical men, as shown in medical journals.

We are not told that this microscopical life has not existed from time immemorial in suppurating wounds and decomposed animal tissue, yet one might almost infer that infection with bacteria was a new and heretofore unknown epidemic, and could and must be immediately suppressed.

By common consent, the profession has generally come to the conclusion that the salts of mercury are the best of the long list of germicides, but occasionally a writer announces that he has made a great discovery, that some other agent has greater merit than, or certainly as great as, the corrosive chloride, and he forthwith proceeds to give a long list of cases treated by the new remedy, the results of which are equally as good as those attained by any other method, and the new treatment has characteristics that commend it to the favorable consideration of the surgeon which others do not possess. Thus it is that the ball is kept rolling, and the end is not yet.

While I believe in the old proverb that "cleanliness is next to godliness," I must also believe from experience and observation that much that is written relative to antiseptics is more imaginative than real. That the great reduction of mortality in operative surgery is due entirely to antiseptics I can not comprehend. Much more credit for these results is due the surgeon of accumulated experience for the rapid and dexterous use of the knife and manipulation of the parts operated upon.

While it may seem presumptuous for me to question the validity of the statement of our eminent gynecologist, Dr. T. G. Thomas—viz., that the puerperal woman should be looked upon as passing through a capital operation and subjected to the ante- and post-partum course of treatment which he thinks is necessary—yet I do not think I am alone in so thinking. This may be the proper course to pursue

* Read before the Medical Society of the County of Kings, June 15, 1886.

in the wards of hospitals, where everything is in a septic condition, but in general practice, and especially in the country and villages, it will be hard to make the profession believe it necessary, for they can show as good results without antiseptics as the city physician can with them.

The first thirteen years of my practice were passed in the mining country of Pennsylvania. I had a fair share of obstetrical and surgical experience during that time. By referring to my notes, I find I attended a few more than twelve hundred cases of confinement, and in no case did I use vaginal injections unless there was an odor present from decomposed fragments of placenta or other cause, and then only carbolic acid, which to-day is considered to be of very little use as an antiseptic. I had four cases of puerperal fever and one of metro-peritonitis; all ended in recovery but the latter, and all did not follow manual delivery.

Just how much the absorption of bacteria into the circulation had to do with causing the puerperal fever developed in these cases I do not pretend to know. Some of them, and perhaps all, may have been caused by a more or less extensive laceration of the cervix—as the detection of that complication is of comparatively recent date—or some abrasion along the surface of the vagina, thereby permitting the absorption of septic material. But I do know that injury was done to the genital tract in a good many of my cases during the second stage of labor, and no manifestation of blood-poisoning was developed in any of them, unless it was in the fatal case of peritonitis mentioned above. In this case the patient had been in hard labor for twenty-four hours, when reluctant consent was given to use the forceps. The child weighed fourteen pounds. The perinæum gave way, but was immediately restored with silver sutures, and my patient died on the third day after confinement. A different result might have been attained by intra-uterine injections of the bichloride, but I did not know that it was the correct thing to do.

In amputations and the treatment of contused and lacerated wounds I have never used antiseptics during the operations or subsequently, and my results have been all that the most fastidious surgeon could ask. To be sure, I have had no hospital experience in surgery, but many amputations have been done under the most unfavorable surroundings, patients being taken from the dirty machine-shops or railroad trains to a filthy shanty or poor boarding-house, with the bedding almost black with filth and long use, and the whole house pervaded with an odor anything but pleasant to the olfactories. No special attention was given the limb as regards cleansing the parts adjacent to those to be operated upon, as is thought so necessary to-day. Many mangled and contused limbs were brought to my office on a train, swathed in dirty waste, such as engineers use to wipe their engine, or any fabric that would tend to arrest hæmorrhage, and, notwithstanding these supposed unfavorable hygienic conditions, I have never had a case of pyæmia, septicæmia, or surgical fever follow an amputation.

Just why my patients have not been punished for my neglect in not carrying out the strict principles of antiseptics as taught to-day I will not attempt to explain. My indifference to the absorption of septic material may be

called culpable, but I did my work according to the best light I had on the subject, and my cases did well. While thinking on this question of antiseptics a few weeks ago, I wrote my friend, Dr. F. F. Davis, of Oil City, Pa., whom I knew to have had a large army as well as private experience in surgery, for his experience with antiseptics. The doctor writes as follows:

"I have been induced to use a 1-to-1,000 solution of bichloride in two amputations, but, as one patient died from anemia, and the other is dying from cancer, I can only say that pus formed freely in the former case, and has never been absent from the latter. The effect of the bichloride was certainly *nil*. While on the subject of amputations and operations, permit me to say that I have had, since the late civil war, fifty-three amputations of the arm and leg, and I have never lost a case of amputation of arm or leg, foot or hand; all have recovered from the operation.

"Even the case detailed above made a fair result, and, excepting the cases mentioned above, I have always operated without any antiseptic precautions. Indeed, in the larger part of my operations no pus forms. I have in one operation used partially crushed tissue in the formation of the flaps, the operation being close to the shoulder joint, and in this case no pus formed. The treatment I make use of is as follows: Carefully wash the stump with water, 'cool,' see that all hæmorrhage is arrested, then close the wound and support the stump, and keep the wound moist with a mixture of two parts of laudanum and six parts of whisky, diluting the mixture as the wound heals. In regard to confinements, I have now attended in round numbers a few more than fifteen hundred, and, in my own service, have not lost a case of childbed fever. I have never used injections other than pure water, 'warm,' except in a few instances when urgently recommended by a consultant, and in no case has the result been better than when pure water was used. I have never used injections of any kind in normal labor cases, only using them when there was sloughing of the vaginal mucous membrane, as in severe forceps cases, or where fragments of decomposed placenta were the cause of fætid or excoriating discharges."

Dr. J. A. Ritchey, of Pennsylvania, my former associate, writes me as follows:

"I have had, as you know, a large experience in general surgery, such as railroad injuries and accidents peculiar to a mining country. The first ten years I used no antiseptic precautions whatever, but the last five years I have used the most fashionable antiseptic agents in surgical cases, but I can not honestly say that my results have been more satisfactory under the new than under the old method. I have attended more than one thousand cases of confinement, and have never used any special antiseptic treatment either before or after labor. I find by reference to my notes that I have had eight cases of puerperal fever among the whole number, and in every case I have been able to trace contagion to erysipelatous cases attended by me. In this neighborhood hundreds of poor women are attended by midwives, and I have never heard of a case of childbed fever among them, and I know they never use vaginal injections."

On December 8, 1885, I was called to attend Mrs. S., aged twenty-four, in her second labor. I washed my hands thoroughly with soap and water, and thereafter with a 1-to-2,000 solution of bichloride, as I had been doing for some time, in all cases, before approaching the patient. The labor was terminated in four hours, without any accident to the cervix or

vulva. The placenta came away in a few moments intact, and no hæmorrhage followed. The nurse came in after the patient was dressed and at rest. She told me incidentally that she had come from her last case about three weeks previous, and that the woman had died from childbed fever. This news made me uneasy, and I suggested that she had better retire from the case, as a precautionary measure, but, as she had nursed Mrs. S. in her previous sickness, the patient insisted that she be allowed to continue and she would take her chances. So I ordered the nurse to change her garments to the skin and thoroughly wash her person, and then bathe the whole body in a 1-to-2,000 solution of bichloride, which she did, giving special attention to her hands, all of which was to be done before she touched the patient. I ordered injections of the above-mentioned solution every six hours, a napkin damp with the same being kept applied to the vulva. The patient did well until the night of the third day, when I was summoned to see her; she had had a chill and was then in a high fever, with severe pain in the abdomen. I gave one third of a grain of morphine hypodermically, and ordered turpentine stupes applied over the bowels. At my morning visit I found her in great pain, abdomen tympanitic, pulse 140, temperature 104° F. Opiates were administered to toleration, and intra-uterine injections of bichloride solution were used every four hours by myself, with cold to the abdomen. The second day there was no reduction of temperature. The abdominal pain was kept under control by hypodermics.

During the night of the second day of the fever I gave thirty grains of antipyrine, and in two hours followed it with twenty grains more, which reduced the temperature to 101.5°, with great prostration, the pulse being 120. In six hours the temperature reached 105°. The case continued for six days without perceptible change in its gravity, when she slowly convalesced, and eventually was fully restored to health.

In this case every sanitary or antiseptic precaution was observed, both before and after confinement, to prevent and arrest septic poison, with the result above stated. I had had regrets when the fever was developed that I had yielded to my patient's solicitation to let the nurse attend her, as I have always thought that puerperal fever was communicable by contagion, yet this case seemed to me to be favorable to test the new theories of antiseptics in these cases. It can hardly be alleged that the nurse was not properly disinfected, for she seemed to be an intelligent woman, and seemed to comprehend also the possible danger of her inoculating the patient.

I do not want to be understood as placing myself upon record as being opposed to antiseptics, for I do think them useful; but just how much greater function they subserve than absolute cleanliness I must confess I do not know. Is it not possible that we are passing through an experimental period in medicine, when men are more anxious to distinguish themselves in certain departments than heretofore? If this is so, is it not possible for us, in our enthusiasm, to trespass upon the kind offices of nature and do our patients more harm than good by our too zealous officiousness? I am in full sympathy with the fear expressed by my friend, Dr. W. W. Potter, of Buffalo, while discussing a paper on obstetrics at the late meeting of the American Medical Association, viz.: "Before long we shall be cremating every woman who has borne a child—she is so foul!" We may eventually, also, find it necessary to remove the uterus and

occlude the vagina of all female children that they may be at all tolerable to the profession.

Some imaginative and wonderfully learned scholars tell us that every snowflake is inhabited by happy little beings, who begin their lives, hold their revels, live long lives of happiness and delight, die and are buried—all during the descent of the snowflake from the world of clouds to the solid land. These scholars tell us that every square foot of air possesses from 12,000,000 to 15,000,000, more or less, perfect little beings, and that at every ordinary breath we destroy 1,000,000, more or less, of these happy lives. According to this mathematical calculation, a healthy lover must be supposed to swallow up as many as 14,000,000 of these animals at an ordinary sigh, and, if he is much of an athlete, the number would be beyond computation. We are not told that this microscopical life has any likeness to the different types of bacteria with which the profession is so much interested at present, but we trust not.

It must be acknowledged that the bacterian problem is expected to be a colossal monument to round off the nineteenth century in medicine. But has it been proved beyond the possibility of a doubt, by a long enough series of experiments, that certain germs will invariably produce certain diseases? And if this is so, have we been told how to prevent the development and absorption of the same into the circulation?

It will doubtless be said that a faithful and intelligent use of the various so-called antiseptics will do this, and that it is not worth while to discuss the subject further. This, I think, should be taken with the least grain of salt.

What the general practitioner most desires are facts, not theories, especially since to carry out certain measures will incur increased physical distress and annoyance, as well as pecuniary cost, all of which is to be taken into consideration by the conscientious physician.

PERNICIOUS ANÆMIA.

A REPORT OF FIVE CASES.

By LOUIS ASTA-BURUAGA, M. D.,

LATE HOUSE PHYSICIAN, ROOSEVELT HOSPITAL.

In publishing the following examples of that obscure but most interesting disease, pernicious anæmia, I am aware that their histories are in many respects incomplete; yet I am satisfied that, in so doing, a contribution is made to the number of cases reported as occurring in this country. The figures given by Musser in 1885, who compiled only thirty-nine cases of pernicious anæmia from American medical literature, seem to me very meager. On the other hand, abroad the statistics are more numerous: if we add up the cases collected simply by Coupland and Pye-Smith in England, and by Muller, Quincke, and Eichhorst in Switzerland and Germany, we have about four hundred well-authenticated examples of the disease. On this rough estimate the proportion of cases seen in these three European countries alone, to those observed in America, would be about ten to one. But, comparing the registers of Guy's Hospital in London with those of the Roosevelt Hospital

in New York, we find that in the former twenty-eight cases have been entered and in the latter eight cases, a proportion of three and a half to one. This is not a large margin, if we consider the difference in the accommodating capacity of these two institutions.

Allowing that pernicious anæmia is not so very rare an affection, one has to concede that it is a disease of comparative recent date; for, although Marshall Hall in 1839 alluded to "fatal chlorosis," and Addison in 1855 described an intense form of anæmia, terminating in death, without "any organic lesion that could properly or reasonably be assigned as an adequate cause for such serious consequences," yet the affection was not well recognized until Gussow, in 1871, and Biermer, in the succeeding year, called attention to it in a series of startling cases, most of which followed the puerperium. The publications of these two observers led the way for various clinical contributions and monographs on the subject on the continent and in Great Britain. But not until 1875 was the disease brought prominently before the American medical profession, when Pepper, in an article headed "Progressive Pernicious Anæmia," described three cases, accompanied by exhaustive remarks upon its history, pathology, symptomatology, and treatment. Since that time, aside from Musser's paper, little has appeared upon the subject in the medical journals of this country.

It is not strange, then, that many well-marked cases of pernicious anæmia are passed by unrecognized. In the different text-books one can find admirable descriptions of the complaint; but if, as is of no uncommon occurrence, one does not happen to have a case pointed out as pernicious anæmia at the clinic, one is apt to forget that there is such a disease. As illustrating this point, I may state that one of the cases here published—the last one of the series—had been seen by a number of physicians before it was admitted to hospital, and, although several diagnosticated the case as cirrhosis of the liver, Bright's disease of the kidneys, etc., and one even suggested acute yellow atrophy, not one seemed to think of pernicious anæmia.

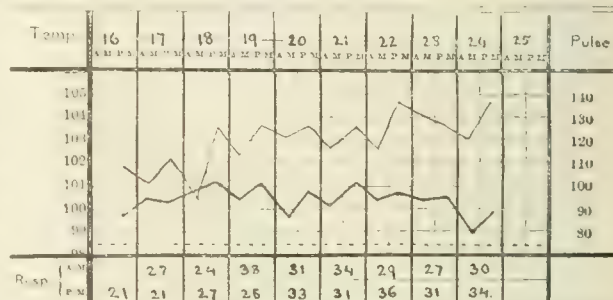
Of the eight cases which have been seen at the Roosevelt Hospital, seven were in males. Three were discharged unimproved, and passed out of observation. The remaining five are the ones I now report, the last three of which I had an opportunity of observing and studying myself. Four of these cases died and one recovered.

CASE I. —Martin S., aged forty, a German, and a baker by trade, was admitted to hospital on the 16th of May, 1881, suffering for the last four weeks with frequent vomiting, shortness of breath, considerable pain in the back, and œdema of the feet. Two weeks later he developed œdema of the hands. He thought that he passed less urine than formerly, but he had had no headache, no amblyopia, no *muscæ volitantes*. He admitted that he had always been a hard drinker of beer and liquor, and stated that two years previous to his coming to the hospital he had had chills and fever.

Upon examination, he was found to be poorly nourished, his skin was sallow, of a jaundiced hue, his lips were colorless, his conjunctivæ yellowish, and his tongue was very anæmic. His hands and feet were a little swollen and œdematous. There was a slight blowing systolic murmur at the base, most distinct

to the left of the sternum, and a faint systolic murmur at the apex of the heart. The radial arteries were stiffened, and the pulse was small, quick, and feeble—108 to the minute; temperature, 99.8° F. His urine was acid, of a specific gravity of 1.013, and contained no albumin.

While under observation he suffered from constant pain in the epigastric region, with tenderness on pressure there, but no vomiting nor diarrhœa were noticed. During this time he had a low fever, never higher than 101°. He grew drowsy and apathetic, complained little, passed his urine and feces under him in bed, or got out of bed and passed them on the floor; and, the drowsiness and prostration increasing, he died on the 25th of the same month, much reduced in flesh.



A post-mortem examination made by Dr. Delafield revealed the following facts:

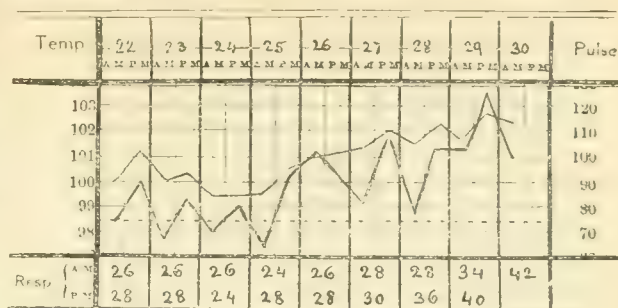
Body fairly nourished, quite a thick layer of subcutaneous fat; color a little like jaundice; blood thin and watery. Lungs: In the upper part of the lower lobe of the left lung there was a small infarction surrounded by a zone of pneumonia; rest of lung was anæmic; the lower lobe of the right lung was in a condition of mottled red and gray hepatization, with fibrin on the pulmonary pleura; heart normal, except for a little thickening of aortic and mitral valves. Liver: The gall-bladder was distended with bile, and there was bile in the larger ducts in the liver; otherwise apparently normal; spleen, medium size and normal consistence; stomach, mucous membrane pale and coated with mucus; small intestine pale, no lesions; pancreas appeared normal; supra-renal capsules were normal; kidneys were of natural size; capsules non-adherent; the cortex was congested and the pyramids were pale.

In these two cases no record was made of the condition of the blood and fundus of the eye; but in other respects the histories, coupled with the post-mortem appearances, give a fair idea of the course of pernicious anæmia. The interesting feature about Case II was the development of a complicating pneumonia, which probably hastened its termination.

CASE III.—On the 22d of July, 1885, Charles P., a butcher, aged fifty, came to the hospital complaining of dyspnoea, palpitation of the heart, præcordial pain, anorexia, vomiting of food, a slight headache, and considerable prostration. He had been troubled with these symptoms for about six or seven weeks, and for the last month diarrhoea had been added to them. Although a German by nationality, he was but a moderate drinker of beer. He had had a cough, accompanied by scanty expectoration, for twenty years, and of late this cough had grown worse. Three or four months before date of admission a piece of iron fell on his right leg, since which time the limb had been swollen and painful. His wife stated that for the last few days he had been stupid and drowsy.

When he came under observation the man was well nourished, his skin was pallid, his mucous membranes were very anæmic, and his tongue was pale and denuded of epithelium. Upon being examined by Dr. Roosevelt, under whose care he was, there was found some loss of motion on the left side of the chest. An exaggerated percussion-note was elicited; exaggerated vesicular murmur and sibilant and sonorous râles were heard all over the chest. The apex of the heart-beat was in the sixth intercostal space and mammillary line, and a systolic murmur was detected over the mitral area. The pulse was regular but rather weak, 90 beats to the minute. The blood was pale and liquid, the red blood-cells were markedly diminished in number, and some were larger than the normal. The urine was acid, amber in color, of a specific gravity of 1.010, contained no albumin, but one or two hyaline casts were found under the microscope. Upon examining the patient's eyes, the pupils were found contracted, but they responded to light. The fundus oculi was pale, and there were numerous retinal hemorrhages. The patient was put on the use of iron and digitalis.

During the last few days of his life the curve of his temperature was irregular; from 97.4° it would rise to 101°, and, on one occasion at least, it rose to 103.6°. The patient continued in an apathetic condition, growing so weak that he had no control over his sphincters, and the stupor, alternating with delirium, finally culminated in coma, in which state he died on the 30th of July.



Autopsy.—Body fairly nourished; some rigor mortis; brain anæmic, otherwise normal; lungs emphysematous, old, interlobular pleuritic adhesions; general bronchitis; lower lobes oedematous; heart large, flabby, ventricles dilated, without hypertrophy; apparently insufficiency of mitral valve due to dilatation; valves normal; cavities contain clots; spleen large and soft, containing a small red infarction; liver large and pale; bile-ducts stained with bile; small intestine normal; large intestine normal; stomach normal; kidneys normal size, capsule non-adherent, surface smooth, cortex normal in thickness, markings distinct, pyramids very pale, left kidney larger than its fellow; bladder normal.

This case might have been diagnosticated by many an observer as one of mitral insufficiency and chronic Bright's disease, on account of the systolic murmur and the presence of casts. Subsequent examinations of the urine, however, did not disclose any albumin or any more casts, although the specific gravity remained low. The murmur might have been hæmic. The hemorrhages into the retina were the typical ones of pernicious anæmia. Their presence, together with the ghastly pallor, irregular temperature, extreme hebetude, and absence of definite signs of disease of any particular organ, all pointed toward the affection. The examination of the blood strengthened the diagnosis, and the autopsy confirmed it.

CASE IV.—James W., an Irish-American, aged thirty-six, was admitted to the service of Dr. Delafield on the 23d of January, 1886. Upon questioning him he gave the following history: During the last three months he had lost his appetite, had a feeling of general malaise and lassitude, an indisposition to work; upon exerting himself, dyspnoea would set in, and he had had several attacks of cardiac palpitation. His skin had been getting pale since the preceding autumn. He was subject to headaches, and muscæ volitantes were plentiful in his field of vision; upon suddenly assuming the erect posture he would stagger and feel dizzy. A week before entrance to hospital he had one or two epistaxes, the blood looking thin; as he expressed it, "as if it contained one quarter pure blood and the rest water." About this time oedema of the lower extremities developed. Aside from anorexia, no gastric symptoms were manifested.

On admission, the patient, although he said that he had lost considerable flesh, was still fairly nourished. He had an anæmic, cachectic look, the pallor of his face being extreme, and the whiteness of his mucous membranes remarkable. His conjunctiva were pearly white. His tongue was denuded of epithelium, glazed, and in places the papillæ projected. There was some subcutaneous oedema about the ankles and insteps. The heart-beat was in the fourth intercostal space and nipple-line, and there was a blowing systolic murmur heard to the left of the sternum, opposite the third and fourth ribs. The veins

of the neck were distended and pulsatile, and a bruit was heard over them. The pulse, beating 104 to the minute, was of fair strength; if anything, the blood tension was heightened. His breathing was rather hurried (28), and his temperature was 100° F. His urine was amber in color, acid in reaction, of a specific gravity of 1.014, and contained no albumin. Upon examination with the ophthalmoscope, the fundus oculi was found to be very pale, but richly pigmented, and there were numerous fan- and flame-shaped hæmorrhages into the retina. Examination of the blood showed that the red blood discs did not form *rouleaux* as in healthy blood, and that they were markedly diminished in number. Some of the cells seemed to be smaller (microcytes), others seemed to be larger (megaloeytes) than the normal, while still others seemed to be contorted into a variety of shapes (poikilocytes). Most of the cells appeared to be well pigmented with hæmoglobin. There was no apparent increase in the number of white cells. The treatment consisted in the administration of arsenious oxide, and of oxygen by inhalation.

The following notes were taken of the case:

January 20th.—The patient had a profuse nose-bleed during the night.

30th.—Extremely pale. Is so weak that he can hardly hold a spoon. Subtulus tendinum. Tongue pale, dry, and glazed. Pulse very rapid (124), but of good strength apparently.

February 1st.—The patient has a sadow, bloodless look, and a listless, apathetic way. Is semi-delirious. Pulse feeble and intermittent—122 to the minute. Breathing labored. Tongue very dry and brown. Sordes collect on the teeth. Temperature higher for last two days.

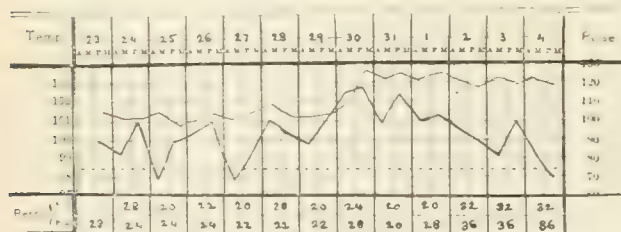
2d.—The patient's face has a cadaveric hue, and the skin of his body a waxy look. He is semi-comatose; can be aroused. He lies in the dorsal decubitus with his eyes half closed, breathing stertorously. Is so feeble that he can hardly move. Coughs a little. Tongue very dry and brown; a thick accumulation of dried-up secretions cover his teeth. Marked pulsation in the neck and scrobiculus cordis. Pulse rapid and somewhat feeble, 120; respirations rapid, 33; temperature, 101.2° F.

Later in the day he became extremely delirious; got out of bed and passed his times on the floor.

3d.—The patient is completely comatose. Respirations prolonged and noisy. Face blanched, eyelids half closed, eyes lustreless. Pulsation in jugulars well marked. Pulse feeble, 120; temperature, 99°.

4th.—Was delirious during the night. This morning he is again comatose. Pulse very rapid and feeble. The skin of the body has a greenish-yellow appearance.

From this condition of coma the patient did not emerge, but died on the evening of the 5th of February, 1886.



Autopsy.—Body emaciated; blood thin and watery; brain not examined; lungs: the left one was normal; there were œdema and commencing red hepatization of the lower lobe of the right lung; heart: the muscular tissue beneath the endocardium of the left ventricle was mottled with small yellow spots; the heart otherwise seemed normal; liver looked normal; spleen somewhat increased in size and firm; kidneys normal size; surface smooth; texture of the organ unusually

smooth and dense; stomach and intestines were normal; sternum: the medulla of this bone looked normal to the naked eye.

CASE V.—On the 14th of September, 1886, Edward M., a German cabinet-maker, aged thirty-nine, applied for admission to hospital, and, upon being questioned, made the following statements: For five or six months he had been troubled with dyspnoea upon exertion, a sense of languor and debility, and a feeling of dizziness when upright. Occasionally he was seized with cramp in the legs, and of late with attacks of cephalalgia. For two months his appetite had been failing, and fourteen days prior to his admission his legs and feet became swollen, at which time he was obliged to give up his work. About two years previously three of his fingers were cut off by machinery, but the hæmorrhage from the cut surfaces was not great. He had never, to his recollection, bled from mouth or gums, nor passed blood at stool; neither did he give a history of previous enteric complaint, nor of fever of malarial origin. He added that he had been pale as far back as he could remember.

Upon examining him, he was found to be rather poorly nourished. The color of his face was sallow, and there was some chlorasma about the forehead. His mucous membranes were very anæmic, his tongue was clean, moist, and denuded of epithelium, and his extremities were cold and œdematous. The heart action was forcible, the sounds over the apex were booming in character. A soft systolic murmur was heard in the second intercostal space to the left of the sternum, which murmur was transmitted upward along the large arteries of the neck. The jugulars were large and pulsatile, and a venous hum was heard over them. The tension of the radial artery was high. The urine was amber-colored, acid, of a specific gravity of 1.015, and was free from sugar, albumin, and casts.

An ophthalmoscopic examination revealed the fundus oculi pale, the optic disc well defined and pearly white. The retinal vessels were narrow and pale. In the right eye a large and broad striated hæmorrhage was seen to the temporal side of the disc. In the left eye there was a smaller striated hæmorrhage, with a central yellowish spot, situated to the nasal side of the disc. In the lower half of the fundus a flame-shaped hæmorrhage and a few punctate ones were detected.

Upon pricking his finger to obtain a drop of blood, it was noticed that serum transuded through the puncture. The blood was very thin, watery, and pale. The red blood-cells were diminished in number, so that they came together in shapeless masses instead of forming *rouleaux*; and they were of different shapes, few appearing normal, some being very small, and some very large.

The treatment at first consisted in the administration of a mixture of dilute phosphoric acid, tincture of nux vomica, and syrup of the hypophosphites, and in addition he got Bland's pills and inhalations of oxygen. But under this treatment he did not improve; he complained of great prostration, headache, dizziness, and loss of appetite. He had subjective sensations of cold, and his feet continued swollen and his hands puffy. His temperature rose as high as 100.4° F., and was of an irregular type.

September 24th.—Mixture discontinued. Ordered Thompson's solution of phosphorus and Fowler's solution of arsenic, gtt. iv in milk, four times a day.

By the 27th of September the patient was much worse. He had had an attack of vomiting and an epistaxis on the previous night. His skin was of a dirty lemon-color, he was very drowsy and stupid, and lay perfectly helpless in bed, with his arms crossed over his chest. He was with difficulty aroused, and he refused to take his medicine. His urine and fæces were passed involuntarily. Fresh hæmorrhages appeared in the retinae. His

pulse became very rapid and feeble, beating 120. His temperature fell below the normal—97.4° F.

On the 28th of September the notes of the case read that he was very delirious during the night; he crawled out of bed and passed his feces on the floor. He seemed very low, and was failing rapidly. He lay in a semi-comatose condition, breathing heavily, 26 to the minute, pulse very feeble, beating 116, and his temperature fell to 97.6° F. There was marked pulsation in the neck, and the cardio-vascular signs were very distinct. The patient looked moribund.

On the next day there was no improvement in the patient's condition, but on the 30th of September, to everybody's surprise, he looked brighter and answered rationally the questions put to him. From that time on he steadily improved; he was allowed out of bed on the 11th of October; on the 17th of the same month the hæmic murmur, the venous hum, and the jugular pulsation had disappeared; and on the 20th of October he was discharged much improved.

It must be here stated that while the patient refused to take his medicine, the Fowler's solution was given daily disguised in milk.

On the 6th of November last I again saw this man, and he was then much improved in health; his mucous membranes were ruddy, and, except for loss of appetite, he said that he never felt better in his life. Upon examining his eyes, I found that the fundus had a red tint, and that all the hæmorrhages had disappeared without leaving a trace.

A CASE OF

PERICHONDRITIS OF THE LARYNX; NECROSIS OF THE CRICOID.*

By C. H. KNIGHT, M. D.

DESTRUCTION of the cartilages of the larynx, resulting from inflammation of their perichondrium, is by no means uncommon. Numerous instances have been recorded of its occurrence as a sequel of typhoid fever, as a complication of tubercular laryngitis, associated with malignant disease of the larynx, and in the course of syphilis. The opportunity of studying the condition in a pathological specimen may perhaps lend additional interest to the following history:

W. S. M., aged seventy-three, single, cabinet-maker, came to the Northern Dispensary in February, 1886, suffering from dyspnoea and dysphonia, which he said began about three months previous and had been gradually increasing. The obstruction was obviously laryngeal and affected equally expiration and inspiration. The voice was remarkably low pitched and rancous. There was occasional hoarse cough, with expectoration of thin purulent sputa, which showed streaks of blood after an unusually violent paroxysm of cough. The breath was extremely fetid. There was no pain referable to the larynx, except during phonation or deglutition and after coughing, but the patient complained of sensitiveness under external pressure, and when the larynx was moved from side to side. There was no apparent thickening, swelling, or œdema over the region of the larynx. The cervical glands were not enlarged. Examination with the laryngoscope showed a diffuse, symmetrical œdem-

atous swelling of the posterior wall of the larynx, the natural contour of the arytenoids being entirely effaced. Only a small portion of the anterior extremities of the vocal cords was visible. They seemed to be normal. The epiglottis was congested and somewhat swollen. Oozing into the cavity of the larynx from its posterior wall appeared a small quantity of thin, white secretion. It was impossible to keep the laryngeal mirror in position more than a few seconds on account of the necessity of clearing the larynx. No ulceration could be seen, and the source of the secretion could not be precisely determined. Owing to the patient's condition, no attempt was made to probe the larynx or to carry on a more extended examination.

The general condition of the patient was extremely bad. He was very weak and much emaciated, having been able to take little or no solid food for three or four weeks. He had received no treatment whatever, except a series of cough mixtures, which, of course, gave him no relief. Stimulants and soft food were ordered, and the patient was directed to use every two hours a steam inhalation of compound tincture of benzoin. He was not seen again for four days, when he reported in a very much improved condition. Still the tumefaction over the arytenoids prevented a complete view of the cords. The amount of secretion in the larynx seemed to be less; its character was unchanged. Breathing was much easier, but the dysphagia was only little, if at all, diminished. Again the patient disappeared and was not seen for a week, when he returned in a very much worse condition than when he first applied for relief. His breathing was excessively labored and he was in a state of extreme exhaustion. He was at once ordered to the hospital, where it was my intention to perform tracheotomy, if necessary. Instead of following my instructions, he went to his home. The following morning he rose from his bed to light his fire, fell on the floor, and died, before a friend, who occupied the room with him, could reach him. According to the best information obtainable, death seems to have occurred quietly, without struggle or sign of suffocation, apparently from æsthenia.

The autopsy was made, with the assistance of Dr. Henriques, fourteen hours after death. The larynx, pharynx, and œsophagus were first removed intact. On section of the trachea, a small quantity of bloody pus was found on the mucous surface as far down as the bifurcation. The lungs showed numerous emphysematous areas and old pleuritic adhesions, but otherwise were normal. No trace of tubercular deposit was found and no syphilitic lesion could be discovered. The heart appeared to be normal; the pericardial sac contained about two drachms of perfectly clear serum. The specimen itself, which has been most carefully examined by Dr. Ferguson, of New York, consists of the pharynx, larynx, and upper portions of the œsophagus and trachea. On the anterior wall of the laryngo-pharynx is an ulcer exposing the entire thickness of the partially ossified cricoid cartilage. It does not communicate with the larynx or trachea. Its edges are undermined to the extent of half an inch along the posterior surface of the cartilage. An ulcer involving the mucosa and the muscular tissue occupies the posterior wall of the pharynx at the level of the cricoid. The edges of both ulcers are elevated and very much thickened. There are superficial erosions of the vocal cords. There are numerous miliary masses on the mucous surface of the trachea composed of round and oval cells, granular detritus, bacteria, and micrococci. Numerous sections through the tissues surrounding the pharyngeal ulcers fail to discover tubercle bacilli or evidence of tumor development. Collections of small round cells are found, limiting small areas of degeneration, which give the appearance of tubercles. There are no giant cells. The fibrous tissue between the muscular bundles in the wall of the pharynx near the ulcers is

* Read before the American Laryngological Association at its eighth annual congress.

increased and contains many groups of small round and spindle-form cells. Sections through the mucous membrane of the trachea show similar cells, and the stroma of the mucous glands is infiltrated with similar small round elements.

So much has been written on the subject of laryngeal perichondritis that it is not worth while to detain you with an extended review. The exhaustive article by von Ziemssen in his "Cyclopaedia" (vol. ii, 814), where numerous valuable references may be found, and contributions by Tunk, Mackenzie, Schroetter, Retslag, and others thoroughly cover the ground. Perhaps the most important questions relate to diagnosis, and, secondarily, to prognosis. In many cases the laryngeal condition may escape the notice it deserves, since the constitutional disease provoking it or associated with it demands the larger share of attention. The prognosis must be considered grave, if not necessarily fatal, especially when the cricoid cartilage is involved. A case has been reported by Ruehle in which this cartilage became necrotic and was discharged entire. Cohen narrates an interesting case of chondritis of the cricoid in which he did tracheotomy, and opened several intra-laryngeal abscesses. There was apparent reproduction of the cartilage, "the original one remaining increased in the cricoid portion of the interior of the larynx as a foreign body" ("Diseases of the Throat and Nasal Passages," p. 526; also, "Trans. of the Path. Soc. of Phila.," 1874, p. 148). The degree of deformity and consequent impairment of function depend upon what and how many cartilages may be involved. The difficulty of determining this point is often insurmountable. A thorough examination may be impracticable, owing to intolerance of the parts, or to the general condition of the patient; or, in case a laryngeal exploration is possible, the region may be so obscured and distorted by inflammatory thickening, ulceration, or oedema, that the usual landmarks can not be identified.

The question of aetiology is of scarcely less interest and importance. Necrosis of laryngeal cartilages following typhoid fever has been especially observed by Trousseau, Rokitsansky, and Sestier. Liebermeister maintains that in these cases the affection of the cartilage is not primary, but is due to extension of ulceration from the mucous membrane. On the other hand, Sestier asserts that it may occur without ulceration, and the latter view is corroborated by Greenfield. Tuberculosis, carcinoma, and syphilis have also been mentioned as prominent causes of laryngeal perichondritis. To these must be added variola and traumatism. Under the latter head should be included not only external violence, but also the injudicious use of oesophageal bougies, especially in the aged. In this connection I may refer briefly to a case not yet reported which occurred in the service of Dr. Asch, at the Manhattan Eye and Ear Hospital:

A woman, about forty years old, swallowed a plate of false teeth during an epileptic fit. The plate was dislodged from the pharynx with great difficulty. A few weeks later the woman came to the hospital with an abscess on the posterior wall of the larynx, which Dr. Asch opened. Subsequently the house surgeon did tracheotomy during an attack of acute oedema or spasm of the larynx. The patient recovered, with great deformity of the larynx and complete loss of voice.

Unfortunately, we have not had the opportunity to examine her recently, so that I am unable to describe her present condition. There is no doubt in my own mind that this was a case of traumatic perichondritis. Forceful and prolonged use of the voice, as in certain occupations, has been suggested as a cause by Flormann. Primary laryngeal chondritis, resulting from early ossification of the cartilage, may involve the perichondrium (Albers), and, finally, pressure of an ossified cricoid cartilage against the vertebral column may develop a traumatic perichondritis (Dittrich). In some cases it may be very difficult to discover the origin of the lesion, as in one reported by Hall ("Trans. of the Clin. Soc. of London," 1882, xv, 195; 1884, xvii, 151). His patient died after the lapse of two years or more, and at the autopsy various lesions characteristic of syphilis were found. The conclusion was therefore adopted that syphilis had caused the necrotic changes in the larynx, which in the first instance had been attributed to a laryngitis accompanying an extensive bronchitis, no history and no signs of constitutional disease having been at that time discovered. In searching for the cause of the condition in the case which I have reported, it was learned that about one year ago the patient was violently seized by the throat in the course of an altercation and was nearly strangled. The immediate consequences of this incident were laryngeal pain and partial loss of voice, lasting nearly a week. No other trouble followed, except slight cough, which was supposed to be bronchial, until three months before the case came under my observation, when dyspnoea supervened, attended by marked change in the quality of the voice, and great pain and difficulty in swallowing. The patient had never had a serious illness since childhood, and positively denied syphilitic infection. He had never used liquor to excess; but it was found that his circumstances in life were such as to deprive him of proper nourishment, often for a very long period. It is quite evident that impairment of vitality due to this fact, combined with his extreme age and the condition of ossification of the cartilage, must have predisposed the patient to the development of the affection. It would seem, therefore, that traumatism may be regarded as the immediate cause of the laryngeal lesion. The unusual site and extent of the ulceration, and the absence of pulmonary tuberculosis and of tubercle bacilli in the sections examined microscopically, exclude the idea of tubercular laryngitis.

20 WEST THIRTY-FIRST STREET.

ANEURYSM OF THE TRANSVERSE PORTION OF THE THORACIC AORTA,

ASSOCIATED WITH ORGANIC DISEASE OF THE HEART,
GREATLY RELIEVED BY IODIDE OF POTASSIUM.*

By W. H. KATZENBACH, M.D.

R. E., aged forty-three, native of the United States, bartender, consulted me October 12, 1886, at the Out-door Department of Bellevue Hospital. His father died at forty-three, a

* Read before the New York Clinical Society, November 26, 1886.

brother at twenty-three, and four sisters at twenty, twenty-one, thirty, and forty, respectively, of consumption; his mother, at forty-six, of general debility. The patient had fever and ague, twenty-five or twenty-six years ago, while living in Brooklyn. Twenty years ago he had an attack of acute inflammatory rheumatism, which lasted three or four months; another attack, milder, three or four years ago; and a third, slight attack, in the summer of 1885. He has had three or four attacks of gonorrhœa, but denies syphilis. His habits have always been temperate.

His present disease began two years ago with pain about the heart, and in the left arm all the way down to the hand. It came on suddenly at night, waking him out of sound sleep. It was called an attack of indigestion, and was relieved for a week or ten days, when it returned with less severity, but it has persisted up to the present time with intermissions. One year ago he began to experience shortness of breath on hurrying, or on going upstairs. Four months ago the pain became so severe that he was obliged to give up work. He locates the pain on the left side of the sternum, at about the level of the second rib. It is aching in character, sometimes sharp, shifting to the left, and shooting through to the shoulder-blades. It is worse in the day, but has been relieved some by hot flannels. The electric battery was used, but it increased the pain, and caused palpitation of the heart. About a week ago he began to have "choking in the throat" when he swallowed, "as though there were something in the way." He was told there was "a hole in the left lung." He has lost considerable flesh; his appetite is poor; bowels regular. He has slept very little in the last month on account of pain and a feeling of nervousness and restlessness. He has had no cough nor hæmoptysis.

Physical Signs.—There is a slight bulging of the chest-wall at the left edge of the sternum, near the second rib. There is pulsation of this region, best appreciated by the hand. There is no thrill. The area of dullness is between two and three inches in diameter. Over this a well-marked systolic bruit conveyed upward toward the clavicle.

The heart apex is in the sixth interspace, nearly an inch to the left of the nipple line. The impulse is weak and diffused. The first sound is heard with the greatest intensity under the nipple, and accompanying it a soft murmur conveyed some distance to the left, and quite distinct at angle of scapula. A soft systolic murmur is also heard over the aortic orifice and in the right carotid. There is no appreciable difference in the carotid and radial pulses of the two sides. The hands are cyanotic. The voice is clear. The respiration is harsh under the left clavicle. The respiratory murmur is good over the rest of the lungs, though rather feeble. There is no difference in intensity on the two sides. No stridor. The pupils are equal, and respond alike. The liver and spleen are not enlarged. Urine not examined.

Treatment was begun at once with iodide of potassium, ten grains three times a day after meals, well diluted. It was soon increased to fifteen grains, and for the past three weeks the dose has been twenty grains. No other remedies have been employed. On November 22d the area of dullness had diminished, and the pulsation was weaker. His symptoms have steadily improved. He has very little pain; sleeps well. His appetite is very good, and the difficulty in deglutition "is mostly gone." Has been tending bar for the last four weeks from 6 A. M. till 6.30 P. M. He still suffers with dyspnoea.

The prognosis in this case is not easy. Although he has experienced great relief from treatment, in one of his occupations the occurrence of aneurysm spontaneously—that is,

not following strain or violent emotion or excitement—would indicate considerable degenerative disease of the arterial coats. The presence of mitral insufficiency and aortic obstruction diminishing the amount of blood-pressure in the aorta may be a conservative element in his case, retarding the growth of the tumor.

The action of the iodide in internal aneurysms, as explained by Balfour, I think is pretty generally accepted. It diminishes cardiac force, lowers arterial tension, and, by some peculiar action on the fibrous tissue, the contraction of the sac is aided, and its walls are strengthened and condensed.

It should be administered in as full doses as are borne by the stomach, and long after the symptoms have been relieved and the tumor hardens.

About two weeks ago Mr. E. began to have rush of blood to the left side of the head, accompanied with a sense of fullness. During these attacks, which occur several times a day and last fifteen or twenty seconds, the veins of the left side of the neck become swollen and prominent. I have not seen any of these phenomena, and only record them as described by himself.

November 26th.—This evening the bulging of the chest-wall is hardly perceptible. The pulsation is very much diminished. The area of dullness is about one inch and a half in diameter. There is no thrill. The bruit is of the same intensity as when he was first examined. The pressure symptoms have now entirely disappeared.

A CASE OF DIFFICULT VERSION.

By WILLIAM T. LUSK, M. D.

I WAS recently called at midnight to the Emergency Hospital, to a case of shoulder presentation, the patient having been sent to the hospital twelve hours after the complete prolapse of the arm into the vagina. On my arrival, the head was outside the vulva, the arm greatly swollen, and the shoulder so wedged into the pelvis that the introduction of the hand into the uterus, to accomplish version, was rendered impossible. In this dilemma I recalled a paper by Dr. F. P. Foster, published in the ninth volume of the "American Journal of Obstetrics," "On Prolapse of the Arm in Transverse Presentations," in which the author gave the history of a case in which he had succeeded in elevating the cephalic pole by seizing the arm and pushing gently upward in the direction of the os brachii, so that with the index-finger alone in the cervix he managed to reach the breech of the child.

In my case the head was to the right, the belly to the front, and the right arm presenting. Owing to the protracted course of the labor, the uterus was firmly retracted. However, after anesthetizing the patient, I succeeded, by persistent efforts, in replacing the arm in the uterus by Dr. Foster's manoeuvre, thus rendering it possible to introduce the hand into the uterine cavity and bring down a foot. Without the hint derived from Dr. Foster's paper, I should have been obliged to resort to embryotomy. I report the result briefly to prevent a most serviceable plan of treatment from being forgotten.

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MAJOR GYNÆCOLOGY IN LIVERPOOL.

SEVERAL weeks ago, we alluded to a lawsuit that had been brought against one of the surgeons of the Liverpool Hospital for Women, in which the husband of a woman who had undergone the operation of removal of the uterine appendages sought to recover damages, the ground of his complaint being that the physiological effects of the operation had not been duly set forth by the surgeon beforehand. The progress of the suit, together with the comments made in the London medical journals by various correspondents, revealed not only a lamentable state of discord among the members of the staff of the hospital in question as to the soundness of the practice followed by one of their number in cases more or less classifiable with the one under inquiry, but also a feeling of partisanship, both on their part and that of other members of the profession, that seemed to stand in the way of a fair and judicial consideration of the questions really at issue. This state of things has culminated in a formal inquiry into the character of the surgical work recently done in the hospital, by a committee appointed for the purpose. The committee has made its report, but we are not sure that matters are likely to be materially mended by it. We are not acquainted with the committee's constitution, nor have we seen the full text of the report, being obliged to rely for the purport of the latter on a summary of the points, given editorially in a recent issue of the "British Medical Journal."

The report relates specifically to four different operations: ordinary ovariectomy, exploratory laparotomy, oophorhaphy, and removal of the ovaries and oviducts. Concerning ordinary ovariectomy, the committee simply say that its expediency is now universally recognized. As to exploratory laparotomy, they think that in the few instances of that operation that have occurred in the hospital it was justifiable. In regard to oophorhaphy (the operation of replacing a prolapsed ovary in its proper situation, and endeavoring to secure its retention there by means of suturing), the committee say that experience is not yet sufficient to enable them to express any strong opinion either for or against it, but they remark that "the uncertainty as to whether the ovaries will retain the position in which they are fixed, together with the danger attached to all abdominal sections," constitutes a serious objection to the frequent use of the procedure. In the matter of Tait's operation (removal of the ovaries and oviducts), it appears that it has been done in the hospital in one hundred and six cases, and that nine of the patients have died, giving a mortality of between eight and nine per cent. The committee admit that it "enters into the category of legitimate and justifiable surgical proceedings," but conclude that, if it is done for comparatively trivial affections, or for con-

ditions which might be remedied in a reasonable time without resorting to operation, and if the results are afterward found to be far from certain as regards cure, a mortality of eight or nine per cent. is a serious objection to its being done under those circumstances.

Although some of the committee's opinions have about them a flavor of Jack Bunsby, it must certainly be confessed that they lean in the direction of conservatism. In reality, it makes little difference, except for one particular hospital, what such a committee may think best to say, for with the profession at large an official opinion has no more force than one emanating from the official body's strongest member. The report touches upon the broader question of the expediency of resorting to laparotomy at all in a special hospital, except for affections falling within the strict limits of the specialty, but no more light seems to have been shed on this point than on the other matters discussed.

MINOR PARAGRAPHS.

DOCTORS AND POLITICS.

A CORRESPONDENT of one of the daily papers, who signs himself "Doctor," calls attention to a number of instances in which officials who have made appointments, and done other acts, distasteful to medical men have failed of re-election, or have in some equally pointed way been made to understand that they had lost popularity. Although it is not pretended that these things have come to pass as the result of any concerted action on the part of physicians, the intimation is plain that their resentment had something to do with the sequence of events, and that that resentment was displayed in quite a proper way. While it is unquestionably true that medical men are ordinarily too neglectful of their political duties, it seems to us that, when they do take action, they should base it on broader grounds than class pique.

A PHARMACEUTICAL TERM OF REPROACH.

OUR readers are all doubtless informed as to the brilliant war of words that once took place between a Billingsgate fish-woman and a scholar, in which the latter made use of mathematical terms that his adversary could not match. Not precisely in the same line, but evidently quite effective, was an expression of disgust lately applied by a woman to a Paris policeman, "*Tu me fais l'effet d'une pilule!*" This pharmaceutical abuse was more than the policeman could endure, and the woman was brought before one of the police courts, where, according to a Paris dispatch to the London "Daily Telegraph," she was acquitted on the ground that there were a thousand kinds of pills, the effects of which were of the most varied character, but she had not mentioned any particular kind. "So we may infer," the account continues, "that, had Ernestine Roussel compared her enemy to a blue pill, for instance, she would have been treated with more rigor."

ITEMS, ETC.

M. Pasteur's Wolf-bitten Patients.—An esteemed correspondent writing from St. Louis calls our attention to an error in the calculation of a percentage in Dr. Mott's article, "Rabies, and How to Prevent it," the concluding portion of which was published in the "Journal" for October 30, 1886. The last paragraph of the second column of page 490 concludes: "Ordinarily 66 per cent. of those bitten by rabid wolves die, and here

the percentage is fourteen." The final clause should read *and here the percentage is but little more than eight.*

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Fourth Division of the Health Department for the following statement of cases and deaths reported during the two weeks ending December 28, 1886:

DISEASES	Week ending Dec. 21.		Week ending Dec. 28.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever.....	11	9	17	5
Scarlet fever.....	31	4	34	6
Cerebro-spinal meningitis ...	5	4	6	6
Measles.....	569	64	518	64
Diphtheria.....	102	46	125	42

Cholera in South America.—Press dispatches by way of Galveston, dated December 23d, announce that the disease has ceased to exist at Montevideo, but that 86 deaths and 118 new cases were reported from Mendoza on the 22d.

Mount Sinai Hospital.—At the recent annual meeting of the patrons and members, it was shown that the institution was doing an increased amount of work, and that it was managed with strict economy, but that the increase of its resources during the year had been trifling. We trust that the appeal for more benefactions made in the report will be favorably considered by the community.

The Alumni Association of the Woman's Hospital in the State of New York will hold its third meeting at the New York Academy of Medicine on Wednesday, the 19th inst. The programme is as follows: *Morning Session, 9.30 to 1.*—"The Treatment of Vaginismus by a Plastic Operation," by Dr. E. C. Dudley, of Chicago; "Hydrastis Canadensis in Uterine Hemorrhage," by Dr. Reynold W. Wilcox, of New York; "Vaginal Cysts, with Report of a Case," by Dr. George Woodruff Johnston, of Washington; "Artificial Impregnation as a Substitute for Removal of the Uterine Appendages in a certain Class of Cases," by Dr. A. H. Buckmaster, of Brooklyn. *Afternoon Session, 2 to 5.*—"The Influence of the Woman's Hospital," by Dr. James B. Hunter, of New York; "Vaginal Hysterectomy in America, with Report of a Case," by Dr. A. Palmer Dudley, of New York; "Post-graduate Instruction in Gynecology," by Dr. Henry C. Coe, of New York; "Complete Laceration of the Perinæum involving the Sphincter Ani," by Dr. P. Flewellyn Chambers, of New York.

The College of Physicians of Philadelphia will hold its centennial celebration next Monday evening, the 3d inst. A commemorative address will be delivered at Association Hall at 7.30 p. m., and at 9 p. m. a reception will be held in the hall of the college.

A New Local Anæsthetic.—"Drumine," says the "Lancet," "is the title of a new Australian local anæsthetic discovered and described by Dr. John Reid, of Port Germain, South Australia. *Euphorbia Drummondii* is the species from the milky juice of which the alkaloid drumine was prepared. Cocaine is known to have a mixed action on sensory and motor nerves, and causes preliminary excitement; while drumine is said to have an almost purely sensory paralyzing effect, and does not cause excitement. Experiments were made on cats and on the observer's tongue. It was injected into the legs of the former animals and caused general dullness, with marked impairment apparently of all forms of sensibility. Placed on the tongue, nostrils, and hand of the observer, the resulting anæsthesia was most marked. The alkaloid has no action on the pupil, and small doses given internally produce no constitutional effect. It has been employed successfully in subcutaneous injections for sciatica and

sprains. The experimentation has so far been imperfect and incomplete. We hope soon to have a fuller account of this new alkaloid, and to be able to give further information thereon. The amount injected subcutaneously was four minims of a four-per-cent. solution. Dr. Reid anticipates a brilliant future for the drug in the domain of nervous and cerebral diseases."

Marine-Hospital Service.—*Official List of Changes of Stations and Duties of Medical Officers of the United States Marine-Hospital Service for the three weeks ended December 18, 1886:*

BANKS, C. E., Passed Assistant Surgeon. Granted leave of absence for twelve days. December 16, 1886.

CARRINGTON, P. M., Assistant Surgeon. Granted leave of absence for fifteen days. December 6, 1886.

WILLIAMS, L. L., Assistant Surgeon. Upon expiration of leave, to proceed to Boston, Mass., for duty. December 17, 1886.

Society Meetings for the Coming Week:

MONDAY, *January 3d:* New York Academy of Sciences (Section in Biology); Medico-chirurgical Society of German Physicians; Morrisania Medical Society (private); Brooklyn Anatomical and Surgical Society (private); Utica, N. Y., Medical Library Association; Boston Society for Medical Observation; St. Albans, Vt., Medical Association; Providence, R. I., Medical Association; Hartford, Conn., City Medical Association; Chicago Medical Society.

TUESDAY, *January 4th:* New York Obstetrical Society (private); New York Neurological Society; Elmira, N. Y., Academy of Medicine; Buffalo Medical and Surgical Association; Ogdensburg, N. Y., Medical Association; Medical Societies of the Counties of Broome (quarterly) and Niagara (semi annual—Lockport), N. Y.; Hudson County (Jersey City) and Union County (quarterly), N. J., Medical Societies; Androscoggin, Me., County Medical Association (annual—Lewiston); Chittenden, Vt., County Medical Society.

WEDNESDAY, *January 5th:* Harlem Medical Association of the City of New York; Medical Society of the County of Richmond, N. Y. (Stapleton); Penobscot, Me., County Medical Society (Bangor); Bridgeport, Conn., Medical Association; Philadelphia County Medical Society (regular).

THURSDAY, *January 6th:* New York Academy of Medicine; Society of Physicians of the Village of Canandaigua, N. Y.; Boston Medico-psychological Association; Washington, Vt., County Medical Society (annual—Montpelier); Obstetrical Society of Philadelphia; United States Naval Medical Society (Washington).

FRIDAY, *January 7th:* Practitioners' Society of New York (private).

SATURDAY, *January 8th:* Obstetrical Society of Boston (private); Worcester, Mass., North District Medical Society.

OBITUARY NOTES.

Thomas Arnold Hazard, M.D., of Kingston, R. I., who died on the 8th inst., was born in 1814 and received his medical degree from the University of Pennsylvania. He settled in Kingston, and for more than fifty years he was one of the leading physicians of that section of the State. Dr. Hazard was prominent in educational matters, and served as a school committee member for over twenty years. He was a man of few words, but of a fine physique, a cheerful and dignified bearing, and ready wit.

William H. Carter, M.D., of Bradford, Vt., died recently from the effects of a fall. He was born in Newbury, Vt., May 28, 1801, received his early education at Bradford Academy, and was graduated from Dartmouth Medical College in 1824.

Henry Slack, M. D., of Fishkill-on-the-Hudson, died on Friday, December 10, 1886, in the fifty-sixth year of his age. Dr. Slack was a graduate of the Albany Medical College, of the class of 1852.

Letters to the Editor.

ARE SMALL POX AND COW POX ONE AND THE SAME DISEASE?

Boston, December 20, 1886.

To the Editor of the New York Medical Journal:

SIR: As you are pleased to call "Journal," Dec. 11th the results of experiments favoring this doctrine, especially those of Mr. Coely, a "flimsy foundation," will you have the goodness to republish the account of similar experiments made by the late Dr. Horatio Adams, of Waltham, Mass.? He and his associates were certainly men worthy of all belief; you will recognize their names readily as those of trustworthy men fully capable of such work. Though the results have long been before the public, neither Mr. Fleming nor you allude to them.

In an annual discourse before the Massachusetts Medical Society, a society of sixteen hundred members ("Med. Com. of the Mass. Med. Soc.," ix, 4, 1858, p. 250), Dr. Adams says:

"The fact is probably familiar to all that within the last twenty years it has been shown that the cow-pox can be produced by inoculating the cow with variolous matter. In the October number of the 'British and Foreign Med. Review' for 1839 may be found an account of Mr. Coely's experiment of inoculating the cow. Soon after this, in conversation with a gentleman whom, in the words of another, I am privileged also to call my teacher, my physician, my friend, James Jackson, it was arranged that the writer should repeat Mr. Coely's experiment as soon as pure small-pox matter for the purpose could be procured. A brief account of this experiment, the first, it is believed, that was ever performed in this country with successful results, may not be out of place here. On the 11th of January, 1840, I made several punctures with the point of a lancet under the cuticle on the right labium palati of two different cows; none of the punctures were sufficiently deep to draw blood. Into each of them was introduced a pointed quill well deluged with variolous matter, and allowed to remain for half an hour. On the 15th the punctures were barely visible, but not apparently inflamed. On the 16th two of the punctures made on the youngest cow were more distinctly visible; in drawing the finger over them a slight hardness was felt. None of the other punctures had inflamed. 17th.—These two punctures were more inflamed and a little raised, showing a pearly-white, flat top, rather small. 18th.—Punctures larger than yesterday, and each capped with a pearly-white, flat vesicle, with center depressed. 19th.—The punctures (now vesicles) are enlarged, centers depressed. 20th.—Each of the vesicles is nearly four lines in diameter, surface pearly-white, flat, with centers depressed, areola not formed, slight crust in center. This p. m., end of ninth day of disease, punctured one of the vesicles; found cuticle thick, spongy, and breaking, like what is seen when a vaccine vesicle is early punctured on the arm. Vesicle distinctly cellular. Transparent lymph oozed from the opening, with which I charged twenty quills. Cow appears perfectly well. 21st.—No material change. 22d.—Vesicle larger and more full, areola forming. Dipped several quills to-day; lymph pellucid. Drs. J. D. Fisher, C. G. Putnam, and Gregerson examined the case to-day. 23d.—Crust forming rapidly, areola somewhat increased in extent, three-fourths of an inch in diameter, round and regular, and somewhat raised above the surrounding skin. Cow eats as usual. From this date disease rapidly subsided; a very dark crust was soon formed. On the 27th Drs. Fisher and Putnam brought me virus taken from a child vaccinated on the 24th instant with the matter taken from this cow. The vesicle, as they both affirmed, exhibited the

characteristic marks of the true cow-pox on the sixth day of the disease. Many persons were subsequently vaccinated with matter taken from this cow, and in every instance the true vaccine disease was the result.

"This discovery of the identity, or rather, I should say, this proof of the identity, of the vaccine and variolous diseases is the most important fact observed in relation to the cow-pox since the original discovery of Dr. Jenner. For, if any doubt should ever arise as to the genuineness of the virus in use, or if it should at any time be lost, as it frequently may be in certain localities, and small-pox make its appearance, it can be reproduced with certainty by inoculating the cow with small-pox virus."

These experiments were "made openly," as the present writer can attest, and were completely successful. If others have failed, that should not invalidate such results—the animals may have been insusceptible (as many human beings are), or may have had the disease previously. The subject seems worthy of further trials by disinterested experimenters who can command the opportunities which, say, the institutions of New York amply afford.

M. M. M. 8.

On a future occasion we shall attempt to point out the distinction that should be made between matters of fact and questions of interpretation in the accounts handed down to us by Mr. Coely, Dr. Adams, and others. At present we will simply say that, so far as we are aware, those gentlemen's veracity has never been seriously called in question.

TALIPES CALCANEUS.

KEENE, N. H., December 13, 1886.

To the Editor of the New York Medical Journal:

SIR: The communication of Dr. Churchill, in your issue of December 11th, calls to mind a case that occurred in my own practice. On the evening of September 26, 1885, I was called to attend in confinement Mrs. P., a primipara. After a very short and easy labor, she was delivered of a boy, who, with the exception of club-feet, was strong and well developed. Both feet were drawn up so that the nails were nearly in contact with the surface of the leg. The limbs were well developed and of equal size. The feet could be brought down into the natural position with ease, which showed that the deformity was caused by paralysis of the muscles on the posterior portion of the leg, the gastrocnemius and soleus, and not by abnormal contraction of those on the anterior part, as was the case with Dr. Churchill's patient. I directed the nurse to rub or shampoo the muscles on the back of the legs often with her hand, giving her a liniment to apply, as many persons can not be made to understand that there is any virtue in simple rubbing. She was to hold the feet in their natural position as much as possible. My directions were carried out faithfully. It was my intention to use the constant current after a few days, but, as improvement began by the time the child was a week old, I did not apply it. When the child was eight weeks old, both feet were in a normal position, with no symptom of the previous deformity; when it began to walk, which it did at fourteen months, the muscles seemed as strong, and obeyed the will as well, as if none of them had ever been paralyzed.

The treatment of congenital talipes, whether of the calcaneal variety or not, should be begun at birth. If it is put off, fatty degeneration of the muscles will take place, the bones will change their articulating surfaces, and a cure will be out of the question, even if the knife is used. In this, as in many other conditions, delay is dangerous.

Respectfully,

IRA J. PROUTY, M. D.

Proceedings of Societies.

NEW YORK NEUROLOGICAL SOCIETY.

Meeting of December 7, 1886.

The President, Dr. C. L. DANA, in the Chair.

A Case of Progressive Muscular Atrophy, with Bulbar Symptoms.—Dr. W. R. BIRDSALL presented a patient, and read the history of a case of progressive muscular atrophy, with bulbar symptoms; the atrophy limited to the left upper extremity, the abductor indicis of the right hand, and the tongue, the latter affected bilaterally (predominantly on the left side). He presented the case as illustrating the non-conformity of disease to our arbitrary standards of classification and description of types. The patient showed peculiarities due to the pathological process having advanced to an extreme degree in certain regions, while its distribution had remained limited, not involving neighboring parts usually affected; the left upper extremity and tongue were the parts involved, and to a marked degree, while the right upper extremity was normal, excepting the abductor indicis; the trunk and lower extremities remained healthy. A detailed history of the case was given, the patient being a carpenter, a Swede, aged thirty-nine, married, of temperate habits, without a history of syphilis or other disease. A chart was presented showing the electrical reactions.

Self-abuse in its Relation to Insanity.—Dr. E. C. SPITZKA read a paper in which, after citing the views of the classical writers, he stated that the question of the existence of a special form of insanity due to self-abuse and to nothing else was complicated by the existence of another well-defined affection known as the insanity of pubescence. The mental diseases due to self-abuse usually occurred at the same period of life as the latter disorder. This fact explained the similarity of many of their clinical features. The question was further complicated by the fact that hebephrenics (sufferers from pubescent insanity) were often addicted to self-abuse, and that thus the features of one disorder might be ingrafted upon the other.

The Continental authorities did not recognize a special form of masturbational insanity in their tables. Schüle, it was true, spoke of *onanistic insanity* in the sense in which Maudsley used that term; but he assigned no part to it in his classification, and disposed of it in a few lines. Krafft-Ebing recognized the vice as an aetiological factor, and spoke of such and such forms of insanity on a masturbational basis. He, as well as Schüle, with the majority of recent German writers, followed Ellinger in attributing to the *masturbatory neurosis* a relation to the development of insanity analogous to heredity and other admitted predisposing and determining factors. The author had yet to find any dissent expressed by these authorities from the position taken by Emminghaus, who maintained that, owing to its causal relationship to widely differing forms of insanity, it was not proper to speak, as Skae did, of a special form due to masturbation. This critical remark would seem to be supported not only by the clinical facts accessible to every observer, but also by the confusion existing among those writers who had attempted to define such an affection. Skae spoke of a peculiar imbecility and shy habits as characterizing the disorder among the youthful, and suspicion, fear, scared looks, palpitation, and feeble bodies, as found in older victims, who gradually passed into dementia. The most distinguished disciple of Skae's attributed the following symptoms to that form of insanity of which masturbation was the chief cause and "the chief symptom present," giving "the whole case distinct features": exaggerated self-feeling; conceited, shallow introspection; frothy,

emotional religious notions; and a restless, unsettled state, with foolish hatchlings of philanthropic schemes. Luther Bell, who, with Isaac Ray, had been among the earliest to attribute special symptoms to insanity caused by masturbation, had furnished a very faithful picture of certain cases, the particular feature of which he described as being a tendency to dementia, a loss of self respect, a sulky, mischievous, and dangerous disposition, and a subjectively irritable and depressed state of mind. Griesinger, who did not recognize a special form and denied specific characters, admitted that the majority of cases were marked by a profound dullness of sentiment and mental exhaustion, by religious delusions and hallucinations of hearing, and a rapid transition to dementia in the event of incurability, which latter was the usual issue.

The effect of masturbation on the mind and nervous system varied according to the age at which it was commenced. Like other agents which were injurious to the developing brain, such as epilepsy, alcohol, and syphilis, its effect was most rapid and serious in young children, less so in adolescents, and least marked in adults, unless protracted. In very young infants it caused a profound deterioration, manifesting itself in convulsive, choreic disorder, and imbecility. In those who masturbated between the fifth and tenth years the effects seemed to be manifested chiefly in arrested brain nutrition. Spontaneity of thought and action was absent with such children; they did not play as their comrades did. There were a number of other circumstances which modified the development of mental disturbance in masturbators. The age between twenty and thirty-five was pre-eminently the period of somatic introspection. It was at this period, if at any, that the average man began to think about his bodily condition. In these years men weighed themselves, discovered that they had too much or too little flesh, became affected with slight gastric or intestinal disorders, with reflex nervous symptoms, or indulged to excess in tobacco, in drink, and in venery, and consequently were on the *qui vive* for the occurrence of cardiac, renal, or venereal disease, or of sexual disability. It was at this period that the results of masturbation were most deeply felt by a large proportion of the victims of that habit. The prevalent tendency of their age and of their associates of the same age carried them into a veritable nosomania. Perhaps also they attempted, under lay or medical advice, to accomplish coitus and failed. It was for this reason that we found the larger portion of cases of insanity due to masturbation developing between the twenty-fifth and thirty-fifth years, classified as "hypochondriacal paranoia."

A number of typical histories were then related, from which the author drew the following conclusions: 1. Self-abuse was an aetiological factor in a large number of cases of insanity, but only those cases should be designated as insanity of masturbation in which the connection between the excesses and the symptoms was direct. 2. Self-abuse, to produce insanity, must have been carried very far, or the subject must be predisposed. Often onanism could be traced in other members of the family, and very often it was found that the maternal ancestry was a weak one. 3. Mania, melancholia, and epilepsy occasionally occurred in young masturbators, the former two usually having a favorable prognosis. 4. Stuporous insanity and katoonia were both common, and the former presented good prospects. 5. The forms thus far mentioned, when occurring in masturbators, presented no essential difference from the typical psychoses. They should, therefore, be designated as mania, melancholia, stupor, etc., *from* masturbation, and not as masturbational insanity. 6. There was a chronic delusional insanity in grown persons who had been devotees of self-abuse, and it was usually a hypochondriacal *paranoia*. Clinically it was very like typical paranoia, and aetiotogically it was not the direct result

of self-abuse, but rather of an intermediate neurosis, a cerebro-spinal irritation which was due to self-abuse. 7. Finally, there was a form of insanity developing about or after the period of puberty which did merit the name "masturbational insanity." It was chronic, had a tendency to agitated dementia, and was characterized in its early period by anxiety, timidity, suspicion, fear, and a cowardly, mean disposition. Subsequently there were confusion, meddlesome, aggressive behavior, vague delusions, loss of memory, and, finally, deterioration. After these were observed spells of fury or destructiveness. This form was never due to any other cause, and resembled no other form of insanity than the one already alluded to. 8. It was not always possible to distinguish between the insanity of pubescence and the form described. But, where the former disorder was uncomplicated by the latter, it might be known by a history of peculiarities in infancy and childhood, and by the greater constancy of the mental state, which in onanists was exceedingly variable. Hebephrenics were more apt to be expansive in their notions, more inclined to favor projects of a chimerical character. In other words, insanity of pubescence was the paranoia of adolescence, and masturbational insanity the pre-senile dementia of the same period of life.

Dr. RALPH L. PARSONS made some remarks with reference to the treatment. The diet should be principally of vegetables and milk, with little meat and stimulating condiments. As the patient sought solitude, he should be thrown as much as possible with others, not alone of his own sex, but also of those of the opposite sex. He should be kept occupied, and manual labor of some form, like farming, was best. He knew of no special benefit to be derived from medicinal treatment, as with the bromides, or with the application of irritating substances to the penis. Cutting off the prepuce might be of advantage in some cases. The patient should be closely watched day and night. Mechanical appliances might sometimes be necessary, and moral influence could be depended upon to a certain extent.

Dr. KELLOGG agreed with the author in the main in the conclusions arrived at, but he would like to know Dr. Spitzka's views as to the relative importance of artificial sexual indulgence and indulgence in the natural manner as factors in the production of insanity. Masturbation was a wide term, and ought to be defined. The effects in some cases were more observable in spinal lesions, in others in cerebral lesions. He believed that masturbation itself was not capable of producing insanity in a person of sound heritage. He was convinced that it was capable of suspending mental growth, and producing forms of imbecility in those of sound parentage. He knew it could produce insanity at the time of pubescence, and there were persons of mature age who had a predisposition to insanity in whom the attack was excited directly by sexual excess. Occasionally persons indulged to excess for a year or two only, as sailors sometimes did when on long voyages. Masturbation was also capable of producing insanity in old persons who were on the decline; it hastened dementia. He did not think there was a peculiar set of symptoms; the age of the patient, his education, his heritage, his whole mental make-up, influenced the symptoms more than the exciting cause. He did not believe it possible to separate masturbation from other forms of sexual excess, and the title "sexual abuse" would have been more appropriate because more comprehensive than self-abuse.

Dr. NOYES said the case referred to by the author as having been cured was the only one in the Bloomingdale Asylum in which a cure had been effected, and he attributed recovery in that case to transferring the patient to a farm, where his whole mode of life, including diet, was changed, and for the better.

Dr. L. C. GRAY thought the author had given an accurate

description of the mental disturbances often seen associated with the habit of masturbation, but he asked if he did not also find similar mental disturbances in individuals who were not masturbators.

Dr. SPITZKA replied that in individual cases he had, but not in groups of cases as occurred in masturbators.

Dr. GRAY had seen the mental disturbances described in patients addicted to masturbation, but he had been unable to decide as to how far masturbation could be considered as a cause or simply an associated habit. He had two cases in mind in which that group of symptoms was followed in the course of a few weeks by masturbation in individuals who had not previously been addicted to self-abuse. He had seen the same symptoms follow excessive sexual intercourse. He had in some cases noticed a very exaggerated and extensive cremaster reflex.

In closing the discussion, Dr. SPITZKA said that there were undoubtedly some forms of sexual vice which were physically as injurious as onanism. But he had not seen a sufficient number of cases to enable him to say anything about their mental sequelæ unless he cared to risk being premature. He had known epilepsy and stupor to follow sexual excess in the natural manner in a young person, and parietic dementia in more than one cannibal and sodomist. The form he had sketched was, so far as his experience went, only found in masturbators. While he admitted with Dr. Kellogg that the single act of onanism was physically not a formal thing, and not much if at all different from normal coitus, there were two respects in which the onanist and libertine differed most widely; one was a moral, the other a physical, feature. The onanist practiced a secret crime; the social and gregarious element was excluded. Knowing that his act was despised, he became inclined to suspicion and fear of discovery. A libertine could not exceed beyond a certain limit. Coitus required a condition of the organs which implied the existence of certain normal energies. When these failed, the limit was set to further excess. With the onanist it was much different. There were masturbators who required no erection; yea, who succeeded in their injurious act without any manipulation. The consequence was that they passed far beyond the limit set by nature to excess in the natural way, and no calculation could be made of the damage done. Dr. Parsons's dietary propositions were indorsed by the highest authorities. Individually, the speaker was not decided whether or not a highly nutritious diet would prove injurious in certain phases.

NEW YORK PATHOLOGICAL SOCIETY.

Meeting of November 24, 1886.

The President, Dr. JOHN A. WYETH, in the Chair.

Miliary Aneurysms of the Brain.—Dr. R. VAN SANTVOORD presented microscopical slides showing miliary aneurysms in a brain in which there were six or seven cortical hemorrhages.

Cardiac Lesions.—Dr. VAN SANTVOORD presented the heart of a woman who had died, aged fifty-five years. Her predominant symptom during the two weeks she was in the hospital had been great feebleness of the heart. At the autopsy lesions were found in several organs of the body, including pulmonary phthisis and œdema, and chronic diffuse nephritis. The lesions to which he called particular attention were slight hypertrophy of the left ventricle with dilatation, a advanced calcification in the aortic valves, and fatty heart. The case went to support the conclusion arrived at from experiments made by Dr. W. H. Welch, namely, that marked weakness of the left ventricle was frequently accompanied by œdema of the lungs.

Aortic Regurgitation (from Rupture of a Valve?); Pericarditis.—Dr. VAN SANTVOORD presented a specimen from the

body of a man who had been an inmate of a lunatic asylum for nine years. He had been a driver of a brewery wagon. He had an acute nephritis, which became complicated with pericarditis, resulting in death. A typical double aortic murmur had been heard; there was also a systolic murmur at the apex not transmitted to the left. A cardiac functional murmur was heard four days before death. At the autopsy there were found slight thickening of the arachnoid and anemia of the brain. The lungs were very oedematous; there was slight pleuritic effusion; the liver was cirrhotic and fatty, and showed congestive changes; the spleen was of double its normal size, and firm; the kidneys were oedematous, the cortex being mottled yellow; there were congestion and thickening of the mucous membrane of the stomach and intestines. The pericardium contained two ounces of fluid, and both layers were coated with yellow lymph. The left ventricle was considerably dilated and hypertrophied. Two leaflets of the aortic valve were only slightly thickened. The third, corresponding to the right coronary artery, had a notch at one side of the corpus Arantii. From one side of the notch three fibrous vegetations projected, and from the other side one about an inch long. The mitral orifice admitted the ends of three fingers. The valves looked normal. The aorta showed extensive atheroma. The speaker thought, from the fact that two of the leaflets were only slightly thickened, and from the notch-shaped lesion and limitation of the fibrinous outgrowth to the edges of this notch, that it was probable the lesion had been caused by a rupture of the valve. It seemed plausible to suppose that the additional strain thrown on the aorta by the cardiac systole, which was unusually strong from compensatory development of the left ventricle, had been a factor of importance in increasing the atheroma of the aorta; the valves being subjected to a subnormal strain owing to regurgitation, did not share in this factor, hence presumably the unusual disproportion between the general disease of the valves and that of the aorta. Sphygmographic tracings of the pulse were shown, and compared with those taken in another case.

A Slough from the Uterus.—Dr. H. J. BOLDT presented a slough which had come away after the use of chloride-of-zinc cotton in the uterine cavity following curetting in a case of carcinoma. It was interesting chiefly on account of its great thickness.

Acute Gastro-enteritis; Ulceration of the Gall Bladder.—Dr. L. EMMETT HOLT presented several medium-sized gall stones removed from the body of a man who had died at the age of forty-five years, having given a history of attacks of biliary colic with jaundice. Some days before death he had a chill; the temperature rose, and remained elevated until death. There was a history of previous malarial poisoning, which rendered the diagnosis obscure. The liver was found intensely jaundiced and slightly fatty. There was recent parenchymatous nephritis. The stomach, the duodenum, and two or three feet of the jejunum showed marked acute inflammation. The hepatic and common bile ducts were pervious. The jaundice appeared to have been due to swelling of the mucous membrane at the opening of the common duct into the duodenum. The gall stones had ulcerated through the gall bladder and become encysted in an abscess which had formed on the lower surface of the liver. Death had resulted from blood poisoning arising from this abscess.

Dr. VAN SANTVOORD had seen a case in Bellevue Hospital which began in very much the same way, but the abscess pointed externally. An operation performed for the purpose of healing the sinuses was followed by repeated secondary hæmorrhages from a divided artery of abnormal distribution. The autopsy revealed several old sinuses leading into the cæcum, the small intestine, etc.

Exsection of the Tibia.—The PRESIDENT presented the shaft of the tibia removed by operation from a boy twelve years of age, who had been admitted into Mt. Sinai Hospital with a history of chills and high temperature, and great tenderness over the tibia. A free incision was made below the knee and above the ankle, and through these openings there was discharged a considerable quantity of pus, but the temperature remained elevated. Afterward the tibia was trephined and was found to contain pus. The wound was treated by the open method, and, the patient's general condition having materially improved, the speaker next exsected all that portion of the tibia lying between the epiphyses. The periosteum was saved and he hoped there would be reproduction of bone. He had operated within fourteen months in eight other cases of destructive osteitis of the tibia, removing from two to four inches of the bone, and all the patients had recovered with reproduction of bone except one. This patient returned three or four weeks ago with the fibula normal, but the tibia was absent to the extent of three or four inches. He then tried to obtain union between the lower portion of the tibia and fibula by removing a thin piece at their articulating surface and wiring them together. It might be necessary to perform a similar operation at the other articulation. There was scarcely any condition of osteitis of the tibia which justified amputation. He had not seen arthritis or osteo-arthritis result from resection in these cases.

Cocaine in Minor Surgery.—The PRESIDENT presented a lipoma and a small cystic tumor removed from the forehead, cocaine having been employed locally as an anæsthetic. He had performed a number of minor operations by using cocaine, and the patients had experienced no pain nor unpleasant symptoms. He had injected as much as three or four grains of the drug in a four-per-cent. solution at a single operation. It should be employed with greater care in the region of the fifth nerve. It was safe to use a larger quantity when the limb was rendered bloodless, as after the operation it could be "milked" out before entering the general circulation, and the remaining quantity be further diminished by the oozing which would take place on temporarily removing the Esmarch bandage.

Dr. GEORGE F. SHRADY referred to a case of acute necrosis of the os brachii in which he had exsected the entire shaft, and nearly complete reproduction took place within three months.

Dr. V. P. GIBNEY said the operation performed by the president for uniting the epiphysis of the tibia to the fibula was similar to one performed by Dr. W. T. Bull. The case was one in which the upper and lower fourths of the tibia remained, the middle two fourths having been destroyed by disease. The fibula was bowed. Dr. Bull divided the fibula obliquely opposite the ends of the upper and lower portions of the tibia, then divided these obliquely, and united them by wire to the fibula. A firm and straight limb resulted on which the patient walked, wearing a high shoe.

Dr. BOLDT had seen serious shock result from less than one grain of cocaine injected near the trifacial nerve.

Dr. LOCKWOOD mentioned a case of cocaine poisoning produced by the injection of twenty minims of a four-per-cent. solution into the neck preparatory to tracheotomy.

Dr. HOLT had seen very unpleasant symptoms follow the injection of twenty minims of a four-per-cent. solution in a child.

Dr. SCHIFFER had seen sloughing take place in two cases of circumcision along the entire line of incision after anæsthesia produced by cocaine; he had also seen free parenchymatous hæmorrhage after operating under its influence.

The PRESIDENT alluded to the danger of giving ether or chloroform at once in a case in which cocaine had failed to produce anæsthesia.

Meeting of December 8, 1886.

The President, Dr. JOHN A. WYETH, in the Chair.

Chronic Endarteritis involving the Aorta and nearly all the Arteries of the Brain.—Dr. T. MITCHELL PRUDDEN presented the aorta and arteries of the brain of a man of middle age who had been brought to the hospital in an ambulance in an unconscious state, having, apparently, right hemiplegia, and had died a few hours later. The only lesions found were marked chronic endarteritis, involving principally the aorta and nearly all the arteries of the brain. The brain was macerated in water a week, and a current of water was then allowed to flow upon it, washing the brain substance from the arteries. The chronic endarteritis was seen to have involved both the larger and the finer vessels.

Bacteria of Typhoid Fever.—Dr. PRUDDEN also presented a set of specimens, consisting of microscopical slides and cultivations, showing the bacteria of typhoid fever. The method of cultivation was often very easy, although not always successful.

Fibro-sarcoma of the Parovarium.—Dr. CUSHIER presented an abdominal tumor removed four weeks before from a woman thirty-seven years of age, who had been married nine years, but had never been pregnant. Her general health had been excellent until a year ago last September, when she lifted a heavy weight, and felt that she had strained herself. The pain subsided, but within two weeks afterward the abdomen began to enlarge, and continued to increase in size rapidly, so that in January she was unable to go about. In March her abdomen diminished in size, and she again became comfortable. During the latter part of last summer it again enlarged rapidly. Dr. Cushier saw the patient in November, when the abdomen was very much distended, apparently by an encysted dropsy. A diagnosis was made of possible ovarian or parovarian cyst. An operation was performed November 12th. As soon as the peritonæum was divided, one cyst with exceedingly thin walls burst, and a second burst as soon as it was touched. The tumor had a long pedicle, and in its division a part of the ovary was removed with it. The chief interest in the case lay in the fact that the pedicle was composed of as many as five long tubes, the caliber of which admitted an ordinary probe readily. They terminated in a blind extremity at the growth. The tumor the speaker regarded as parovarian, and the ducts as arising from the Fallopian tube. Unfortunately, only a portion of the tumor had been saved for microscopical examination, the remainder, including the ducts, having been placed in a fluid which rendered this form of examination impracticable. The diminution in the size of the tumor in March was probably due to rupture of a thin-walled cyst.

Dr. M. PUTNAM-JACOB thought that the tubes represented in some way the organ of Rosenmüller.

Dr. VAN GIESSEN presented stained sections of the spinal cord at various points, showing polio-myelitis anterior and tubercle.

Tumor of the Palate.—Dr. ROBERT NEWMAN presented a tumor, of about the size of the last phalanx of the ring finger, removed from the junction of the hard and soft palates, in a woman fifty-five years of age, who had noticed the growth as long ago as twenty years. Recently it had increased in size and given trouble. It was removed without pain after the patient had taken some whisky and cocaine had been applied. The tumor was referred to the Committee on Microscopy. Dr. Newman took occasion to say, with regard to the use of cocaine, that in one case the injection of twenty-five minims of a four-per-cent. solution into the bladder had immediately been followed by a bursting sensation in the head which had not entirely disappeared at the end of ten days.

NEW YORK SURGICAL SOCIETY.

Meeting of November 22, 1886.

(Continued from vol. xlv, page 744.)

Pyonephrosis; Nephrotomy.—Dr. LANGE presented a woman, thirty-three years of age, married, who for years had had painful sensations in her left lumbar region. For about eight weeks she had suffered from severe fluor albus, most likely of gonorrhoeic origin, her husband being under treatment for gonorrhea at that time and at the present. For several weeks she had had cystitis, and within the last fourteen days severe pain in the left lumbar region had supervened.

On the 11th of March the speaker saw her in consultation with Dr. L. STRAUSS. She was feverish, and suffered severe pain in her left lumbar region, where a tumor of about the size of a new-born child's head could be felt, in all its relations corresponding to an enlarged kidney. Probatory puncture revealed the presence of pus. On the 13th of March nephrotomy was done by the lumbar incision, and the following condition found: There existed a large, pretty smooth cavity, covered with a thin mucous membrane. At the bottom of this cavity a roundish, fleshy elevation could be felt and seen, apparently the main portion of the kidney. This was fluctuating, and, on incision by the actual cautery, discharged a moderate quantity of pus. The finger introduced felt the characteristic edges and cavities of the dilated calices. The larger cavity was apparently not in free communication with this main part of the pelvis. By its great extension it seemed to be crowded over and overlapping the organ entirely. At its depth, also, some protruding edges of calices could be felt. Both cavities were thoroughly drained, and weak solutions of boric acid used as a wash during the after-treatment.

This case was presented principally because of the smooth recovery which took place within about eight weeks after the operation, when cicatrization was complete. The discharge of pus and urine through the wound decreased very soon, probably on account of the communication through the ureter being re-established. The urine soon showed, also, a much better condition, and was quite clear three months after the operation, containing only traces of albumin. The kidney could then be felt much reduced in size, though still somewhat enlarged. The patient, as would be seen, was then in a flourishing condition of health. From the history of the case it seemed probable that she might have had a hydronephrosis for a longer time, and that, in consequence of gonorrhoeic infection, suppuration might have supervened.

Nephrectomy.—Dr. LANGE gave the history of the case of a man thirty-eight years of age, a peddler, who had entered the German Hospital on the 7th of October. Through Dr. L. WEBER, who sent the patient, the following information about his former history had been obtained:

"S. F., Russian, aged thirty-eight, married, peddler, seven years in the United States, came first to my office October 2, 1886. He had a decidedly cachectic appearance, and said that, having been previously well and strong, he had been taken with severe dysentery in the summer of 1880, from which he had suffered for many months; eventually recovered, but never regained his health as it had been before that illness. For the last two years he had had steadily increasing discomfort, pain and tenderness in the right hypochondrium extending from the hepatic and renal regions downward toward the iliac fossa. Severe paroxysms of running pain—as he expressed it—up and down those parts and deep-seated, would come on every night; rigors and even severe chills, followed by fever and perspiration, were of frequent occurrence. Bowels irregular; urine rather abundant, was sometimes clear, and again showed a thick, white sediment. A specimen of the urine examined the following day showed a large amount of pus and some cylindrical epithelia."

The patient was reduced in flesh and strength, and had an almost cachectic appearance. Lungs and heart normal. Abdomen slightly distended, walls resistant, so that palpation was difficult. In the right

hypochondriac and lumbar region, on bimanual palpation, a tumor could be felt immediately below the liver. Intestine in front of it. Its size about that of two fists. No fluctuation; pretty hard resistance. Probatory puncture from the lumbar region gave a thick, odorless pus at the depth of about two inches. Urine contained much pus. Specific gravity, 1.018; sour; if filtered, containing slight amount of albumin. It was discharged at somewhat shortened intervals in a full stream and without pain. Microscopically, nothing but pus and a few flat epithelia, and no cylinders, could be found. The left lumbar region offered no abnormality.

Operation on October 9th, intended to be probatory; nephrotomy, with eventual extirpation of the organ, following. The pyonephrotic sac, at its lower circumference, was incised with a thermo-cautery. A great quantity of thick pus escaped. On digital examination, it was found that the whole swelling consisted of numerous pus cavities, mostly from half an inch to two inches in diameter, that it extended pretty high up toward the diaphragm, and that as a urine-secreting organ it could not possibly have any value. In view of the advanced degeneration, and the quality and quantity of the urine, the conclusion seemed justified that the opposite kidney must be comparatively healthy, while the pus must mainly be delivered from the right side. Nephrectomy was therefore done. Though the adhesions of the capsule were quite extensive, they were not very difficult to separate, and, in spite of the size of the kidney, which, to be sure, was a good deal diminished after discharging the pus, it was brought out by the lumbar incision without adding any cross-incision, as had been necessary in former cases.

It was difficult to secure the pedicle, which was thick, short, unyielding, and overlapped by the mass of the organ. A preliminary elastic ligature was finally applied, the kidney was cut away far in front of the ligature, and in this way free access to the insertion of the ureter and vessels was obtained. A double ligature was then applied behind the elastic ligature by means of Thiersch's spindles, the elastic ligature removed, and then, by scissors and forceps, so much removed of the tied-off flesh as to leave just sufficient hold for the ligature. Some iodoform was powdered over the pedicle, the actual cautery was applied, and the ligatures were left long because suppuration and sloughing were feared in view of the field of operation having been swamped by pus, and somewhat infiltrated tissue remaining in the pedicle. No sutures were applied, and the wound was loosely packed with iodoform gauze.

Recovery took place without any serious disturbance, so that on the 14th of November, or five weeks after the operation, the patient could be discharged with a healthy granulating wound. The urine was loaded with pus during the first thirty-six hours; apparently this had been pressed down into the bladder by the manipulations during the operation, and, on account of its thick consistence, only gradually excreted by the bladder. It then, almost abruptly, had changed to a more normal condition in quantity and other respects, and had remained almost normal.

The most interesting feature to the speaker in the after-treatment was this: The pedicle did not slough, and the coarse silk ligatures did not come away spontaneously, nor did they yield to repeated tractions. Finally, four weeks after the operation, they were extracted with some slight force applied, but no piece of tissue had ever been discharged which could possibly have been the tied-off, thick, fleshy pedicle. He did not suppose the latter was continuing an organic life, but he thought that it probably was gradually digested by the envolving healthy granulations in the same manner in which the aseptic blood coagulum was gradually consumed, or aseptic pieces of organic tissue were annihilated by healthy tissues. Weak solutions of corrosive chloride of mercury were mainly used during the after-treatment.

It was sometimes not easy in nephrectomy to find the exact boundary line between the tunica propria of the kidney and the hard fibrous layers into which, after protracted inflammation and suppuration, the adipose capsule was changed. He had proposed to carry an incision, with the thermo-cautery, through all the layers deep into the tissue of the kidney, and on the edges of this incision to analyze exactly the boundary-line. It was very important not to carry the operative manipulations beyond

this limit, and he had once met with a serious disappointment in neglecting this rule. The peritonæum was torn without his seeing it in time, and the patient died from septic peritonitis. The removal of a very old pyonephrotic sac might be extremely difficult and sometimes impossible, of which he had satisfied himself at the autopsy of a lady who had suffered from calculous pyonephrosis for years, with perforation outward and into the colon, so that finally fecal matter was discharged through the lumbar region. Both kidneys were affected, and the patient finally died from tuberculosis of her lungs. In this case an absolutely fixed, enormously thickened cicatricial sac, containing stones, was all that was left of the kidney, and its removal during the autopsy was attended with the greatest difficulties.

The specimen presented showed a thickened capsule, the tissue of the organ itself apparently entirely gone; the inner surface of the pus cavities irregular; the trabeculae almost papillary, their arrangement evidently corresponding to the calices. The outer surface showed flattened elevations. Microscopical examination, made by Dr. F. Heppenheim, showed that those trabecular prominences represented the remainder of kidney tissue in an advanced state of inflammatory and fatty degeneration, and that a thin epithelium covered their free surface, which seemed to justify the conclusion that the mucous membrane of the calices was not entirely gone.

Dr. STIMSON said, in reference to the first case, that abduction at the joint was still lacking by about a half, and rotation almost entirely. The angular and rotatory displacement of the upper fragment after fractures at the upper part of the os brachii was, he thought, generally recognized, as was also the necessity of placing the lower one in a corresponding position during treatment.

The PRESIDENT said that the arm could be raised to nearly a right angle with the body without moving the scapula; but at that point the scapula began to move.

Dr. LANGE stated that that was almost the condition of the normal subject.

Dr. WEIR said that he thought this variety of fracture was not at all unique, as he could recall a good many instances where the result in usefulness of the limb had not differed from this materially. The only advantage which the operation advocated by Dr. Lange afforded was a cosmetic one — *i. e.*, that there was less deformity from the reposition of the lower fragment. As a rule, though it was not at all easy to overcome the displacement by securing the arm to the chest-wall, yet the carrying of the forearm in a sling had given results far from unsatisfactory. He would be very loath to follow the example suggested by Dr. Lange, which, though successful, had the disadvantages that of necessity appertained to an operative procedure even though conducted under antiseptic precautions that did not always protect. Bardenheuer's method he had not tried, but thought that it would be very awkward to carry it out. In his experience the fracture was a less disabling one than it looked to be.

Dr. LANGE said that if Dr. Weir believed he preferred the radical operation, he was mistaken. But that in this patient there was perforation and interposition of the deltoid, and from the position of the fragments an operation was indicated; he did not think in this case the result would have been satisfactory unless operative procedures had been taken. In the second case he had only carried out the principle of elevation and rotation. He considered the method of treatment very rational.

Dr. WEIR replied that he could recall two recent cases in which one fragment of the bone projected through the muscle and was lodged under and in the skin; but, although reduction could not be accomplished, good union resulted, as in such cases

the lower portion of the fractured surfaces from their great obliquity were apposed.

Dr. LANGR stated that he had very strong doubts if reduction could have been secured in this patient, and a satisfactory result been obtained.

MEDICAL SOCIETY OF THE COUNTY OF KINGS.

Meeting of June 15, 1884.

The President, Dr. JOHN A. MCCORMIE, in the Chair:

Dr. C. E. DE LA VERGNE, Secretary.

A Rare Case with Obscure Diagnosis was the subject of a paper by Dr. C. C. HENRY. [See vol. xlv, page 713.]

Antiseptics in Obstetric Practice.—A paper on this subject was read by Dr. S. H. BENTON. [See page 5.]

Dr. OTTERSON thought that Dr. Benton's paper had covered the whole ground except that which might be discussed in the light of various theories. Of course, medical science must mean only progress, and since it had been his privilege to enter the profession it had progressed immensely and rapidly in all directions. One of the prominent additions was that of antiseptics. That was in his early days chiefly confined to the question of tidiness, and, although he was credited with having had a large experience with obstetrical practice, his unfortunate cases had been very few indeed. The early years of his practice had not been among that class who could afford to disinfect much. He used to rely upon cleanliness—thorough, persistent—and that he insisted upon, and he did not think that by the observation of those particularly minute points the result was very different from that which obtained among the older practitioners. His position had brought to his attention within the last few days twenty-three cases attended by a German midwife. It was not to be supposed that they were among that class of population where sanitation could be or was thoroughly observed. The localities were such that we knew that sanitation was not practiced to any great extent. Now, if cases of puerperal fever had occurred, they also would have been observed, but none had been noticed.

A few years ago chloroform had been introduced, and had been a boon to the human race. Antisepsis also had more recently been brought forward, and those who keep pace with the progress of the science of medicine must adopt it. It, in his opinion, was *not a sine qua non*.

Dr. THAYER had had no personal experience worthy of record in regard to antisepsis. He had noticed, however, that great attention had been given, of late, to the subject in medical journals and medical societies. He had been much interested in the experience of Dr. Corson, of the interior of Pennsylvania, as given in a paper read before the Obstetrical Society of Philadelphia in April. Dr. Corson was a gentleman apparently about eighty years of age, and his practice covered a period of about sixty years. He had attended over thirty-six hundred cases of midwifery without employing any antiseptic measures. Other practitioners, quoted by Dr. Corson, also gave an experience very nearly as large, with results so thoroughly good that it seemed to furnish the strongest argument possible against the ground assumed by the strong advocates of antisepsis—that was, that the health of the patient was very much endangered if thorough antisepsis, as advocated by Thomas and others, were neglected. He was well aware that obstetrical practice in hospitals might furnish very different results.

Dr. L. S. PITCHER had hoped that some of the gentlemen would speak on the surgical side of the question. If he could do anything to divert the flow of the debate to that side—as it had thus far been taken up by obstetricians—he would be glad to do so, for it seemed to him that there were some points in

connection with the subject that had been overlooked. First, with regard to the paper itself. If he was correct, the title of the paper was, "Whether the Use of Antiseptics is Essential to Success in General Surgical and Obstetric Practice." It seemed to him that there had been a very serious omission—serious from the standpoint of any satisfactory discussion of the views brought forward, viz., that there was no attempt made to define the word antiseptics. Until there was some understanding of what was being talked about, it would be difficult to have a profitable discussion. He did not know, even at this stage of the discussion, what was included by the author of the paper in the term under discussion. There were two antiseptic agents mentioned—namely, carbolic acid and corrosive sublimate or the salts of mercury. From the standard of general surgery, it seemed to him that these were two antiseptic agents which were extremely limited in their use in the surgeon's usual work. The term antiseptics certainly could not be narrowed down to these two agents. It seemed to him that the fundamental point with reference to all these questions about the use of antiseptic agents was to consider whether there was a *sepsis* to be antagonized. If there was a *sepsis* to be antagonized, what would antagonize it? If it was not antagonized, would it do any harm? Go a little further and inquire—if it was taken for granted that there was a *sepsis*—what the active agent of that *sepsis* was? If we could find what the active agent was, we were ready to find out what would antagonize it. He was firmly convinced that the active agents of sepsis in all wounds were minute living organisms. That subject had been gone over here again and again, and most thoroughly. He did not see that the author of the paper had denied the statement, or was ready to deny it, that in all septic conditions the active agents of the sepsis were minute living organisms. He would put that down, then, as a fact established in science at the present day. It was just as much established as that oxygen and hydrogen were combined in the production of water. As we could not have water without hydrogen and oxygen, so the presence of a living organism was necessary to induce a septic change in an animal fluid. If that was the case, it became desirable to look a little further and see what it was that would promote the activity of these micro-organisms. One of the most essential things was that they should have a proper substance upon which to feed—a proper pabulum for growth and development—and that was given in the wound-secretions of ordinary surgery. Now, if these wound-secretions became infected by these organisms, there might result an absorption of hurtful substances from this infected material into the system. Drainage thus was an important antiseptic agent by removing the material required for the generation of sepsis. It was the great antiseptic agent which every surgeon should take advantage of in every case under his care. Could successful surgery be done without drainage? Most certainly not. He believed that the author of the paper would be equally strong as to the value of drainage in his treatment of wounds. Turning a moment to the department of obstetrics: After the birth of a child there was an open surface—comparable to that of a wound—presented in the cavity of the uterus. The secretions which were poured forth into the cavity of the uterus were wound-secretions. Were they retained? On the contrary, nature had provided a most perfect drainage for these secretions and, as long as drainage of these secretions was perfect, as long as they were removed properly after their exit at the mouth of the vaginal drainage-tube, there need be no fear of trouble.

Still further, in living tissue, the vital quality of the tissue presented to us an ever-present antiseptic agent. Living blood itself was an ever-present and important antiseptic agent. Let

us not overlook this fact. Nature had provided for the overcoming of these troublesome living organisms to a certain degree by the inherent antiseptic power of the living tissue. Could surgery or obstetrics be carried on without this successfully? Most certainly not. Given these two agents—a sufficient vitality, a sufficient vital force in the tissue with which we had to deal, and free drainage—and there was but little doubt that, in a great majority of cases, wounds would be conducted to a happy issue, and obstetrical cases would terminate successfully, and it was to these two things, which were provided for us, that much of the success of surgical and obstetric work was due. It was to the high degree of vitality of the individuals themselves that was due, to a large extent, the greater success of the country practitioner than the city practitioner.

If we went beyond these two agents, and considered those which were purely of a chemical nature, there was a very considerable number of cases in which only a problematic success could be looked for, unless advantage was taken of chemical antiseptic agents. It was not necessary to go to the wards of Glasgow's Royal Infirmary, or to the crowded wards of King's College Hospital, for an example of what could be accomplished by the use of those chemical antiseptic agents. Those who had been familiar with the surgery and obstetrics of Blackwell's Island and Bellevue Hospital fifteen or twenty years ago, and compared them with those of to-day, needed no further proof of the value of these chemical antiseptic agents in gaining a higher and more certain degree of success in both surgery and obstetrics. He would go even further and would say that, if in the city of Brooklyn itself a hospital were chosen in which antiseptic agents were thoroughly applied, and one in which antiseptics was only indifferently practiced—a given number of cases of compound fracture to be observed in each—he would be willing to leave the decision of the question to the results which the observer would find. In the one case there would be a record of prolonged suppuration, septicæmia, weeks of prolonged suffering, ending, in a considerable proportion of cases, in death; in the other, a single dressing, an entire absence of fever and suppuration, and a prompt healing—as prompt as if the case were one of simple fracture. Could such a contrast, not in one or two cases, but in a series of cases placed side by side, be a matter of chance? Could the better results be obtained in any other way than by that of antagonizing septic organisms by the systematic and adequate use of antiseptic agents? Perhaps no more positive example could be shown than that which had been presented by the president of this society at the last (May) meeting, in which a knee joint had been opened by an incision which extended from below the patella upward half the length of the thigh, in which the patella fragments were refreshed and were sutured together with wire sutures, after the muscles above had been divided by a zigzag incision, the muscular fibers drawn apart from each other; and by the use of adequate antiseptic measures, the drainage which had been spoken of, and the chemical antiseptic agents of which he was now speaking, and a proper dressing of the part, prompt healing had been as positively assured from the first as if the case had been one of simple fractured radius. It was absolutely impossible that such things could be paralleled by any other treatment, and yet such things were being done daily in the surgical practice of our country, and with equally good results. It seemed, then, that, while it was perfectly true that a large degree of success in surgical and obstetrical practice could be carried on without having systematic recourse to the use of chemical antiseptic agents, nevertheless, the secret of the success which we did have was due to the *involuntary* use of antiseptics, and that, in a certain class of cases, the highest degree of success was to be

obtained only by the use of chemical antiseptic agents in addition to the means which nature provided.

Dr. C. JEWETT said that the medical mind was easily captivated by what was definite and tangible in pathology and therapeutics, and it was possible that, in the matter of antiseptic doctrines, our zeal had gone too far. At all events, it was wholesome to mingle a little conservatism now and then with our enthusiasm. We were indebted to the reader of the paper, therefore, for calling attention again to the neglected side of this question. The paper raised the question whether the improved results attained under the modern antiseptic system were to be credited to the chemical agents employed, or simply to the cleanly methods inculcated by this system. The importance of an exalted cleanliness could not be doubted. In questioning the necessity for chemical antiseptics the writer's position was at least a safe one, for the precise value of the chemical agents in the antiseptic methods was difficult to determine. Yet the speaker's sympathies were with those who used them. The statistics of the best lying-in hospitals of this country and of Europe bore united testimony to the value of the modern antiseptic practice. True, the improved results could not be wholly attributed to antiseptics, but were partly due to greater care in the matter of cleanly methods. Of one thing he was certain: that, while formerly it had been necessary for the physician to retire for a time from obstetric practice after septic contact, he was indebted to antiseptics for the fact that he could now prepare himself to safely take charge of a labor case within an hour after the most dangerous contamination.

The speaker would certainly feel culpable if he omitted all antiseptic precautions in the conduct of an obstetric case. Yet he believed more in the prevention than in the cure of infection for the obstetric wounds. He addressed his antiseptic measures more to the surroundings than to the passages. There were certain occasions for the prophylactic use of the douche, but it was not called for as a routine measure. As to the remedial value of the antiseptic douche in puerperal fever, his results differed. In a certain proportion of cases the pyrexia was promptly controlled. Possibly these were cases of mere putrid intoxication, or, in other words, were due to the absorption of the chemical products of putrefaction taking place in the passages. Irrigation washed away the decomposing material and removed the depot which had supplied the poison. In true septicæmia, when the micro-organisms had invaded the tissues and the blood, it was unreasonable to expect any curative effects from douching the passages.

Dr. BEXTON, in closing the debate, said that he did not take into consideration the analysis of the different kinds of antiseptics used by surgeons, which Dr. Pilcher thought necessary in order to discuss his paper intelligently. For, when we said we treated wounds antiseptically, we meant, as he had supposed all surgeons desired to be understood, the application of certain chemical agents which were supposed to destroy germs and promote healthy granulations in wounds. Of course, he admitted the efficacy of the drainage-tube, the use of which was antiseptic. Dr. Pilcher seemed to be satisfied that the germ theory, as the cause of disease, was positively settled in the affirmative. This the speaker thought could not be true, for, if he mistook not, a very respectable number of good men, both in this country and in Europe, were not clear on the question. As he was not qualified to discuss the subject from a scientific standpoint, of course he could not affirm that Dr. Pilcher was wrong, and bacteria in the blood might, after all, be the exciting cause of disease in all cases. But for a time yet he thought the Scotch verdict must prevail.

The brilliant result attained by the president, in a case exhibited to the society at the last meeting, was certainly a great

achievement, and we must all feel proud of his results. But were we prepared to say that his success was due entirely to antiseptics? He hardly thought so; in fact, he did not think his success in surgery was due to antiseptics any more than, if as much as, to his rapidity and precision in operating. It had been his privilege to open several joints, elbow and knee, without antiseptic precautions and without bad results. It was within his memory that to open the abdominal cavity was considered a very grave procedure. But that was a matter of history. Mr. Tait had rendered a report of one hundred and thirty-nine consecutive ovariectomies done in 1885 without a single death, and the strangest thing in this report was that he used no antiseptic precautions whatever, simply irrigating the abdominal cavity with "water on tap," full of "spores and germ life," to use his own words. It would seem that if these little germs or micro-organisms were so very pernicious, some infection would have been manifested in one or more of his cases.

Book Notices.

Manual of Diseases of the Ear, for the Use of Students and Practitioners of Medicine. By THOMAS BARR, M.D., Surgeon to the Glasgow Hospital, etc. Glasgow: James Maclehose & Sons, 1884. Pp. xxvii-3 to 529.

This book seems of about the average excellence of the more recent books on the ear emanating from the United Kingdom. The author shows evidence of having consulted text-books rather than journal literature in his preparation for the work.

His individual experience does not seem to have been an important item in the making of the book. Although American writings are little if at all referred to, Noyes's double-curved catheter is alluded to, but without mention of Dr. Noyes's name.

The diagnostic tube is still erroneously called the otoscope. The section on auscultation is not good; this subject has not generally been well expounded in books on the ear.

In considering bone conduction several omissions are made, notably the failure to contrast bony with aerial conduction.

Chapter II, on the causes of ear diseases, might better have accompanied an account of the diseases themselves. The same may be said of Chapter IV, on methods of treatment.

Chapter III, on diseases of the tympanic membrane, shows how little can be made of this subject taken only by itself. Fig. 60, exhibiting the normal drum-membrane, has the most peculiar posterior fold perhaps ever observed. The description of acute non-suppurative inflammation of the middle ear seems to us inadequate, although the treatment detailed is reasonably good. The woodcuts, as a rule, are good; some, however, like those on pages 285 and 287, do not seem to illuminate the text much. The subject of fluid exudations in the tympanum is well treated of.

The subjective symptoms of chronic dry catarrh of the middle ear are well told; so also are the points regarding its diagnosis; but one wonders how he could be sure of all the diagnostics laid down. In this affection also the author fails to mention how often the improvement of hearing from inflation remains permanent. In discussing dilatation of the Eustachian tube he appears not to have related much personal experience.

His unfavorable opinion on division of the tensor tympani will be shared by most aural surgeons.

The subjective symptoms of acute suppuration of the middle ear are very inadequately stated. On page 335 the reader is

referred to another part of the book for treatment. This seems to have been done too frequently; it is inconvenient. Speaking of chronic suppuration of the middle ear, the author says in italics, "the tympanic membrane is *almost* always perforated"; need he have said almost? On page 342 the subject of perforation of the membrane is well handled, although some of the illustrations are not specially good. Much effort is exhibited in the book toward classification, which rather complicates things than otherwise; see page 352, for instance. On page 354 the diagnostics of perforation of the drum-membrane are well stated, and the section on treatment is judicious. As to the treatment of polypi, he very properly gives the forceps an important place in the removal of the growths. Caries and necrosis are rather fully treated of. The indications for opening into the mastoid cells are hardly given at all, nor is the operation described—an important omission.

The subject of cerebral abscesses is fairly disposed of. So also are those of phlebitis, thrombosis, embolism, and pyæmia.

Diseases of the inner ear are rather fully treated of, but, as is the case with most books, rather unprofitably.

Nearly ten pages are occupied in discussing tinnitus aurium. One would infer that less space would have sufficed to show how little may be done for it. Ten pages are devoted to deaf-mutism, a rather unprofitable subject. The anatomical and physiological part of the book is fairly done, though whether the general practitioner will read it is a matter of question. Eleven pages are devoted to formulæ, which perhaps are of doubtful value.

The index is full and satisfactory, the print and paper are good, and in many respects the book is worthy of commendation.

Hand-book of Diseases of the Ear, for the Use of Students and Practitioners. By URBAN PRITCHARD, M.D. (Edin.), F.R.C.S. (Eng.), Professor of Aural Surgery at King's College, London, etc. With Illustrations. Philadelphia: P. Blakiston, Son, & Co., 1886. Pp. xi-207. [Price, \$1.50.]

This little hand-book is intended solely for the aid of students and practitioners, and is written from an eminently practical standpoint. The author has avoided all controversial points, and gives simply the results of his own observation and experience. There is a short opening chapter on the anatomy and physiology of the ear, which is followed by one on the objective and subjective methods of examination. The author prefers the short speculum with the circular narrow orifice to all others, and for artificial illumination recommends Trouvé's incandescent forehead-lamp or photophore. He wisely insists on the absolute necessity of examining the pharynx in all cases of ear disease. He also advocates the employment of Gardiner Brown's method of measuring the amount of skull-hearing in patients with disease of the middle ear. The differential diagnosis of Ménière's disease from epilepsy and other brain disease is well considered. There is, perhaps, an insufficiency of illustrations, but this may be excused in a hand-book of such small dimensions. The work is to be commended for its simplicity and directness.

Transactions of the American Gynecological Society. Vol. X. For the Year 1885. New York: D. Appleton & Co., 1886. Pp. 13 to 357.

This volume comes to us attractive in its exterior and in its table of contents; nor are we disappointed on bestowing closer attention upon it. The variety of the subjects selected by members of the society for presentation at their last annual meeting, and the exhaustive attention which each has received, make this volume of transactions of special interest.

The reports of the discussions, which are thorough and satisfactory, add much to the interest. It is gratifying to observe that this representative organization is not a "tube-and-ovary society."

BOOKS AND PAMPHLETS RECEIVED.

A Text-book of Medicine, for Students and Practitioners. By Dr. Adolph Strümpell, formerly Professor and Director of the Medical Polyclinic at the University of Leipsic. Translated by permission from the Second and Third German Editions, by Herman F. Vickery, A. B., M. D., Assistant in Clinical Medicine, Harvard Medical School, etc.; and Philip Coombs Knapp, A. M., M. D., Physician to Out-patients with Diseases of the Nervous System, Boston City Hospital, etc. With Editorial Notes by Frederick C. Shattuck, A. M., M. D., Instructor in the Theory and Practice of Physic, Harvard Medical School, etc. With One Hundred and Eleven Illustrations. New York: D. Appleton & Co., 1887. Pp. xx-981. [Price, \$6.]

Manual of Operative Surgery. By Joseph D. Bryant, M. D., Professor of Anatomy and Clinical Surgery, and Associate Professor of Orthopædic Surgery in Bellevue Hospital Medical College; Visiting Surgeon to Bellevue Hospital, and Consulting Surgeon to the New York Lunatic Asylum, etc. With Seven Hundred and Ninety-three Illustrations. New York: D. Appleton & Co., 1887. Pp. xxvi-530. [Price, \$5.]

Remarks on Abdominal Section, with the Histories of Fifteen Cases. By Joseph Taber Johnson, A. M., M. D., Washington, D. C., Professor of Obstetrics and Gynecology in the Medical Department of the Georgetown University, etc. [Reprinted from the "Virginia Medical Monthly."]

Sixth Annual Report of the State Board of Health of New York. Transmitted to the Legislature, March 19, 1886.

Cataract Extraction without Iridectomy. By G. H. Powers, A. M., M. D., Professor of Ophthalmology and Otology in the University of California. [Read before the San Francisco Medical Benevolent Society, November 22, 1886.]

Reports on the Progress of Medicine.

GENERAL MEDICINE.

By H. N. VINEBERG, M. D.

The Operative Treatment of Pleuritic Exudations.—Fräntzel (Proc. of the Fifth Congress for Internal Medicine, held at Wiesbaden; Supplement to "Ctbl. für klin. Med.," 1886, No. 26) lays down certain rules to be followed in tapping fibro-serous exudations. These, in the main, do not differ from the usual rules. Any vital indication, sufficient effusion to cause dyspnoea, or absolute dullness of the whole front part of the chest, even without dyspnoea, calls for the operation. If the displacement of the neighboring organs is not extreme, and the amount of fluid only moderate, one may wait until the inflammation has reached its height. Then one does not operate, as a rule, before the expiration of three weeks. The punctures should be made on the right side between the mammary and anterior axillary lines at the upper edge of the sixth rib; on the left side between the same lines, but at the upper border of the fifth rib. It is not advisable to puncture deep in the back. No more than 1,500 c. cm. (52 ounces) should be removed at a time. Diagnostic aspirations with a hypodermic syringe are necessary only to over-timid physicians. Attacks of syncope, even at times cases of inexplicable death, occur during the operation, but the author has never had any of the latter in his experience. By aspirating slowly (1,500 c. cm. require at least half an hour) troublesome fits of coughing and œdema of the compressed lung are avoided, but not hemorrhage, which may even be fatal. Fortunately, the latter is a very rare event. After aspirating, it is well to put the patient to bed, keep him on a spare diet, and apply an ice-bag to the site of puncture. After two or three days, if the fluid does not rapidly reaccumulate, a moder-

ately rapid absorption, attended with considerable diuresis, takes place. Light counter-irritation (iodine applications), and cinchona and acetate of potassium internally, favor absorption. In copious effusions repeated aspirations are necessary. If after the operation an increase of the effusion is attended with high fever, the pleurisy is either carcinomatous, tubercular, etc., or the exudation has become hæmorrhagic, purulent, or even putrid. The diagnosis of purulent or putrid exudations rests on high fever, which in two to four weeks takes on a hectic character, pain on pressure, spontaneous pain, and œdema of the affected side. Here operate at once. If the effusion is purulent only, not putrid, it is well, before resorting to the radical operation, to try aspiration, repeated two or three times. In carrying out the radical operation, Fräntzel recommends making a pretty wide opening into the pleural cavity, which must be done under strict antiseptic precautions. Behind, the opening should be in the ninth or tenth intercostal space, and in front, in the fourth intercostal, external to the mammary line. A large drainage-tube should be passed through the wound from before backward. In most cases the ribs require to be resected. After the operation the pleural cavity should be washed out with a chloride-of-sodium solution until the fluid that comes away is quite clear; then the usual antiseptic dressing is employed. Over the dressing, on the site of the wound, an ice-bag is to be applied twice daily; the patient must be kept perfectly quiet, and given a light meat diet with a moderate amount of wine. The dressing should be renewed every twenty-four hours, and the cavity washed out with disinfectants. If, in spite of all the foregoing, the patient continues feverish, the contents of the pleural cavity grow more putrid, and the appearance of the wound is unhealthy, it is almost certain that there is a tubercular affection. Fräntzel has never had good results from the radical operation in cases of tubercle, and contents himself, in the presence of that complication, with simply aspirating or puncturing. The exudation becomes putrid either from the entrance of air into the pleural cavity, or from the entrance of germs in some other way—for example, from circumscribed gangrene of the lung, which is not infrequent. As soon as a diagnosis of a putrid exudation is made, the radical operation must be performed. In pyopneumothorax and pneumothorax the method of operating is precisely the same as in simple empyema. The radical operation, then, is excluded where cancer or tubercle is the cause of the pleuritic effusion. Weber, of Halle, for the most part agrees with Fräntzel, but operates much earlier, so as to avoid long-standing compression of the lung and the formation of fibrinous bands, both of which are the causes of many sequelæ. Recently he has aspirated as early as the sixth or eighth day, but most frequently not before the fourteenth day, and has had most favorable results. He prefers an instrument of his own to that in common use. It acts on the principle of a siphon, and care is taken that the air is thoroughly excluded. He allows as much fluid to come away as will. A little blood discoloring the fluid is occasionally seen, but is of little or no significance. It is only when the effusion is decidedly bloody that the suspicion of a grave disease may be entertained.

Fiedler, of Dresden, has performed thoracentesis over three hundred times. He condemns aspirators because one can not estimate what force is being used to withdraw the fluid. Any instrument acting on the principle of a siphon, and which does not allow the entrance of air into the pleural cavity, is preferable.

Litten, of Berlin, favors tapping early, and does not consider fever a contra-indication, but, on the contrary, says the fever falls after the operation. In favorable circumstances the lung will re-expand after a compression of eight to twelve weeks. He has seen, in patients who were previously quite healthy, acute miliary tubercle follow the absorption of a large pleuritic effusion.

Jurgensen, of Tübingen, considers as of very little account the wounding of the lung with a slender cannula. He has often done it without ill results, and once had the occasion to examine a lung that had been so pierced twenty-four hours afterward, and found only a spot of hæmorrhage of about the size of a pea, without a trace of inflammation.

Fräntzel, in replying, says he has never tapped as early as Weber, but that in the future he will give early tapping a trial. As regards washing out the cavity in purulent exudations, the number of times

will vary with individual cases. He has had cases, but in children only, in which once was sufficient. The ideal cure is without rib-section, and hence no subsequent deformity, but this ideal is seldom obtained, and then only in fresh cases and in young individuals. He emphasizes his former caution of removing only 1,500 c. cm. at a tapping, and says that he himself began to practice this only after witnessing the unpleasant symptoms following the removal of large quantities.

Mytilotoxin.—Brieger (*ibid.*) has succeeded lately in extracting from putrefying horse-flesh another non-poisonous base and a poisonous acid. He has obtained from the poisonous massed *Mesembryanthemum* its characteristic poison, mytilotoxin. The production of this body also stands in connection with putrefaction. In reference to the chemical action of other microorganisms than the putrefactive, he has found that *Streptococcus faecalis* forms ammonia in great quantity, and *Streptococcus pyogenes* trinitrochlorine. From cultivations of Eberth's and Koch's typical bacilli he obtained a peculiar poison which infects guinea-pigs, paralyzing the voluntary muscles and exciting the flow of the saliva and the secretions of the alimentary canal. "Not only typhoid, but also other infectious diseases, such as cholera and tetanus, are finally produced through the agency of toxin."

Variations of the Blood-pressure in the Ventricle of the Heart during Morphine Narcosis.—Fick (*ibid.*) by means of his improved manometric method, showed accurate representations of the variations of the blood-pressure in the left ventricle of a dog narcotized with morphine. Slight elevations of pressure during diastole were noticed. These Fick attributed to incomplete systolic contractions, which were not strong enough to produce a wave in the arterial system, and so were not perceptible to the usual manometric examination. The slowing of the pulse caused by morphine must hereafter be attributed to a more or less total, at least a temporary, suppression of the systolic contractions, which, at a certain stage of the narcosis, are no longer complete. In conclusion, Fick drew attention to the importance of his manometric method, by which the variations of the blood pressure in the heart itself can be observed.

Basch, of Maribred, had occasionally observed, that the diastole, after injections of muscarine, was interrupted by slight elevations, which apparently denoted abortive contractions. Still, he could not speak with the same certainty as Fick, inasmuch as his observations had been confined to blood pressure in the aorta. Basch demonstrated two curves in morphine narcosis, the result of experiments made by Prof. Rosenthal. These showed that, after an injection of morphine, the blood-pressure rose in the veins and sank in the arteries during slowing of the pulse, but the arterial pressure might also rise and fall along with the venous.

Binz, of Bonn, remarked that Fick's communication was of the highest interest in both a theoretical and practical sense, because it had been asserted, on the strength of incorrect experiments on animals, that morphine, in poisonous doses, left the heart untouched.

Riegel, of Giessen, would add only a few words of clinical import. Cases were not infrequently seen in which to every two apex-beats there were two venous pulsations, and only the first apex-beat was represented by an arterial pulse. This was formerly known as a hemisystole. Whether this was the case or not he would not say, but thought that the absence of an arterial pulse did not mean the absence of a contraction of the left ventricle. This view he considered was confirmed by Fick's observations.

Averbeck, of Bad Laubach am Rhein, thought the results of Fick's experiments would explain hitherto puzzling clinical observations. It occasionally happened that in injecting morphine a vein was pierced, and then, even in persons accustomed to the drug, extremely unpleasant symptoms followed, which might be only of momentary duration. A few seconds after the injection the heart-beat was accelerated to twice or thrice its normal rate, and this was attended with a congestion of the head. After fifteen seconds or half a minute, according to the dose, these phenomena suddenly ceased, and the quieting influence of the drug manifested itself by a slowing of the pulse. This hitherto inexplicable condition was fully explained by Fick's researches; the morphine acted as an irritating cardiac poison, its narcotic effect manifesting itself afterward. Fick's experiments also explained the enlargement of the left heart in morphine habitus.

Electro-diagnostic Methods.—Stintzing (*ibid.*) says, despite the great progress that has been made in electro-diagnosis, a stage has not yet been reached in which we can compare our results of electrical examinations. The cause of this is twofold: first, in the employment of various kinds of galvanometers, and, secondly, in using electrodes of different sizes. He recommends an electrode of a certain size (with a surface of three square cm.) to be used in all examinations of motor nerves. Along with this he recommends the employment of Edelmann's "unity galvanometer." Armed thus, Stintzing has made several examinations of normal and pathological nerve conditions, and, though variations were observed in normal nerves, they were slight compared with the variations noted between a normal and a pathological nerve. Tables were exhibited showing the minimum and maximum amounts of electricity required to stimulate normal nerves.

Diabetes.—B. J. Stokvis (*ibid.*) divided the subject into three parts:

I. *The Relation of Diabetes to Albuminuria and Nephritis.*—Albuminuria is a very frequent complication of diabetes—very marked in severe forms, only a trace in mild cases, and absent but in a small minority of cases. Not infrequently it seems as if sugar and albumin alternated, but this phenomenon is due to the circumstance that when the glycosuria is severe there is marked polyuria, which renders the albumin difficult of detection. The pathogenesis of the albuminuria is a more or less intense nephritis, varying in kind from the simply swollen to the contracted kidney. The glycogenous infiltration of the epithelial cells is less the cause of the albuminuria than the specific changes in the glomeruli induced by the foreign material circulating in the blood. In animals in which an artificial diabetes is provoked, an albuminuria, persisting for some time, concurrently makes its appearance. From a prognostic point of view there are two sets of cases. In one there is a slight albuminuria which, after the glycosuria ceases, seems to increase, but yet soon disappears entirely; in the other the albuminuria persists after the cessation of the diabetes, and continues as a nephritis in one third of all cases after the diabetes is cured. There is no special treatment required for the albuminuria complicating diabetes, only that here, more than in other cases, the heart must be spared and the bowels regularly moved by means of salts.

II. *The so-called Coma Diabeticum.*—Two forms of this are to be distinguished. In the one there is every appearance of collapse, and the only symptoms of intoxication are slight somnolence and incomplete loss of consciousness; there is no peculiar odor at the mouth, no acetonaemia or diaceturia. In the other form the manifestations of intoxication are very pronounced; there is a feeling of drunkenness which passes into lethargy, then into coma, with a small, frequent pulse, and dyspnoea. The first form is to be attributed to an exhaustion of the heart, or, if one prefers, to a sudden exhaustion of the nerve-centers—self-intoxication can not be entertained. In the second form there is self-intoxication, which is nothing more nor less than a special form of uremia. In this form there are always found volatile excretory products in the urine, which suddenly accumulate, owing to the nephritis, and produce self-intoxication. Age, sex, lightness or severity of the diabetes, have no influence on the development of the coma; but coma is never seen in cases attended with marked pulmonary phthisis. A disposing cause in the first form is fatigue; in the second, excess of some kind causing digestive disturbances. We have no certain knowledge of the toxic agent producing diabetic coma, and we do not know if it is produced by an animal or mixed diet. In the first form the principal point is to strengthen the heart, and in the second all errors in diet must be avoided and the bowels must be kept free.

III. *The Dietetic Treatment of Diabetes.*—Carbohydrates must be absolutely avoided. The diet must consist of albumin and fat. A palatable bread free from carbohydrates has not yet been made. Milk, kumys, kefir, and the like, are out of the question, as the milk-sugar is converted into grape-sugar by diabetic patients, but curds and fresh buttermilk may be allowed. Total abstinence causes the sugar to vanish, but the experiment is not safe, and on return to food the sugar reappears. Exercise is of decided value, especially in fat persons with much uric acid in the urine; but one must individualize to prevent ill-effects on the heart. Mental quietude is of great importance.

Hoffmann (as associate reporter) particularly emphasizes the relation

between diabetes and the nervous system, and can not draw a sharp line between glycosuria and diabetes. He has found that those cases which presented marked changes in the central nervous system always offered some characteristics differing from other cases of diabetes. He believes with other clinicians that there are several forms of diabetes, but does not agree with those who would divide diabetes into different diseases. Of characteristic forms he recognizes the *neurogenic* and the *fatty*, but rejects the *pancreatic* form. He has collected forty cases of diabetes with autopsies, all of which show changes in the upper part of the cervical cord, medulla oblongata, or pons, and also forty other cases in which diabetes followed injuries to the head so rapidly that some connection had to be assumed. This form—the *neurogenic*—is characterized by the non-development of obesity, the absence of carbuncles and furuncles, and the rare occurrence of albuminuria and cataract. The course depends, in the main, upon the disturbances of the nervous system. Many cases are curable; the incurable ones prove fatal generally in two to three years.

The *fatty* form is distinguished from the *neurogenic* by the frequent occurrence of boils and carbuncles, the association with gout and nephritis, and the duration of the disease, which in many cases is ten years and over. Cures occur here also, but in a later stage of the disease, and not infrequently the diabetes is replaced by gout or nephritis. Hoffmann thinks that a division into *constitutional* and *accidental* diabetes is of more practical value than into a mild and a severe form, as heretofore has been made. The *neurogenic* is the type of the *accidental*, the *fatty* of the *constitutional* form. But it would be a mistake to always adhere closely to this division, for many suffer from constitutional diabetes who were never fat, while others who are fat suffer from the accidental form. This classification has an important bearing on prognosis, which is favorable in the accidental and doubtful in the constitutional variety. It has also a practical value in our treatment of the affection. Of the great number of remedies recommended, Hoffmann speaks only of those he himself has tried. He divides them into two groups—those influencing the constitution, and the specifics. Among the first he mentions iron, quinine in small doses, cod-liver oil, Carlsbad and other health resorts, alcohol, kumyss, and milk. Of the second he gives prominence only to opium and salicylic acid. In *accidental* diabetes he insists on an absolute flesh diet, which, he believes, is useful in the constitutional form. It is not safe to carry out this regimen for too long a period or too continuously, as under it he has seen more than one patient get worse.

Mering, of Strassburg, agrees with Hoffmann that in many severe cases a close adherence to a flesh diet may be injurious. He places great reliance upon muscular exertion. It makes a great difference whether the sugar is passed by the kidney or burned in the body, inasmuch as warmth is produced, the muscles are strengthened, and elimination is promoted.

Finkler, of Bonn, speaks of the pathology of diabetes. He particularly supports the view that in diabetes more than one organ is involved, and especially the nervous system in connection with those organs which produce and consume glycogen. He has made experiments in reference to the *role* played by diseases of the pancreas in causing diabetes. The results have been negative. Extirpation of the pancreas, or tying the duct of the organ, even when the animals were fed on carbohydrates, did not produce diabetes. Neither was that disease produced when, in addition to the extirpation of the pancreas, the salivary glands also were removed, and the animals fed on glycogen or sugar. Finally, injection of pancreatic ferment under the skin, into the abdominal cavity, and into the veins, failed to evoke diabetes. It must then be concluded that, if in diabetes the pancreas (as is often the case) is found to be the seat of morbid changes, the connection of these with the diabetes must be sought in an affection of the coeliac plexus. Finkler does not think that the *neurogenic* and *constitutional* forms can be separated. He holds that the oxidation of the carbohydrates is dependent upon the nervous system, and that diabetes is produced under the influence of the nervous system acting upon those organs that regulate the production and consumption of glycogen.

Bäumler, of Freiburg, mentions only two points in reference to the many-sided relationship between albuminuria and diabetes: One is, that in a case of long-standing diabetes, suddenly, during an attack of

pneumonia, erysipelas, or the appearance of a carbuncle, severe albuminuria sets in. Here, evidently, we have to deal with a septic (*infektiöse*) nephritis which is accidentally connected with the diabetes. In other cases the patient is past middle life, and is given to corpulency, the albuminuria is coincident with the diabetes, there are changes in the vascular system, hypertrophy of the heart, optic neuritis, etc. Here the albuminuria is a correlative of the diabetes; like it, it is dependent upon a lesion affecting the whole constitution.

The Tendon-Jerk and Muscle-Jerk in Disease, and especially in Posterior Sclerosis.—Dr. S. Weir Mitchell and Dr. Morris J. Lewis ("Am. Jour. of the Med. Sci.," Oct., 1886) contribute a short paper with this title. A sketch of the history of the knee-jerk is given. In 1883 Jendrassik showed that violent exertion—such as lifting weights or clinching the fists—increased the response to a blow on the patellar tendon. Later on the authors showed that every distinct muscular exertion, even if as slight as winking, increased the jerk, if it was timed correctly. Every strong sensation on the skin acts in the same way. If sudden exertion is combined with violent sensations, like that caused by the faradaic wire brush, the coincident knee-jerk equals that seen in spastic disorders. If the muscle itself is struck sharply with a percussion-hammer, the fibers shorten in response to the blow, and the same laws apply to the increase of this as of the knee-jerk. Section of the nerves, or disease of certain portions of the cord, as in posterior sclerosis, ends all tendon-jerks, while a blow on the muscle still evokes local motion in its tissue. These facts the authors have applied in the study of twenty-three cases of locomotor ataxia, the results of which are given in three tables. In these they have represented symptoms and their force by signs. A search for tests of the pre-ataxic stage was unfruitful; the earliest signs found were pains, or strabismus, and with these, loss of knee-jerk. The tendon-jerk could be re-enforced by exertion and violent sensations during the first stage, while the muscle-jerk could be re-enforced by the same means during the first and second stages. A pronounced tendon-jerk, capable of excessive re-enforcement, is sometimes seen in the earliest stages of locomotor ataxia. Wounding of the muscle at the point struck sometimes occurs in stages four and five, occasionally even in three. The authors, for the purpose of their study, have divided the course of locomotor ataxia into six stages. A new symptom—distinct prominence of the eyes, with a full appearance of the surrounding tissues not due to oedema—was found six times, chiefly in cases of long duration.

Temporary Paralysis of the Radial Nerve in the Initial Stage of Locomotor Ataxia.—Professor A. Strümpell ("Berl. klin. Woch.," 1886, No. 37) reports an interesting case of this nature. Briefly the history of the case is as follows: B., aged fifty-five, a waiter, was suddenly seized with paralysis of the left hand. On a Sunday afternoon he was reading a newspaper which he held in his left hand; all of a sudden the paper dropped from his hand, and he then learned that he had lost power in it. He had never experienced any pains or abnormal sensations. On examination, it was found that all the muscles supplied by the radial nerve were paralyzed, the sensibility of the forearm and hand was intact, and the electrical excitability of the paralyzed muscles, with both currents, was quite normal. The author found some difficulty in accounting for the paralysis; the most plausible theory was that it was due to alcohol, but its sudden appearance and the absence of pains and other signs of alcoholism strongly opposed that theory. On further examination, however, it was found that the patient had the Argyll Robertson pupil, the sensibility of the feet and legs was somewhat diminished, and there was absence of the knee-jerk on both sides. On repeated questioning, the patient confessed to having had for some time past "tearing pains" in the legs and a weakness of the bladder. A history of syphilis could not be obtained. Under four weeks' treatment with electricity the paralysis disappeared, without any change, however, in the other tabetic symptoms. [The case is of considerable interest as bearing upon the recent pathological researches of Pitres and Vaillard on the condition of the peripheral nerves in tabes. In our last report on General Medicine we gave an abstract of their work in this direction, and we would advise our readers to compare it with the clinical history of Strümpell's case.]

The Presence of Tubercle Bacilli in the Supra-renal Capsules in Addison's Disease.—Von Rauschenbach ("Dtsch. Med.-Ztg.," 1886, No.

52) attaches a great deal of importance to the detection of the tubercle bacillus in the supra-renal capsules in a causal relation to Addison's disease. He suggests that experiments on animals should be made in which cheesy masses or pure cultivations of the micro-organism should be introduced directly into the supra-renal capsules. Rauschenbach's discovery would be of considerable interest if the tubercle bacillus was limited to the supra-renal capsules, which is not stated.

Paralysis of the Four Extremities following Facial Erysipelas.—Professor Brieger (*ibid.*, No. 61) relates the following history: A girl, aged fifteen, suffered during convalescence from an attack of facial erysipelas with vague pains in various parts of the body, which after a time were limited to the upper part of the dorsal vertebræ, from which they radiated to the shoulders and down both arms. The pain was of a lancinating character and occurred in paroxysms of short duration. In three months and a half after the erysipelas, when the attacks of pain were severest, complete paralysis of the right arm set in. In three days afterward the left arm became affected, then the right leg, and a day later the left leg became similarly involved. The paralysis was attended with abnormal sensations and increased tendon reflexes. Finally the muscles of the neck and bladder were attacked with paralysis, while the abdominal muscles remained intact. The electrical excitability did not undergo any change, and the sensibility, particularly of the lower extremities, was markedly diminished. At the same time atrophy of the muscles on the right side rapidly developed. The author thinks that the palsy could not be attributed to a peripheral neuritis, inasmuch as the faradaic and galvanic excitability of the muscles remained normal. It was more probably due to gross changes in the spinal cord. The nature of this can only be conjectured as a local accumulation of erysipelas cocci (*Erysipelkokken*) in the cord. Certainly the pathological changes could not have been very serious, as the paralysis entirely disappeared under the use of the constant current and the employment of iron and iodide of potassium. [We can not agree with the author that the state of the electrical excitability entirely excluded peripheral neuritis. The development of the atrophy, on the other hand, especially as it was limited to the one side, makes the case a puzzling one.]

Miscellany.

Climate and Health in North Dakota.—In no part of the Union can a man with moderate capital, or with only his energy and strong arms for a beginning, so soon secure a competency as in the Northwest. Of course, there are incidents and variations of fortune here, as elsewhere. But the basis of general prosperity is the natural character of a country, its productions, its climate, and its soil. There are drawbacks in North Dakota as elsewhere, but the great factors which make human existence possible and favor a dense population—those of ability to produce human food, both animal and vegetable, and climatic influence on longevity, or length of life—the Red River valley and North Dakota possess to a greater extent than any part of the continent. . . . The climate of North Dakota in winter, bright, dry, and cold, is exceedingly pleasant, and its only effect is to stimulate activity in business and the ordinary avocations of life. Though it is cold, the absence of humidity, as indicated by the Signal-Service records, causes the cold to be unnoticed and unfelt to the degree noted in the humid South and East. . . . Dakota and Minnesota, north of latitude 45°, are the only regions east of the Rocky Mountains where there is no appreciable increase of deaths in the summer. . . . The heat of summer in North Dakota, averaging 64°, bears a closer relation to that of the most prosperous and densely populated sections of the Old World—Great Britain, Northern France, Belgium, and North Germany—than in any other part of the United States. In England the summer temperature will average 61°; in Scotland, 57°; in Belgium, 62°; and in North Germany, 63°. It is in these European countries that the best horses, cattle, and sheep, wheat, oats, barley, and roots are grown. *It is too cold for Indian corn.* In southern Europe the average summer temperature rises to 68° and above, and the corn belt begins, but no one

thinks of going there to buy the Norman, Percheron, or Clydesdale horse. No one thinks of buying the Short Horn, Hereford, Devon, or "Doddie" in sunny Italy. It's too warm; they don't grow there; yet Italy is cooler in summer than our "corn belt." The Red River valley, with its black soil, full of "phosphates" and "alkalies," would not produce the famous No. 1 hard wheat, oats, flax, rye, barley, and other small grains, of such fine quality and in such quantities, if its summer averaged 67° instead of 64°. The summer isotherm of 67° inevitably limits the growth of that famous grade, No. 1 hard Fife, to the country north of latitude 45° 50'.—*St. Paul Globe.*

The late Dr. Francis M. Purroy.—At a meeting of the Board of Surgeons of the Police Department of the City of New York, held December 20, 1886, the following resolutions were adopted:

Whereas, It has pleased Almighty God to remove by death one of our number, Francis M. Purroy, M. D.,

Resolved, That the members of the Board of Surgeons of the Police Department of the City of New York hereby express their sincere sorrow for the loss of Dr. Purroy. He was genial in his manner, kind and considerate toward all with whom he came in contact. This board feels that in his early death it has lost a much respected and most valuable member.

Resolved, That this board most respectfully tender to the family of Dr. Purroy this expression of their profound sympathy.

Resolved, That a copy of these resolutions be sent to the family of the deceased, and that they be furnished to the medical journals of the city for publication.

[Signed.]

CHARLES H. PHELPS, M. D., *President.*

JOHN H. NESBITT, M. D., *Secretary.*

Mariani's Coca Wine.—Surgeon-Major H. Liebermann, of Paris ("New York Med. Monthly"), speaks of his success, in a long military career, in treating tropical anæmia with this preparation, and adds that he has also employed it in those cases of chronic alcoholism, fortunately rare in the French army, which follow the abuse of absinthe and strong liquors. While producing primarily a certain amount of cerebral stimulation, it exercised a predominant sedative effect upon the nervous system. He has, moreover, witnessed the spectacle of hardened drunkards giving up their pernicious habits and returning to a normal condition under the influence of this treatment. He has employed it successfully in the treatment of the tobacco habit. A few glasses, taken in small swallows or mixed with water, were sufficient to replace both pipes and cigars, since the patients obtained the cerebral stimulation which they sought for, albeit unconsciously. In chronic bronchitis, and even in pulmonary phthisis, it augments the appetite and diminishes the cough. When combating the cough, he has given it mixed with water, a wine-glass of the wine to a tumbler of spring water. Finally, he has employed it in the convalescence following typhoid fever with the greatest success, and this in cases where the irritability of the stomach was so great that no wine, not even Bordeaux, could be tolerated.

The New York Ophthalmic and Aural Institute.—According to the Seventeenth Annual Report, 6,704 new patients were treated during the year ending September 30, 1886; 5,346 in the department for diseases of the eye (5,018 as out-patients and 328 in the house) and 1,358 in the departments for diseases of the ear, nose, and throat (1,354 as out-patients and 4 in the house).

The Value of an Eye.—A woman who fell into an unguarded excavation two years ago, and as a result lost one of her eyes, sued a town for damages, and a verdict for \$10,000 was rendered. The town appealed the case, and on a second trial the damages were increased to \$12,000. This was also appealed, but, by a recent decision of the Supreme Court, the verdict was sustained and \$500 were added for the woman's counsel.

The Northwestern Medical and Surgical Society elected officers as follows at its recent annual meeting: President, Dr. A. R. Robinson; vice-president, Dr. R. C. M. Page; secretary, Dr. E. S. Peck.

Laryngology at the College of Physicians and Surgeons.—The twelfth lecture of Dr. Lefferts's current course, to be given on Tuesday, the 4th inst., will be devoted to syphilitic diseases of the throat.

Original Communications.

ROCKY MOUNTAIN FEVER.*

By ROLAND G. CURTIN, M.D.,
PHILADELPHIA.

At a meeting of the Philadelphia Committee of Arrangements of the American Climatological Association it was concluded desirable to have an article on "Rocky Mountain Fever."

Accordingly, a physician was invited to prepare a paper on the subject. At a second meeting, a short time ago, the gentleman who had been so invited was reported as having desired to be excused from compliance with the request of the committee.

The president, knowing that I had had a slight experience with this disease, asked me to lay it before the association, together with other material that was promised from persons living in the Rocky Mountain region. Several letters were written to physicians settled in that locality, with indifferent success. One of those written to had died (as was reported by his relatives). Another had removed, and his whereabouts could not be ascertained. A third had never seen but two cases. Three failed altogether to reply. Two promised information which has not as yet been received. The only reply bringing with it anything of satisfaction was from Dr. Dougan, of Colorado. It seems fitting to make this statement, by way of premise, as an apology for any disappointment which our perhaps meager paper may occasion. If any additional data should be received at any future time, they will be very gladly presented to the society.

I will now read the paper furnished by Dr. Dougan, after which I will add information gathered from others, following which I will give my own very slight experience in this disease:

The term mountain fever has, by long-continued and frequent use, almost established itself in the nomenclature of disease in the mountain districts of the West. Whether or not its use is proper as designating a separate and distinct type of fever, a pathological entity, may well be questioned. A somewhat extensive acquaintance with the physicians of Colorado warrants the statement that many of them believe that we have in our high altitude a fever not described in the text books, and to which this designation is applicable; while another and perhaps larger portion of the medical profession of the State decline to admit that such is the case. The experience of the writer, based on a practice of two years in the mountains, induces him to class himself with those who regard cases of mountain fever (so called) as belonging to one or another of the well-known and already classified varieties.

The fact must be admitted, however, if we accept the latter view, that the cases present variations, and often wide variations, from the usual course of the fevers to which we would assign them, and it is because of this departure from the course of the recognized types that many practitioners have decided to accept the idea of a new variety.

And yet it is not necessary, because the phenomena observed in a case, or series of cases, differ from the phenomena which we usually regard as characteristic of a given form of fever, to decide that we have a new variety to deal with. It is a well-known fact that the general symptomatology of fevers may be modified by environment, and that names may be given them suggested by locality; hence we have the swamp fever of the South, the Panama fever of the isthmus, and the coast fever of Africa, all of which are accepted malarial fevers modified by the conditions existing in the localities where they are found.

Not a few of the cases that are sometimes called mountain fever are ephemeral in character and difficult of classification; but the fever that is recognized as peculiarly entitled to this designation, by those who believe it a proper term, presents many claims to be designated as typhoid, modified, it is true, by causes and conditions peculiar to its surroundings.

It is freely admitted that this assumption is open to argument, that the position is not sufficiently established to justify dogmatism; but, as it is desirable that the truth should be arrived at, reasons will be offered in support of this view, and no doubt we shall have the opposite side of the question presented in due time.

At the introduction of the discussion we encounter an embarrassment from the fact that there is no accepted description of the clinical history of mountain fever, and that different observers fail in an exact agreement as to its successive phenomena, but the following will no doubt be taken as a fair presentation of the symptoms observed in an average case.

At first we are informed that the patient has become suddenly ill, but a little inquiry usually elicits the fact that he had not been quite so well as usual for a few days. A chill may or may not have announced the commencement of the illness. The temperature is usually 101° or 102° F. at the apparent onset. Sometimes it may be found as high as 104°, and not infrequently it remains nearly stationary until the approach of convalescence, being without the progressive daily increase and characteristic daily remissions usual in typhoid. There is absence of appetite without nausea, the tongue is not dry and but slightly furred, sometimes remaining nearly natural throughout the illness. The bowels are usually constipated, and require an occasional laxative. The skin is dry, but without other peculiarities. While the temperature does not exhibit diurnal changes, it may in some instances fall suddenly one or two degrees, remain at the lower point one or more days, and then as suddenly rise to its former elevation, or the diminution may be permanent, and the further course of the disease be upon the lower temperature level, and this without reference to the therapeutic measures that may have been employed; in fact, quinine in large doses, thirty grains or more, seems powerless to even modify the temperature. Delirium may occur, but is not usual, and the patient rarely suffers from loss of sleep. The course of the disease is comparatively short—from one to two weeks—but it does not appear to end on the expiration of any definite number of days; the tendency is always toward recovery. The simplest treatment is sufficient, nourishment being of most importance. The absence of fatal cases prevents a knowledge of the condition of the intestinal tract, and if any alteration of the Peyerian glands occurs it probably does not advance to ulceration.

Among the reasons for believing the above-described cases to be mild and irregular developments of typhoid are the following:

1. Such cases are usually seen during the season of the year when typhoid is most prevalent—viz., from July to November.
2. They are most apt to occur under conditions favorable to typhoid, such as crowded and badly ventilated sleeping apart-

* Read before the American Climatological Association at its third annual meeting.

ments, proximity of decomposing organic matter, impure water, defective drainage, and general disregard of sanitary requirements, conditions that too often may be found in the West as well as elsewhere.

3. Not infrequently a case commencing as above described will, before its conclusion, present some feature so characteristic of typhoid as to leave no doubt of its nature, such as spots of roseola, diarrhoea, or tympanites.

4. In the high altitudes where mountain fever is said to occur, a large proportion of the cases of undoubted typhoid pursue a remarkably mild course, and cases of "walking typhoid" are not rare. From this we may assume that the climatic conditions here existing are sufficient to moderate the intensity of the disease, and we are perhaps justified by this observation in believing that the same conditions may in other respects modify the phases of its development.

The conditions herein referred to as having a modifying influence on typhoid fever are the purity, dryness, and coolness of the atmosphere. It is hardly necessary to enter into a discussion as to whether such conditions can affect the course of disease; if heat and moisture favor the development of disease-germs, the opposite condition may be presumed to retard it; and, even though these causes may be inoperative within the body, they may so impress the prehuman or extra-human life of germs as to alter the usual developmental processes that they undergo within the human organism. As a matter of fact we do not see this modifying effect of atmospheric conditions in our observations of other diseases. It is not maintained that all the effect of atmospheric conditions as related to fevers is exerted on the disease-germs. The entire condition of the patient may be modified by the same causes; respiration, circulation, digestion, nutrition, and the condition of the nervous system, may all be more or less influenced by the peculiarities of the atmosphere, and each contribute toward the clinical history of a case.

If by the term mountain fever we understand simply that we hereby indicate mild cases of typhoid occurring in the mountain districts, the use of the term, while unscientific and objectionable, may still be tolerated as satisfactory, especially to the laity; but if it is to be understood as designating a specific disease, let us wait for clinical and pathological proofs before admitting it into the literature of the profession.

D. H. DOUGAN, M. D.

822 STORET STREET, DENVER, COL.

In looking over the scanty literature on the subject, I have found in print the following allusions to the subject under consideration:

Dr. Charles Smart, of the U. S. Army, in an extensive article upon "'Mountain Fever' and Malarious Waters," in the "American Journal of the Medical Sciences" for January, 1878, arrives at the conclusion that the "camp fever" of our civil war and the "mountain fever" bear a striking resemblance to one another, and considers the latter to be a mixture of malarial and typhoid fever poisons.

Dr. Hall, of the U. S. Army, in an article in the January number of the "American Journal of the Medical Sciences" for 1880, entitled "Typho-malarial Fever, the so-called 'Mountain Fever' of the Rocky Mountains," gives a careful account of many cases observed by him, and furnishes the following deductions:

1. The fever of the Rocky Mountain region is a hybrid disease, the prominent features of which are typhoid—the modifying, intermittent; is, in fact, the typho-malarial fever of Woodward.

2. It appears during or after the exposure incident to field-

service, generally, though not necessarily, in late summer and early autumn, and seems to bear no relation to typhoid infection, as now usually accepted by the profession.

3. At its inception, this disease manifests itself as an intermittent of quotidian, tertian, or other form; this stage is followed (in about two weeks) by the typhoid stage, lasting in the neighborhood of four weeks, in which typical typhoid symptoms may be observed, modified to a greater or less degree by intermittent indications.

4. The pathological anatomy of the disease is that of typhoid fever.

5. The treatment should be antiperiodic and antipyretic.

A physician who resided temporarily in Montana informed the writer that he had followed the practice of a doctor located there for the purpose of observing "mountain fever." Four cases were pointed out to him as typical cases of this disease. My informant examined them carefully, and found all the physical signs of croupous pneumonia, with the ordinary symptoms incidental to the latter disease.

In 1868, while an assistant on the U. S. Geological Exploring Expedition under Professor Hayden, while in Cheyenne City, Wyoming Territory, it was my fortune to see in a private hospital four cases diagnosticated as "mountain fever." In two of these cases the patients were "prospectors," men who had been engaged in seeking after the outcroppings of the precious metals in the fastnesses of the mountains at a great altitude, camping out along the streams, and leading a nomadic life in general. The other two were cases of persons who had been living in canvas tents while at home, and yet had often been called by business to the mountains. One of the patients died during the third week, no post-mortem being made in his case. At some period of the disease they all had more or less diarrhoea, which in one case was continuous and very marked throughout the whole course of the disease. In one case I noticed there was a doubtful "tache rouge," coming in crops and disappearing on pressure. The margin of the spots was poorly defined, and not circular in shape. (This patient recovered.) One had epistaxis at the beginning of the disease. Tympanites was more or less marked in all the cases. In conversation with the physician who had these cases in charge, and who had been established in the region for some years, he informed me that the symptoms were about the same as those observed by him in other cases called "mountain fever." To me the cases appeared to be of typhoid fever or typho-malarial fever.

We will now proceed to study the salient points of the information laid before us.

In Dr. Dougan's paper he informs us that the temperature is usually 101° to 102° at the commencement of the attack, and that not infrequently it remains nearly stationary until the approach of convalescence, being without the progressive daily increase and characteristic daily remissions usual in typhoid and (I might add) remittent fever.

Absence of appetite without nausea is, according to the doctor, another symptom.

A constipated condition of the bowels was also noted by him. He also observes that the course is comparatively short—from one to two weeks.

No dryness of the tongue was ever observed by the doctor in any of his cases.

The tendency was always toward recovery.

The symptoms given by Dr. Dougan in some respects seem to tally with those given as of simple continued fever.

With regard to the mortality, as before stated, Dr. Dougan observes that he never had a fatal case, while the physician with whom I conversed in Cheyenne City informed me that one out of every eight or ten died.

I have conversed with several shrewd and competent physicians on the subject, all of whom agree with Dr. Dougan that the "Rocky Mountain fever" is not a separate and distinct disease, but that it is fever of other well-known forms, modified perhaps by climatic influences.

It seems to me that the following causes may have led to the assumption that there is a febrile affection peculiar to the Rocky Mountains:

Inaccurate observation may have led to errors in diagnosis. In the early history of the Rocky Mountain region the class of physicians there located perhaps included many who were probably unable, from habit and limited education, to observe with that degree of closeness which is requisite at all times for a proper diagnosis. I make this statement because the cases coming under my notice were either of typhoid fever or typho-malarial fever. A physician in Montana mistook croupous pneumonia for "mountain fever." Another influence probably at work was fashion. We have fashions in medicine in various directions. It shapes our stethoscopes, it changes our treatment, and why may it not also change the names of diseases? In our own midst we have an example of this. Almost every infant or young child in Philadelphia that dies of bowel trouble is reported as having died of cholera infantum: enterocolitis, diarrhœa of dentition, summer diarrhœa, and other fatal diarrhœas are often grouped under this head. This fact is the occasion of surprise and remark among the profession abroad at the frequency of cholera infantum in this country, presenting a strong contrast to the comparative rarity of the disease among them. Thus it would appear with all febrile affections in the Rocky Mountain region. They seem to have been grouped under the head of "mountain fever." The peculiarities of climate may have had some effect on them, making the different varieties appear somewhat alike to the superficial observer.

I will now give you a brief account of the impressions made upon my mind as to the climatic and other influences at work in the Rocky Mountain region. These conditions which might modify disease suggested themselves to me during my brief sojourn there:

1. *The altitude*, which lowers the temperature and rarefies the atmosphere.

2. *The purity and dryness of the air.*

One of the prominent local features of a large part of the Rocky Mountain region, and a factor liable to modify disease, is the alkaline condition of the earth's surface. The granite and other rocks found at the summit of the mountains decompose easily, and, when they break down, the salts of calcium, sodium, and magnesium are liberated and spread over the surface. The soil is often seen with an efflorescence

of these salts on the surface, sometimes giving it a whiteness resembling snow. It is also seen on the margins of the ponds and lakes. The streams are often so bitter that it is impossible to drink from them, and streams less affected will often cause a diarrhœa. This condition of the water might produce a diarrhœa in a malarial fever, or simple continued fever. When the wind blows, the sand and dust, impregnated with the alkalies, are set in motion. Of course this causes great irritation to the air-passages, and renders the atmosphere unfavorable for those afflicted with throat and lung diseases. This condition of the air might in a fever patient occasion a cough similar to that usual in typhoid fever.

The water usually found is that of the streams running down from the melting snow at the summit of the mountains. This scarcity of water has a tendency to make travelers and "campers out" careless about bathing, as indeed, also, the temperature of the water itself, which is apt to be too low to admit of bathing with comfort and safety.

This condition of affairs, occasioning personal uncleanness in connection with the excessive fatigue incident to the life and habits of the early mountaineers, doubtless rendered them susceptible to simple continued fever. In camping in that region, it is usually along the streams, so that water can be readily secured; this again favors the imbibition of malarial poison.

A fever called the "mountain sickness" is said to prevail in the Andes, in South America; and a fever has also been reported among the Himalayas, the highest mountains in the world.

To sum up, first, it would appear that in the Rocky Mountain region almost every disease with a febrile reaction has been called "mountain fever." Secondly, proof is wanting that there is a separate and distinct disease peculiar to that region.

22 SOUTH EIGHTEENTH STREET, PHILADELPHIA.

The following letter will explain itself:

FORT BENTON, MONTANA, June 10, 1886.

Dr. Roland G. Curtin:

DEAR DOCTOR: My excuse as a stranger for addressing you is the great pleasure your paper on "Mountain Fever," read before the American Climatological Association, gave me. I have been a resident practitioner in Montana since 1879, and during that time I have not seen a case of fever different from the "already classified varieties." I have been criticised for even doubting it, and saying, if such a type existed, it had escaped my observation. As I said, your paper gave me great pleasure, and I hope you will not consider me intrusive for expressing it.

Very respectfully,

F. ATKISSON.

DOUBLE OPTIC NEURITIS AND MÉNIÈRE'S DISEASE.*

By THOMAS R. POOLEY, M.D.

The almost simultaneous occurrence of neuro-retinitis and labyrinthine disease affecting both eyes and both ears

* Read before the Section in Ophthalmology and Otology of the New York Academy of Medicine, November 15, 1886.

must certainly be very rare, and can but give rise to the opportunity for much speculation as to its cause. The case which I am about to relate somewhat in detail I saw in consultation with Dr. Helm, of Sing Sing, N. Y., on May 22, 1886, and he has kindly furnished me with very full notes of it, to which I will add my own account of the case when seen in consultation with the doctor.

F. N. L., aged forty-three; for the past two years his wife has noticed that when he was very tired he looked dark and swollen under the eyes, and after he was washed and had rested would look very white under the eyes. For a year or eighteen months he would occasionally complain of pain in the top of the head, particularly in hot weather; two or three weeks last winter he had a severe cough, which stopped entirely when an attack of dysentery came on; last April he breathed very heavily in his sleep, not snoring, but in a labored way, as if he were tired. For over a year he has had spells of being obliged to get up once or twice in the night to pass water, which would sometimes be light-colored and have a heavy deposit. About seven years ago he passed two small calculi, at six months' intervals, but never has passed any since. During the past two years he has had spells of diarrhœa, sometimes passing blood, with a good deal of dyspepsia and nausea, but seldom vomiting. Irascible and easily excited. There is no history of syphilis; both his parents are still living, his father being eighty years old and his mother seventy-eight. There is no family history of any significance. When Dr. Helm saw him—April 12th—he found him suffering from dysentery. He had pains in his limbs, severe malaise, and fever, tongue furred and dry, with frequent bloody stools. He had been very much overworked, and had not allowed himself time for proper meals. For the past six months his vision had been failing. He had also had for about the same time a variety of noises in the left ear and severe pain in the left half of the head. Dr. Helm visited him daily until the 19th of April, during which time he steadily improved. The treatment was directed to his symptoms and rest was enjoined. From this time nothing more was heard from him until the 29th, when the doctor was sent for, and found he had gone to work on the 20th, and been at it ever since. He is a blacksmith, and his shop is a mile or more from his house. On his way home he was taken with vertigo and had to stop a number of times on the way. On reaching home, he threw himself on the lounge, unable to turn his head without causing the most intense vertigo. When the doctor saw him he was lying on his back, and by keeping strictly in that position he could obtain a slight relief from the vertigo. Turning on his right side made everything go flying, but if he turned on his left side with his face to the wall the vertigo was unbearable. He was entirely free from pain; temperature normal. The noises in the left ear resembled steam whistles or fog-horns. A scanty sample of urine showed no albumin; not enough obtained to get its specific gravity; very cloudy, but on boiling became perfectly clear. His condition continued very much the same, except that he could turn on either side without causing such excessive dizziness, till Wednesday, May 5th, when he was excessively deaf in both ears. He could make out a few words when shouted into the ears. On the 6th of May he was absolutely deaf in both ears. Temperature, taken several times, at intervals, was always found to be normal. Several examinations of the urine failed to find either albumin or sugar. Its specific gravity was 1.015. Bowels perfectly regular. Generally sleeps well. Has occasional attacks of despondency, and such attacks are usually followed by insomnia and restlessness, which are, however, readily controlled by bromides. Since he became deaf the noises in his ears have comparatively ceased "like a blank." On the 14th of

May complained of some pain in the back of the head above the nape of the neck. On the 15th the pain had disappeared and the dizziness was much improved, but his locomotion was, as he expressed it, of the four-legged kind, and accomplished by holding two canes well out before him in a death grip and making very slow and careful movement of each cane and foot. During the whole time his intellect remains perfectly clear. Says he can think as clearly as ever he could. Talks in a slow, labored, and loud tone of voice. Reads very large and distinct writing, which is the only way he can be communicated with, with some difficulty, and some days better than others. His appetite is excellent and his digestion good—better, he thinks, than it has been for years. The first day or two after the onset of the vertigo his appetite was poor and he vomited anything he took; this was the only occasion of any nausea or vomiting. May 17th and 18th he spent the entire day out of doors in a wheeled chair.

He was given quinine, six grains in the evening and six the next morning, and in the afternoon of the 19th he was worse; complained of a return of the noises and dizziness; also had some pain in the back of the head. On the 21st he complains a good deal of the ringing in his ears. Says he passes a good deal of water, and the call to do so is urgent. Eyesight and hearing about the same. On the afternoon of May 22d I saw the patient with Dr. Helm, and made a careful examination of both his eyes and ears. In regard to his general condition, I can add but little to the careful account given by Dr. Helm. It was exceedingly difficult to communicate with the patient, which could only be done by writing in a large, bold hand. He was seated in a wheel-chair in the yard when I arrived, and when the chair was wheeled into the house it was a difficult matter to place him in a chair to examine his eyes to better advantage, his vertigo was so great. His method of progression, which I witnessed, is, perhaps, as well described by what has been said as possible, but the awkwardness of it must have been seen to be fully appreciated. Ophthalmoscopic examination of his eyes showed an intense neuro-retinitis of both. There were swelling of the optic discs, venous hyperæmia, numerous hæmorrhages, both small petechial and larger longitudinal ones, scattered over the fundus. Large white patches in the retina, which extended nearly to the periphery and in the region of the macula lutea, assumed the peculiar stellate arrangement which is characteristic of Bright's disease. In short, the picture was the usual one seen in this disease. There was so little difference in the ophthalmoscopic picture of the eyes as to render it unnecessary to describe them alone.

A very careful inspection of the ears showed no evidence of any middle-ear disease. The membrana tympani of each was fully healthy, and showed no evidence of chronic disease. The patient was absolutely deaf to all forms of noises. I did not have a tuning-fork with me, but am sure that, if I had, bone-conduction would have been found abolished as well. I expressed, both to the doctor and to the family, a hopeless prognosis for hearing, but little hope of much improvement in sight, and the belief that the case would soon have a lethal termination. I also expressed my opinion that both the deafness and impairment of sight were due to Bright's disease, although no positive evidences of any disease of the kidneys had been found by the examination of the urine. I may add here that I examined a specimen of urine myself, which I brought home with me, chemically, and also had an expert examine for casts with the microscope, but neither casts nor albumin were found. Dr. Helm also assures me that to the day of his death the urine never gave any testimony to corroborate this view, which I nevertheless believe to be the correct one. Dr. Helm kindly kept me informed of the further progress of the case until the time of the man's death, which I will briefly give.

May 23d.—Excessive urination; has to get up two or three times in the night to pass urine. This has only been the last three days and nights. Inclination to diarrhoea; sleeps well; appetite good. Says that while sitting by an open window last night after twilight, he could see everything as plainly as ever he could. Dizziness and roaring about the same.

26th.—Feels better; dizziness improving; noises lessened; less desire to urinate often; feels rather better.

28th.—Dizziness still better, and sees better with right eye. Intermission of the noises; less diarrhoea.

31st.—Had an excellent night; appetite, too, good. Bowels and urine all right now. Says that yesterday afternoon a spot of about three inches in diameter on the top of his head felt very hot, while all the rest of his body was cool, at which time, too, the noises were the worst. Examined his urine, with negative result; other symptoms the same.

June 3d.—Can now stand up and manage to dress himself, and does not feel the dizziness in either the erect or recumbent posture. Noises about the same; made worse by thinking or talking. Can handle himself much better in the dark; for instance, can stand straight up, use the chamber, and button up his drawers at night without laying hold of anything.

7th.—Dizziness about the same, but noises almost gone. Has difficulty in breathing at night, which lasts until he gets asleep. Examination of the urine again on the 7th; failed to show any signs of albumin. Similar negative result on the 11th.

14th.—There was an access of the dizziness. Now walks with crutches, which he finds a great improvement on his former mode of locomotion. His face was a little bloated and his eyelids were puffy, which may have been produced by arsenic administered for some days before. There was no material change in his condition until June 28th, when the doctor's notes report a decided improvement in every respect—diminution of dizziness and noises, better locomotion, and better general health—as shown by the fact that he complained of two old infirmities, hernia and piles.

July 7th.—He complained for the first time to the doctor of soreness of his flesh, which, however, he said he had had ever since the onset of his attack, although he had not mentioned it before. Dizziness better. He walked half across the room and back again to show how well he could do it, without his cane or crutches. He also took an article off the table, put it on the floor, and picked it up again without laying hold of anything for support. In the act of walking he stood still for a few moments, as if to steady himself before starting. His gait was then erect, and without much staggering. His spirits were much improved, and he entertained hope of recovery. The day following he said he heard his daughter drop a spoon on a plate, and also heard his wife pronounce his name—that is, he recognized it as a word of two syllables, though he could not tell what the word was. The doctor, to test his hearing, blew on a whistle which he carried in his pocket, and he heard it distinctly; all these sounds he heard with his left ear—the one first affected. Heard nothing at all with the right ear. Dizziness and sight rather worse. Urine again examined, with negative result.

12th.—Feels better. Has been out to drive. Says he hears sounds with his left ear better than at last record.

On July 19th Dr. Helm found him suffering from great pain in his right side. There was considerable swelling extending from the spine all the way around to the middle of the sternum and from the top to the bottom of the thorax; greatest just below and behind the axilla. The whole area of swelling was painful to the touch. This swelling began to appear on the 15th, after driving a refractory horse himself in a cart, and whipping it a good deal, but did not give him great inconvenience or pain

until the date above mentioned. Temperature 99.5°. On the 21st swelling more circumscribed; pain severe. Temperature 99.75°. Breathing troubled; diarrhoea. Hypodermic of η x of Magendie. July 22d, easier since morphine; swelling increased, but less sensitive. Temperature 99°; pulse 90, full and tense. A large hypodermic needle thrust into the swelling failed to draw off any fluid; aspiration was then tried with similar result, but an opening made with a lancet drew off about a pint of broken-down blood-clots and semi-fluid blood. This operation was done about 3.30 P. M., and he died about 2 A. M., July 23d. Dr. Helm, at my request, telegraphed me to attend the post-mortem, as he also did Dr. Seguin; but, unfortunately, neither of us could go. An examination was, however, made by Dr. Helm and Dr. Husted, which, I regret to say, throws but little if any light on the case. It was my intention to examine not only the brain, but the inner ear. Only the brain and kidneys were examined. Both kidneys were somewhat congested; one was rather larger than normal, and looked, on superficial examination, as if the cortical portion was relatively somewhat increased and the Malpighian corpuscles were engorged. The brain was decidedly soft—so much so that, in taking it out of the skull, the cerebrum became detached and dropped out on the table before it could be caught. Cerebellum normal. No tumor, extravasation, or exudation was found. The side on which the incision had been made was not examined, as it was filled with clotted blood already beginning to decompose, and the entire body was, owing to the heat, in a bad state of preservation.

I have been thus minute in the description of this case, even at the risk of being tedious, in order that, from an analysis of the symptoms, we might be the better able to judge of the ætiology of the case.

The almost sudden onset of deafness in this case, under the chain of symptoms commonly known as Ménière's disease, with the co-existence of a neuro-retinitis such as we often see in Bright's disease, is certainly very interesting. When hearing is lost under apoplectic symptoms in a previously healthy person, and these symptoms subside, leaving the patient deaf, the seat of the disease is in the cavity of the labyrinth, and its pathology is probably hæmorrhagic extravasation or serous effusion. In a careful and elaborate paper entitled "A Clinical Analysis of the Inflammatory Affections of the Inner Ear," Dr. H. Knapp ("Archives of Ophthalmology," vol. iv) concludes that Ménière's disease may be either a primary or a secondary affection of the labyrinth. The former is to be assumed when in a previously healthy person the symptoms on the part of the labyrinth—tinnitus, contraction of the field of audition, and hardness of hearing—are prominent and persistent. While the general symptoms—headache, paleness of the face, fainting, obscuration of the visual field, vertigo, nausea, vomiting, and disturbances of equilibrium—can not be referred to actual disease of the brain or the constitution, and are transitory, Ménière's disease may be secondary to affections of the tympanum, the brain, or the general system. In his careful analysis Knapp has reported typical cases of this kind. In cerebro-spinal meningitis deafness is due to purulent otitis interna, a complication, perhaps a metastasis, of the purulent inflammation of the meninges, in the same way that purulent chorioiditis occurs, and neuro-retinitis as well.

Among the general diseases which may produce deafness Knapp enumerates syphilis, severe fevers like typhus and typhoid, acute exanthemata, variola, scarlatina, rubeola,

infantile convulsions, pustular and eczematous eruptions about the head, mumps, angina Ludovici, and sunstroke. I do not, however, find in his category mention of Bright's disease, which from this observation may fairly be added to the list. The general history of the case which I have given shows, I think, the subjective symptoms of Bright's disease from its very beginning, and from the symptoms elicited by careful questions before the attack which just preceded the deafness. These were pain in the head, occasional coughs, recurring diarrhoeas, frequent desires to urinate, the passage of urinary calculi, dyspepsia, and irascibility of temper. All of the above-enumerated ones, with the addition of nausea and failure of sight and hearing, occurred after the patient came under our notice. When with such a history there is almost sudden loss of hearing, first in one ear and then the other, with a typical Bright's retinitis, I think we may fairly assume that there was either an exudation or extravasation of blood—most probably the latter—into the entire labyrinthine cavity of each side. The manner of death, which was evidently caused by hæmorrhage into the pleural cavity, together with the well-known tendency to its occurrence in the eye and elsewhere in Bright's disease, suggests this rather than an inflammatory product. The entire absence of any other symptom of brain disease than those enumerated precludes, as does, too, the unsatisfactory post-mortem, the idea of brain disease and metastasis to each eye and ear. We have, too, the evidence of the post-mortem that the gross appearances of the kidneys pointed to their being the seat of disease. The one link in the chain of evidence to make the diagnosis certain, the detection of albumin or casts in the urine, was persistently wanting; but it falls within my own experience as well as that of others to have seen cases where this evidence was wanting for a long time, and even all through the course of the disease.

The occurrence of the eye disease at the same time with the ear affection has its analogy in the co-existence of deafness from syphilis with eye affections, such as iritis and affections of the cornea and fundus, where deafness has suddenly occurred under symptoms of Ménière's disease. In bringing this case before the section I have hoped to elicit discussion, especially upon the frequency of the occurrence of disease of the inner ear in various constitutional affections, and particularly as to whether any observer has noticed the occurrence of sudden deafness in Bright's disease.

THE PATHOLOGY OF THE LYMPHATIC GLANDS IN CHILDREN.*

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THE lymphatic, or second circulation, as it has been sometimes called, is exceedingly active in young life—much more so than in adult years. The processes of digestion, assimilation, and elimination, being carried on with such

activity in the young, compel a corresponding activity in all the processes contributing to these, of which the lymphatic circulation plays a most important part. The lymphatic glands are relatively larger in children than in those of mature years, and are much more active, and the quantity of lymph circulating is absolutely larger. The great size of the thymus gland and thyroid body in infancy, as compared with adult life, is well known. The spleen only, forming an exception to the general rule, though growing very rapidly in infancy, is smaller, both absolutely and relatively, in the young than in the old. The lymphatic system, therefore, being prominent in the young, is especially liable to disease; and lymphatic disease, with some notable exceptions, is a disease of infancy and childhood. The functions of the lymphatic system being, in part at least, to aid in nutrition by the production of leucocytes, and by the depuration of the tissues, it would seem *a priori* that lesions of this part of the economy would show themselves by vitiated nutrition, wasting diseases, general anæmia, and atrophy, and such, indeed, is the case.

The general lymphatic system consists of the lymphatic vessels and certain glandular bodies scattered more or less thickly throughout the body. The office of the lymphatic vessels being to carry the lymph, which may be designated as "blood minus the red corpuscles," into the general circulation, these vessels are composed, like arteries and veins, of three coats—an internal epithelial, a middle muscular, and an external areolar fibrous. They are also provided with valves, like the veins. They originate in several ways, one mode of origin being by a plexiform network in the subcutaneous and submucous tissues. They also arise from closed extremities, as in the lacteals of the digestive tract. Again, the lymph sinuses or tracts in the lymphatic glands, and the lymphoid tissue found in various organs of the body, serve as modes of origin, and finally they arise from openings or stomata between the epithelial cells of serous cavities, whereby these cavities communicate directly with the lymphatic system, and may be regarded as closed lymph-sacs. The lymphatic vessels entering the lymphatic glands are called afferent, and are usually several in number. The vessels leaving the glands are called efferent, and number but one or two. The lymphatic glands are composed of a fibrous capsule, from which a framework of trabeculæ, or processes, proceeds inward, dividing the gland into open spaces called alveoli, which communicate freely with each other. A large quantity of retiform tissue fills these alveoli, and numerous blood-vessels run along the trabeculæ. The alveoli are filled with retiform tissue or gland-pulp, the external part, called cortical, being light in color, while the interior or medullary is dark. In the cortical portion the retiform tissue is arranged in the form of nodules, from which rods or tubes proceed, interlacing with each other in a very minute network, forming by this arrangement the medullary portion of the gland. Both the nodules and rods are attached to the trabeculæ and held in place by a delicate connective tissue. The afferent lymphatic vessels open directly into the lymph-path or lymph-channel around the nodes and rods. This investing space is continuous over both the nodules of the cortical and the tubes of the

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medullary portion of the gland, and the efferent vessels are continuous with it in the latter portion. It is in these spaces that the exchange of materials goes on between the blood-vessels and the lymphatics which is necessary to the further elaboration of the lymph and the multiplication of the lymph corpuscles which takes place in the gland. The course of the lymphatic circulation is the reverse of the sanguineous, being from the extremities to the central organs, and Kölliker states that at first the lymph is a mere albuminous fluid, and the chyle an albumino-fatty fluid, the cells in both cases being produced by the passage of the fluid through the glands, lymphatic or mesenteric, as the case may be, and being further elaborated in the course of the circulation.

The most common form of disease in the lymphatic system of children is simple adenitis or gland-inflammation. In those subjects in whom it occurs unconnected with any of the diathetic or inherited diseases there are present in the glands only the ordinary phenomena of inflammation, induration, swelling, pain, etc. Resolution or suppuration may take place, and in either case there is an end of the trouble, the disease not being dangerous. It should be borne in mind, however, that young children, even though healthy and entirely untainted with either tubercle, scrofula, syphilis, or rachitis, are exceedingly liable to the development of adenitis. Many of the ordinary diseases of children produce induration of the superficial glands, as also do cold, teething, bruises, burns, and especially the various eruptions of the skin, notably eczema of the face and scalp. Errors of diagnosis may occur in supposing children affected with eczema capitis (either acute or chronic) scrofulous, on account of the extensive enlargement and induration of the suboccipital, post-cervical, and submaxillary lymphatic glands. On the cure of the eruption, however, if the patient is not strumous, the enlarged glands will disappear; or, if suppuration takes place, it will be limited to one or two glands. In the field of observation touched upon in this article, the four great diathetic diseases of childhood—viz., syphilis, rachitis, scrofula, and tuberculosis—offer the most marked and important changes in the lymphatic system. Space and time forbid any extended treatment of these important affections, and I shall limit myself to simply calling attention to some of the most important changes in the absorbent system wrought by the diatheses mentioned. Whether the lymphatics are primarily affected in these diseases, or become affected with other tissues in the subsequent course of the morbid changes, can not be proved, but that their perverted function soon shows itself through the system, in its own peculiar way, is readily seen. The alterations in the lymphatic glands are probably less extensive, and certainly much less dangerous, in syphilis and rachitis than in struma and tuberculosis.

Congenital syphilis is a specific poison obtained in the child by inheritance from one or both parents. It presents the following symptoms in the infant:

Anæmia,	} Common to all the diathetic diseases.
Atrophy,	
Malnutrition,	

Certain eruptions of the skin,	} Peculiar to this disease alone.
Certain lesions of the mucous membranes,	
Certain diseases of the bones,	
Certain affections of the glandular system,	

The poison of syphilis, as is well known, has a peculiar affinity for the glandular system, and the lymphatics, as part and parcel of this apparatus, come in for their share. In the syphilitic child, therefore, we find all the superficial lymphatic glands enlarged and indurated. The most obvious and presentable are the inguinal and post-cervical. The axillary, suboccipital, supra-condyloid, and other less important glands, however, can be felt on search—in size from a millet-seed up to that of a bean—and are noticeable for their hardness. The internal or deep-seated glands are also enlarged, and may produce some functional derangement by pressure on neighboring parts. The thymus gland is much enlarged, and frequently suppurates, though it is doubtful whether the syphilitic poison causes this change. The spleen is now regarded by the later authorities as belonging to the lymphatic glandular system, and its behavior in congenital syphilis strongly supports this view. The researches of Gee, Barlow, Hirschfeld, and others render it probable that the spleen is enlarged in nearly all cases of inherited syphilis, the degree of the hypertrophy being dependent upon the severity of the disease. The enlargement is due to simple hyperæmia, or at the most hyperplasia, no new growth or other changes taking place. It is slow, persistent, and painless, unaccompanied by inflammatory changes or any breaking down of tissue, subsiding slowly under specific treatment, and acting very much as ordinary buboes do in acquired syphilis. It may be remarked, finally, in connection with this part of the subject, and what is of importance to remember in making diagnoses, that the lymphatic glands have a harder and more indurated feeling to the touch in congenital syphilis than in the other diathetic diseases, that they disappear under specific treatment, and, finally, that they do *not* tend to suppuration.

Rachitis, though not an inherited disease, nor, strictly speaking, a diathetic one, yet is classed among the diathetic diseases. It presents

Great weakness,	} Common to all diatheses.
Anæmia,	
Certain affections of the bones,	} Peculiar to this disease alone.
Certain affections of the glandular system,	

The lymphatic glands are all enlarged in rachitis, notably the spleen, and are affected, according to Jenner, with albuminoid degeneration, corresponding very closely to amyloid degeneration. The induration of the glands is not very marked, they being rather soft to the feel, and not tending to suppuration. These changes in the lymphatic system of course make themselves felt in the economy, but the effect is much less marked than in the other diatheses.

The alteration of the lymphatic glands in scrofula and tuberculosis is more marked and more important in children than in any other diseases. An elaboration of these two diseases, with their pathology, would require more time than may be granted to one paper of an evening. No subject since the time of Bayle has been more extensively dis-

cussed, and in no subject has there been more conflict and fluctuation of opinion than in the matter of tubercle and scrofula. "Scrofula at one time posed as a tubercular process; tubercle at another has been described as a scrofulous process. Once more the two conditions have been quite distinct, and have even been antagonistic; and, lastly, they have been identical, with no line of separation between them. The very term tubercle has experienced a violent series of fluctuations. It has been applied to first one appearance and then to another; its limits have been terribly curtailed; vaunted specific features have one by one been removed, until it must be owned that the tubercle of to-day is but a poor, bald affair as compared with the tubercle of Laennec" ("Scrofula and Gland Diseases," Treves, p. 14). It can not be said that unanimity of opinion exists at the present day on the subject, though much light has been thrown upon it by modern observers. Strictly speaking, no accurate definition of either scrofula or tubercle can be made which shall be both clinically and pathologically correct. For these reasons I shall notice the gland changes in these two diseases under the one head, especially as they are to a large extent similar in both. Whether a lymph-gland is the subject of a deposition of tubercles or of strumous infiltration, its behavior in either case is usually the same. First, caseation takes place, then suppuration and breaking down follow, and the constitutional effects subsequent to these changes are the same in both—viz., absorption of the specific material and reproduction in other parts of the system of tubercle—gray or yellow—cheesy deposits, again breaking down of these new deposits, and finally phthisis. Indeed, the tendency of the two diseases to run into each other has often been noticed. Niemeyer states that "the danger to the strumous patient is that he may become tubercular." All authorities recognize the co-existence of the two diatheses—scrofula and tuberculosis—in the same person. In these two diatheses the superficial lymphatics are all enlarged, and can be felt under the finger in all exposed situations. The feeling of the glands is softer than in syphilis, and the tendency is to inflammation and suppuration; this is diagnostic of the affections, the grade of inflammation being low, and the tendency of the suppuration is to continue indefinitely.

The glands of the neck are the most frequently affected in struma and tubercle, and all practitioners are acquainted with these troublesome abscesses which leave such unsightly scars. A peculiarity of these inflamed glands is the frequency with which the inflammation attacks the deeper seated glands, pus being formed deep down underneath a layer of glands which have not yet supplicated, so that, on making an opening for the discharge of pus, the incision is blocked up with a cheesy mass or plug (a gland not yet having undergone suppuration), which must be pulled or dissected out before there can be a free discharge of the matter. The inflammation is of a chronic character, and tends to involve one after another of the sets of glands, frequently extending deep down into the triangles of the neck and under the clavicles, and may produce serious local trouble. Another set of lymphatic glands affected in children in struma and tuberculosis are the tonsils. Chronic

enlargement of the tonsils has long been noticed in children of a scrofulous or tubercular habit. The slightest causes serve to set up inflammation of the tonsils in this class of children, and the inflammation becomes chronic and enlargement follows. So intimate is the connection between tonsillar enlargement and tuberculosis that some writers have regarded hypertrophy of the tonsils as a cause of pulmonary tuberculosis; but these are doubtless cases of cause regarded as effect.

The *deep-seated* lymphatic glands which are most affected by scrofula and tuberculosis, and whose implication involves the most serious results by inducing consumption in its various forms, are the mesenteric and the bronchial glands. The terms marasmus, tabes mesenterica, consumption of the bowels, and mesenteric phthisis are indifferently applied to that form of scrofula or tuberculosis in which the glands of the mesentery are chiefly diseased by deposit, enlargement, and degeneration. The anatomical situation of the mesenteric glands renders their enlargement alone, if very great, of danger to the child. Lying close to the lacteals and thoracic duct, their pressure on these vessels may occasion difficulty of absorption of the chyle into the system, and wasting and atrophy of the patient may result from this cause alone. Sometimes the enlargement of these glands is so great that they may be felt through the abdominal wall. As the enlargement increases and the glands begin to soften and break down, chronic diarrhœa, chronic peritonitis, perforation, and agglutination of the bowels may take place, and the patient succumbs to these. In most cases of mesenteric phthisis, however, the fatal result is hastened or accomplished by the appearance of the disease in other parts of the body, usually in the lungs. The name bronchial phthisis has been given to cases in which the bronchial glands have become infiltrated with scrofulous or tubercular deposit, and which in consequence caseate and break down. The name, however, is a misleading one, and was applied when these cases were believed to be due to tubercle alone, but, for want of a better, it has to be retained. Enlargement of the bronchial glands does not necessarily imply chronic lung disease, and cases occur in which the disease is limited to these glands and those of the mediastinum alone. These glands are situated at the bifurcation of the trachea, behind the upper bone of the sternum, and a little below it. They also accompany the bronchi into the interior of the lung, and, when swollen, produce the most serious consequences by pressure on the surrounding parts—blood-vessels, air-passages, and nerves. There is generally in these cases pressure on the large veins coming from the head, causing lividity and swelling of the head and face. The pressure on the nerves of the larynx gives rise to cough of a peculiar ring and stridor, like that of whooping-cough. Where the disease is confined to the glands, it may terminate in recovery by calcification of the glands; otherwise it may end by the rupture of the abscess into the pleural cavity, into the œsophagus, or into a bronchus, or by the erosion of a large blood-vessel, causing fatal hæmorrhage. When the gland simply softens and becomes converted into pus, hectic fever and general wasting set in, and a very common termination in this case is

the production of acute general tuberculosis induced by absorption of the degenerated gland matter. The enlarged glands can usually be detected on percussion, giving dullness over the upper part of the sternum and on either side, while over the lung the percussion sounds are normal. Owing to the conduction of the sound by these solidified glands, auscultation over the apices of the lung and the supra-spinous fossa will reveal breathing of a loud and cavernous character. A peculiar hum may be heard over the left second interspace, according to Eustace Smith, which is produced by pressure of the enlarged glands on the descending vena cava, or the left innominate vein. This author also states that one of the earliest indications of bronchial phthisis, noticeable long before the ordinary symptoms of pressure are manifest, is the venous hum heard when the patient's head is bent backward and the stethoscope is placed over the upper portion of the sternum. If the bronchial glands are at all enlarged, this position of the head tilts the trachea and the glands at its bifurcation up, and causes them to impinge upon the left innominate vein and to press it against the upper bone of the sternum as it passes behind the bone. Bronchial phthisis in a majority of cases terminates in pulmonary phthisis. If it does not, the disease may last a great length of time, and, as the lungs escape involvement, the symptoms may prove exceedingly puzzling.

Two more glands require notice in conclusion. These are the retro-pharyngeal, two small glands lying in front of the spine, and upon the rectus capitis anticus major muscle. These glands are enlarged in common with all the others in scrofula and tuberculosis, and occasionally give rise, by their suppuration, to retro-pharyngeal abscess. This is dangerous to young children from its pressure on the wind-pipe, and sometimes terminates fatally. Certain lymphatics of the nasal fossæ enter into these glands, and retro-pharyngeal abscess may result therefore in consequence of disease of the nose (Fraenkel, "Diseases of the Nose," von Ziemssen's "Cyclopædia," vol. iv). All cases of abscess of this kind, however, that I have met with, have been in either strumous or tubercular children.

THE MECHANICAL TREATMENT OF KNEE-JOINT DISEASE.

By CHARLES F. STILLMAN, M. S., M. D.,

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In the "Medical Record" for August 30, 1879, the writer described and demonstrated the applicability of a new form of splint for diseases of the joints, which he had a short time previously devised. It consisted of two terminal plates of thin copper, perforated upon the upper side and connected by a combined slotted bridge, elevated a short distance from the surface. This bridge consisted of two overriding slotted steel strips connected to a slotted steel sector by three clamps, as shown in Fig. 1.

It was maintained at the time that, on account of its simplicity, durability, and range of applicability, it would be

found a useful splint in the various inflammatory conditions of joints.

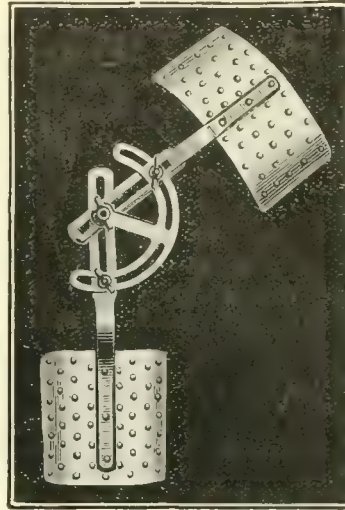


FIG. 1.—The sector splint.

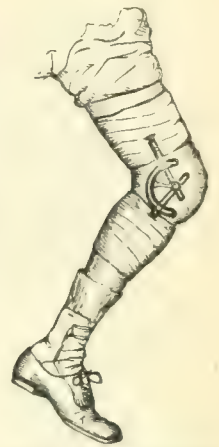


FIG. 2.—Showing application of sector bracket to knee.

This splint was afterward exhibited to the American Medical Association in 1881, and has been described more or less at length in several journals since that time.

Its usefulness and value have now been demonstrated by the experience of the intervening years, and it holds for itself in the surgical armamentarium a unique and permanent position.

It is not, however, the object of this paper more than casually to describe this splint, as its use is confined more to the treatment of acute inflammatory conditions of joints than to the chronic forms of joint disease which are to occupy our attention.

At the time of its introduction the principal point of value alleged for it was the ease with which *local* extension could be produced in a joint by the traction which the splint exerted in the axes of the limb. Taking the knee joint for example, we had at that time in orthopædic surgery but one splint which would allow this result to be produced; and this, while it produced a local extension of the knee, did not afford facilities for the proper fixation of the joint at the same time. The writer alludes to the splint of Dr. H. G. Davis, a representation of which will be seen by reference to Fig. 3.

We also had at this time the local extension splint of Professor Sayre.

Unlike Davis's splint, this, when the leg was flexed, exerted traction in the third side of the triangle, the two other sides of which were formed by the axes of the thigh and leg. Traction is not exerted in the axes of the limb by Sayre's splint, except when the limb is fully extended.

The sector splint which the writer devised thus fulfilled a mechanical condition, or a series of mechanical conditions, necessary to the proper treatment of joint disease, which were not fulfilled by either of the others just described, for, when applied firmly to the limb by plaster of Paris and adhesive plaster, the joint could be locked firmly in any position, with or without extension being produced at the same time, and the surface over the joint was left

exposed for whatever dressings or applications were considered necessary.

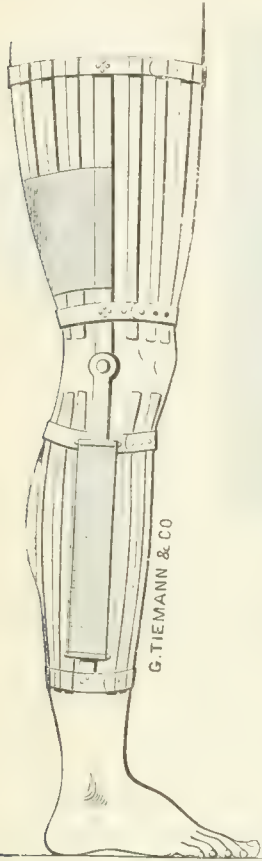


FIG. 3.—Dr. H. G. Davis's knee-joint local extension splint.

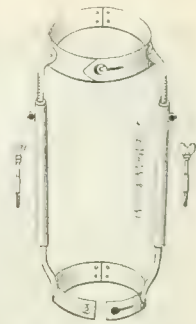


FIG. 4.—Sayre's knee splint.

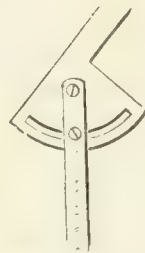


FIG. 5.—Stillman's joint movement for fixation or motion.

In chronic conditions of the knee joint, however, the plaster-of-Paris attachment is always uncomfortable, and can not be removed without disturbance of the joint. Since the atrophic changes in the soft parts about the joint render frequent removal of the dressing desirable, it becomes almost a necessity to provide special forms of apparatus which can be removed whenever necessary. These should retain in their formation the principles governing the construction of the sector joint splint itself; in fact, the treatment of diseases of the knee joint, as a class, has, from a surgical standpoint, been impeded by the difficulty in procuring apparatus which could be used advantageously through all stages of the treatment, and through all possible conditions which might arise during such treatment.

One of the most important of these indications is to incorporate in the brace, and to place on either side of the joint (in its transverse pivotal axis), a movement which will allow of either fixation or motion.

In Fig. 5 such an one is shown,* and if the pivotal center is placed in the transverse pivotal axis of the joint, its arc of motion will correspond closely to the arc of motion in the normal joint, and by means of the clamp in the slotted arc the joint may be fixed in any desired position, or, by releasing the clamp slightly, motion may be allowed.

* For description of this movement, see the "Boston Medical and Surgical Journal," August 31, 1882, p. 200.

Another important indication is the occasional employment of traction, and a new feature in this splint consists in the method of obtaining it by having adhesive plaster grasp the knee just below and above the joint over a *very limited* area; and to effect this the plaster is cut in the fan-shape shown in Fig. 6 (A), and long strips of webbing are attached to each. It requires four of these fan-shaped pieces for each knee, and four long pieces of webbing; and these are to be placed as shown in Fig. 6 (B), interlaced for greater security from displacement, and then covered with roller bandage, as in Fig. 7. Upon the superior and inferior extremities of the splint are provided rollers and buckles, to which the webbing is to be attached, and then, by means of an elastic ratchet, force may be applied upon the thigh portion of the instrument to effect the extension (see Fig. 9).

This arrangement differs from any attachment in ordinary use at the present time in being limited to a small zone just above and below the joint, and consequently does not interfere with the muscular structure of the thigh or leg, as is the case when the splints are applied by adhesive plaster over the whole extent, as in other splints for this purpose, or in the plaster-of-Paris attachment formerly used by the writer.

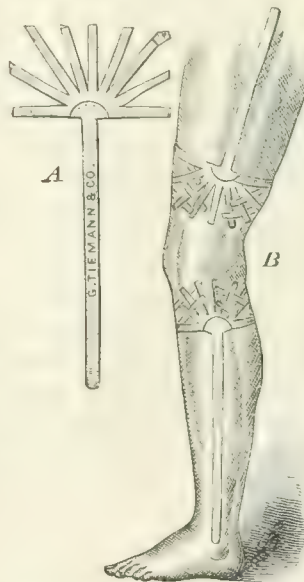


FIG. 6.—(A) Fan-shaped pieces of adhesive plaster, with webbing attached, for traction.

(B) The same applied to limb, interlaced.

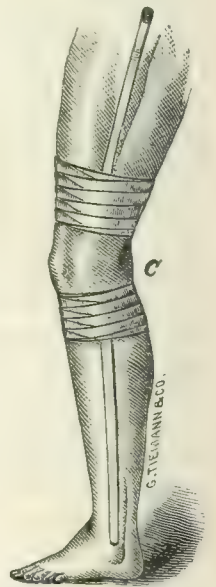


FIG. 7.—(C) The same covered with roller bandage, ready for the splint.

To exert the traction and produce extension of the joint, the ends of the webbing strips are to be passed over the rollers at each extremity of the splint, and, after being pulled upon as firmly as possible, are secured in the buckles provided for that purpose.

The upper thigh girth is then pushed away from the remainder of the apparatus by either elastic or rigid ratchets, as the surgeon prefers. The ratchet shown in Fig. 8 consists of two overriding slotted strips, which can be fastened together by a screw-clamp when sufficient traction has been exerted by the elastic strap provided for that purpose.

This form of ratchet is a modification of the original

Davis elastic ratchet, and in the hands of the writer is more effective than any other traction ratchet he has used, because, by simply loosening or tightening the clamp (the elastic strap being on the stretch at the same time), the traction may be varied from the elastic to the fixed at the will of the surgeon; but the writer has found that, if the elastic tension is kept up unvaryingly, the adhesive plasters are apt to cut into the skin in very much the same manner as and on the principle of an elastic ligature.

This is obviated, without impairment of the efficacy of the traction, by simply tightening the clamp holding the slotted strips together when the desired amount of extension of the joint is secured.

Another indication, also, of the utmost importance in the treatment of knee-joint disease is the prevention of posterior luxation.

Most of the diseases of the knee joint are accompanied by a tendency, even in the milder cases, to luxation of the tibia backward, and this is a feature which the mechanicians of orthopædic surgery have tried to overcome with more or less success.

To meet this indication, the author has devised a new and effective arrangement (see Fig. 8), which brings to bear a spring lever power which is distinct from anything here-

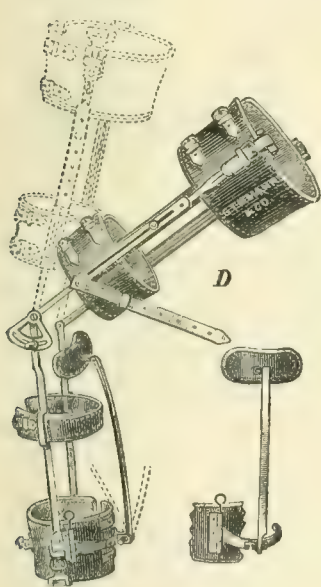


FIG. 8.—Stillman's knee splint.

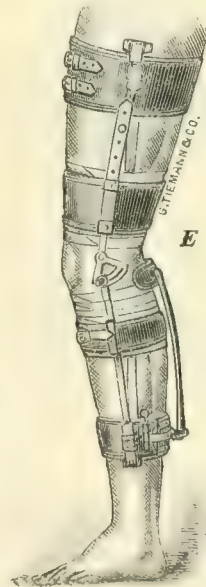


FIG. 9.—Stillman's knee splint applied.

before used, and operates without interfering with the action of the remainder of the brace. It will be noticed that it is a long, flat steel bar, bent to conform to the back of the leg, and placed posteriorly. At its upper end is attached a semi-girth which presses on the back of the upper part of the leg, and below it is attached to a stirrup which is itself fastened to the lower girth of the instrument.

This stirrup is provided with a hinge and a socket, so that it may be opened and shut when the rest of the brace is in position, and the forward pressure, which is dependent upon the angle which the posterior lever makes with the rest of the brace, can thus be adjusted by means of a ratchet at the intersection of the lever with the stirrup without the

necessity of removing the brace from the limb. One of the features of this arrangement consists in its availability for all classes of cases in which the least tendency to this subluxation exists, for it can be adjusted to any desired angle, thereby giving any degree of forward power, and this power is brought to bear precisely where it is wanted, and without causing impingement of the brace upon the limb at any point.

There are very few cases of joint disease, even of the simplest form and of the most recent date, in which the comfort of the patient is not increased by having a certain amount of forward pressure just below the popliteal space.

How many of these patients say to the surgeon that they feel they could walk if they "had something that would press the leg forward just below the knee, as it seems weak at that point"! And by the arrangement shown this power can be supplied without interfering with the main portion of the brace or with the motion of the joint.

There is no form of knee-joint disease in which this forward pressure, in either a lesser or greater degree, is not of advantage; and there is an anatomical reason for this, since in these diseases relaxation of the quadriceps extensor femoris is accompanied by a contraction of the antagonist flexor muscles, the biceps, semi-membranosus, and semi-tendinosus, thus interfering with the possibility, in many cases, of producing linear traction in the proper axes of the thigh and leg; while, if the tibia is held forward in the position it would have if the anterior muscles were exerting their normal power, the extension of the joint is effected without pain to the patient, and the traction is exerted in the proper direction.

By means of a ratchet at the intersection of the inferior extremity of the posterior lever and the stirrup to which it is attached, this power, as has been stated, can be adjusted so that the lever can be varied from a mere upright support to a spring lever of tremendous force, and in every case in which it is applied (provided, of course, that the power exerted is not beyond the proper amount necessary for the particular case) the patient's usual comment is that the comfort of the apparatus is thereby much increased; and from a surgical standpoint the joint is placed in much better condition for curative treatment, because this tendency to backward luxation is greatly overcome.

After traction has accomplished its purpose and extension of the joint is no longer necessary, the splint is so arranged as to permit the removal of the rollers and buckles at each extremity and of the traction ratchets, thus converting it into an effective simple fixation splint or knee support during the stage of convalescence, when by the use of restorative measures the anterior muscles of the thigh have been strengthened so as to hold the tibia forward in its proper axis with the femur.

In Fig. 10 is shown a brace which differs from the one just described only in the greater lateral support afforded the knee by the use of two larger sector movements opposite the joint. There is also frequent occasion to force the sides of the brace as closely against the joint as possible in order to afford protection from lateral displacement, and to effect this the knee is spanned anteriorly by a metallic band

sufficiently raised not to touch the surface. This band is divided in the center anteriorly and the two ends are con-

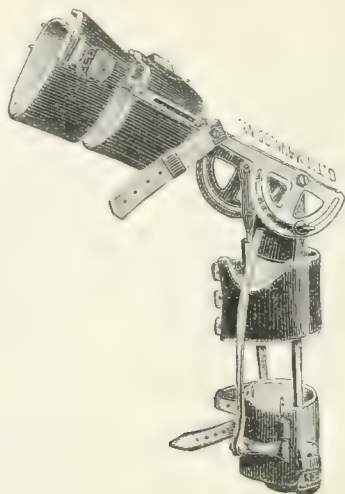


FIG. 10.

nected by a screw which draws them nearer together or forces them farther apart, as desired.

This brace is shown in Fig. 11, and perhaps will be still better understood by reference to Fig. 12, which illustrates it as applied upon the limb. So far, the braces shown are used in connection with crutches and a raised shoe, but in convalescence, when the weight of the body can be borne without pain, and yet protection of the joint is desired, the side-strips of the brace are frequently extended below the foot,

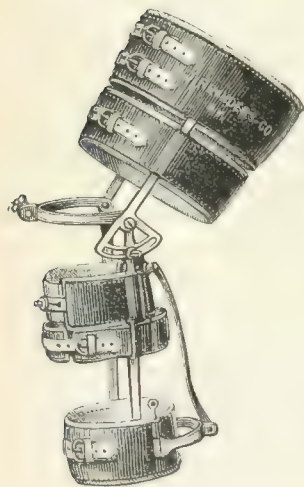


FIG. 11.

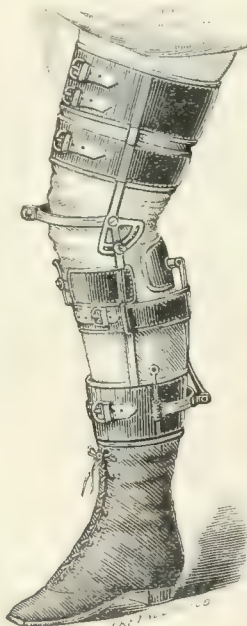


FIG. 12.

being attached to the shoe underneath the arch by a pivot to allow of the natural movements of the foot, and jointed opposite the ankle on either side, as shown in Fig. 13. Another very good convalescent brace, to be used when it is desired to keep the weight of the body off the affected joint and yet permit locomotion, is shown in Fig. 14, in which the side-strips terminate superiorly in a hip-band and peri-

neal crutch, and inferiorly in a heel-plate, sector joints being provided at the knee and ankle for regulating the movements of those joints; but such an apparatus is rarely required.

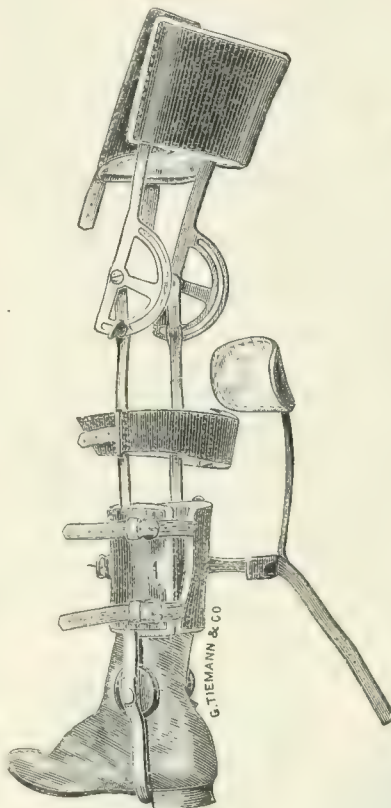


FIG. 13.

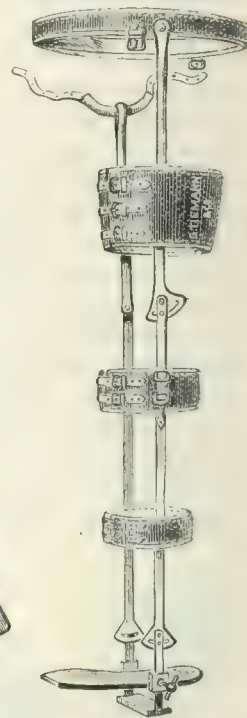


FIG. 14.

It is the province of the orthopædic surgeon, and not of the instrument-maker, to decide the form of brace adapted to each special case, and the more thoroughly the profession becomes familiar with this idea and practices it, the fewer will be the failures which so frequently attend the mechanical treatment of chronic disease of the knee joint.

TWO CASES OF CARDIAC DISEASE IN CHILDREN

(SISTERS).

UNDER OBSERVATION NEARLY FIVE YEARS.*

By L. EMMETT HOLT, M. D.

CASE I.—In February, 1881, Mary K., now aged twelve, had diphtheria with slow convalescence, followed three months later by general dropsy, scanty urine, once with entire suppression. She had occasional attacks of dropsy for a year afterward. In April, 1882, she was in very poor condition, dropsical, very anæmic, suffering from marked dyspnoea, and she looked as though she would not live three months. The heart was greatly hypertrophied and considerably dilated, the apex one inch to the left of the mammary line, and a loud apex systolic murmur was heard.

Since that time she has had no dropsy. During the first year of observation the hypertrophy and dilatation both increased, and the apex was thenceforth in the anterior axillary line.

* Read before the New York Clinical Society, November 26, 1886.

In 1884 and 1885 she began to suffer from frequent attacks of subacute rheumatism in the feet, knees, and wrists. Early in the present year the tendinous nodules were first observed. In March they were present in both palms and about both patellæ. Since then some of these have disappeared and some new ones have formed.

The condition of the heart has changed but little for the past three years. There has been no increase in the hypertrophy, and the dilatation seems to be less marked. She now suffers but little inconvenience, comparatively speaking, from the dyspnoea; she goes to school and leads quite an active life. There have been no renal symptoms for nearly four years.

At present she is in good general health, has no cough, and the heart acts regularly and well. The apex-beat is heaving and forcible, and strikes the chest in the anterior axillary line two inches and a half from the mammary line and four inches and a half from the middle of the sternum; it is in the sixth space, one inch below the level of the nipple. A loud purring thrill is felt over the whole cardiac area.

A systolic murmur, loudest at the apex, is heard, but distinctly audible over the whole chest, front and back. A presystolic murmur is audible over a circumscribed area near the apex. There is very great bulging of the præcordial space. There is a tendinous nodule of the size of a small bean just below the right annular ligament, moving with the flexor tendons with a grating sound, and there is a smaller one over the flexor tendon of the index finger in the palm of the same hand. She has had no rheumatic symptoms worth mentioning during the past four months.

CASE II.—Emma K., now aged thirteen years and a half. In the autumn of 1881 she had chorea; during the following winter she suffered for the first time from rheumatism of the subacute form in the shoulder, ankles, and knees. In the spring of 1882 she was weak, easily tired, and anæmic, and suffered from shortness of breath on exertion.

In June I made the following record of her condition: "Heart hypertrophied; apex-beat one inch to the left of the nipple; a loud apex systolic murmur, heard well behind, and over the right second space near the sternum another systolic murmur, differing slightly in character from the above-mentioned and distinct in the carotids." She was very much run down at this time, but had no dropsy.

The murmurs heard were confirmed by two other physicians, both excellent physical diagnosticians, and remained without special change for two years. During the past years the basic (aortic obstruction) murmur has been growing less distinct, and latterly I have been unable to hear it at all. The hypertrophy has not increased during the period of observation. The apex-beat is now three inches and a quarter to the left of the median line, half an inch beyond the nipple. The heart-sounds are clear and strong. The mitral regurgitant murmur is very distinct, though not so loud as formerly.

The girl is in excellent condition; the changes of puberty are just beginning to show themselves; she is plump and well nourished; rarely complains of any dyspnoea; and has an excellent appetite and no cough.

She has never had any dropsy nor hepatic or splenic enlargement. She has never had acute rheumatism, but has had frequent transient attacks of the subacute variety, which have been fewer during the past year.

Both parents have had slight attacks of subacute rheumatism, but there are no other evidences of the diathesis in other members of the family.

In the case of Mary, the younger child, the heart disease was at first looked upon as a complication of the attack

of diphtheria or the nephritis which followed it. The subsequent manifestation of rheumatic symptoms leads me now to the opinion that it was the result of a rheumatic endocarditis antedating the diphtheritic symptoms. The tendinous nodules so well marked in this case are, in my experience, only very infrequently seen, though when present they are pathognomonic of rheumatism.

The second patient, Emma, shows the interesting sequence of events by no means uncommon of, first, chorea; second, rheumatism; and, third, cardiac disease. Both cases show how well a very serious amount of cardiac disease is borne in children, and also that with the progress of growth the symptoms and the physical signs tend to become less and less marked, the growing tissues of the child accommodating themselves better to the order of things than those of the adult, provided always that no severe acute disease occurs.

The Heating of School-Houses with Furnaces.—In a "Report upon School Hygiene," by Dr. D. F. Lincoln, published in the "Sixth Annual Report of the State Board of Health of New York," we find the following remarks:

"There is much carelessness about the source of air which is drawn into furnaces for heating, and sent up into rooms. The ground may, it is true, be a pure and inoffensive bit of turf, but that is an unusual condition in a city school-yard. Bad air, malarial air, is known to settle upon the ground in many cases. The ground-level is less reached by the renovating breezes than higher levels. Sundry unpleasant surroundings of school-houses are at the ground-level. As a rule, openings for drawing the outer air into the heaters had better be at points above the children's heads, and covered with wire netting.

"Something more should be said of the cellar. It can not be too often repeated that the purity of cellar air lies at the foundation of the purity of house air. The danger of severe and sudden illness lurks in cellars as often as in sewers. The common practice in regard to a cellar is to bury the drain under its floor—to place water-closets in its darkest corners—to store combustible rubbish in wooden bins (I have seen great heaps of paper scraps)—to pile away old rotten boards and clothes—to hang children's outer garments in it—in short, there are few uses of a menial sort to which it is not put. The cellar is often without a proper floor, often is very dark and close for want of windows, often is darkened by placing the heater-boxes in front of windows.

"To these sources of pollution (for darkness is one source) add the fact that in cold weather a powerful outside pressure exists, forcing air into the cellar, and thence into upper parts of the house. It is too much to expect that an average cellar will be so pure, so free from all these objectionable things, that air may safely be taken up from it by furnaces for the consumption of the house.

"Let the floor be concreted or asphalted so as to be air- and water-tight. Put no drain underneath, unless in trench with a wooden or stone cover. Put *one* large trap outside of the walls for each sewer, ventilate it by an opening just inside the trap, run the soil pipe up full-sized several feet above the roof, and protect it from rain; ventilate the trap under each washstand. Have no water-closets in the cellar, or, if they be thought necessary, isolate them in separate chambers of masonry with abundance of light, accessible to the children from the outside only of the house. Give a plenty of windows and good light, and keep the walls whitewashed."

The Death-rate of Boston.—The total number of deaths reported to the Board of Health for the week ending January 1st was 201, which was an increase of 35 over the corresponding week of the previous year, and made the rate for the week 26.1 for every thousand inhabitants. There were 3 deaths from diphtheria, 1 from scarlet fever, 1 from typhoid fever, 3 from measles, 33 from consumption, 10 from pneumonia, 11 from heart disease, 17 from bronchitis, 9 from enteritis, and 12 from violent causes, including 2 suicides.

THE

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NEW YORK, SATURDAY, JANUARY 8, 1887.

SANITATION IN ITALY.

THE present state of medicine in Italy is so completely creditable to our colleagues of that country that the deplorable condition of Italian public sanitation, as vividly portrayed by Professor Albanese in the essay which we publish elsewhere in this issue, appears all the more anomalous. We can not suppose, however, that the physicians of Italy have been remiss in presenting the importance of sanitary matters to the attention of the Government or of the people; we must rather infer that the Government, not having even yet succeeded in gaining the confidence of the whole people, has held aloof from an energetic system of regulations relating to public health out of a conservative feeling—very natural under the circumstances—that it was temporizing in the interest of more complete success in the future. It must, indeed, be difficult to deal with a people possessed with the idea that the Government, far from looking out for their welfare, is really plotting their destruction by wholesale poisoning, and accustomed to resort to violent “demonstrations” whenever the fancy is entertained that a quarantine ought to be imposed, or whenever any other occasion of discontent arises. Mobs, it is true, are not peculiar to Italy, but elsewhere than in that country they generally fail to affect the conduct even of municipal governments. There, it seems, they are of common occurrence, and are not put down until soldiers make their appearance—soldiers whom we may fancy saying to themselves, like those in the comic opera:

“Mais, par un malheureux hasard,
Nous arrivons toujours trop tard.”

Whatever may be thought of quarantines in general, it may readily be imagined that in a country where they are often proclaimed to pacify a turbulent gathering of the ignorant and lawless their enforcement must be half-hearted, and therefore worse than useless. Perhaps this accounts in some measure for Professor Albanese's low estimate of their value. It can not be denied that, to be effectual, a quarantine must be strict, nor can it be disputed that a strict quarantine interferes sadly with trade; but these postulates do not lead us to agree to the proposition that the lives saved by such a quarantine would not compensate for the damage done to commerce. It is difficult, moreover, to reconcile Professor Albanese's distrust of quarantines with his pointed recommendation of extreme measures relating to the rag trade.

Still, however much we may feel that Professor Albanese's views on quarantine should be taken with allowance, the general wisdom of his remarks is obvious. He does well to say that sanitary regulations should not be founded on ætiological

theories, but should above all else be practical. Measures that have proved efficient in the past should be adhered to, whether their effectiveness is the more plausibly explained, for example, by the “localists” or the “contagionists.” It will be conceded, too, that the sanitary laws of a country should be in their main features the same for all parts of the country, and that they should be enforced systematically rather than with the misdirected and spasmodic zeal inspired by an occasional epidemic visitation. It is on these points that Professor Albanese lays most stress, and it is to be hoped that his argument will not pass unheeded by the Italian Government.

MINOR PARAGRAPHS.

THE SATISFACTORY ENDING OF A VEXATIOUS SUIT.

SOME months ago we chronicled the remarkable action of a jury in awarding a young woman damages in a suit brought by her against two reputable New York physicians, father and son, to recover compensation for the detriment alleged to have been suffered by her in consequence of her having been taken to a hospital for infectious diseases as a small-pox patient, whereas, as she maintained, she was not affected with that disease at all. It was not pretended that the two physicians actually procured her incarceration, but simply that, as was their duty under the law, they reported to the Health Department that, in their opinion, she was suffering from small-pox. On the trial it was not really proved that their opinion was erroneous, but it was proved abundantly that the Health Department was responsible for the woman's conveyance to the hospital. The common impression at the time was that the verdict was wholly unjustified, and now the ponderous machinery of the law confirms that impression. The General Term has recently reversed the decision of the lower court, and affirmed that the complaint should have been dismissed. The decision is said to be the first one that has turned on the precise points raised, and the profession is indebted to the defendants for appealing the case, thus leading to the establishment of a precedent assuring physicians of their safety in complying with the law under like circumstances. To pay the damages without demur would undoubtedly have been a less repugnant course for them personally, but they honorably chose to make their case a test for the general welfare, and it will be remembered to their credit.

IMPURE ICE AS A CAUSE OF DISEASE.

THE State Board of Health, having been asked by the Board of Health of Syracuse to examine into the purity of ice taken from Onondaga Lake, from the Erie Canal at Syracuse, and from Cazenovia Lake, has not only made a careful investigation into the quality of ice from those sources, but has also prepared a report on the general question of the pathogenetic powers of contaminated ice. The board comes to these conclusions: Ice formed in impure water has caused sickness; it may contain from eight to ten per cent. of the organic matter dissolved in the water, and in addition a very large amount of the organic matter that had been merely suspended or floating in it; it may contain living animals and plants ranging in size from visible worms down to the minutest spores, and the vitality of these organisms may be unaffected by freezing.

TRAP SIPHONAGE AND VENTILATION.

MR. GLENN BROWN, the architect, has published a pamphlet giving an account of some interesting experiments undertaken

by him at the Naval Museum of Hygiene, bearing upon the disputed question of the efficacy of the ventilation of plumbers' traps in preventing siphonage. The matter of back-pressure from the sewers was also taken into account. It was found that even the ordinary S-trap, acknowledged by everybody to be the most easily siphoned, could not be siphoned, nor its seal broken by back-pressure, when properly ventilated.

A NEW FRENCH JOURNAL.

"La Province médicale" is the title of a new sixteen-paged double-columned weekly journal published at Lyons, and edited by Dr. Victor Augagneur. The third number, dated December 18th, has reached us, and we find its contents exceedingly satisfactory. It opens with an introductory lecture in obstetrics by Professor Fochier. The leading editorial article deals vigorously with one Dr. Roussel, whom the writer criticises for exploiting "eucalyptol injectable." This gentleman, the article pointedly says, has seen fit to follow Ferrán's example rather than Jenner's or Pasteur's.

ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Fourth Division of the Health Department for the following statement of cases and deaths reported during the two weeks ending January 4, 1887:

DISEASES	Week ending Dec. 28.		Week ending Jan. 4.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever.....	17	5	18	5
Scarlet fever.....	34	6	39	6
Cerebro-spinal meningitis...	6	6	1	1
Measles.....	518	64	437	53
Diphtheria.....	125	42	136	50

Trichiniasis.—It is reported that two of the members of a German family in Lawrenceville, a suburb of Pittsburgh, Pa., are afflicted with the disease from having eaten of an uncooked ham which was found to be infested with the parasites. One of them, it is said, will probably die.

The Equine Origin of Tetanus.—At a recent meeting of the Paris *Société de chirurgie*, a report of which appears in the "Gazette hebdomadaire de médecine et de chirurgie," M. Terrier expressed surprise that the views lately advanced by M. Verneuil had been so readily accepted by his colleagues. Founding his statements on data furnished by Professor NoCARD, of the veterinary school at Alfort, M. Terrier said that for the past forty years there had not been a case at Alfort of the communication of tetanus from the horse to man, although the pupils who made post-mortem examinations of horses that had died of the disease very often had abrasions of the hands.

Apothecaries and Prohibition.—In consequence of extreme measures adopted by a prominent citizen of Quincy, Mass., several of the apothecaries of the place have decided not to sell spirituous liquors even when ordered in the form of a prescription by physicians. They will, it is said, remove all liquors from their shops on the ground that they can not sell what they have not in stock. A leading physician of the town characterizes the action on the part of the apothecaries as "wholly unnecessary," and maintains that, inasmuch as physicians are frequently obliged to order liquor for their patients, the apothecaries can sell it under those circumstances without fear of molestation or prosecution.

Professor Pajot, of the Paris faculty, having obtained his retirement on his seventieth birthday, his pupils and friends, as we learn from the "Gazette hebdomadaire de médecine et de

chirurgie," assembled and presented him with his bust in bronze. M. Doléris, speaking for Pajot's old pupils, expressed their regret at the termination of his service, and the Director of Public Charities gave him the thanks of the Administration.

The Hospital Saturday and Sunday Collection amounts, at the time of our going to press, to \$24,845.70.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from December 19, 1886, to December 31, 1886:*

FORWOOD, W. H., Major and Surgeon. Granted leave of absence for one month. S. O. 129, Department of Dakota, December 16, 1886.

LAUDERDALE, J. V., Captain and Assistant Surgeon. Ordered from Fort Concho to Fort Clark, Texas. S. O. 174, Department of Texas, December 16, 1886.

EVERTS, EDWARD, First Lieutenant and Assistant Surgeon. Ordered from Fort Grant to Fort Apache. S. O. 136, Department of Arizona, December 16, 1886.

MASON, CHARLES F., First Lieutenant and Assistant Surgeon. Ordered from Fort Huachuca to Fort McDowell. S. O. 136, Department of Arizona, December 16, 1886.

BANISTER, W. B., First Lieutenant and Assistant Surgeon. Ordered from Fort Wingate to Fort Lowell. S. O. 136, Department of Arizona, December 16, 1886.

DIETZ, W. D., First Lieutenant and Assistant Surgeon. Ordered from Fort Stanton to Fort Bayard. S. O. 136, Department of Arizona, December 16, 1886.

POLHEMUS, A. S., First Lieutenant and Assistant Surgeon. Ordered for duty as post surgeon at Fort Gaston, California, relieving

RAYMOND, H. I., First Lieutenant and Assistant Surgeon. Ordered for duty at Angel Island, California. S. O. 123, Department of California, December 13, 1886.

ANDERSON, C. L. G., First Lieutenant and Assistant Surgeon. Assigned, temporarily, to duty at Whipple Barracks, Arizona. S. O. 132, Department of Arizona, December 7, 1886.

KOERPER, EGON A., Major and Surgeon. Granted leave of absence for two months, to take effect about January 1, 1887. S. O. 297, A. G. O., December 27, 1886.

PHILLIPS, JOHN L., First Lieutenant and Assistant Surgeon. Granted one month's extension of his leave of absence. S. O. 297, A. G. O., December 27, 1886.

Naval Intelligence.—*Official List of Changes in the Medical Corps of the United States Navy for the week ended January 1, 1887.*

ANDERSON, F., Passed Assistant Surgeon. Ordered to the U. S. steamer Thetis.

ANZAL, E. W., Assistant Surgeon. Detached from the Receiving-Ship Independence, and ordered to the Coast Survey steamer McArthur.

GREEN, E. H., Passed Assistant Surgeon. Detached from the Naval Laboratory for temporary duty on the Receiving Ship Independence.

GATEWOOD, J. D., Passed Assistant Surgeon. Ordered to the Naval Academy.

Society Meetings for the Coming Week:

MONDAY, January 10th: New York Ophthalmological Society (private); New York Medico-Historical Society (private); New York Academy of Medicine (Section in Surgery); Lenox Medical and Surgical Society (private); New York Academy of Sciences (Section in Chemistry and Technology); Boston Society for Medical Improvement (annual); Gynecological

Society of Boston; Burlington, Vt., Medical and Surgical Club; Norwalk, Conn., Medical Society (private).

TUESDAY, January 11th: New York Medical Union (private); Medical Societies of the Counties of Chautauqua (semi-annual), Chenango (annual), Clinton (annual—Plattsburg), Erie (annual—Buffalo), Genesee (semi-annual—Batavia), Jefferson (annual—Watertown), Livingston (semi-annual), Madison (semi-annual), Oneida (semi-annual—Rome), Onondaga (semi-annual—Syracuse), Oswego (semi-annual—Oswego), Rensselaer (annual), St. Lawrence (annual), Schenectady (annual—Schenectady), Schuyler (annual), Steuben (semi-annual), Tioga (annual—Owego), Wayne (semi-annual), and Yates (semi-annual), N. Y.; Newark (private—election) and Trenton (private), N. J., Medical Associations; Norfolk, Mass., District Medical Society (Hyde Park).

WEDNESDAY, January 12th: New York Surgical Society; New York Pathological Society (annual); American Microscopical Society of the City of New York; Medico-legal Society (anniversary); Medical Societies of the Counties of Albany, Cayuga, Delaware (semi-annual), Dutchess (annual—Poughkeepsie), and Seneca (semi-annual), N. Y.; Tri-States Medical Association (Port Jervis, N. Y.); Pittsfield, Mass., Medical Association (private); Hampshire (quarterly—Northampton) and Worcester, Mass., District Medical Societies; Bennington County, Vt., and Hoosick, N. Y., Medical Society (annual—Arlington); Philadelphia County Medical Society (conversational).

THURSDAY, January 13th: Society of Medical Jurisprudence and State Medicine; Brooklyn Pathological Society (annual and election); Medical Society of the County of Fulton (annual—Johnstown); South Boston, Mass., Medical Club (private); Pathological Society of Philadelphia.

FRIDAY, January 14th: New York Academy of Medicine (Section in Neurology); Yorkville Medical Association (private); Medical Society of the Town of Saugerties.

SATURDAY, January 15th: Clinical Society of the New York Post-graduate Medical School and Hospital.

Proceedings of Societies.

NEW YORK ACADEMY OF MEDICINE.

Meeting of December 16, 1886.

The President, Dr. A. JACOBI, in the Chair.

The President introduced Dr. Charles A. L. Read, of Cincinnati.

The Secretary read letters from Dr. Loomis and Dr. Dalton declining the nomination for the presidency.

Fermentation, Putrefaction, and Suppuration; with Demonstrations and Experiments.—Dr. HERMANN KNAPP introduced his subject with a few remarks on the importance of bacteriology in the study of medicine. When abroad last summer he had heard a distinguished professor of Berlin say that the great majority of diseases seemed, from the modern standpoint of science, to be of bacterial origin. He had been struck with the remark from the fact that only a few days before a professor in one of the colleges in New York had said: "Bacteriology may be important from a scientific point of view, but practically, what does it signify? Six diseases." Here was a great contrast, and he asked if it was not possible that the one overrated and the other underrated the importance of the subject. He then referred to statistics, and he found in the "Boston Medical and Surgical Journal" the death-rate

from different diseases in a number of American cities. In New York for the week ending August 21, 1886, the death-rate from infectious diseases was placed at 33 per cent.; then followed the mortality from consumption, 16 per cent.; from diphtheria and croup, 5 per cent.; and these, being undoubtedly of bacterial origin, raised the percentage of deaths from diseases of bacterial origin to 54. The figures from other cities varied but little. Of diarrhoeal affections, he thought, at least 90 per cent. were of bacterial origin, and in the statistics quoted the percentage of deaths from diarrhoeal diseases was placed at 20 in New York, and as high as 35 in some other cities. This would raise the percentage of deaths from bacterial diseases to 75. But no account had yet been taken of the deaths from pneumonia, peritonitis, endocarditis, malarial disease, gonorrhoea, typhoid fever, skin diseases, or surgical affections. Reckoning these at 15 per cent., it brought the percentage of deaths from diseases of bacterial origin up to 90. This outcome of the figures had struck him with surprise, and, unless he had made a great mistake, they showed that the Berlin professor was correct.

The process of putrefaction was akin to that of fermentation, only the bacteria were different, and the putrescible substance was different from the fermentescible; it contained carbohydrates, sulphur, and nitrogen. Were the processes of putrefaction and suppuration the same? Surgeons generally used the terms so promiscuously as to lead one to suppose either that they were identical in meaning or that suppuration was a sequel of putrefaction. Yet there seemed to be an important difference between them. The author then stated three interrogatory propositions: 1. Does mere traumatism produce suppuration? 2. Do foreign bodies produce it? 3. Do chemical agents of any nature produce it?

As bearing on the first question, he said that while in Berlin he performed on rabbits all the operations which the ophthalmologist was called upon to perform on man; on one eye with clean instruments, on the other with contaminated instruments. The wounds made with clean instruments always healed without suppuration; those made with contaminated instruments always suppurated. He had performed operations upon the human subject in the rudest manner, but with perfectly clean instruments, and suppuration had never followed. If a simple fracture ever suppurated it was only when there was a focus of suppuration at some other point. He therefore concluded that mere traumatism was in no way capable of producing suppuration.

Were foreign bodies of themselves capable of producing suppuration? As bearing upon this question, he exhibited rabbits into one eye of which he had inserted the end of a rusty hair-pin and allowed it to remain, and into the other the end of a rusty hair-pin brought to a glow; the first eye had in every case suppurated, while in the second no suppuration had taken place.

As to the third question, many of the highest authorities had asserted that chemical agents would produce suppuration. If this apparent exception was not shown to be invalid, the germ theory of suppuration could not be supported. The experiments of Straus and others, and those which the author himself had performed, showed that chemical agents would not produce suppuration when germs were rigorously excluded. Experiments with these agents, however, were not easy; they were especially difficult with croton-oil, which was extremely irritating and unmanageable. Yet he had succeeded in injecting a drop into one eye of a rabbit, avoiding the entrance of germs and the formation of pus, while in the other eye, treated without precautions against the entrance of germs, suppuration had developed. The best method for carrying out this experiment was Straus's, consisting in first cauterizing the skin of the animal where the injection was to be made, and sealing the puncture with the cau-

tery immediately on withdrawing the needle. While signs of irritation were present in the eye in which croton-oil was injected with precautions against the entrance of germs, there was no pus and there were no germs; the contrary was the case when the oil was injected without such precautions. He therefore thought the proposition that no chemical agent, however irritant, would produce suppuration was pretty well established.

In conclusion, he asked, What is suppuration? He thought that, as in the case of fermentation, the cause—the microbe—entered into the definition, so also should it enter into the definition of suppuration. Fermentation consisted in the splitting up of the hydrocarbons into simpler elements by the aid of yeast-cells; putrefaction was the splitting up of nitrogenous substances into simpler elements by the agency of microbes; and it had been shown that suppuration was likewise the splitting up of nitrogenous substances into simpler elements by the agency of bacteria. The substances acted upon and the agencies were the same in the process of putrefaction and that of suppuration, but we spoke of the process as putrefactive when the substance was a dead material, and as suppurative when it was living material. So we might say that putrefaction was the splitting up of dead nitrogenous substance through the agency of bacteria, while suppuration was the splitting up of living nitrogenous substance through the agency of the same or similar bacteria. In this way the parallelism of the three processes—fermentation, putrefaction, and suppuration—was established. The speaker then showed different kinds of micrococci.

PHILADELPHIA CLINICAL SOCIETY.

Meeting of November 26, 1886.

The Vice-President, Dr. CLARA MARSHALL, in the Chair;

Dr. MARY WILLITS, Reporting Secretary.

Recovery after Abdominal Section for Purulent Peritonitis.—Dr. JOHN B. ROBERTS read the following paper: The operative treatment of peritonitis is of sufficient importance to warrant the report of the following successful case:

A woman, aged forty-four, came under my notice with the following history: About eight weeks ago she was seized with violent pain in the abdomen, which pain has been constant ever since, with occasional griping and colicky sensations. There has been no vomiting, but for three weeks past she has been restricted entirely to liquid food by her physician. There has been no chill. When first seen by me, she stated that some three weeks previously she had been seized with great pain in the abdomen during the night, and that about that time she had noticed in the left side of the belly a mass or tumor. I could get from her no definite history of the tumor, nor of any previous abdominal disease. Her health previous to the present illness had been good. At the time my attention was called to her by Dr. Arthur V. Meigs, she had a temperature of over 102° F., and a pulse of about 130. From the flushed face, the thighs flexed upon the pelvis, the considerable pain on palpation of the abdomen, and the adynamic condition, it was very evident that the woman was suffering from peritonitis due in some way to this tumor.

Accurate examination was not practicable, on account of the pain which it caused, and the woman's condition was too weak to permit of any extensive or elaborate means of diagnosis being instituted. The tumor was smooth in outline and apparently of about the size of a foetal head. A vaginal examination showed the uterus to be not much out of the normal position, although the fundus seemed to be tilted somewhat forward. My diagnosis, made in a provisional way, was a cyst of the left ovary of perhaps several months' duration, which had ruptured, allowing the contents to escape into the abdominal cavity. It was possible, of course, that the peritonitis was due not to rupture of an ovarian cyst, but to some other form of tumor or to disease of the Fallopian tubes.

Under the belief that removal of the tumor and cleansing the peritoneal cavity of the contents of the tumor, which had been thrown into it, would afford the best chance of recovery, I was induced to call a consultation as to the propriety of doing an abdominal section. Accordingly, on the following day, with the consent of the other members of the surgical staff of the Pennsylvania Hospital who were present, I made an incision through the linea alba, extending almost from the umbilicus to the pubes, and at once exposed a smooth tumor containing fluid. Puncture of this with the trocar evacuated some five or six ounces of very offensive pus. The intestines and omentum were adherent to the surface of this sac, which was evidently the rounded mass felt through the abdominal wall. It was soon apparent that there had been a long-standing inflammation involving the structures contained within the abdominal cavity. It was impossible to enucleate this large sac or cyst, because of the matting together of all the structures and the large amount of new tissue which had formed as the result of the inflammatory process.

Although great care was taken and a good deal of time consumed, I was unable, either by my hand or by means of a bougie introduced as an explorer, to determine the original site of the growth, or the reason for the beginning of the inflammation. There were a number of similar sacs or cysts containing pus, the walls of which were made up of adventitious tissue and the neighboring viscera. In fact, the whole contents of the left side of the pelvis were glued together by inflammatory adhesions and new-formed tissue. As it was found impossible to remove all the new tissue or to tear up all the adhesions, I was content with scraping out the most accessible portion of the sac wall, removing the pus from the numerous other cavities, and washing out the abdomen very thoroughly with a solution of bichloride of mercury, 1 to 10,000. The abdominal wound, which was about five inches in length, was closed with catgut sutures. Two rubber drainage-tubes were inserted at the lower angle of the wound, and a dressing of iodoform and corrosive-sublimate gauze was applied.

The whole operation was done under the strictest antiseptic precautions, and the patient was then put to bed. For two days she received no food, liquid or solid, being allowed simply cracked ice, and an occasional small dose of morphine and brandy. Subsequently she was given small quantities of milk and such easily digested food. On and after the second day a solution of corrosive sublimate, of the same strength as that used at the time of the operation, was used for washing out the abdominal cavity through the drainage-tubes, but the upper portion of the wound dressing was not removed. The temperature gradually fell to normal, which point it reached on the fourth day. At this time the upper portion of the dressing was removed for the first time, and a complete union was found of the upper portion of the wound. Three weeks after the operation she was discharged from the hospital at her own request, although she had not yet regained sufficient strength to be able to move about the room. In fact, we had kept her in bed up to that time, fearing that the exhaustion of getting up might be deleterious to her. During the last week of her stay in the hospital a portion of the incision reopened superficially. At the time of her discharge the opening into the abdominal cavity appeared to be closed, though there was still a small superficial wound at the lower portion of the original incision.

This case of suppurative peritonitis due to an unknown cause, cured by operation, is a good illustration of the recent advances in abdominal surgery. Although I did the operation under the impression that the origin of the trouble was an ovarian cyst, I should have been willing to do it had I known the exact condition of the disease, because such an encysted peritonitis as this evidently was, with the symptoms present, was almost certain to be followed by death. At least this is the reasonable conclusion when we consider the condition of the patient's temperature and pulse, and the fact that the peritonitis was so intense that her thighs were flexed upon her pelvis. We had, in fact, every reason to believe in a speedy termination of the case.

My experience in abdominal section and suture of the intes-

tines for stab wounds, and the experience of Bull, Hamilton, and others in a similar treatment of gunshot injuries of the belly, together with my results in exploratory abdominal incisions, have convinced me that we are too ready to allow patients to die from intra-abdominal injuries. Rupture of the bladder, stab wounds of the intestines, gunshot wounds of the intestines, traumatic rupture of the intestines, perforating ulcers of the stomach, and even, perhaps, perforations due to typhoid fever, should be treated in many cases by immediate opening of the belly and local surgical measures.

This case is a contribution to the literature of the subject, to be added to the many cases similarly treated by gynecologists. General surgeons do not, I think, fully appreciate the advantages which are gained by imitating our gynecological brothers in the adoption of active surgical treatment for abdominal injuries.

Book Notices.

Rheumatism: its Nature, its Pathology, and its successful Treatment. By T. J. MACLAGAN, M. D. New York: William Wood & Company, 1886. Pp. viii+277. [Wood's Library of Standard Medical Authors.

THIS work is by the well-known originator of the salicyl treatment of rheumatism—a treatment entirely novel in its time, and one which, though not realizing all that was once hoped for it, has nevertheless proved a true boon to suffering humanity.

The author devotes much space to the theories of the causation of the disease. He goes at length into the lactic-acid theory, which has for so many years swayed the professional mind, perhaps to an undue extent. The evidence in favor of this hypothesis he attacks with much vigor, and with an enthusiasm which at times eclipses his critical faculty. Unfortunately in this, as in most of the speculations on the pathogenesis of obscure diseases, there is too much "reasoning" and too little exact experimentation done. Few, we think, would, on mature deliberation, be inclined to follow the author in such hasty conclusions as are contained in the following passage (p. 41): "It is also a physiological fact that the nutrition, innervation, and functional activity of the muscles and fibrous textures of the joints are inseparably connected and indissolubly bound up together. It follows from this that inflammation and consequent increased metamorphosis of the fibrous textures of the joints are likely to be accompanied by a corresponding increase in the retrograde metamorphosis of muscle, and consequent increased formation of lactic acid."

Now it is by no means so evident that in articular or circum-articular inflammation the muscles are involved—in fact, the usual absence of purely muscular pain in rheumatism would contradict this assumption. Again, it is very likely that, owing to the slowing of the blood-current in inflamed areas, metabolism is retarded, not increased. This style of reasoning appears too frequently, and mars what is, on the whole, a valuable contribution to the study of rheumatism.

We are glad to see the germ or "miasmatic" origin of the disease subjected to a lengthy observation. The author fully supports this view of its causation, and the analogies existing between rheumatism and malarial fevers are well brought out. Of course, in the present state of our knowledge this can only serve as a provisional hypothesis. Experimentation alone can decide a point which, the more we consider it, seems *a priori* likely.

The chapters on treatment are, as might be expected, very full, and the author's large experience and careful investigation of the effects of the salicyl compounds give his observations peculiar weight. He enters at some length into the chemistry and into the actions of the different derivatives of that substance, and the adaptability of each to the cure of rheumatism. Preference is given to salicin over salicylic acid or its salts, since the former is free from those cardiac depressant qualities which often distinguish the latter.

A clear and interesting style pervades the book, and one is never for a moment left in doubt as to the author's exact meaning. As the record of the inventor of one of the most brilliant therapeutic triumphs of the century, this work will always command attention.

The Mechanism of Indirect Fractures of the Skull. By CHARLES W. DULLES, M. D., Fellow of the College of Physicians and of the Academy of Surgery of Philadelphia, etc. [Reprinted from the "Transactions of the College of Physicians of Philadelphia."]

THIS excellent monograph is a welcome addition to the literature of a long unsettled question, and is of special value just now, because almost all the more recent English and American authorities either describe the mechanism of indirect fractures of the skull in terms so vague as to leave the reader in doubt as to what view is really advocated, or adopt the "irradiation" or the "vibratory" theory. The "irradiation" theory, which really denies the occurrence of indirect fractures, is capable of direct disproof, both clinically and experimentally, and has been practically abandoned. The "vibratory" theory has never had much evidence in its favor, and has depended almost entirely on theoretical considerations. In Germany the "bursting" theory, first clearly formulated by von Bruns, and confirmed by the results of many experiments, notably those of Messerer and Greder, has been almost everywhere accepted. Dr. Dulles gives a clear and impartial *résumé* of the history of the subject, and then analyzes one hundred and nineteen cases, collected from various sources, in which a complete and reliable history of the case excluded the possibility of direct violence. All but eight presented fissures entirely in conformity with the "bursting" theory. The mechanical conditions are everywhere very clearly stated, unnecessary technicalities being avoided, and the very well arranged figures at the end, showing the direction of the fissures in all the cases, with a statement of the mode of injury in each, enable the reader to draw his own conclusions.

The Peroneal Type of Progressive Muscular Atrophy; a Thesis for the Degree of M. D. in the University of Cambridge. By HOWARD H. TOOTH, M. A., M. D., etc. London: H. K. Lewis, 1886. Pp. 43.

It is the object of this interesting little pamphlet to establish as a distinct type a species of progressive muscular atrophy which, in many essential particulars, differs from the ordinary form. The common variety is characterized by wasting, beginning usually in the thenar eminence, by fibrillar twitching, and subsequently by the appearance of the degeneration reaction and deformities of the hands. The primary origin of the disease is in the central nervous system—*i. e.*, in the ganglion cells of the anterior horns of the spinal cord.

In the form described by Dr. Tooth, the atrophy begins in the muscles of the leg, usually in the peroneal group, the homologous muscles in the forearm becoming involved afterward. The fibrillar twitchings are not of such invariable occurrence as in the common form, and the disease is one of child-

hood and not, like the former, of adult life. The central nervous system is not involved, the affection apparently being of peripheral origin. In short, while the common type is a *myelopathy*, this is a *myopathy*.

Five cases observed by the author are reported, the histories of several of which are accompanied by illustrations taken from photographs, which show the atrophic changes very graphically. In all, seventeen cases have been collected.

No autopsies have come under the author's personal notice, but he gives reports of four post-mortems of what were evidently cases of this type. The cord was not at all, or only secondarily, affected, whereas there existed inflammation of the nerves of the affected extremities.

A copious bibliography forms an appendix.

Contributions to Surgery and Medicine. Part VI. The Principles of the Treatment of Fractures and Dislocations. By HUGH OWEN THOMAS. London: H. K. Lewis, 1886. Pp. 104.

THE author takes the ground that hitherto a too mechanical view has prevailed in the treatment of fractures, "sufficient recognition not being made of the fact that it is living matter we have to influence." He maintains that with the increased skill in the construction of mechanical appliances errors of symmetry are more easily avoided. Yet, withal, the mishap of delayed or non-union has been more frequent.

In the treatment of these cases he advocates, to urge on repair, permitting the limb to resume the vertical position, and so favoring "tumefaction"; the use of interrupted compression—that is, "damming" the circulation of the limb by circular compression above and below the fracture, thus "relieving the fracture from compression within a small area circumscribing it." These methods may be supplemented by the employment of "percussion." This is performed by subjecting the fractured ends to a severe flagellation with an iron-headed hammer, guarded by an India-rubber cap, the soft parts being protected with felt covering. The operation is so severe that it is necessary to etherize the patient.

He reports a large number of cases of delayed union and of non union. That the treatment pursued has contributed to this result there seems but little doubt. The operation for correcting knock-knee by section of the femur is deprecated. The risk is said to be too great for the benefits to be derived.

The reference to the treatment of dislocations is confined to what the author calls "simulated reductions." No satisfactory description is given of what is meant by the expression. In the reported cases where it has been used it might refer to breaking up adhesions, to reduction of the dislocation, or to fracture. At times the writing is vague and not easily understood.

GENERAL LITERARY NOTES.

AMONG recent foreign publications we note the following:

BAILLIÈRE, TINDALL, & COX, London.—G., C., and A. Cresswell, "The Veterinary Pharmacopœia, Materia Medica, and Therapeutics." —E. Courtenay, "The Practice of Veterinary Medicine and Surgery."

C. GRIFFIN & Co., London.—A. H. Sexton, "Outlines of Quantitative Analysis."

NEW SYDENHAM SOCIETY, London.—A. Hirsch, "Hand-book of Geographical and Historical Pathology." Vol. iii. Transl. by C. Creighton.

F. ALCAN, Paris.—Binet et C. Ferré, "Le magnétisme animal." —E. Demange, "Étude clinique et anatomo-pathologique sur la vieillesse." (4fr.)

ASSELIN ET HOUZEAU, Paris.—Lamelongue et C. Achard, "Traité des kystes congénitaux." (18fr.) —P. Pottier, "Étude sur les aliénés persécuteurs." (3fr. 50.)

J. B. BAILLIÈRE ET FILS, Paris.—Jaccoud, "Nouveau dictionnaire de médecine et de chirurgie pratiques." Vol. xl, completing the work. (10fr.) —P. Cazeneuve, "La coloration des vins." (3fr. 50.) —D. Cauvet, "Nouveaux éléments de matière médicale." (12fr.) —R. Jamin, "Des fistules juxta-urétrales du méat."

BARLATIER ET FEISSART, Marseilles.—Sirus-Pirondi, "Considérations sommaires tendant à faciliter la révision du régime quarantenaire."

O. BERTHIER, Paris.—A. Peyer, "Atlas de microscopie clinique." Trans. by E. de La Harpe.

BUREAUX DU "PROGRES MÉDICAL," Paris.—J. M. Charcot, "Leçons sur les maladies du système nerveux." Vol. iii, part 2. (9fr.)

A. DELAHAYE ET E. LECROSNIER, Paris.—L. Polo, "De la perforation de la membrane du tympan et d'un nouveau mode de traitement." —Gilles de la Tourette, "Études cliniques et physiologiques sur la marche."

O. DOIX, Paris.—Corre et Lejanne, "Matière médicale et toxicologique coloniale." (3fr. 50.) —A. Filleau et L. Petit, "Bulletin du laboratoire de recherches expérimentales et cliniques sur le traitement de la phthisie pulmonaire." (2fr.) —Dujardin-Beaumetz, "L'hygiène alimentaire." (6fr.) —Vulpian, "Maladies du système nerveux." Vol. ii. (16fr.)

G. MASSON, Paris.—J. Marsoo, "Salies-de-Béarn et ses eaux chlorurées," etc.

J. F. BERGMANN, Wiesbaden.—L. Mauthner, "Die ursächlichen Momente der Augenmuskellähmungen. Die nicht nuclearen Lähmungen." (2M.)

W. ENGELMANN, Leipsic.—E. Rindfleisch, "Lehrbuch d. pathologischen Gewebelehre mit Einschluss d. pathologischen Anatomie." 6th ed. (16M.)

A. FELIX, Leipsic.—G. Berthold, "Studien über Protoplasmamechanik." (14M.)

W. FRICK, Vienna.—C. Kreuz, "Pharmacognosie f. d. Erstunterricht mit Berücksichtigung d. österreich. Pharmacopœe u. d. zugeh. Commentars." (4M.)

S. HIRZEL, Leipsic.—W. His, "Zur Geschichte d. menschlichen Rückenmarkes u. d. Nervenwurzeln." (2M.)

W. KOHLHAMMER, Stuttgart.—E. Dobel, "Canalisation. Anlage und Bau städtischer Abzugscanale und Hausentwässerungen." (1M. 80.)

LEFSCHNER & LUBENSKY, Gratz.—J. Herzog, "Der acute und chronische Nasencatarrh mit besonderer Berücksichtigung d. nervösen Schnupfens (Rhinitis Vasomotoria)," 2d ed. (1M. 50.)

G. REIMER, Berlin.—F. von Recklinghausen, "Untersuchungen über die Spina Bifida." (3M.)

J. ROTH, Munich.—H. Seeliger, "Ueber d. Einfluss dioptrischer Fehler des Auges auf das Resultat astronomischer Messungen." (1M. 20.)

SCHROTER & MEYER, Stuttgart.—C. Custer, "Öffentliche und private Gesundheitspflege in populären Vorträgen und Aufsätzen." (4M.)

TOEPLITZ & DEITZKE, Vienna.—A. Reibmayr, "Die Massage u. ihre Verwerthung in d. verschiedenen Disciplinen d. praktischen Medicin." 2d ed. (3M.)

F. C. W. VOGEL, Leipsic.—Von Pettenkofer u. von Ziemssen, "Handbuch der Hygiene u. d. Gewerkekrankheiten," 1st part, 2d division, 2d fasciculus. (6M.)

WAGNER, Innsbruck.—"Berichte des naturwissenschaftlich-medizinischen Vereins in Innsbruck," 1884-'86. (1M. 80.)

BOOKS AND PAMPHLETS RECEIVED.

An Epitome of the Newer Materia Medica, Standard Medicinal Products, and Fine Pharmaceutical Specialties, introduced and manufactured by Parke, Davis, & Company, to which is added a Complete Property and Dose List of all Fluid, Solid, and Powdered Extracts, Gums, Tinctures, Normal Liquids, and Concentrations prepared by them, together with a Complete Formula List of their Sugar- and Gelatin-coated Pills. Designed for the Special Convenience of the Busy Practitioner. Fourth Edition, revised and enlarged. Detroit: Parke, Davis, & Company, 1886. Pp. 76.

Ueber die Indicationen chirurgischer Eingriffe bei internen Krank-

heiten. Von Dr. M. Heitler, Docent ander k. k. Universität in Wien. [Separat Abdruck aus dem "Centralblatt für die gesammte Therapie."]

Report of the Chairman of the Section on Medical Jurisprudence. By J. D. Roberts, M. D., Goldsborough, N. C. [Reprinted from the "North Carolina Medical Journal."]

Insanity in the Colored Race. By J. D. Roberts, M. D., Superintendent of the Eastern Lunatic Asylum. [Reprinted from the "North Carolina Medical Journal."]

Hand-book of Practical Medicine. By Dr. Hermann Eichhorst, Professor of Special Pathology and Therapeutics and Director of the University Medical Clinic in Zurich. Volume IV, Diseases of the Blood and Nutrition, and Infectious Diseases. Seventy-four Wood Engravings. New York: William Wood & Company, 1886. Pp. vi-407. [Wood's Library of Standard Medical Authors.]

On Diseases of the Lungs and Pleuræ, including Consumption. By R. Douglas Powell, M. D. Lond., Fellow of the Royal College of Physicians, etc. Third Edition, rewritten and enlarged, with Illustrations. New York: William Wood & Company, 1886. Pp. xii-347. [Wood's Library of Standard Medical Authors.]

Reports on the Progress of Medicine.

CUTANEOUS AND VENEREAL DISEASES.

By GEORGE THOMAS JACKSON, M.D.

Resorcin in Eczema.—Dr. Chace ("Therapeutic Gaz.," Nov. 15, 1886) reports prompt and complete cures of eight cases of chronic eczema from the use of the following:

R. Resorcin..... 3 ij;
Glycerin..... q. s. ad 3 ij.

Sig.: Apply with camel's-hair pencil morning and evening.

Ichthyol in Lipoma.—Dr. Schmidt (*ibid.*) reports the transformation of a lipoma into an abscess by rubbing a 50-per-cent. solution of ammonio-sulphate of ichthyol into the tumor. The abscess was treated on ordinary surgical principles, and readily healed.

The Dietetic Treatment of Eczema.—Professor Schweninger ("Charité-Annalen," xi; "Mntshft. f. prakt. Dermat.," Nov., 1886, p. 521) believes in dieting eczematous patients, but not after any hard-and-fast general dietary laws. Each patient must be treated according to his case, and at first be put upon as simple a diet as possible. When this basis is reached, the patient's taste is to be consulted and his diet made more varied, care being taken to avoid anything that is known to disagree with him. Sometimes it is advisable to have a patient increase the number of meals in a day, while decreasing the quantity of each one. Some patients do best on solid food alone, leaving out tea, coffee, and the like. Sometimes the best results are obtained by having the patient eat of only one sort of food at a meal—whatever he fancies. In many cases of chronic eczema a liberal supply of water, or rather of fluid, is useful, and this not taken at once, but often in small quantities. Up to three quarts of fluid may be taken in this way. The addition of salt to the dietary is also useful.

Ætiology of Alopecia Areata.—Upon the vexed question of the ætiology of alopecia areata Dr. Max Joseph has endeavored to throw light by means of experiments ("Monatsht. f. prakt. Dermat.," Nov., 1886, p. 483). He believes that the disease is caused by a disturbance of the nutrition of the affected part through the influence of the trophic nerves. He has uniformly produced in the cat appearances similar to those seen in alopecia areata in man after extirpating the spinal ganglion on the second cervical nerve. The phenomena of the hair-fall occurred in from five to twelve days after the operation.

Treatment of the Tineas.—Dr. Morrow ("Jour. of Cut. and Ven. Dis.," Nov., 1886, p. 321) has had most success in treating both favus and ring-worm by epilation, followed by an ointment of chrysarobin ten per cent., and salicylic acid five per cent. His preference is for these drugs, either singly or in combination, in collodion or traumaticin. In parasitic sycosis he epilates and applies an ointment of iodide of sulphur, thirty or forty grains to the ounce.

Importance of the Use of the Absolute Galvanometer in the Destruction of Superfluous Hair by Electrolysis.—Dr. Prince, in a valuable contribution to the "Bost. Med. and Surg. Jour." of November 4, 1886, says that the production of scars, however small, in the operation for the removal of superfluous hairs by electrolysis, is due not so much to individual peculiarities of skin as to the use of currents of too great strength. He draws attention to the great variability in strength of currents from the same number of cells, and this not only in different batteries, but in the same battery under varying conditions. Therefore the usual direction to use a certain number of cells in the operation is not definite enough. Nor is it proper to judge of the sufficiency of the current by the occurrence of effervescence about the needle, since this may not show itself in some cases, and, further, the hair can be destroyed without the chemical action going so far. A current of one milliampère passing from two to three seconds is the best. The current should never exceed two milliampères. If the hair is not destroyed in that time it is because the needle has not been accurately introduced. A sponge electrode should not be used, as the water is soon squeezed out of it; and the positive electrode should not be held in the palm, on account of the resistance of the thickened skin, and the unevenness with which the patient presses. To obviate these defects a large electrode, covered either with chamois-skin or a thin layer of absorbent cotton, should be fastened to the forearm.

Treatment of Chronic Ulcers.—Dr. A. S. Reynolds recommends ("Med. News," Oct. 9, 1886, p. 393) the subiodide of bismuth as a dressing for ulcers. He has found that "it controls inflammation, allays irritation, suppresses suppuration, promotes granulation, and induces cicatrization." It is bland and unirritating, and may be used on any surface. He regards it as almost a specific for acute and chronic ulcers. Its action is assisted by the removal of pathological elements which would retard or impair healthy tissue formation. Before using it he supports the varicose veins in a varicose ulcer; destroys the new growth in a lupoid or epitheliomatous ulcer; applies chloral to an irritable ulcer, and a five-per-cent. salicylic-acid powder to a readily bleeding ulcer; resolves exuberant granulations with bromide of potassium; cuts down callous edges with salicylic acid or the knife, and stimulates atonic syphilitic ulcers with nascent iodide of mercury. In the majority of cases the subiodide of bismuth alone will be sufficient.

In applying the dressing, the surface of the ulcer is first to be washed and thoroughly cleansed, disinfected, and then dried. The powder is dusted over all, either alone or in combination with any other powder, such as calomel, salicylic acid, or bromide of potassium. The limb is then strapped with adhesive plaster for an inch above and below the swollen or inflamed part. Over all a firm bandage is applied. The dressing is changed in from one to four days. When the ulcer looks healthy, dress the granulations with the subiodide, protect with a Maltese cross or perforated square of plaster, cover with a thin layer of absorbent cotton, and again apply the bandage.

Lichen Ruber.—Dr. Boeck, of Christiania, has found ("Monatsht. f. prakt. Derm.," Oct., 1886, p. 435) lichen ruber to be much less frequent in Norway than it is in Germany. He has only seen seven cases in eleven years. As met with by him, lichen planus was most frequent, though he has had two cases in which the acuminate form of lichen ruber occurred in combination with the flat form. He believes that lichen ruber planus and lichen ruber acuminatus are but forms of the same disease.

The umbilication of the papule in lichen ruber planus may arise, according to our author, in one of several ways. In some cases in which the cutis and especially the papillæ are more than usually infiltrated with cells, some three or four of the papillæ in the middle of the papule become flattened out by swelling and expanding; the layer of epidermis over them is likewise stretched in a horizontal direction, becomes thinner, and hence sinks below the level of the surrounding skin. Besides this mode of umbilication, in some cases disturbed nutrition may give rise to diminution of the thickness of the epidermis and its sinking in; but this is always combined with a stretching of the epidermis in a horizontal direction. While the epidermis becomes thinner, the cornuous layer is always much thicker than that of the surrounding parts, which is probably due to excessive nutrition of the epidermis at the beginning of the process. In the middle of one papule examined there was found a

pair of greatly hypertrophied interpapillary projections running deep down between the papillæ. Here it was thought that a consecutive cornification and throwing off of the cornified products could give rise to the formation of the umbilication.

Impetigo Contagiosa.—Dr. Beall, of Fort Worth, Texas, contributes a valuable paper upon this somewhat vexed subject to the August number of "Daniel's Medical Journal." The paper is founded upon his own observations, made during two epidemics of the disease. In the main his description of the malady accords with that found in most text-books. He found that an incubation fever was often wanting. If present, it generally lasted two or three days before the vesicles formed; then some six or eight days would elapse before the fall of the crusts following the vesicle formation and desiccation. He met with one case in which the maculation, which always is left by the fall of the crust, lasted three months. When the lesions occurred on the chin or face, the disease was more protracted than when they appeared elsewhere. He believes that the disease is dependent upon a peculiar micro-organism, and is not connected with vaccinia in any way.

Microscopical examination of a crust stained with eosin showed an abundance of epithelium and fibrous tissue, oil globules and crystals of margaric acid, and, scattered throughout, numerous minute round and oval bodies, which, he considers, are the micro-organisms directly causing the disease. In white light these organisms are colorless, highly refractive, spheroidal and ovoidal in shape, $\frac{1}{1000}$ to $\frac{1}{500}$ of an inch in diameter, and disseminated singly or in pairs. Beall believes that the disease penetrates the epidermis and papillary layer of the skin, and involves to a limited extent the superficial layer of the corium. He has found the identical organisms in the fluid from a matured vesicle. The treatment recommended is an occasional warm bath, and the use of an ointment containing sulphur and ammoniate of mercury.

Gonococci.—The manner in which gonococci give rise to specific urethritis is thus given by Dr. Bockhart ("Monatshft. f. prakt. Dermat.," Oct., 1886, p. 449): By the infecting contact the gonococci land upon the pavement epithelium of the fossa navicularis, where they thrive and increase. They then rapidly press downward between the epithelial cells toward the papillæ of the mucous membrane, loosening the epithelial layer on their way through it, destroying some of its cells, and causing many of them to be shed, thus producing little apertures. Within eighteen hours at most the gonococci reach the papillary portion of the mucous membrane. During this process the secretion from the urethra is clear, and contains epithelium and a few gonococci, either isolated or seated upon an epithelial cell. But now the gonococci, by their presence upon the papillary portion of the mucous membrane, induce a reaction on the part of the blood-vessels; white blood-corpuscles escape from them, in which the gonococci increase and form little round heaps. The urethral discharge is now sero-purulent, and consists of pus cells, epithelium, and gonococci. Now the gonococci enter the lymph spaces of the mucous membrane, and press into its deeper layers, increasing rapidly. With this there is a great increase in pus cells, and the discharge is composed chiefly of them, the gonococci being few and only in the pus cells in the form of heaps. The constitution of the mucous membrane is slowly very much altered by the migration of the pus cells. These take up more and more of the gonococci, and carry them out in the secretion, which then consists only of pus cells with heaps of gonococci, the loss of epithelium having ceased.

In the light of these observations, Bockhart does not believe in abortive treatment, as at the time the patient presents himself the infection has gone too far.

issued by Professor E. Albanese, president of the Sanitary Council of Palermo. Notwithstanding the amount of space it takes up in our columns, its importance seems to be such that we have concluded to publish it entire.]

Typhoid and scarlet fevers, diphtheria, small-pox, cholera, etc., seem now to have made their abode in Italy. The country remains unprovided with sanitary laws, and the Government, lacking ætiological and hygienic knowledge, makes provision only when any disease appears, and nearly always in consonance with the impression of the moment, issuing confusing or conflicting decrees and unseasonable instructions, which are nearly always useless. Thus the cholera has its sway, spreading here and there and often making great havoc. Cities are terror-stricken and force the Government to impose quarantines and improvise cordons, and occasionally give way to deplorable excesses, discouragement, etc., often fatal in their consequences. The sanitary authorities of the kingdom, the Superior Sanitary Council, communal and provincial sanitary councils, the Minister of the Interior, prefects, and mayors frequently provide contradictory measures, issuing regulations of no efficacy in preventing the spread of infectious diseases. It is useless to relate the detrimental effect of this practice. Many of the regulations are carried out by force, but, worst of all, by foolish busy-bodies* or by charlatans, to whom the ministry, through lack of understanding and through dangerous condescension, intrusts the study or examination of such and such an epidemic, to the discredit of the science of Italy; and the same may be said respecting the inexact reports, written carelessly by a person whose duty it was to ascertain the facts and things, especially when it was a matter of historical and statistical inquiry.† And so much for cholera.

As to diphtheria, scarlet and typhoid fevers, small-pox, and other infectious and contagious diseases, it is saying a great deal if a few hospitals have established separate infirmaries, and if a few individuals, foreseeing the coming evil, are thinking for themselves and providing as best they can for the disinfection of their houses. The misguided country actually cherishes the hope that the disease which is now prevailing will shortly leave us, or will end by becoming acclimatized, and thus lose its present severity. But one may hope in vain. The cholera will not abate so quickly; many Italian cities will still have to lament for their neglect; and most probably diphtheria, typhoid and scarlet fevers, etc., will never leave us if we do not provide against them earnestly and intelligently. It is true that we are accustomed in Italy to the fatal consequences of typhoid and scarlet fevers, and diphtheria, which interruptedly assume an epidemic character. But I fear we can never become accustomed to cholera; the fact is, the results will be always very serious, and it is therefore necessary to provide against them with care. History shows us that, whenever cholera has appeared in Europe, it has always remained for several years together; in Prussia, an epidemic raged during twelve years, viz., from 1848 to 1860. But, once the present epidemic has been stamped out, who will assure us that there will not be shortly another importation thereof from India? Within half a century—i. e., from 1835 to 1884—Italy has been invaded six times by the cholera, and on each occasion it lasted three or four years. Now that commerce has increased, and has rendered communication by sea easier and shorter, it is to be presumed that visits of a similar nature will be more frequent. One should not therefore cherish vain hopes, nor be satisfied by recurring to more or less uncertain expedients; one must seriously think for the future, and protect public health with good laws and efficient regulations.

Shall we still rely upon quarantines, and upon them alone? Putting aside the necessity of commerce, at the present time, the traveling of people to and fro is so continual, rapid, imperative, and important that it is quite impossible to arrest it by means of cordons and lazarettos. It is true that quarantines would be useful on the Isthmus of Suez;

Miscellany.

Cholera, and the Duties of Governments and Countries during Epidemics.—[Our consul at Palermo, Mr. Philip Carroll, has transmitted to the State Department the following translation of a pamphlet

* See L. Brunetti's "Report to the Minister of the Interior" upon the cholera in Sicily during 1885.

† Professor Pagliani, "Report upon Researches as to the Manner in which the Cholera Epidemic was introduced into Palermo, and its Spread in the Year 1885," addressed to the Minister of the Interior and published in an appendix to the official report on the cholera in Italy in 1884-'85, by G. B. Morana, M. P., Secretary General of the Ministry of the Interior.

this I affirm, and I desire our Government should insist upon such a guarantee. But events have thus far shown that they have been insufficient on the Red Sea, either because the guard was not vigilant enough, or because there was reason to elude it, which is frequently done by force. The fact is, the whole of Europe, which is interested in preventing the introduction of cholera, failed in its attempt to guard Suez. Europe would not be totally secure, even if quarantines were to be maintained at Suez and if the "Maritime Sanitary Council" were to be re-established. We might be secure from the sea, but how could we guard against the approach by land? One must not forget that cholera travels also by land, that it was in this manner that it first reached Europe, and that by following the same route it returned in 1869 and 1870.

We then had occasion to see how the famous cordons worked, and how the trial made in Alexandria in 1883, and on the Italian frontier in 1884, not only proved insufficient, but dangerous on account of the facility of contamination thereby, for which reason they became the centers of the disease. It appears to me, without being other than a simple localist, and believing that the doctrine of the contagionists, in its present state, is worthy of the greatest consideration, that to place one's whole trust in quarantine is a mistaken system of defense. If one could have all the money back which has been thrown away on quarantines and cordons, as well as compensation for the losses sustained by commerce in consequence of the damages caused by these measures, there would certainly be sufficient capital at hand for hygienic purification; if, therefore, the money and time which have been wasted had been employed in purifying certain towns, certainly the cholera or any other infectious disease would either have disappeared or would no longer cause the violent destruction of life which we still lament in so many places.

At present there are but few who believe in quarantines, and fewer still who trust in cordons. There has even been a rupture in the "Sanitary Maritime Council" in Egypt,* and it will be difficult to remedy it, because it is brought about by the economical and military interests of certain nations, and because it is based upon a diversity of opinion existing in high medical spheres, both civil and military, in England, as to the manner in which cholera is developed. And this want of trust will be still more marked and will end by convincing the greater part of the world, which trusts in quarantines, etc., when the new theory of microbes is universally accepted. All hygienists admit that infectious diseases are due to microscopic living beings, which belong to the class of *schizomycetes*, and are named, according to their forms, micrococci, bacilli, bacteria, vibriones, and spirilla. If these infinitely small beings penetrate, even in small numbers, an individual who is predisposed to contamination, or if they fall on a fertile field for their cultivation, they rapidly increase and produce an epidemic.

Now, when every one understands and appreciates the gravity of the fact that 30,000 millions of these creatures hardly weigh a milligramme when dry, then the movers of quarantines and those who at the first alarm of cholera begin to vociferate as loudly as they can, will, I am certain, recognize the uselessness of quarantines, or at least they will no longer feel secure when a quarantine has been established. There would be no more custom-houses if a decimetre of contraband stuff, after entering a place, were to suddenly become millions of metres, and there would be no more excise duty if a single lamb, after being secretly entered in a town, were to suddenly become a numerous flock. For the same reason there will be no more quarantines, or at least their efficacy will be doubted, when it is in the power of every one to comprehend the serious destruction which a thousandth part of a milligramme of microscopic beings can cause, and when everybody understands that these invisible beings can be preserved in given conditions of life and activity for a very long period, and can penetrate the strongest barrier, whether attached to part of a garment, or existing in a rag, or in a little water, or in any object whatever.

With regard to the cholera, for which Europe continues to talk of

quarantines, and with which Italy especially is preoccupied, there are two theories as to the mode of its propagation—viz., the localist and the contagionist theories. The theory of spontaneous development, which was last supported by Gruérin, at the Academy of Medicine of Paris in 1884, has been completely annihilated. Localists and contagionists admit the parasitic nature of cholera, and agree in the belief that the evil originates in India, and that it is carried by human beings and commerce; but the two theories differ widely as to the manner in which an epidemic is developed. Von Pettenkofer and Cunningham, who are the exponents of the localist theory, believe that cholera becomes an epidemic according to special circumstances, places, and seasons, and they hold that the infectious agent is derived from places abounding with cholera, and not from the person attacked by cholera, so that the cholera germ (these are von Pettenkofer's words*), "adhering to articles of commerce in an unknown form, to be determined by bacteriologists, develops itself when it finds a fertile field, and becomes a new cholera-disseminating focus, which gives rise to epidemics, or a sterile field, when the introduction of the germ has no effect." The contagionists, in whose ranks stand Fauvel, Brouardel, Koch, Proust, and nearly all the great physicians of France and Italy, believe that the cholera, conveyed by commerce, produces epidemics through the contagion of human beings and contaminated objects, and that everything can convey the disease—the atmosphere, the soil, and especially potable and river water. In my belief, contagionists and localists have both erred; the former in having wasted so much time and labor in trying to demonstrate that quarantines and cordons were the only means of preservation, and the latter in persisting in combating them, and studying nothing but the causal states of localities.

At present the question has taken on a new phase, which will be of great benefit, a current of attraction having manifested itself between the two doctrines as to the necessity of hygienic reform, and both contagionists and localists agreeing upon this essentially vital point. It is useless to enter here into details on the two doctrines; I will, however, keep close to the practical part of the question, in order to show, in as precise a manner as possible, what particularly interests our country, in which the cholera seems specially inclined to settle. I will make no allusion to certain important discussions, being sure that ample light will be thrown upon them, as well as on the facts observed, and on the practical studies just initiated. I believe that, without distinguishing if the microbe, or cholera germ, is precisely the one described by Koch, Emmerich, Pacini, or any one else, it must be considered to be one of those microscopic creatures, capable of reproducing itself in various degrees of activity, either in the interior or on the exterior of organisms, a fact which is demonstrated scientifically and experimentally respecting all pathogenic, infective, and diffusible microbes. This germ, if I may be allowed the comparison, has the quality of amphibious creatures, and will produce an epidemic if it can find the conditions necessary to its development in a non-hygienic center, or limit itself to single sporadic cases, when it only attacks single individuals who are predisposed to receive it, but who dwell in a comparatively healthy center. The condition of individuals such as those subjected to impure water and unwholesome nutrition, or a disease such as diarrhoea, etc., is favorable to the development of cholera. Other favorable conditions may be found according to circumstances of time and place, as explained by von Pettenkofer and other localists, and, at given periods, in any other circumstance favorable to the propagation of infective pathogenic microbes, due to hygienic conditions of a particular place, and especially to the condition of houses in which the poor congregate and lead a miserable life; also to the nature of potable water, and the manner in which it is conveyed; to river water, if it runs slowly, and if the inhabitants employ it for domestic use; to the state of wells if they are sunk in porous soil, and if the level of the water is near a stratum of subsoil impregnated with organic matter; and to all other circumstances which are recognized to be injurious to life in general—besides which, the crowding of miserable individuals in filthy localities, and under certain influences, vitiated by unhealthy places, and the habits of large towns, constitute in themselves a most dangerous center for the

* See "The Cholera in Egypt in 1883: its Origin and Hygienic and Quarantine Measures," by Dr. S. V. De Castro, Milan, Vallardi, 1884; and Professor Fauvel's report to the Academy of Medicine of Paris, "Bulletin de l'Académie de médecine," séance du 24 juillet, 1883.

* "The Cholera," by Max von Pettenkofer. The author's preface to the Italian translation, by U. Mosso, Turin, Loescher, 1885.

development and propagation of any infective disease, and especially of cholera. This is what I call a fertile and prepared field for the development of infective diseases. And I could bring to bear upon the subject thousands of facts, collected by myself and colleagues with the greatest care,* during the epidemic which raged in Palermo and the bordering districts in 1885; but I stated that I should not enter into details here, and will refer the reader to my report on that epidemic, which is being printed.

All this which I admit respecting epidemics makes me at the same time both a localist and a contagionist, as I admit and hold as demonstrated regarding epidemics that which has been demonstrated on the artificial cultivation of pathogenic infective microbes. Virchow observed, in speaking about the "morva" and hay bacilli, that in different periods and circumstances these bacilli possessed different degrees of virulence. Héricourt and other experimental hygienists † have demonstrated the influence which surroundings exercise on the cultivation and propagation of the various microbes. In fact, every one knows that certain given influences change the conditions of life and activity, even among human beings of the most elevated classes.

In the artificial cultivation of microbes, by varying the intensity of the light, the degree of heat, the degree of humidity, the quantity of oxygen and other chemical agents, and subjecting the microbes to the influence of the same for a longer or shorter period, and by placing them in special broths and gelatins prepared for their cultivation, one obtains visible variations in the degree of activity of the germs under consideration, so that their virulent properties may be modified and even neutralized, as Pasteur and others have demonstrated with respect to cholera in fowls, anthrax, and the "rouget" of swine.

In the present state of science, I am justified in considering my way of looking at and explaining the development of epidemics, which might seem an hypothesis, to be the true way. Héricourt says that it serves very well for the exact interpretation of facts, and that it would be acceptable, even if it were an hypothesis, as it does not go beyond the deductions which one can properly draw from facts established by experiments and from observations made on the causes of the weakening and revival of viruses—i. e., of pathogenic infective microbes.

Experience teaches us that epidemics cause greater destruction of life where hygiene is neglected, and that those places which have been visited by infective diseases, and especially by cholera, once purified by means of proper laws and sanitary regulations, have escaped the recent invasions of cholera. Thus, in Italy, the last invasion of cholera has by preference struck the most neglected spots, and will certainly continue to make havoc where nothing was done, or where that which was done was performed imperfectly, and regardless of common sense.

One must speak the truth, whatever it may be; during the last twenty-six years, in which Italy has been free, the Government has

* During the epidemic of 1885 in Palermo, the "Extraordinary Municipal Sanitary Commission," of which I was the president, appointed, among its members, a sub-commission composed of Dr. Sebastiano Reyes, Professor Giuseppe Coppola, and Professor Vincenzo Cervello, to collect all the information relative to that epidemic, and to ascertain the historic facts as to its propagation, with such documents and testimony as could be obtained. This commission at once issued a list of questions to all the physicians practicing in the place, and placed itself in communication with the local authorities. It was ascertained: 1. That cholera was imported into Palermo in 1885, and in the month of August, by the steamer Solunto, which came from Marseilles, and which had on board a slight case of cholera that was not declared during the quarantine undergone in the Gulf of Asinara. 2. That it was verified that the Solunto was the cause of two original centers of contamination. One was in Vicolo Cannata, at the Borgo, where the soiled linen of the crew of the said vessel was washed, in consequence of which the first to be seized by the disease was the wife of a certain Ferri, on the 26th of August; and the other was in Vicolo Santa Cecilia near Piazza della Rivoluzione in the Tribunale quarter, where the linen of the firemen of the same vessel was washed, and, not having been returned, was discovered when it had been already washed and hidden by a woman, whose cousin, Giuseppe Spataro, was attacked by the cholera on the 5th of September, and died on the morning of the 9th. 3. That the epidemic spread principally in Vicoli Cannata e Gilberto, at the Borgo, from family to family through contagion, and elsewhere, on account of the persons who fled from the said places, or through linen which was carried away from the Vicoli and washed elsewhere.

† M. J. Héricourt, "Influence des milieux sur les microbes." "Revue scientifique," No. 17, October 24, 1885.

never occupied itself with public health. In certain towns there has been praiseworthy action, due either to individuals or to unknown majorities, but the country in general, as well as its government, has been unable to think for itself. In many towns, and I will cite my native town, Palermo, everything was erroneous; instead of purifying the towns, public promenades, gardens, theatres, of which one, the "Massina," is still incomplete, useless public markets were made or erected. This was a great mistake to the detriment of public health. Hygienic regulations were also erroneous, and the duty of keeping the towns clean was intrusted to persons totally ignorant of the elements of hygiene, who, instead of promoting the public welfare, were the cause of public nuisances; so that, when it was found necessary to suspend the noxious system employed, which caused public discontent to such a degree that open and serious demonstrations ensued, everything was abandoned, and, excepting the cleansing of the main street, matters were left to follow their own course.

After twenty-five years of existence, the famous *fondaci** of Naples were discovered through the benevolence of the King, and in Latium, after twenty-six years, two ministers and a secretary-general discovered the famous *ortali*. And in order to discover these shameful things, great public calamities, the presence of a King, and the humane visit of certain ministers, were necessary.

The *fondaci* of Naples exist in Palermo under the name of *catodii*, in which a hundred thousand half-naked and starving inhabitants live in worse conditions than animals. The *ortali* of Latium are the dung-heaps of nearly all the houses of the smaller districts of the center of Italy. In Sicily, Napoletano, Puglie, Abruzzo, etc., animals dwell in the same rooms with the people who own them; the people live with their donkeys, cattle, poultry, swine, etc. In many places the refuse and excreta of both man and beast are allowed to accumulate in the streets near the houses; chamber-pots are emptied from the windows into the streets, and the person and linen are washed in river-water or the gutters, or open water-courses, which pass close to the dwellings. Many places lack potable water altogether, or have it conveyed to them in an impure state, so that they easily become contaminated, and organic matter and rain-water, in which linen is washed, find their way in. † Either the houses in Italy do not possess water-closets, or those which do are without traps or hydraulic valves, and I believe, without exaggerating, that one could count the houses which are supplied with water-closets. The closets are generally composed of a hole, which is in direct communication with a cess-pool, or with a most deficient system of drainage. In most districts public hygiene is but an empty name, and the cleansing of many towns is but a municipal luxury, and merely to keep some hundred persons from starving by employing them to sweep the streets, etc. Mayors, prefects, councils, and sanitary commissions allow matters which refer to public health to slumber in peace, and, what is worse, they have allowed, in a town such as Palermo, during the last twenty years, the erection of a new quarter, famous for its pompous name, the *Borgo Nuovo*, without municipal surveillance or hygienic precaution. Whoever visits that miserable slum is disgusted and goes away quite horrified. Houses are run up there without the slightest symmetry; the streets—where for the most part slops and refuse are cast—are made without conduits to carry off the rain-water, etc., and the inhabitants are huddled together with their animals. Potable water is wanting there, and organic matter and putrefaction penetrate into the wells which supply drinking-water to the people. Not only are the houses without light and ventilation, but the streets are real labyrinths through which it is difficult to pass, on account of the accumulation of

* The *fondaco* is that pestilential conglomeration of huts made of mud, without air and with little light, in which one fifth of the Neapolitans take shelter at night. The *ortali* of Latium is a heap of refuse and dung accumulated and kept in bedrooms. The *catodio* of Palermo is a miserable hovel, made of mud, often without any sort of pavement, without windows, with barely any light, and in which the atmosphere can not be renewed, in which numerous half-naked and starving families dwell.

† When it rains for two or three consecutive days in Palermo, the potable water reaches every house in a muddy state, on account of the defective system of conveyance, which is so badly organized that some sources which are open are used by washerwomen for the cleaning of linen, etc.

filth. It is needless to say that, when an infectious disease visits such a slum, it generally remains there for years, and that typhus and diphtheria never leave it. As might have been foreseen, the cholera committed immense destruction in this place during the last epidemic. The municipality is now thinking of reforming it, but there are no laws for that purpose. Who ever occupied himself with this subject? Who ever thought that about one third of the population of Italy lived in miserable hovels? A newspaper has occasionally spoken on the subject, some philanthropists have revealed a part of these miseries, but they were allowed to talk, and things were left in the miserable condition in which they were found. When the scourge rages and cuts off thousands of lives, then it is that one sees a patriotic advance of charity. The King, ministers, ecclesiastics, and subjects of all parties and parts of Italy make a rush; every one then talks of the common woe, and enormous sums are scattered to assist the afflicted, for whom the riches of Cræsus and Solomon would not be sufficient. The King and the country sympathized when Naples suffered, and, instead of advantage being taken of the misery revealed by the calamity suffered by Naples, a great sensation was created, but it subsided upon the vote of a law to open and reform the drains! Why was so much pity bestowed upon Naples alone? Are there not many other places in Italy in the same condition? Why make a special law for one place and not a hygienic law to improve the sanitary condition of all Italy? It was thought that to extend some of the articles of the special law for Naples to certain other towns when they asked for them would be sufficient for the general requirement. We require a general law, and, having to make a law, we make a special one, without established principles, without precise understanding, and we issue this law to purify one single town! In consequence of this law we shall have no good, but evil, as this is not a law which can or can be expected to purify the whole of Italy, since it will probably not even purify Naples completely. It will certainly beautify and cleanse Naples, and will create a painful precedent. But I doubt if the enlargement of streets and the building of new houses, without due attention being paid to the hygienic portion, will suffice to improve the sanitary condition of the place. In order to improve the health of a place, laws are required to provide for general as well as private hygiene—a law which constantly inspects the interior of private houses, a law which controls schools, hospitals, public buildings, workshops, mines, etc. In order to improve the health of a place and to maintain it in a proper condition, a well-regulated and organized service is also required, and such sanitary commissions as can cause these laws to be executed and can compel every one to obey the same, whether administrators or directors of public buildings, institutions, or factories, etc., or private individuals.

The law which I would like to see quickly promulgated in Italy exists in England, and was published in 1875 (Public Health, 38 and 39 Vict., 1875), and has been in force throughout the great United Kingdom during the last ten years or more. Since that time England has been free from cholera epidemics, notwithstanding her continual communication with India and with the whole of Europe, without the difficulty of any such things as quarantines; and typhus fever, scarlatina, and other infective fevers do not exist any more in the form of an epidemic. I believe that the desire for a similar law will shortly become general, and, if the present outbreak of cholera, with all its destruction, brings us this benefit, it will be so much gained. I trust that the Government and the representative of the nation, at the opening of Parliament, animated by the hygienic requirements of the country, will occupy themselves with solving this most important question, which has now become the subject of general feeling.

The late Dr. A. Bertani, an illustrious patriot, had prepared a hygienic code, and it is urgent that this projected law should be published soon, so that competent persons may study and discuss it. The lives of thousands of subjects and the reputation of Italy are at stake. But I repeat, if the hygienic law aims at the improvement of the country, in order to drive epidemics away, it is necessary that the houses should be seen to first of all, without which no general law will be of use. One must above all bestow attention and labor upon houses. And, in conclusion, I will cite an instance which localists and contagionists often refer to, which strengthens their doctrine. At Fort William, in Calcutta, cholera reigned every year in the form of an epidemic, and cut

off thousands of soldiers who were garrisoned there. This fort was a regular cholera center, and, as it is situated in a cholera territory, the hope of ridding the place of the disease referred to was almost abandoned. At present, however, that fort, which is still in the same place—viz., in the center of Calcutta, which is annually visited by cholera—has become quite free from the attacks of the disease. Localists say that this is due to the fact that the barracks were rebuilt according to hygienic laws and principles, and that the subsoil was rendered healthy by means of proper drainage. Contagionists, however, believe that it is due to the sinking of new wells, which supply pure and filtered water. I believe this result was obtained by all that was done for sanitary improvement. And I only hope that in Italy every house and place may become a rock of health such as the famous fort of Calcutta.

The new law on hygiene and epidemics, of which the country stands in such need, no matter how much it may be desired or how quickly it may be put in force, can not upon its decree purify the whole country as if by magic. Several years are necessary before it can produce beneficial results. We have now had cholera in our country for three years, and we have seen what the sanitary law of 1865 provides;* we therefore feel the need of wise sanitary regulations, in order to arrest or avert the great danger which ruins our country. Such regulations, as well as the new sanitary law, should be based upon recent progress in science, so that, while they inculcated sanitary service, imparted some knowledge, and rendered epidemics less destructive to human life, they might also serve to facilitate the execution of the hygienic law. The urgency of such regulations is indisputable, and it ought not to be necessary for me to demonstrate the extreme necessity thereof.

The sanitary service of the kingdom is based upon the law referred to, divided into two categories—external and internal services—supreme authority being vested in the Minister of the Interior, who directly provides for the protection of health by means of maritime sanitary laws, and indirectly for the internal sanitary service through prefects and mayors. The sanitary service for ports and shores for arrivals from the sea is regulated by international convention, which for the most part has ceased to be in force on account of the disputes in the International Quarantine Commissions of Egypt and Constantinople, to which the sole line of defense against the approach of cholera from India was intrusted. The sanitary service of the ports is really intrusted to harbor-masters, who are assisted by a few doctors and guards. The service is generally limited to the issuing of bills of health and to admission to free pratique of vessels arriving. When a vessel comes from an infected or suspicious place, or declares disease on board of a suspicious character, then begin the duties of the port doctor, who, furnished with a gold-striped hat, inspects the persons on board. Passengers and crew are called on deck, and placed in straight lines against the bulwarks, and the doctor then examines them from a boat, which stands off at a certain distance. I have assisted at these sanitary inspections, and have also been subjected to them as a passenger on board. There is hardly anything more ridiculous, and on board it is an occasion of general hilarity. The sanitary inspection is methodically repeated at every port, and for vessels in quarantine it serves for the admission to free pratique. Recently mail steamers, which touched at various islands, were obliged to have a doctor on board, but they were poor doctors, chosen by the owners of the steamers; they have no authority whatever, and I therefore believe it to be a perfectly useless expense. I traveled on one occasion with a doctor on board, and I really was not aware of his presence; on another occasion the ship's doctor was one of my pupils, who had taken the matter very seriously, and wished to visit every one and expected the sailors to do their own washing every day. But the captain begged him not to

* The general sanitary law of March 20, 1865, and the regulations for the execution of the same, dated June 8, 1865, and June 22, 1874, do not directly provide for any sanitary system. The protection of public health is intrusted to the Minister of the Interior, prefects, under-prefects, and mayors, and, with regard to epidemic and contagious diseases, Chapter II and part 4 of said law and the 82d and subsequent articles should provide, but, on the contrary, they do nothing of the kind; they simply confuse the authority of the Minister, prefects, and mayors, with certain routine instructions. The country has witnessed how and when they can be of any use during the epidemic which has raged here for the last three years.

worry people, which naturally cooled this young man's enthusiasm, who thought he was simply doing his duty. The *lozzere* for the undergoing of quarantine have been abolished, or at least those existing have been declared unserviceable, and quarantine is undergone on board, in a port or in a roadstead expressly designated by the Minister of the Interior.

It is needless to describe the laws governing quarantines, as the very ancient ones for the pest are not yet officially abolished, and I am not aware of any new ones; such a service is generally intrusted to a retired sea-captain and to sanitary guards who are as zealous as were the historic guards of the Holy Sepulchre. The duration of quarantines for the islands upon arrivals from the Italian continent is not fixed by any international agreement, neither is it established according to any law; it is, however, fixed by the Minister of the Interior, and does not generally satisfy the people. The Government often seconds the requests and occasionally refuses at the risk of disturbing the public order of certain places where it is firmly believed that quarantines are the sole safeguard. For these reasons many really have believed that public health in the islands was safe; but I believe that the cholera would have kept away even without the quarantines. The cholera developed in Palermo last year in spite of quarantines, and was imported by the steamer *Solunto*, which came from Marseilles, after having been subjected to seven days' quarantine in the Gulf of Asinara, and after having visited the ports of Leghorn and Naples in safety. I do not wish to speak of the inconsistency of the Government. This is solely to be attributed to the want of a sound sanitary law, in consequence of which, when quarantines and cordons are in force, fairs and troops are frequently allowed to move from place to place and from infected provinces to healthy places, which gives rise to protests and complaints and causes public order to ferment, especially in those places where the contagionist theory predominates, where it is thought that cholera is approaching with the arrival of every vessel and the landing of passengers.* The internal sanitary service, lacking proper laws and regulations, is regulated by ministerial circulars containing instructions to prefects, who afterward forward them to the mayors. Upon serious occasions sanitary councils take things seriously; they appoint commissions and draw up circumstantial reports, which are printed in order to become solemn testimony of the uselessness of such institutions regarding the protection of public health.† Municipalities protect public health by means of sanitary commissions, which do nothing but consult and assemble, whenever the Mayor thinks fit, and the questions discussed are those chosen by that official. As a general rule, if the interests of some single individual are not involved, the discussions are simply academical and of no practical use. The municipal sanitary service is conducted by the official doctors, who in small communities are subservient to the Mayor or to the party which is in power, and can be dispensed with much quicker than any other employee. They are employed outside of the common law, they have no privilege nor any right to a pension, they live miserably upon most meager salaries, and are also obliged to gratuitously attend to the aged. For some time complaints have been made of the unfortunate condition of these benefactors to public health, but the Government has not yet deemed proper to remedy this enormity. And at the same time the official doctor could and should be the real sanitary officer of the kingdom. He could be the pivot of a hygienic law, as he is

* When this article was being printed the telegraph informed us of serious disturbances which had occurred in Palermo on account of the arrival of several vessels conveying disbanded soldiers to their homes, upon one of which steamers a case of cholera manifested itself while in quarantine. And in the Milan papers a protest appeared from the Mayor, addressed to the Minister, in which he remonstrated at the approaching arrival of a regiment of cavalry from an infected region.

† See reports on cholera by Professors Pantaleo, Randacio, and Argento, approved by the Sanitary Council of Palermo in the extraordinary assembly of the 6th of January, 1886. Palermo, 1886. These reports were drawn up and approved by the Sanitary Council above mentioned, at the request of the prefect of the province, and at the desire expressed by the provincial deputation. It is an important work, which has the fault of not interpreting the will of the Government and of suggesting means and measures which are not in accordance with Government views; hence, like so many other works of a similar kind, it only shows the uselessness of the institution of provincial sanitary councils.

a reliever of human suffering. Many small towns are provided with hospitals founded by the charity of the inhabitants; but the mass of those hospitals are in the worst hygienic condition, are badly administered, do not generally answer to the needs of the people, and are nearly all without separate wards for infectious diseases. The action of the proper authorities of such towns is often null, because the prefects, who should guide them, occupy themselves with political questions, and do not pay the slightest attention to the administration of charitable institutions. Some of the principal towns have lately established regular institutions for the assistance of the poor, and have, besides, erected offices and laboratories for the study of hygiene; but this is exceptional, as in general that which regards public health is in complete chaos, and many towns are without hygienic regulations,* small communities even ignoring the existence and meaning of the word hygiene, so that contagious diseases are never attended to separately, nor are any preventive measures taken against typhus fever, diphtheria, scarlatina, or even small-pox, even if they assume epidemic proportions. The inhabitants are alarmed only on account of the cholera when it arrives suddenly and flares up with vehemence; sanitary services are then organized or improvised, and, as isolating infirmaries do not exist, those attacked by cholera are often admitted into the hospitals which are intended for ordinary diseases, at the great risk of the sick and of the whole city, in which the only place assigned to the ordinary sick is in a moment transformed into an epidemic center. It is of no use to talk about the harm to public health and to the moral and economic management of a community caused by such a system. It often subjects the authorities to great expense, for, being pressed by need and frightened by the impending danger, they try to do in a day that which they never thought of doing at the proper time with a good sanitary organization, by forming services in confusion which require prepared regulations and an educated staff, and squander public funds, thus giving proofs of their incapacity. Then those doctors are called whose learning was not appreciated at the proper time, and whose advice was once despised and had fallen into discredit with the vulgar, and their advice is accepted. Or else they expect a repetition of the multiplication of loaves and fishes, thinking that with a badly organized (which is a badly paid) and an inferior staff, insufficient for the ordinary needs, one can obtain extraordinary, serious, and delicate services which require energy, knowledge, and promptitude. And with all this it is believed that, when needed, the assistance of municipal employees may be of use, when those persons are vitiated by the influence of bureaucracy or demoralized by electoral, political, or administrative conflicts, of which, lately, Italian municipalities have become the agencies, either at the service of a party, or at the orders of a prefect, or for the degrading and nauseating personal solicitation of votes and promises. The present epidemic has demonstrated the serious consequences which this system of remedying an evil when it presents itself causes.

Many places, among which are two large towns, Naples and Palermo, allowed themselves to be seized by the evil quite unprepared. On the pretext of not alarming the public, several mayors refused to form any preventive organization; and some were dismissed because they refused to follow the instruction of prefects. In some places mayors deserted their posts, and left the communal administration in the greatest confusion; carabinieri and soldiers were obliged to act as doctors, nurses, and even undertakers.

It is true that in certain places the people refused to receive the assistance of their municipality or doctors, owing to their fear of contagion and their belief that the epidemic was due to poisoning. But this popular belief is ancient, and finds its origin in that popular credulity against which, as Schiller wrote, not even the gods have power, and, instead of pointing out this barbarity and ignorance, and making it a public fault, honest persons who take an interest in this misfortune

* Article 152 of the Regulations for the Execution of the Law of March 20, 1885, on public health, prescribes that every district should have its hygienic regulations; and it enjoins those which have none to form them without delay, so that they may be published before the 1st of January, 1886. Nevertheless, many districts are still without any such regulations, and the city of Palermo, up to the 1st of January, 1886, had none whatever, and I do not believe it has them even at the present moment.

of the people would do better to study this very serious matter, which greatly contributes to increase public misfortune during serious epidemics. Through the ignorance of the lower classes, cholera is easily taken for the effect of poisoning, on account of the rapidity with which it increases and spreads, and the celerity with which it kills, and for such a belief in poisoning one can find a plausible pretext in the very febrile activity into which the proverbial municipal indolence converts itself. It is a fact that many municipalities which had never paid much attention to their administration suddenly rushed into all sorts of regulations, and immediately ordered abundant disinfections as soon as they saw a great evil approaching, and, in order to protect public health, often exceeded the limits in such a manner that the people, who are generally neglected and frequently ill-treated, suddenly perceiving that they were the subject of most assiduous care, and observing that their misfortune increased with the multiplication of public services, and, in the terror of the general calamity, not being able to discriminate between good and evil, suspected something must be wrong, refused assistance, shut themselves up, barricaded the doors of their houses, and, when one offered them any aid, replied, "Let me die in peace."

Then, again, in the Sicilian provinces, where the saddest reminiscences of the persecutions and massacres committed by Delcaretto* are associated with the cholera, suspicion was partly based upon the hatred which existed between the governed and the governors. And, if the people in their misery and ignorance do not see the great difference which exists between the present government and that of the Bourbons, whose fault is it? What has the Government done during twenty-six years to merit popular gratitude, especially in the southern provinces? Perhaps indirectly many things have been done, but directly for the people nothing. They dwelt before in miserable wildernesses, and still live miserably in the same hovels, which with time have become more horrible than before. They formerly lived abandoned, but now, who takes any trouble about them, who succors them in their pain and misfortune? In Palermo, a town of 250,000 souls, there is a miserable hospital of 300 beds, of which one third are reserved for the sick of the province, which contains more than 600,000 inhabitants. Many of the infirm among the poor have died in the streets of this city without assistance. Well, in this case, complaint is made against the administration of the hospital, which is almost a financial failure, and which plods along as well as it can, while no one pays any attention to it, and charitable societies and the municipality sleep quietly and profoundly. †

Popular beliefs are not easily overthrown, and, in order to oppose them, shouting and swearing are not sufficient, but a series of benevolent actions ‡ to relieve misery is necessary; and with a view to stamp-

* During the cholera in 1837, the Bourbons sent Delcaretto to Sicily, and this famous tyrant overran the island with a flying squadron, and took advantage of a slight disturbance in Syracuse to establish a government of military terror in Sicily, which lasted without interruption until 1848. Courts-martial judged without loss of time, and sentenced the victims to be shot one after the other, and such was the rage and hurry to kill that in Bagheria, a small town near Palermo, a child of ten years was found among thirteen persons who were to be shot. The cholera was most destructive that year. In the province of Palermo alone forty thousand deaths occurred. Borghi, Di Blasi, and other Sicilian historians narrate most horrible accounts of the Bourbon who did all he could to increase the number of deaths. He seized this opportunity to persecute and torture some of our greatest patriots, and to snatch from Sicily every trace of freedom. This is why the people believe in the poison, which they fancy the Bourbons scattered in order to render the island miserable, and to deprive it of every former privilege.

† Lately the municipality organized the service of visiting doctors, but in spite of their efforts it is very certain that they can not cure certain diseases in the miserable dwellings of the poor, where light, air, and frequently even bedding, do not exist, and in which animals also live.

‡ During the last twenty-five years I have always tried to ameliorate the hospitals and ambulances as much as possible, as well as the miserable condition of the sick and wounded, and, so far as my strength has allowed me, I have always taken great interest in the poor. In 1866, with the assistance of some friends and charitable ladies, I caused a ward in the Civil Hospital to be set apart for sick children; and in 1874, with the help of the same friends and ladies, I worked to found in Palermo a hospital for children, called the *Ospizio Marino*. Whenever I could, I have always endeavored to convince the municipality

ing out the belief in poisoning during epidemics, and especially during the cholera, a public sanitary system should be organized, to work also in ordinary times against all those other contagious diseases which cut off thousands of lives daily without the slightest preventive measure being taken. When the municipality and the Government take care of public health properly, and with serious regulations, the people, realizing that their health is really protected and their condition ameliorated, will cease suspecting and will see the good where they now fear the evil. Therefore in Italy, and especially in the south, that popular belief will gradually disappear. Until the Government thinks of reorganizing sanitary systems, the authorities will only waste their energies and public funds, and the Government may cease issuing instructions which the people either do not want or will refuse. By continuing with the sanitary circulars issued by the Minister of the Interior, with hygienic councils, requested by the various sanitary councils of the kingdom, without listening to them, and with the carelessness of Italian municipalities, which somewhat resembles Arabian fanaticism, Italy will always be devastated by epidemics, cholera will remain for many years to come, and typhus fever, scarlatina, diphtheria, and small-pox will assume a permanent epidemic character. We are laboring under the greatest misapprehension, and are liable to incur the greatest danger, if we believe that committees of assistance and voluntary bands of nurses will be sufficient in time of need. Certainly the acts of charity performed by so many persons are to be admired, and are worthy of public praise. The charity of the King and people have really been touching, and have tended in some measure to alleviate a public misfortune; they are therefore to be lauded, but certainly the works of piety and charity are not enough to regulate public services, nor can they be of any use in protecting public health.

To this sacred end the Government must provide wise laws, and municipalities with efficient organizations, and as an example the efforts made by certain places are cited, as well as the regulations issued by the municipality of Milan, which have been in operation during several years of epidemic diseases. In a country where liberty was pined for, and which made so many sacrifices to bring about a union, it is a duty of the highest importance to protect public health. The ancient Romans, who were skilled in the handling of arms, and more advanced in civilization than any other nation in those times, vigorously protected public health, and placed it at the head of everything—*Salus publica suprema lex esto*—and, with healthy subjects who were neither dejected nor degraded by great epidemics, they conquered the world and civilized it. At the present time hygienic laws and sanitary provisions against epidemics in Italy are a duty of civilization, a duty of humanity, and a political and moral necessity.

It appears to me that I have clearly demonstrated that which was not absolutely necessary, viz., the very bad state of sanitary organization, and the necessity of remedying it at once. Sanitary offices should be established for the protection of public health, just as offices are for the protection of persons and property, and those fictitious organizations of sanitary councils and municipal health commissions should be abolished because, on account of the defective manner in which they are organized, and the persons which the law requires they should be composed of, they can not in any way assume the hygienic and sanitary service of the kingdom. Consequently, prefects and mayors should, for the protection of public health and the working of the various services, have certain sanitary offices attached to their own, with the necessary means for the conduct thereof. The Government should at once assemble a commission composed of the most eminent hygienists and practical physicians, with a view to projecting a reorganization of sanitary systems. In my opinion, for such an important service, Italy should be divided into various urban and rural districts as England is. In every district, which would be under the local authorities, there should be a hygienic and sanitary commission, with various inspecting physicians and an adequate number of sanitary guards, who should be educated and capa-

and province of Palermo of the necessity of helping the poor. If, in the last epidemic which raged in Palermo, I was listened to by the poor with reverence and affection, it was partly due to my colleagues in medicine, who always understood and assisted me in my honest endeavors, and partly to the gratitude of the people for the little which I had done for the benefit of the poor.

ble of discharging the duties required of them. Every district commission should be supplied with a laboratory for hygiene and one or more compressed-steam stoves for the disinfection of linen and bedding. Large cities could be divided into several sanitary districts, according to the number of inhabitants. The visiting physicians, after having bettered their condition, should be appointed sanitary officials, under the district sanitary authorities, for everything pertaining to the public health. Civil and military hospitals in times of epidemics should be placed under the care or superintendence of the respective district commissions for the execution of any hygienic or preventive measure. District commissions should be obliged to superintend every sanitary service, to execute or cause to be executed hygienic repairs in houses, especially among the poor, in public buildings, etc., whenever infectious diseases break out (small-pox, diphtheria, typhus fever, typhoid fever, scarlatina, cholera, etc.), to provide for the necessary disinfection of places and effects belonging to the sick, and to cause every patient to be isolated.

Recapitulating what I have already stated on the necessity of a law on public hygiene, and on the urgency of public regulations, I will finally treat practically of the question of prevention in times of cholera. Certainly the precautionary measures will vary according to the desire of complying with the localist or the contagionist theory. Apart from the fact that both theories have much in common, as I have already said, we should consider the question of preventives as purely practical, and we should, therefore, make use of the results which have lately been obtained by study and pathological experiments. We have already shown that cholera is carried with people and merchandise, and that for the development of the same both places and persons must be predisposed. If one of these conditions is wanting, the epidemic remains stationary. Preventive measures should therefore be adopted, together with sanitary steps, and should be in accordance with commerce and local and individual predisposition. Preventive measures against the spread of cholera by means of cordons can not possibly be executed, because in that case every country and communication would have to be closed up.* It is almost useless to argue as to the efficiency of quarantines with regard to Italy, which is at present invaded by the cholera; for this a complete international agreement would be necessary. If we consider this question practically, it can only affect the islands, which are at present free from cholera. With regard to the islands, they can perhaps be protected by means of quarantines, but one must also consider that it is necessary that these quarantines should be arranged in such a manner that commerce be not altogether obstructed, and in that way there can be little safety. In fact, the islands have frequently asked for the imposition of quarantines as a precaution, but the cholera has entered notwithstanding and has caused more destruction than in continental towns.

If quarantines are to be maintained, it is necessary to establish them on new principles; their duration should be fixed at seven days, and hygienic measures should be employed, such as airing, ventilation, and disinfection by means of compressed-steam stoves, etc. Such measures must be considered as indispensable parts of quarantines, as the latter without the former are quite useless. Quarantine should begin after a medical visit, which should be repeated daily. Admission into free pratique should be given only after an accurate hygienic inspection, and after the disinfection of the linen, and the opening and airing of baggage and merchandise. It is necessary to provide two *lazzaretti* for the

islands, furnished with suitable infirmaries for the isolation of the sick, compressed-steam stoves for disinfection, and space enough for the opening and airing of baggage and goods. Quarantine on board might be allowed only to arrivals from infected places, so long as there were not too many passengers on board, and vessels should be provided with steam stoves, and have a doctor appointed by the Government. When a case of sickness manifests itself upon a vessel, either during the voyage or in quarantine, the vessel must be thoroughly disinfected, and her bilges emptied and washed with a solution of corrosive sublimate or with sulphuric acid. During an epidemic the rag trade must be prohibited, and at the cessation of an epidemic the trade in question must not be renewed until the rags are disinfected in stoves. In or near infected places we must also prohibit fairs, the changing of quarters of a garrison, or any other transfer of troops, or military manoeuvres, levies, transferring or discharging of classes, etc. In places which are menaced, hospitals and public institutions must be isolated, and special places must be got ready for those attacked by cholera, and places to isolate those persons who were living with the first to be attacked by the disease. In every train, a separate car must be set apart for the sick, and stations must be furnished with the means necessary to their transport. The cars in which cases of cholera manifest themselves should be disinfected and washed with a solution of corrosive sublimate in the proportion of 1 to 2,000.

This certainly will not be sufficient to prevent the cholera from entering a place, and therefore the greatest attention must be given to locality. Mayors and sanitary commissions must promptly have any cause of insalubrity removed; they must see that potable water is not polluted, and inspect public washing places and public works; they should see to the thorough cleanliness of the streets and houses, by causing any organic matter or refuse to be promptly carried away; and must advise people to keep their closets clean, and disinfect them daily with solutions of chloride of zinc in the proportion of 25 to 1,000, or with sulphate of copper, 20 to 1,000; they should also carefully isolate the first cases of cholera, and keep their sanitary staff always in readiness. It is also necessary that persons should take good care of themselves, especially if they are predisposed to illness. Predispositions in this respect may be injurious, as are impure air, scarce and unwholesome food, impure water, chilling of the body, and any excess which affects moral and bodily strength; consequently wholesome nourishment, pure water, and flannel clothing, or at least the covering of the stomach with a piece of flannel, avoiding diarrhoea, and seeking the doctor's advice when any indisposition is felt, are absolutely necessary. If there is doubt as to the quality of the water, it can be filtered by means of porcelain filters (such as Chamberlain's and Mialhe's), or boiled. Physicians can prevent many misfortunes when they are called in time; besides, it is as easy to cure the first symptoms of the disease as it is difficult to cure it when it has made progress. Do not trust in so-called specific remedies brought forward by charlatans, and refuse the use of new remedies in a disease which gives such little time for experiment. The essential advice for personal preservation is to keep the person and the house extremely clean. During the epidemic which raged in Palermo in 1885, the sanitary commission of this town strongly advised the people, by means of various publications and insertions in the papers, to strictly adhere to the precepts above mentioned, and, although the cholera was severe, having after the ninth day killed 192 in one single day, and in two months 2,710, among the higher classes, who were able to follow the advice of the sanitary commission, there occurred but few cases and not more than thirty deaths, whereas the disease caused great destruction among the poor, who were either unable or unwilling to follow any advice.

I trust that municipalities, provinces, and the Government will consider what I have briefly stated in the present communication, and will reflect upon the very serious results consequent upon the want of proper hygienic laws and well-regulated services. Regarding the conditions of time and place which, according to the localists, prepare the way for epidemics, facts should be cited. They will form the best examples and inducements to urge the reformation that I have mentioned. In Wales, von Pottenkofer says, fifty thousand deaths occurred from cholera in 1849, twenty thousand in 1854, and fourteen thousand in 1866. From that time the cholera disappeared from that region, and in 1867,

* It is well to know the ideas in vogue with English physicians who are connected with the Indian Sanitary Commission, in order to see the difficulty of an international agreement for quarantines. Cunningham, who is the general physician of the Medical Department and Sanitary Inspector of the Indian Government, and who is well known and respected, in his studies on cholera, is of opinion that the skeleton is of great importance in the study of the disease. The body is more angular, being broader in front. If an imaginary line is drawn at right angles to one intersecting transversely the articular surface of the body, it will be found that the neck is set upon the body at an angle of 55°.

* Read before the New York Surgical Society, December 8, 1886.

1870, 1873, and 1884 there did not even occur one case, whereas in Naples, according to Spatuzzi, in 1873 there occurred 1,000 deaths from cholera and in 1884 more than 8,000, and in Palermo, in 1866, there were 4,000 deaths, and again 4,000 in 1867, and 2,710 in 1885, which is the reverse of that which happened in Wales. Thus the result in Wales must be due to the hygienic reforms introduced in the houses of the poor, and to the potable water with which that extensive district has been supplied. I trust that Italy will be able, without compelling municipalities to incur heavy expenses, to do in a few years that which they have failed to do in many years, and I trust in the skill of Italians, inasmuch as they will be able to produce a public benefit from a sad experience.

The following table, containing the various numbers of deaths from cholera which have occurred during the last half-century in Naples and Palermo, shows: 1. That the mortality from cholera in Palermo, taken altogether, exceeds that of Naples by 3,138. 2. That the percentage on the Palermo total of deaths is more than double that of Naples. Consequently these figures will help to show that the special law for the improvement of the sanitary system of Naples, brought about by the sentiment of pity which does honor to the country, will be a gross injustice if it is not followed by a hygienic law for the whole of Italy; besides, various important towns and innumerable districts bear the same relation as Palermo to Naples.

Table showing and comparing the mortality from cholera during the various epidemics in Naples and Palermo.

YEAR.	Population	Duration in days.	Total of deaths.	Percentage.
PALERMO:				
1837.....	176,752	126	27,004	15.62
1854.....	182,270	95	5,334	2.93
1855.....	182,411	84	1,420	0.78
1866.....	200,012	100	4,046	2.02
1867.....	197,543	135	3,821	1.93
1885.....	244,901	89	2,710	1.10
NAPLES:				
1836.....	437,563	91	5,963	1.15
1837.....	432,720	154	11,714	2.71
1854.....	442,505	71	9,600	2.17
1855.....	434,050	107	1,300	0.30
1865.....	441,880	70	2,200	0.49
1866.....	442,804	85	3,470	0.79
1867.....	441,007	68	300	0.07
1873.....	457,530	116	1,280	0.28
1884.....	495,788	91	5,370	1.08

There have been six epidemics in Palermo during forty-nine years, the total number of deaths being 44,335, and there have been nine epidemics in Naples during the same period, with a total loss of 42,979. The proportion of deaths to population at Palermo was 1.80 per cent., and at Naples 0.86 per cent.

The New York Academy of Medicine.—The Section in Surgery will meet Monday evening, the 10th inst. The election of officers is the special order.

The Section in Neurology will meet Friday evening, the 14th inst. Officers will be elected; Dr. R. W. Amidon will read a paper entitled "Malignant Disease of the Spine, with Cases; a Contribution to Cruveilhier's 'Paralégie douloureuse'"; Dr. L. E. Holt will present a cyst of the pia mater; and Dr. M. P. Jacobi will read a "Note on Post-epileptic Conditions."

The Section in Ophthalmology and Otolaryngology will meet Monday evening, the 17th inst. Officers are to be elected, and Dr. J. E. Weeks will read a paper entitled "The Pathogenic Microbe of Acute Contagious Conjunctivitis, with Specimen."

The Section in Theory and Practice of Medicine will meet Tuesday evening, the 18th inst. After the election of officers, Dr. M. P. Jacobi will read a paper entitled "Notes on the Use of Quinine in the Pneumonias of Children."

The Health of the State of New York.—According to the State Board of Health's "Monthly Bulletin" for November, 1886, the whole number of deaths reported was 6,872, in every thousand of which there

were 24.15 from diarrhoeal diseases, 22.85 from typhoid fever, 98.22 from croup and diphtheria, and 142.90 from consumption.

Laryngology at the College of Physicians and Surgeons.—Dr. Lefferts's next lecture, for Tuesday, the 11th inst., will be devoted to tertiary syphilis of the throat.

The Surgeon-Generalship of the State of Connecticut.—It is announced that Dr. Charles James Fox, of Willimantic, a graduate of the Medical Department of the University of the City of New York, of the class of 1876, has been appointed surgeon-general on Governor Lounsbury's staff.

THERAPEUTICAL NOTES.

Iodine in the Treatment of Glandular Swellings.—In an address on "Practical Therapeutics," read at a recent meeting of the Medical Section of the Academy of Medicine in Ireland ("Dublin Jour. of Med. Sci.," Dec., 1886), Dr. James Little says: "In the United Kingdom thousands of pounds are annually expended in the purchase of iodine, which, after solution in spirit, is applied to enlarged glands in the neck and elsewhere in the body to promote their disappearance. The impetus to the employment of the iodine was given by Lugol fifty years ago, and given so strongly that it has reached our days apparently with undiminished force, and, quite recently, rather acrimonious discussions have taken place as to the merit of rendering the application colorless. Yet its value is a matter on which every practitioner should be able easily to form his own judgment, and any one who does so independently will, I think, soon arrive at the conclusion that if the solution employed, whether it be colored or colorless, is a weak one, such as the pharmacopœial tincture, no effect whatever is produced; whereas if it be a strong one, such as the pharmacopœial liniment, the result is that the enlarged glands get more enlarged, and if the application is continued an abscess forms in the surrounding cellular tissue."

The Prevention of Abortion.—Dr. S. H. Stout, of Cisco, Texas ("Daniel's Texas Med. Jour.," Dec., 1866), says: "In all cases of threatened abortion, a careful investigation should be at once made, to ascertain whether the case is one of inevitable or preventable miscarriage. In either case the patient should be at once required to assume the recumbent posture, and to persistently maintain it, until in the latter instance the dangerous symptoms have subsided, and in the former until the flow of blood has ceased and the uterine involution is so far complete as to forbid the provocation of metrorrhagia—a very common sequent of abortion. In cases of preventable abortion I have never found any article of the materia medica so efficient as opium, which I have generally administered in the form of a dry pill repeated *p. r. n.* When the stomach did not tolerate the medicine, an injection or suppository *per anum* has often proved efficient. A mustard plaster three inches wide and six or seven inches long, placed over the lumbar region of the spine, I never fail to prescribe, for reasons obvious to any intelligent student of the pathology of abortion. I do not remember a case in which I have failed to arrest a preventable threatened abortion by the practice above outlined."

Alkaline Injections in the Treatment of Gonorrhœa.—Castellan ("Bull. gén. de thérap.," Dec. 15, 1886) states that he generally finds the pus of acute gonorrhœa to have an acid reaction. To overcome the acidity, he uses, three or four times a day, a urethral injection of from eight to ten parts of sodium bicarbonate dissolved in a thousand parts of water. The reaction of the discharge is tested every two or three days; as soon as it becomes alkaline, it begins to diminish and finally disappears, although there may be exacerbations, and there is no longer any ardor urinae.

A Disinfectant Mixture for Anasæres; there should be a hygienic and sanitary commission, with various inspecting physicians and an adequate number of sanitary guards, who should be educated and capa-

and province of Palermo of the necessity of helping the poor. If, in the last epidemic which raged in Palermo, I was listened to by the poor with reverence and affection, it was partly due to my colleagues in medicine, who always understood and assisted me in my honest endeavors, and partly to the gratitude of the people for the little which I had done for the benefit of the poor.

Original Communications.

THE TREATMENT OF INVETERATE TALIPES EQUINO-VARUS BY OSTEOTOMY.*

By CHARLES T. POORE, M. D.,

SURGEON TO ST. MARY'S FREE HOSPITAL FOR CHILDREN.

THE management of cases of congenital equino-varus which have resisted all the usual methods of mechanical treatment—tenotomy, stretching, etc.—has received much attention from surgeons, and various operations have been proposed for its correction. The majority of infants with this deformity are and can be cured by mechanical treatment, but there is a certain number of persons who, either from the marked degree of the deformity, neglect, or inefficient treatment, are unable to walk on the plantar surface of their feet, and in whom locomotion is labored and painful. Even in children it is sometimes impossible to hold the foot in a proper position without the aid of an apparatus after years of careful treatment. With the brace applied they are able to walk on the plantar surface of their feet, but, as soon as it is removed, the anterior portion of the foot reverts to its abnormal position.

The cause of this failure to relieve the deformity is not clearly understood, or, if acknowledged, is not appreciated by many surgeons. The muscles, ligaments, and bones have each and all been assigned as the cause of the deformity, and operative treatment has been directed to that tissue which, in the judgment of the surgeon, is the one at fault.

In order to understand the cause of this inability to hold the anterior portion of the foot in a proper position, and, when an operation is called for, to judge of the best means of correcting the deformity, a consideration of the anatomy of congenital equino-varus is necessary.

Through the kindness of Dr. J. B. Bissell I have had the opportunity to examine the bones taken from a child eight months of age who exhibited this deformity.

When the foot is viewed with the anterior portion placed in its abnormal position, the deformity does not appear to be one of marked degree.

The patient had been under treatment for some months, and at the time of death the anterior segment of the foot had been brought into its normal position and held there as long as the splint was on, but, on its removal, had immediately reverted to its abnormal position. The tendo Achillis had been divided.

On examining the bones, changes are found in the shape of the os calcis, astragalus, and scaphoid bones. The trochlear surface of the astragalus is longer in its antero-posterior direction, and is more flattened posteriorly, than in the normal bone. The body is more angular, being broader in front. If an imaginary line is drawn at right angles to one bisecting transversely the articular surface of the body, it will be found that the neck is set upon the body at an angle of 55° .

The external aspect of the neck is greatly elongated. The direction of its external border from where it springs from the body is forward and inward, and presents a straight line; the inner border is much shorter.

On account of this obliquity of the neck, the head of the bone is directed forward and inward so that it is at right angles with the longitudinal axis of the body of the bone; the head is smaller and more conical than in an astragalus taken from a normal foot. The head of the bone from the left foot presents two facets, the planes of which meet at an obtuse angle; the inner articulates with the scaphoid; the outer looks forward and is unopposed. The head of the bone from the right foot does not show any division into facets. Its general shape in front of the body is conical and has not the globular appearance of the head of the normal astragalus.

The os calcis appears to be of normal shape and size in its posterior segment. The anterior portion is curved from before backward, the convexity being directed outward, and its anterior articulating surface looks forward and inward. It also extends farther forward than in the normal bone, and is therefore elongated. The scaphoid is carried upward and inward by the head of the astragalus, and has a facet on its upper and posterior (lateral) border which articulates with the anterior portion of the malleolus. The rest of the bone seems normal. The other tarsal bones present nothing to contribute to the deformity.

The ligaments upon the inner side of the foot are greatly shortened—namely, the anterior portion of the internal lateral ligament of the ankle joint, the astragalo-scaphoid, the calcaneo-scaphoid, and also the inner portion of the plantar fascia. These hold the navicular bone and the head of the astragalus in their abnormal position.

The question naturally arises, how much these bones here described differ from those of the normal infantile skeleton. Mr. Adams states that the neck of the normal infantile astragalus at term looks directly forward.

In a bone taken from a child eight months of age with normal feet it is found that the neck is set upon the body of the bone at an angle of 28° , as shown in the specimen and photographs exhibited. The external portion of the neck is not elongated, and the head and neck are not conical; it also presents a much larger articulating surface.

The os calcis is curved on its lower posterior border, the concavity looking downward, and the line of its external aspect from the tubercle forward is straight, or, if anything, is a little concave; certainly not curved with the convexity directed outward. The anterior articulating surface is directed forward.

In comparing these bones, the following are their points of difference:

The angle at which the neck of the astragalus is set upon its body in the bone from the deformed foot is 55° , while that of the normal bone is 28° . The external surface of the neck of the abnormal is much longer than that of the normal bone; the articulating surface of the head is much smaller in the former than in the latter.

The anterior articulating surface of the os calcis is di-

* Read before the New York Surgical Society, December 8, 1886.

rected forward and inward in the bone from the deformed foot, while in the normal it is directly forward. Its anterior portion is curved outward in the deformed foot, but is straight in the one from the normal foot.

Mr. Adams, in his work on club-foot, describes the same changes in the astragalus and os calcis as those mentioned above, except that he does not notice the change in the direction of its anterior articulating surface, nor its elongation.

He considers any deviation of the axis of the neck of the astragalus from a straight line with that of the body as pathological.

Mr. Parker and Mr. Shattock, in a paper published in the "Transactions of the London Pathological Society" for 1884, give the result of their dissection of feet affected with talipes equino varus, and compare the astragalus and os calcis with normal infantile bones.

They state that they find that "the normal astragalus of infants differs considerably from that of the adult in the direction and extent of the articulating facet of the head, and in the obliquity of the neck." As a basis of comparison they made measurements of the obliquity of the neck in twenty specimens of adult astragali taken promiscuously. The mean angle at which the neck was set in the body of the bone was $10^{\circ}65'$, the maximum was 26° , while the minimum was so small that to measure it was impracticable. In the fetus, from about the fourth month to term, in eleven cases the mean angle was 38° , maximum 42° , minimum 35° . In five cases of varus the mean angle was $49^{\circ}6'$, the maximum 64° , minimum 31° .

From these facts it would seem proved that the obliquity of the neck of the astragalus is a normal condition in infants at term; that in varus, as a rule, the amount of the obliquity is increased, and that in the adult bone the neck is set upon the body of the bone at a mean angle of $10^{\circ}65'$; that in varus the anterior portion of the os calcis is curved with its convexity looking outward, and that its anterior articulating surface is directed forward and inward. It is evident, then, that during growth the axis of the neck of the astragalus in the normal foot changes from an angle of 38° to one of $10^{\circ}65'$ with that of the longitudinal axis of the body.

It is a well-known fact that at birth the feet of infants are in a position of slight varus. The age at which the neck of the astragalus assumes the adult position has not been determined, nor am I aware of any fact bearing on the point. Many recent writers on this subject attribute this deformity to the position of the feet *in utero*, and consider that the change in the shape of the neck is due to long-continued inversion of the feet, and that the head and neck are held in this abnormal position by shortened ligaments. The alteration in the os calcis may be attributed to traction from the displaced bones on the inner aspect of the foot. The pathological changes found in the majority of cases of congenital talipes equino-varus may be described as an exaggerated obliquity of the neck of the astragalus and curvature of the anterior portion of the os calcis, together with its elongation, and that the head of the astragalus is held in its abnormal position by short ligaments; that the scaphoid

is carried upward and inward by the head of the astragalus and held there by the abnormal condition of the ligaments; that the muscles have nothing to do with its causation, nor do they act as much of an obstacle to the restitution of the foot. Exception should, however, be made to muscles entering into the formation of the tendo Achillis.

It should be stated that in one dissection, reported by Mr. Parker and Mr. Shattock, of congenital equino-varus the obliquity of the neck was only 31° , being less than in the normal bone.

If the foregoing facts have been correctly interpreted, the indications for the treatment of congenital equino-varus seem simple. The object of mechanical treatment must be to stretch the ligaments upon the inner side of the foot, which hold the scaphoid and head of the astragalus in their abnormal position, so that the obliquity of the astragalus may undergo the diminution incident to normal growth, or, in other words, assume the form of the adult astragalus. There is still another element, in some cases at least, which prevents a perfect restitution, and that is the elongation of the os calcis. Even should the deformity of the astragalus be entirely overcome, the outer border of the foot would be longer than its inner, and thus continually tend to force its unsupported anterior segment inward.

In cases which have resisted all known methods of mechanical treatment the question arises, What operation is the best to restore the foot to a useful position? All operative procedures may be considered under two heads: section of ligaments and operations upon the bones. In 1881 Dr. A. M. Phelps divided all resisting bands and ligaments by cutting down through a large wound on the inner side of the foot until he was able to bring the parts into their normal position, and then allowing the wound to cicatrize while the foot was held in a straight position; fourteen weeks after the operation a club-foot shoe was applied. In another case the same operation was performed, leaving an open wound one inch and a half wide and extending down to the bone; there is no later report of these cases so far as I am aware.

Mr. R. W. Parker published a paper in the "Brit. Med. Jour.," July 3, 1886, in which he advocates subcutaneous division of the ligaments on the inner side of the foot and then correcting the deformity. He states, however, that there are some cases in which this method will fail, and tarsectomy must be performed.

Mr. Little advocated the removal of the cuboid, and Solly excised that bone in 1854, but it did not prove a success; it has been performed in this country by Stephen Smith, but it, too, was a failure, and Syme's amputation was subsequently performed. The operation seems to have been abandoned until 1874, when Richard Davy reintroduced and performed it in six cases; he reports them successful. In 1871 Mr. Laud removed the astragalus by gouging, but it does not appear that his patient ever walked without support. Other operators have removed the bone, but with varying success, the ankle joints being left stiff, and in many cases an apparatus had to be worn.

Otto Weber in 1886 removed a wedge-shaped piece of bone, including a portion of the cuboid and os calcis; and

Davies Colley performed a wedge-shaped excision of the tarsus in 1875. Since then Mr. Richard Davy has been a most ardent advocate of the operation. There is no question that a cuneiform osteotomy for persistent club-foot is an excellent operation, the only question being as to where the wedge should be taken from; all operators have made the cuboid at least form the base of the wedge. Mr. Davy says that it almost invariably includes portions of the os calcis, astragalus, and scaphoid bones. In one case he removed a portion of the os calcis, the head of the astragalus, and the whole of the scaphoid. Some surgeons have gone farther forward, like Barwell, who removed portions of the anterior row of tarsal bones. By these operations the foot is much shortened and many of the tarsal joints are destroyed; the patient walks, it is true, on the plantar surface of what remains of his foot, but with ankylosis of all the joints but the ankle and those in front of the first row of tarsal bones.

From a study of the bones from feet affected with talipes equino-varus, it is evident that the real trouble lies not in front of, but behind the medio-tarsal joint; and that all operations on the bones in front of this point are anatomically and mechanically wrong.

The only operation that of late years has commended itself to surgeons is a cuneiform osteotomy or resection of the tarsal bones in front of Chopart's joint; all others have failed to accomplish the end for which they were performed, and have been abandoned.

Tenotomy of the ligaments commends itself as one from which good results may be expected in infants, because it attacks the structure which is the chief obstacle to the normal development of the astragalus, but it has no influence on the curvature of the os calcis, and this it would seem is the cause of imperfect restitution in otherwise promising cases.

In looking at a dissection of a foot affected with the deformity under consideration, the following points suggested themselves:

1. That the inability to correct the deformity was due to changes taking place in the astragalus and os calcis.
2. That, in order to bring the anterior portion of the foot into its normal position, the curvature in the os calcis must be removed and the neck of the astragalus shortened, so as to allow its head to point in the normal direction and thus carry with it the scaphoid and other tarsal bones.

To accomplish this, the following operation was performed: An incision was made from a point one inch and a half in front of the tendo Achillis on the outer aspect of the foot forward to the middle of the cuboid bone, and down to the tendons of the peroneus longus and brevis; these should be raised or pushed out of the way. Another incision, beginning from the middle of the first and corresponding to the neck of the astragalus, was made directly upward; the tissues were then raised from the bones and the periosteum incised over that part of the os calcis from which it was desired to remove the wedge. With a chisel a V-shaped piece of bone was taken away, base outward, and its apex extending to its inner border; a wedge was then removed from the neck of the astragalus of such a

shape as to allow the anterior portion of the foot to be brought outward and upward. The periosteum was united with catgut and the skin with several wire sutures, because the latter held longer and gave better support. An aperture was left posteriorly for the insertion of a drainage-tube; a plaster-of-Paris bandage was applied, extending from the toes to above the knee, and the foot was placed in a corrected position; the wound was dressed with iodoform and gauze.

The size of the V-shaped interval left after the removal of the wedge of bone should be sufficient to allow the anterior portion of the foot to be placed in a proper position without any tension on the tissues on its inner aspect. I think that a subcutaneous division of the ligaments on the inner border of the foot, when they are tense, would facilitate the correction.

The dressings should be as light as possible, not bulky; otherwise it will be found difficult to apply the plaster-of-Paris bandage firmly; a little over-correction does no harm.

The advantages maintained for this operation over that of removing a wedge from in front of the medio-tarsal joint are:

1. It is anatomically and mechanically correct.
2. A smaller amount of bone has to be removed, because the operation is performed nearer the apex of a triangle.
3. No joint is opened, and, consequently, the foot is left in a more normal condition.
4. It does not practically shorten the foot in front of the ankle joint.

The class of cases suitable for this operation are:

1. Those of patients who have reached the age of five or six years with the deformity unrelieved, who have walked on their feet, and in whom the parts are rigid and the deformity marked.
2. Those cases in which, although the anterior portion of the foot can be brought into position, yet require an apparatus to retain the foot in its normal position after years of careful treatment.
3. Those cases in which the obstacle to restitution is due to elongation of the os calcis; perhaps in these patients the removal of a small wedge from that bone would accomplish the result.

CASE I.—W. S., ten years of age, was admitted into St. Luke's Hospital, in September, 1885, with congenital talipes equino-varus of the right foot. The deformity had never been treated; walks on the outer side of the foot. The parts were rigid, and with the hand no change could be made in the position of the anterior portion of the foot; there was no motion at the ankle joint.

In October the tendo Achillis was divided, and Bradford's instrument for forcibly rectifying club-foot used; but no impression could be made on the position of the foot. In November another attempt was made with the same instrument, but with no better success. On January 14, 1886, I performed the operation advocated in this paper, and brought the anterior segment of the foot into a straight line. There was considerable oozing of blood for a day, so that the dressings had to be changed, and, in a week, there was some slight suppuration. During the treatment he had an attack of scarlet fever. The wound all closed within a month, but he was not allowed to use his foot for eight weeks. At the date of his discharge from

the hospital he was able to walk well, with his foot flat on the floor. There was but little motion at the ankle joint. The line of the inner and outer borders of the foot was perfect, with not the slightest tendency to inversion.

CASE II.—A. S., eight years of age, was admitted into the hospital in November, 1885, with double congenital talipes equino-varus. His tendons had been cut, and he had been under mechanical treatment for years, but with no benefit. The os calcis was in its normal position, but the anterior portion of the foot was turned at a right angle to the os calcis. Three attempts had been made to correct the deformity with Bradford's instrument, but without making any impression on the position of the foot.

December 25, 1885.—A wedge was removed from the os calcis and neck of the astragalus in the same manner as mentioned above; the wound was all closed in a few weeks, the temperature not reaching beyond 100°.

February 6, 1886.—The same operation was performed upon the right foot: at the date of his discharge the patient was able to walk with the sole of the foot flat on the floor. He had always had some paresis of the extremities, so that he had never had good use of his limbs. He walked, at the time of his discharge, quite well; but there was a tendency of the whole foot to point inward. I do not think the correction was as perfect as in the first case.

CASE III.—M. J. C., aged fourteen, has been under treatment at the hospital at times for several years. She has had a congenital talipes equino-varus of left foot, which has been corrected so that the anterior portion of the foot can be brought into its normal position with the hand, but immediately on removal of the support it turns somewhat inward. She has worn a brace for several years; with it she gets along pretty well, but without it the foot is almost useless.

February 28, 1886.—A V-shaped piece of bone was removed from the os calcis and the neck of the astragalus, and the anterior portion of the foot placed in a straight position. A plaster-of-Paris splint and dressings of gauze and iodoform, as in the other cases, were used. Owing to illness, I did not see the patient again for a week; she then had a high fever, the foot was swollen, and the wound looked blue and sloughy; the splint was removed and the wound dressed, the fever continued, and she died on the twelfth day, of septicæmia.

SURGICAL INFECTION:

A REPLY.

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THE "New York Medical Journal" of November 20, 1886, contains a short paper by my esteemed, able, and well-known friend, Dr. George R. Fowler, under the caption "Surgical Infection: Is it a Chimera?" In it he does me the honor of discussing my paper, "On the Pathology of Surgical Infection and the Value of Antisepsis," read before the Brooklyn Pathological Society on February 25, 1886, and published in three parts in the "Medical and Surgical Reporter," of Philadelphia, of August 7, 14, and 21, 1886.

Had the doctor differed with me only in matters of opinion, it might have been out of place for me to reply; but he has, unfortunately, mistaken my statement of facts. Interpretations of facts admit of honest differences of opinion.

He credits me with having "made essentially the following declarations":

"1. There are but two methods of wound repair, the first being by primary adhesion and the second by suppuration.

"2. Failure to obtain primary adhesion, and other wound complications or sequelæ, depend, not upon the absence of antiseptics, but upon some constitutional state or predisposition.

"3. Those who practice antiseptic surgery neglect other and more important measures necessary for the safety and welfare of the patient."

Let us consider these declarations that are laid at my door and see if they are mine. As regards the *first*, I quote from my paper as follows:

"Wounds heal essentially but in two ways. These may be and by some are denominated primary and secondary. The first occurs without the formation of pus, and the second is accompanied by suppuration. In the latter we have granulations and granulation tissue, while in the former healing takes place without granulations, although the process of repair results in an identical tissue. Repair in all instances is effected only by the cell. The participation of the blood-vessels in this process is secondary, and their secondary function is to nourish the cells that are doing the work, thus continuing proliferation and growth.

"By suppuration I mean any fluid exudation from a wound's surface containing multinuclear cells—leucocytes. The so-called 'union by granulation without suppuration' of the antisepticians is only apparently true. The object of suppuration is the protection of the granulating surface from extrinsic influences, particularly over-dryness and hardening of the surface. In proportion as there is diminished chance of evaporation there may be lessened pus formation, and more especially is this true when the surface is well protected by sponge or other suitable material, and dressings that are more or less sealed. This is true in very much the same way that it is that the amount of callus in a fracture depends largely upon the irritation of the broken ends of the bone and their displacement. I am well aware that this view of suppuration may seem new, but, be that as it may, it is the sense in which the term is employed throughout the paper. Any exudate from a granulating surface will be found to contain leucocytes, and therefore is pus. It may only be detectable by its effects in preventing dryness and hardening of the surface. There is no such thing in reality as 'healing by granulation without suppuration.'"

Union is a broad term, and signifies a coming together and remaining so for at least a time. Adhesion is a special kind of union, by which is meant a sticking together, a gluing, a pasting. The closure of a wound by permanent approximation of its surfaces is not done by any adhesive process, for the agency is a complex one. In my paper I was particular to object to the term adhesion, because cut edges did not adhere or stick together like plaster to a finger, but they *grew* together. My remarks in the same paper on this subject follow:

"For the sake of clearness it is perhaps well to state that it is not intended in this paper to use the term 'primary union' as synonymous with 'primary adhesion.' The idea expressed by the latter term is a fallacy, as it supposes that two normal surfaces can adhere and remain united without the inflammatory process that inevitably accompanies trauma. By 'primary union' I mean a union which results without suppuration or surface granulation, and which it is not safe to disturb inside of

several days, and which, even after that time, may be reversed without very much effect. This is the most advantageous union that can be attained, and its rapid perfection in suitable persons has led to the misconception—primary adhesion.”

In this statement I was even so careful as to say that primary union was effected without “*surface granulation*,” in anticipation of some one possibly making the point that any and every union or new formation was accompanied by granulation. It surely can not be improper, therefore, to say that union is the right term, and not adhesion.

Hence the first declaration does not truly or fully represent my views as stated in my paper.

The *second* declaration implies that I maintain that primary “adhesion and other normal complications or sequelæ depend” always “upon some constitutional state or predisposition.”

This is what I did say :

“The local causes may be said to consist of, first, anything that will prevent perfect coaptation ; second, anything that will reduce the local tonicity ; and third, all sufficiently irritant foreign bodies. The first includes everything that separates the edges of the cut surfaces, and these may be large, solid foreign bodies, blood, lymph, serum, water, air, gas, and drains of all kinds, as tube, horse-hair, or silk. The second comprises devitalizing or benumbing fluids and gases, and even a too free and continuous supply of water. The third consists of all kinds of irritating substances.

“The constitutional causes are readily divided into nervous, muscular, vascular, and nutritive. General neurasthenia, in the broadest sense of the word, whether it be due to heredity, some chronic or acute disorder, or to anæsthesia, will materially retard or altogether prevent repair, if not properly and promptly counteracted. Lack of promptness may, and occasionally does, involve a loss of life, in consequence of the drain upon the vitality of the patient in ineffectual efforts at union. A flabby muscular apparatus will often, in spite of a fair nervous tonicity, be a barrier to typical repair, causing delay and sometimes failure. Vascular disturbances, by directly modifying local nutrition, interfere with the healthy healing of a wound as insufficient food supply diminishes the effectiveness of individuals who have to perform a given work within a specific period. General nutritive disturbances, as impairment of the functions of the stomach, liver, or kidneys, retard or prevent primary union, and sometimes even normal granulation, by diminishing the general vitality or resisting power.”

Furthermore, I admitted the value of antiseptics, as will be seen farther on, but denied that their only means of doing good was as germ-killers, although I also admitted then that they did good even in this way at times.*

From this it is readily seen that the doctor's impression of my views was hastily formed and not subsequently corrected ; and it also follows that this second declaration is far from correct, because it practically credits me with declaring “some constitutional state or predisposition” to be the only factor that prevents primary union.

The *third* declaration.—This, to be true, should read : *Most of* “those who practice antiseptic surgery,” as a rule,

* I defined antiseptics in my paper as having for its object “. . . the prevention of contact between open tissues and living disease germs.” This was a platform upon which I could stand without fear of being misunderstood. Yet I doubt whether the object was fully attained.

“neglect other and more important measures for the safety and welfare of the patient.”

Here is what I did say :

“The patient himself does not receive the proportion of attention he deserves. A patient at hand sufficiently diseased or injured to excuse surgical interference is operated upon as soon as is convenient for the surgeon, and when all antiseptic preparations are completed. It is the rule to ignore the preparation of the sufferer for the coming strain upon his vitality.”

It is hard to be accused of introducing no new facts, as if such had been alleged. While, however, I did not introduce any new facts, it was my purpose to hold up for general inspection a new arrangement, a picture, of old and partly forgotten but none the less valuable facts, in contrast with a dangerous extremism of the day. It was an effort at a rearrangement and revivification of the facts brought to light and the principles taught by the older masters of the surgical art. Some of these men never permitted the enthusiasm following the epoch-making discoveries of Tyndall, Pasteur, Koch, and others to warp their minds away from the principles which they themselves had helped establish.

Dr. Fowler accuses me of ignoring “entirely the healing by granulation without suppuration under an antiseptic dressing” ; and instances the “organization” of a clot in a bone cavity, and sponge grafting. As justly might he instance primary union, for all repair is by granulation. The primary union of a simple incised wound is really by granulation. I have already quoted from my paper, and refer to it to show that I did not ignore the subject.*

In taking exception to Dr. Hamilton's views on this subject, Dr. Fowler remarks : “And this without attempting to deny that germs exist in the atmospheric air.” This statement shows exactly where the antisepticians and microbists are at fault. They seem to think that every one must accept their own enthusiastic conclusions from the same facts, and that if the conclusions of others are not in accord with their own, the facts must have been denied as a matter of course. Now, Dr. Hamilton denied no facts, for the simple reason that they are facts and can not be denied ; but his interpretations of them did not agree with those of his more sanguine and enthusiastic opponents, because he believed they were not warranted in deducing such conclusions.

My able critic again says :

“Volkman, of Halle, declared to me that, so great was his faith in the antiseptic system, he believed wounds should heal without suppuration or other accident, no matter what the patient's general condition might happen to be.”

To this I would say that if Volkman, of Halle, has such faith, it is no doubt well founded ; and if he believes that the good results are all due to the process of germ killing, that he is greatly in error ; but if he holds that opinion from seeing its good effects, and thinks them due to a number of causes operating with the use of antiseptics, besides their germicidal properties, then he is alive to the facts and not blind with the enthusiasm of one idea.

* *Vide supra*, second paragraph of first quotation.

He further declares:

"It is not pretended, as stated by the essayist of the evening, that general infection is caused by the direct entrance of bacteria into the general system. . . ."

This is best met with the sample questions—Whence are derived the microbes that infest the blood in anthrax? Whence those which are found in tuberculosis? Whence those that are supposed to be productive of cholera? How do those germs get into the marrow of bones, which my friend believes are the cause of osteo-myelitis and which I believe are not? Moreover, in speaking of infection I was careful to say at the beginning of my paper, and repeatedly thereafter, that the consideration of general infection had to go hand in hand with that which was purely surgical.

Further on he states:

"The peritonæum does not seem to have that greediness, so to speak, for germs and their products evinced by other tissues, and, in fact, has recently been proved to be a much more tolerant and tractable membrane to deal with than was formerly supposed."

The doctor credited me with making gratuitous assumptions. It has always struck me that the statement just quoted embodied a decidedly gratuitous assumption. It has been the common assumption, since the fact became established by incontrovertible evidence, that antiseptics were not required, as a rule, in abdominal surgery. (Yet notice how some of the laparotomists in New York city clamor for antiseptics.) The fact also remains that the peritonæum actually does present a surface of great absorbing capacity. Milk and coloring matter injected into it are rapidly removed. Inject the bacilli of tubercle and of anthrax, and there is no trouble about their absorption, or, as I might say, of their leucomaines. The truth is that surgeons have had a longer and better experience in abdominal work in connection with antiseptics than in any other branch. When they have reached the same degree of operative skill in other operations from an equally extensive experience, they will, I venture to predict, say that in these cases also antiseptics may be set aside.

Continuing, he remarks:

"It is in compound fractures, large incised wounds, and injuries of that class, that the differences between the old and the antiseptic treatment are the most marked."

In answer I shall quote again from my paper, where it is stated that—

"Absorption must almost of necessity be as easy from a simple incised wound having, say, an extent of surface equal to one or two square inches, as one ten or twenty times as large. If germs cause fever, they should be practically as effective on a small surface as on a large one. They are capable of multiplying. The question is one of absorption and a struggle between cells and germs. Now, whether the surface be large or small, the proportion of germs active in a given area remains the same. The trouble at first is purely local between the germs and cells. If the cells can not overcome the germs, the latter are supposed to overcome the former, and it is only after winning in this local battle that the dread microbes can enter the system to spread havoc. This is the platform of the microbist. It is not irrational. It is the intermediate and concilia-

tory view. This all being accepted, the question of great interest is, Why should minor surgical cases and small wounds not give rise to septic trouble and refuse to heal promptly, as do a larger proportion of major cases? Germs do not explain it. The condition of the patient does. Major cases are more devitalizing, and diminish more the resisting power and leave less for local tonicity."

Again he says:

"Failure of drainage, sepsis, and other untoward conditions, are quickly announced by the thermometer or by the occurrence of pain."

Cases in which the dressing, though well applied, has not proved safe are very numerous if we but choose to recognize them. We do not even have to look for them. I will instance one. If I recall it exactly, it was an amputation of the upper extremity. The buried-suture plan was carried out under antiseptic precautions by one of the most careful of operators. At night the surgeon was startled to learn that his patient's temperature was up between 104° and 105° F. There were also pain and tension. The dressing was removed, the stitches were taken out, and the wound was allowed to heal by the open method. The temperature promptly came down, the other symptoms quickly disappeared, and recovery took place without an untoward symptom.

I insist more than ever on the correctness of the statement that antiseptics is largely responsible for diminished and inadequate care for the general condition of the patient before or after operation, or both. I have seen this illustrated too often, both in Brooklyn and in New York, to give up the idea.

Dr. Fowler's conclusions are but natural for one holding his views, and it is proper that he should so express himself under the circumstances.

I tried to be fair toward Lister in making the annexed statements:

"45. Practical antisepticism, or Listerism, has its advantages and its disadvantages.

"46. It does good by having revived and improved upon well-recognized and highly valued older methods.

"47. It has unconsciously furnished a means of overcoming the local tonicity of wounds, and it did so at a most opportune time.

"48. This is accomplished by the stimulating effect upon the tissues of the so-called antiseptic preparations in moderate strength and for a limited time.

"49. It has done good by instigating daring surgery, and leading to the achievement of the most brilliant, undreamt-of, and unhopd-for results.

"50. It is seductive, and causes men to adopt and follow it who would be neither clean, gentle, nor careful without it.

"51. Listerism may be designated a 'Godsend' to patients who have to put themselves under the surgical care of a large proportion of our fellow-practitioners, both in the city and country.

"52. This is so because it controls them as religion controls the masses."

One of the gentlemen who discussed my paper admitted, while paying me a visit in my Brooklyn office, that he

had come to the meeting at which the paper was read in such mental antagonism to it that he did not notice the foregoing statements when read, had no recollection of them, and was surprised that they had not impressed themselves upon his mind.

Another gentleman who discussed my paper, and who did not wish to have his remarks reported, for reasons sufficient to himself, stated at the time that my opponents ignored *in toto* the main points at issue, and also the hard, unyielding facts of the instanced experiences of Dr. J. A. Dupré, Dr. E. H. Bartley, Dr. W. J. Brandt, Dr. Charles Jewett, Dr. B. F. Westbrook, Dr. A. Warner Shepard, Dr. H. T. Halleck, Dr. J. W. Hyde, and Mr. Lawson Tait. My own experience was referred to in the following words :

"In my own practice (hospital, dispensary, and private), in a period extending over four years and a half, every surgical case, with only four or five exceptions, was so treated as to carefully avoid anything that might be construed as antiseptic. Yet in all these cases I have still to note my first failure to obtain primary union when it was attempted. The list comprises a number of injuries and operations, from a simple incised wound or amputated prepuce to an excision of the left upper jaw and part of the adjacent bones. I have purposely refrained from detailing any of my cases or tabulating the whole list because these experiences are very common, and especially so among men who combine post-mortem work with operative surgery. It was the rule in my own cases to operate shortly after having made a post-mortem examination, or after the handling of anatomical material in various states of preservation. Soap and water was the only material employed to cleanse the hands, which, however, did not prevent the usual post-mortem aroma."

Dr. Fowler's paper was defective in several particulars : 1. Knowing where and when my paper appeared, he gave no reference as to where it was to be found, so that it could be consulted by the reader, if desired. 2. He failed to quote me literally, although my deductions were made in separately numbered paragraphs at the end of the paper for ready reference. 3. He utterly ignored my two special explanations as to my meaning in the use of the words primary and secondary union, and suppuration. 4. He credited me with only one explanation of the non-union of wounds, whereas I had carefully and repeatedly mentioned that there were many such, and even gone so far as to admit the possibility of germ infection in some instances. 5. He apparently ignored my repeated statements that antiseptics were useful and did good, but not as germ-killers, as was so generally and thoughtlessly supposed.

I believe the first to have been due to the inadvertence of a very busy mind; the second, to trusting to memory and a desire to economize space; the third, to a misconception; the fourth, to an oversight; and the fifth was possibly only apparent. Moreover, nearly every part of the doctor's paper was printed as it had been written before my article had appeared. My paper was a long one, and was rapidly read. In this way erroneous impressions might easily have been formed. Had the doctor's paper only appeared in the usual way in the society's proceedings, I should not have replied; but, appearing as a separate article, it seemed to me justifiable to write a reply, so that my views might not

in this inadvertent way be received by some in a modified form.

In conclusion, I may be allowed to express the wish that my genial friend may at least live and continue his numerous and brilliant operations until the time when he will freely acknowledge, with his usual frankness, not only that is Listerism an extremism, but that the routine employment of antiseptics on a large scale is uncalled for and a waste of time and material, and that a neglect of these manifold precautions is not criminal.

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DISLOCATION OF THE HEAD OF THE RADIUS DOWNWARD (BY ELONGATION).

By R. VAN SANTVOORD, M. D.

IN the "New York Medical Journal" of January 3, 1885, Dr. Frank H. Hamilton published, under this heading, a translation of a note by Dr. G. Poinset from the French edition of his "Treatise on Fractures and Dislocations," with comments by himself. At his request, I undertook a series of experiments on the cadavers of children with reference to this lesion. I deeply regret that Dr. Hamilton's death before the completion of my observations deprives them of the added value of his comment.

The dislocation in question is said to be peculiar to childhood, being "most frequently observed in children two or three years of age; after six years it becomes exceptional. Bourguet, however, met with an example of it in a child thirteen years and a half old. Again, Dugés has met with it in a newly born infant, and Malgaigne in children still nursing."*

Its cause is said to be violent traction on the forearm or wrist, with or without torsion, such as is made by lifting a child by the wrist over a gutter, or by pulling the arm through a tight sleeve. As a result of the traction, a cracking noise is heard, the child cries out with pain in the elbow, and resists attempts to move the arm, and the limb seems powerless. The forearm is observed at different angles of flexion in different cases, one-quarter flexion being the rule. The forearm is almost always more or less strongly pronated, as a rule being between pronation and half pronation, but, exceptionally, is extended and supinated. The head of the radius is said in some cases to be displaced slightly forward, in others slightly backward, but frequently no deformity at all is observable. Pronation of the forearm frequently causes the head of the radius to project forward. In cases in which the forearm is pronated and an attempt is made to carry it into supination, a marked and firm ("bony") resistance is felt. This resistance is the characteristic positive symptom of the lesion. When the forearm is in supination, resistance is to pronation. The dislocation in most cases, probably, ultimately becomes reduced spontaneously by the muscular movements of the child. When recognized, the ordinary form is generally readily reduced by

* From the above-mentioned translation.

forced supination, followed by sudden flexion. In the variety in which the arm is in supination, forced pronation alone is said to be efficient. In the reduction a click is heard, the mobility of the arm returns, and the pain disappears, the child quickly desiring to use the limb. In the one case that I have seen clinically, the child insisted on taking its arm out of the sling the morning after the reduction. In some subjects repeated dislocations occur as the result of supposed laxness of the ligaments (possibly the carelessness or brutality of the nurse). Pingaud* cites two cases in which the lesion, evidently old, about to be described below, was found in adults, so that it seems probable that, exceptionally, it may give rise to permanent injury to the joint. For a full discussion of the points touched on in this brief sketch, the reader is referred to the literature cited in Dr. Hamilton's paper, especially Pingaud's article.

My investigations of the subject have been made with reference to certain points in the pathology of the lesion, of which hints are contained in the previous literature of the subject, but which Pingaud seems to have been the first to definitely formulate, his views being based on experiments upon the cadaver.

The following is the *résumé* of his observations as regards the pathology of the injury :

1. The anatomical lesion consists of a displacement of the annular ligament, of which the inferior semi-circumference mounts above the head of the radius and interposes itself between the articular surfaces; added torsion of the member inward may cause subluxation of the head of the radius forward.

2. In certain cases in which the ligaments are very lax the lesion may consist in a subluxation forward or backward, or rupture of the annular ligament as a result of torsion of the forearm inward or outward.

3. There may also be rupture of the dorsal ligaments of the wrist as a result of the same trauma which causes the dislocation, but not of the triangular ligament.

With reference to its mode of production he concluded :

1. Elongation pure and simple may cause a luxation directly downward, with interposition of the annular ligament in front.

2. Elongation associated with forced pronation may determine a luxation, complete or incomplete, with interposition of the ligament.

3. Elongation associated with forced supination remains without effect on the primitive displacement downward.

My own experiments were made upon the bodies of seventeen infants, ranging from three days to three years, all but one being of ages below that at which the lesion is said to be most common clinically. By making traction upon the wrist when the joint was bared by removing the integuments, the extensor carpi radialis longior, and supinator longus, almost without exception a slight snap would be heard, and the tissues would be seen to sink in between the head of the radius and the condyle of the humerus. In one case the furrow disappeared on ceasing the traction, but in

most of the others one or other of the various manipulations about to be described was necessary to efface this depression and to restore to the joint its full mobility, a check being felt to pronation, supination, or both, before reduction was effected. Examination showed that, as Pingaud states, the traction had caused the anterior portion of the annular ligament to slip up over the end of the radius. The snap that accompanied reduction was obviously caused by the slipping back of the ligament into place. The dislocation was most easily produced when the forearm was semi-pronated. It was in two cases produced with difficulty when the arm was in forced pronation; in other cases it could not be produced in this position by an amount of force which it seemed possible to use without breaking off the lower humeral epiphysis. In supination the dislocation was more easily caused, but not so easily as in semi-pronation.

I have noted that in five only of my cases could the dislocation be produced with the integuments intact by an amount of force seemingly consistent with the integrity of the lower humeral epiphysis. In more than one case this was separated before dislocation apparently took place. The amount of force necessary to cause the dislocation in the bared joint was so slight that I suspect it occurred and became spontaneously reduced in some of these cases when the attempt was made, apparently in vain, in the unamputated arm. As most of the subjects were emaciated foundlings, it can readily be supposed that their dry, shrunken tissues—i. e., integument and muscles covering the joint—were more resistant than in life and health, and either prevented the dislocation or dragged the bone back again into place by their elasticity. In a child of three years the dislocation was easily produced on both sides, the arms being in forced supination. The fact remains that the lesion described by Pingaud could unquestionably be caused by a moderate amount of force in a considerable percentage of unamputated arms.

In one case a marked snap was heard after traction upon an arm. The head of the radius was found to roll forward on forced pronation, but no reduction could be effected. Examination showed that the annular ligament had been torn loose from its attachments to the condyle of the os brachii and descended with the head of the radius when it was pulled down.

In another case, after forced twisting outward of the forearm of a child twenty-six days old had fractured the os brachii without injury to the elbow, violent jerking of the extended arm, with bending of the joint backward, caused the upper epiphysis of the ulna, the ligaments attaching the annular ligament to the os brachii, and the anterior part of the capsular ligament, to give way, so that the head of the radius was thrust part-way out of the annular ligament. These were the only cases in which, after the joint was bared, increasing traction failed to cause dislocation of the annular ligament before any other structure appeared to give way.

In most of my subjects reduction could be readily effected either by forced pronation or supination when the force used in causing the lesion was just enough to drag the head of the bone below the annular ligament, reduction

* Pingaud, art. "Coude," in "Dict. encyclopédique des sci. méd.," 1re série, t. xxi, p. 529.

being preceded by a slight feeling of resistance and accompanied by a slight snap. In two cases reported by Dugés * reduction was effected by pronation—in one accompanied by bending the arm toward the ulnar side, in the other by extension. In two of my subjects *pronation* caused reduction when *supination* alone did not. When both were efficient, pronation succeeded most readily. When the ligaments were relaxed, and, probably, more or less lacerated by repeated dislocation and reduction, or by jerking the forearm this way and that, or when the anterior fibers of the capsular ligament were cut, pronation, instead of reducing the dislocation, caused the head of the bone to roll forward, disengaging itself more and more from the annular ligament.

I observed that when the dislocation was produced by traction when the arm was in forced *pronation*, reduction and resistance were absent on pronating, but either both present or both absent on supination, reduction being in this latter case either impossible or possible only on forced flexion, with perhaps some of the accessory manipulations about to be mentioned. In this latter case, all resistance to either pronation or supination being absent, the condition of affairs existing in dislocation of the head of the radius in the adult was probably produced.

Violent twisting of the arm in pronation or supination, *without extension*, either broke the shaft of the os brachii or severed the upper ulnar epiphysis, but did not injure the radio-humeral joint at all.

The mechanism of the reduction by forced pronation, as can be seen by watching the process in the bared joint, consists in the forcible pulling up of the head of the radius into the annular ligament by the twisting of the capsular ligament. The integrity of only a small portion of the inner part of the ligament in some cases seemed enough to secure reduction. When these fibers are stretched or broken, the head of the radius is seen to roll out from under the annular ligament on pronating the forearm. When reduction by pronation ceases to be possible, forced supination alone, or supination followed by forced flexion, usually succeeds. The mechanism of reduction by supination, pure and simple, is apparently the same as that by pronation—viz., the traction of the capsular ligament shortened by twisting, except that in this case the outer portion of the ligament is the portion which does the work. When flexion is found to be a necessary auxiliary, the mechanism is different. In these cases the interposed annular ligament is caught in the angle between the head of the radius and the condyle. As the angle becomes more and more acute with increasing flexion, the ligament is seen to be gradually forced out from between the bones until it finally slips up into its place with an audible snap, just as a wet seed is expelled when pressed between the thumb and finger. In one case reduction was effected by this same mechanism when the radius, in extension, was simply pressed against the condyle. In another, forcible pressure against the condyle had to be associated with supination and flexion. In still another, the head of the radius had to be pressed back-

ward by the thumb, in combination with supination and flexion. In another, the forearm was flexed and abducted as much as possible. The end attained by these accessory manipulations was obviously to retain the radial head in its proper relation to the condyle, so that the displaced ligament could be kept in the angle between the bones and squeezed into position. All of these manipulations have been described by one author or another; but no one, as far as I know, has pointed out just what was accomplished by them. In one subject the two mechanisms had both to be called into play. Pronation alone failed to reduce. Supination and flexion partially replaced the ligament, but complete dislocation recurred on the slightest traction. When, however, the forearm was pronated after supination and flexion had partially replaced the ligament, complete reduction was effected.

The resistance to pronation, supination, or both, which is felt on manipulating the arm in this dislocation, is obviously due to the same twisting of the capsular ligament, which draws the head of the bone up against the annular ligament rendered tense by the twisting of the tissues, the snap accompanying reduction being caused by the slipping of the ligament into place. When dislocation was caused in forced supination, the outer fibers of the capsular ligament were ruptured or stretched so that resistance was not felt, nor was reduction effected by forced supination. Resistance and reduction, however, followed forced pronation, because the inner part of the capsule could still be shortened by torsion. When dislocation was effected in forced *pronation*, either the exact reverse followed or so extensive a laceration of the capsule occurred that reduction could be produced only by forced flexion, with perhaps some accessory manipulation to hold the head of the bone in place during flexion, or not at all.

In a case illustrating this latter occurrence the joint gaped open behind on flexion, the anterior edge of the ligament slipped over the head of the radius on forced flexion, but fell out again as soon as the arm was released.

In my earlier experiments I usually arrived at a point after repeated dislocation, torsion, etc., of a joint at which reduction became seemingly impossible. In one case this happened in a joint after the first dislocation by slight violence. I was then blindly groping after some manipulation or manipulations which would reduce the dislocation, in total ignorance of the mechanism of reduction when successful. I am convinced that my success would have been greater had I possessed the knowledge which I afterward acquired, and had been more intelligent in my efforts.

The mechanism of reduction explains certain points in the pathology and aetiology of the lesion which I have above mentioned. The shortened, twisted capsule of the joint seems to be the obstacle which prevents or renders difficult dislocation in extreme pronation. If dislocation does occur in this position, it involves necessarily a much greater injury to the capsule than in the semi-prone position. In the supine position this twisting of the capsule offers a similar but smaller amount of resistance. In other words, it is the traction downward alone which gives rise to this dislocation as

* "Journal hebdom. de méd.," 1831, t. iv, p. 197.

it ordinarily occurs. The varieties met with depend upon the amount and location of lesions of the ligaments, mainly the capsular, these latter depending seemingly upon the elasticity of the ligament, age of the subject being an important factor, the position of the forearm as regards pronation or supination when the traction is applied, and the forcibleness of the latter. The amount of deformity appreciable was in my experiments practically *nil* beyond the slight rolling forward of the head of the bone on pronation in cases in which that manoeuvre did not cause reduction.

The following is the single undoubted case that I have seen in the living subject: A boy of two years came home, after being out with his nurse, with his left arm slightly flexed, semi-pronated, and helpless. The nurse did not know (?) how it had happened. A similar accident had twice happened to the other arm, the patient having been treated, with perfect ultimate result, for "distortion" of the elbow. I saw him on the day following the injury. The child cried when I attempted to touch the arm. Pronation was easy, but did not cause reduction. I was not able to discover any swelling or deformity. Forced supination and flexion caused an audible snap, preceded by a sense of resistance, and the movements of the arm became at once free and painless. The little patient insisted on taking his arm out of the sling and using it the following morning, no evil results following.

As the result, therefore, of my observations, I must express my conviction that Pingaud has definitely set at rest the pathology of a lesion about which there has been a great deal of discussion among surgical writers.

In my experiments the dislocation of the annular ligament occurred in every case in which traction produced any observable lesion at all in the humero-radial articulation, with the sole exceptions of the one in which the annular ligament separated from the condyle, and one in which this lesion occurred simultaneously with others. In the first case it is possible that its attachments had been weakened by accidental cutting in laying bare the joint. The check to pronation or supination was entirely absent in these cases. In his comments on Poinot's note, Dr. Hamilton says: "I entertain some doubts whether further experiments will not show that it is not the true explanation of *all* cases belonging to this special class of accidents; and whether, indeed, it will not be found to be the exception rather than the rule. I shall be disappointed if further experiments do not show that in most of these cases there is nothing different from a subluxation as it occurs in other joints—namely, a stretching or partial rupture of the capsule, or of the ligaments, which, in certain positions of the radius, allow the head to become partially displaced. If this is shown to be the fact, then the displacement of the annular ligament observed by Pingaud must only be regarded as a complication, etc." He says further: "Another difficulty in the way of Pingaud's theory of mechanism as applied to the accidents in childhood caused by lifting, is that it only applies to the forward dislocations, leaving the backward dislocations unexplained." My answer to this criticism, based on my experiments, is that the dislocation

of the annular ligament can, in most cases, be so easily produced that it is probably a very frequent occurrence. When the capsule of the joint is little injured, reduction is so easily effected that it is probably effected spontaneously, in many cases so quickly that the surgeon is not called in. In the severer cases, laceration or stretching of the capsular ligament renders reduction more difficult and recurrence more easy, but replacement of the head of the bone within the annular ligament is absolutely necessary in order to place the parts in their normal relationships; it is, I believe, the one unvarying factor of the accident—*i. e.*, excepting, of course, those cases in which the annular ligament is torn loose from the *os brachii*. I am not aware that this latter lesion has been observed clinically. Dislocation of the annular ligament should therefore, I think, be regarded as the main lesion, the laceration of the capsular ligament as the complication. In injuries to this joint in the adult, serious damage to the annular ligament is more likely to occur. It may be so torn or displaced as to render its replacement, or retention after replacement, impossible. I suggest, however, that it would be worth while in such cases to make an attempt at such replacement, bearing in mind the mechanism above described. The objection based on the fact that Pingaud's theory fails to account for the occasional cases in which displacement backward is observed, my researches throw no light upon.

Dr. Hamilton's suggestion, that cases in which all possible movements can be imparted to arms which have been powerless after an injury but which speedily recover are cases of injury to the musculo-spiral nerve, is one worthy of consideration. The possibility, however, of spontaneous or accidental reductions, which Dr. Hamilton mentions as the explanation previously given for such cases, I am sure is very great.

20 EAST ONE HUNDRED AND TWENTY-FIFTH STREET.

A CASE OF PRIAPISM OF THREE YEARS' DURATION, WITH RECOVERY.*

By T. HERRING BURCHARD, M. D.,

LECTURER ON SURGICAL EMERGENCIES, BELLEVUE HOSPITAL MEDICAL COLLEGE.

ON July 15th I was called to see an English gentleman, fifty-three years of age, who was suffering intense pain in his penis, and whom I found greatly exhausted from an erection that had lasted uninterruptedly for five hours. Upon examination the organ was found to be of unusual rigidity and in a state of violent and continuous spasm. It was not until three quarters of a grain of morphine and one fiftieth of a grain of atropine had been hypodermically injected that the paroxysm was controlled. The patient, after partaking of some broth, fell into a troubled sleep, from which he awakened in five hours with another erection. He was now put into a hot bath, in which he remained about ten minutes, the severity of the spasm not having been appreciably mitigated. Two hypodermics of Magendie's solution—one of ten, the other of eight minims—were administered before the paroxysm was checked.

During the day two slight paroxysms occurred, one lasting

* Read before the New York Clinical Society, November 26, 1886.

forty-five minutes, and the other, which occurred three hours after, lasting eighteen minutes. Both were controlled by morphine. In all four of these erections the penis was in the same state of extreme rigidity, but with none was there a loss of semen. After the subsidence of the paroxysm a small quantity of glairy mucus escaped from the meatus.

No language could adequately describe the intensity of the patient's sufferings during one of these attacks.

The rigidity of the penis was remarkable; the corpora cavernosa seemed almost cartilaginous; the veins were distended like whip-cords, and the glans penis, from its turgescence, seemed double its normal proportions. The accelerator urinæ and erector penis muscles could be readily felt in the perinæum like dense fibrous bands.

The contraction of these muscles more closely resembled the spasms of tetanus than any other condition to which I might compare them. Like the spasms of tetanus, they were frequently excited by any jarring of the room—as from passing vehicles.

Previous History.—Four years before, the patient enjoyed perfect health and occupied a responsible office under the British Government. An irregularity appearing in his financial accounting, an examination of his accounts was ordered. This examination occupied some six months, and, although it ended in the vindication of the man, it left him in a condition of melancholia, aggravated by intractable insomnia and dyspepsia. Shortly after this, the sudden death of his wife was an additional blow to him. For thirteen weeks he was greatly prostrated, and, although suffering no pain, he could take but little nourishment and slept with difficulty. Though there were no fever and no apparent causes operating to produce emaciation during these thirteen weeks, he lost upward of forty pounds in weight.

In September, 1883, he began to have erotic dreams of a most lascivious nature. Frequent nocturnal emissions occurred. Erections occurred not infrequently during the day, these often lasting from one to three hours. This state of things continued until the summer of 1884, when, by the advice of his physicians, he went to Switzerland. There, exercise afoot and on horseback greatly improved his bodily health and restored his sleep.

Upon returning to London in the autumn, however, all his old trouble returned, and so weakened did he become that he could walk scarcely half a dozen city blocks, whereas in Switzerland he would walk that number of miles without undue fatigue.

During the winter, with but rare exceptions, he had from one to three involuntary emissions nightly, and during the day he would have rigid erections without seminal discharges. At this time he resigned his public office and gave himself up to the recuperation of his health. About January 1st he consulted Charcot, who ordered spinal douches, a vegetable diet, and strychnine and arsenic. Under this treatment he improved greatly, and, although still troubled with occasional diurnal erections and nocturnal emissions, he felt able to bear the fatigue of a journey to the Pyrenees and the mountains of southern Spain. Again his old trouble returned. Once or twice at night, and generally eight or ten times during the day, he would experience a sudden erection, unaccompanied by any erotic emotion or lascivious thought. This would continue anywhere from fifteen or twenty minutes to an hour or an hour and a half. Rarely were these erections accompanied by an emission, although there was generally some slight mucous discharge. Not improving in Spain, he went to the Tyrol, and subsequently passed through, as he tersely expressed it, "a winter of horrible erections" in Italy and Egypt.

In June he took passage for America, hoping to benefit from an ocean voyage. On July 15th he fell into my hands. At this time he was greatly emaciated and careworn, having lost nearly one hundred pounds in weight during the four years of his sickness. He now weighed but one hundred and thirteen pounds, whereas he had turned the scales at two hundred and five when first taken ill. His muscles were soft and flabby; his pulse was 98, and very weak. His temperature in the mouth was 97° F. His pupils were normal, the fundus oculi being extremely pale. Physical examination was negative so far as evidencing any organic disease that would produce this extraordinary condition of affairs.

No evidence of either cerebral or spinal disease was found. Cutaneous sensibility was normal; the reflexes were normal. His bowels were somewhat constipated. The urine was alkaline or neutral, with rather low specific gravity, 1.010 to 1.014, and contained large quantities of oxalate of lime.

His family history was excellent, and, prior to this attack, his own health had been exceptionally good. He had never suffered from rheumatism, gout, renal or syphilitic disease, and he had never received any injury. His bladder had been frequently examined for stone, with negative results. The testes were small; the spermatic veins normal. There was no urethral, prostatic, or rectal disease. In fact, repeated examinations made by most distinguished men abroad had failed to discover any cause for his present malady.

For over a year previous to the time I saw him his erections would occur from three to twenty times a day, and would last from a few minutes to five or six hours at a time. Latterly they had been of shorter duration but of more frequent occurrence, and the spasms accompanying them were more violent and painful.

Previous Treatment.—Needless to say, having consulted many men, he had about exhausted the list of therapeutical resources. For over six months he had taken enormous doses of the bromides without any appreciable effect. Camphor, opium, cannabis indica, ergot, chloral, galvanism, hot and cold spinal douches, had been repeatedly employed, but without controlling the disease or mitigating his suffering.

At the time I first saw him he had about determined to abandon further treatment, controlling the severity of his paroxysms when they occurred with morphine, and trusting to a speedy relief from his intense sufferings in death.

A careful study of this remarkable case led me to feel that, as long as no serious organic disease existed to prevent recovery, there ought to be some available relief.

Here was a man in the prime of life, who had enjoyed excellent health up to a time when, from nervous causes alone, such a neurasthenic condition had been developed that involuntary erections, with seminal incontinence, had occurred. These, with an impaired condition of health, became so aggravated that the patient had succumbed to despondency and pain.

I saw no reason why, under a careful hygienic and therapeutical course of treatment, his condition should not be at least improved.

The following course of treatment, purely empirical, but certainly rational, was therefore recommended:

1. To preserve his vitality in the best condition possible, and to husband his strength, he was put to bed. For the relief of his dyspepsia he was put upon a diet of peptonized milk with Murdock's food.
2. Believing that there must be impaired circulation through

the cord, whether due to an anæmic or congested condition I shall not pretend to say. spinal spongings of very hot and very cold water, applied alternately down the spine for a period of ten minutes, were employed three times a day. This sponging was used in preference to galvanization, because he had repeatedly received galvanic treatment at the hands of experts abroad without benefit.

3. To relieve any possible congestion that might be existing, applications of the actual cautery were made down the dorsal and lumbar spine on three occasions. The most marked improvement followed these applications.

4. In order to control the circulation of the cord, the fluid extract of ergot was administered in drachm doses, at first three times a day, this being increased later on to a drachm each three hours. Hypodermics of the hydrochloride of strychnine, commencing at one sixtieth of a grain and increasing to one twentieth of a grain, were given each day.

5. To abort the paroxysm, a spinal ice-bag was applied to the spine at the commencement of the paroxysm, and a full dose of morphine with atropine was administered hypodermically. Upon two occasions, when the paroxysm did not yield to the morphine within twenty minutes, chloroform was given by inhalation.

At the expiration of the second week of the foregoing treatment the general condition of the patient had so far improved that, in addition to milk, he was taking a full farinaceous diet, with boiled fish and the white meat of chicken. His erections were now occurring not more than once or twice in twenty-four hours and were far less severe.

During the third week of treatment, on two different occasions he passed the twenty-four hours without an erection, and at no time did he have more than one paroxysm a day, lasting about fifteen minutes. During the same week the hot and cold douches were discontinued, and a mild descending current was applied to the spine for ten minutes each day.

The progress of the case from this time on was one of rapid improvement. I saw the patient on the second of the present month, and found that during the three months and a half since the commencement of treatment he had gained thirty-five pounds in weight, and had had no erection further than any normal man might experience for a period of over two months.

STAB-WOUND OF STOMACH AND DIAPHRAGM.*

By A. H. BUCKMASTER, M. D.,
BROOKLYN, N. Y.

IN June, 1884, at one o'clock, John F., nineteen years of age, received a wound from a shoemaker's knife ground to a point. It entered at the eighth intercostal space, two inches to the left of the mammillary line. He was seen shortly after the injury by a young surgeon, who examined the opening with a probe, and did not think the wound had perforated the pleural cavity.

The patient was removed to St. Peter's Hospital in the afternoon, and at this time had reacted from the shock, which was said to have been severe. He was put to bed and given a glass of milk, as he complained of great thirst. At five o'clock I noticed on the dressing what appeared to be curdled milk.

Rendering my hands thoroughly aseptic, I introduced a finger into the wound, and passed it through an opening into the diaphragm.

Dr. Wunderlich, although not on duty at this time, was the only gentleman of the surgical staff who could be reached. He decided to close the rent in the stomach or intestine, as the case might be, and thus give the boy the only possible chance for recovery. An incision was made in the median line through the abdominal wall above the umbilicus. After a slight search, which was assisted by the passage of a catheter through the opening in the diaphragm, the wound permitting the passage of the curdled milk was found in the greater curvature of the stomach, anteriorly, nearer the cardiac than the pyloric orifice. It appeared as an almond-shaped mass of crimson mucous membrane, about three fourths of an inch in length. The doctor turned in the everted mucous membrane and united the serous surfaces by a slight modification of the Lembert suture, using catgut. The abdominal cavity, which was filled with a dark-colored, intensely acid fluid, was washed out as well as possible with a Davidson's syringe.

The patient looked so weak that it was determined not to unite the wound in the diaphragm, and he died about an hour after the operation.

An autopsy made on the following day showed that the wound of the stomach had been securely closed, but more or less of the dark-colored, acid fluid was found in the pleural and peritoneal cavities.

Through the diaphragmatic opening had passed a coil of intestines. Whether this was wholly post mortem or not I am unable to say.

Wounds of the diaphragm must be of rare occurrence, as so little mention is made of them in the text-books. In Dr. Pilcher's recent work on the treatment of wounds I can find no reference to them whatever. The character of the tissue of the diaphragm, its constant motion, and the great danger of the intestine insinuating itself into a wound of this organ, render it most troublesome to treat.

Correspondence.

LETTER FROM PARIS.

Professor Debove on the Diagnosis of Cancer of the Stomach.—Salicylized Beer and Canned Articles.—The Lacaze Prize.

PARIS, December 29, 1886.

PROFESSOR DEBOVE, speaking recently at the *Société médicale des hôpitaux*, on the question of cancer of the stomach, said that it was very often extremely difficult to make the diagnosis, and he called attention to the fact that the German writers had written a good deal of late years to show that the absence of hydrochloric acid in the stomach liquids was a very important sign of cancer of that organ. Dr. Debove himself has been making a long series of experiments to see if this is of any value, and all his cases seem to prove that the fact is certain—so much so that he does not hesitate to declare now that it is an absolute rule in all patients attacked with cancer of the stomach that there will be found not the slightest trace of hydrochloric acid in the stomach juices. He presented to the society a patient who was a fresh example of the sign he wished to prove. Early in 1886 this man, who was about forty years of age, began to have some digestive troubles, accompanied with vomiting, and in August last he suffered with sharp pains in

* Read before the Medical Society of the County of Kings, September 21, 1886.

the epigastric region, and then came into Dr. Debove's wards. At first he was taken for a simple dyspeptic patient, but the gastric juice was examined, with the result of constantly finding lactic but never hydrochloric acid. About a month ago a tumor was found in the usual region, which to-day is as large as an egg, and shows all the characteristic signs of cancer. As the sign of absence of hydrochloric acid existed when the patient was first seen, and when he was legitimately considered as only a dyspeptic patient, Dr. Debove is disposed to accord to it the utmost importance in the diagnosis of the disease. In the case cited, although there was some loss in weight, the patient was not cachectic, nor had he hæmatemesis or melæna, so that it was impossible to say that he had anything but dyspeptic symptoms. It is to be hoped that physicians will at once report all cases of the want of hydrochloric acid in the fluids of the stomach, and state what relation it bears to cancer, as, if this sign is sure, a very simple and easy mode of early diagnosis is discovered. Dr. Debove does not approve of the old method (Spallanzani's) of causing the patient to swallow a small sponge, and then withdrawing it, to obtain the gastric juice, but prefers to use a stomach-tube, and he also examines the vomited matters. As to reagents, he uses gentian-violet and Poirier's No. 4 orange-color for the hydrochloric-acid test, and perchloride of iron and carbolic acid for the lactic acid. The gentian-violet gives a blue color, the Poirier's solution gives red, and ten drops of a watery solution of carbolic acid, with three drops of solution of perchloride of iron, will pass from an amethyst-blue to yellow, in the presence of lactic acid. It should be stated that experiments were first made on healthy subjects, to get and test the normal hydrochloric acid from the gastric juice, and that these trials should be made during digestion.

Some few years ago but little good beer could be had in Paris, notwithstanding the fact that most of the cafés displayed a sign saying they kept Vienna and Munich brewings. The current joke then was that the Vienna and Munich beer mostly came from Charenton and Bercy, thus expressing the fact that they were all made near Paris. When the real article was introduced it made rapid headway, and before long Paris was astonished to see beer saloons in the Queen Anne style springing up all over the city, while whole special trains of Munich beer were arriving at the Northern Station daily. The excellence of the drink and the fact that the toiling millions were tired of drinking a chemical mixture called *wine*, brought about this great trade. It had been found that it was a sheer impossibility to furnish real grape-juice to the French masses for the small sum of ten to twelve cents a quart, so the German beer found a good market. This was all very well until a few months ago, when a great outcry was made by the French papers to the effect that their old enemies were trying to poison Paris with their beer, which was highly charged with salicylic acid. This was followed by a protest signed by all the German brewers saying that they used nothing but malt. The matter was, however, brought up before the savants of the *Académie de médecine*, and the secretary of the committee, M. Vallin, has just made a report of the affair which is of considerable interest to the medical profession and to all hygienists, as the practice involved may be one that is spreading, and it should be stopped as soon as possible. The French sometimes say a good deal of American canned goods, but, like every one else, they often fail to see the mote in their own eye. We well remember Professor Brouardel's saying last year that at the Government chemical laboratory it was the habit to pass all canned peas that contained only a certain proportion of copper used to color them green. As he put it, "You know that it is impossible to put peas up without something to color them, and the public will not buy them unless they are colored, and, as it is said that copper is not a poison, we

have to let a certain quantity of it pass." But, to return to the salicylic acid and its use to prevent fermentation; it is certain that a large number of manufacturers mix it with their liquid and solid goods that are liable to spoil. There have been cases where fish, for instance, were kept by it for some time. Is this dangerous to health? is the great question. In 1884 it was decided that it was, and a decree was issued forbidding the use of salicylic acid in any substance used as food; but little by little this order has become a dead letter, and the *salicylage*, as it is called here, has gone bravely on. The great question to solve is this: Will moderate doses of the salicylates do harm? Clinical experience shows that no serious inconveniences are seen from quite large doses of the drug given in the rheumatic states, but facts of this kind can not be invoked in favor of the general use of them, because the number of such patients is small in proportion to the millions of consumers of the salicylated foods and drinks. Again, the general public is not to be considered ill, and we all know that persons who are really sick will support opium and iodide of potassium, for instance, in doses that they could not bear if they were well. It is also known that people who have kidney disease can not tolerate salicylates, and there are plenty of people apparently well who are suffering more or less from albuminuria. Old persons also can not take this drug; perhaps it is owing to the fact that their renal organs are not in good condition. Again, the very large class of dyspeptics are unfavorably affected by the salicylates, and it may be that this is owing to the fact that these substances, by their anti-fermentative action, have an injurious action on the necessary digestive ferments. It will be said that certain experimenters have tried the use of the salicylates on themselves without the slightest damage; but this is no reason why their use should be permitted to manufacturers, who will introduce them unknown to all the world. It was first proposed to the committee that they should allow their use so long as a certain maximum proportion was not exceeded; but they would not tolerate this, as the salicylates are transformed after a certain time, and the amount would fall, but the drink would be just as dangerous, if not more so, owing to the fact that the products of the decomposition of the salicylates are themselves dangerous. The question must be looked at also from the standpoint that, once authorize the use of salicylic acid in trade, and it will be put into all sorts of food products liable to fermentation that are still without it. It was also proposed to the committee that they could label all such goods, but, with the humbug of the well-known "butterine" products, they felt sure that this could not be carried out. They therefore concluded: "It being well established by medical observation that feeble and prolonged daily doses of salicylic acid and its derivatives can cause considerable trouble to the health of certain persons who are sensitive to those forms of drugs, particularly old people and in those whose renal or digestive functions are no longer in perfect order, therefore the addition of the salicylates to liquid and solid aliments will not be permitted." This edict, it need not be said, will not stop the practice, but it will at least limit it to a great extent.

The great Lacaze prize of 10,000 francs, that is awarded every four years for the best work on the treatment of fevers, typhoid in particular, has just been given to Dr. Albert Robin for his work called "*Leçons de clinique et de thérapeutique médicales*." M. Robin is one of the professeurs agrégés at the Faculty and a relative of the late Professor Robin's.

The Legion of Honor.—The "*Gazette hebdomadaire de médecine et de chirurgie*" announces that Professor Fourrier has been nominated an officer, and Professor Hayem a knight, of the Legion of Honor.

THE

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MEDICINE AND THE COMMUNITY.

The present status of medicine in the eyes of the world at large, as compared with the state of things that existed but a few years ago, is a subject that medical men may contemplate with satisfaction, and a satisfaction not founded on either egotism or optimism. If we glance at the history of the healing art, a history that is contemporaneous with that of civilization, we find that it is only within recent years that it has been esteemed justly. It is true that Homer spoke of skilled physicians as "more than armies to the common weal"; that individual practitioners have been revered, whether they were scientific physicians pure and simple, or partook more or less of the character of the demigod, the priest, the sorcerer, or the quack; that, on the whole, with a few such exceptions as are to be found in Molière's raillery, general literature has given an honorable and dignified place to representatives of the medical profession; and that in a few instances—such, for example, as that of the school of Salerno—the title of medicine to be ranked as a science has been temporarily entertained. All this, however, was unsatisfactory; in so far as it rested upon any approach to critical appreciation, for the most part it either had reference to an art that was mystified and disguised, or it sprang from admiration for the qualities of individuals rather than for the calling they followed. In neither case was praise really satisfying, although the standpoint from which it was longed for by the physicians of bygone times was doubtless vastly different from that taken by those of the present day.

But a more wholesome state of things is rapidly coming to pass. Whatever importance medicine now holds in the esteem of the world at large is to a great and increasing extent its own, and not the reflected glory of a few popular practitioners. The idea that medical learning is little more than a memorized list of symptoms and their antidotes is almost as nearly rooted out from the people's minds as the old notion that a successful physician was a seer—born, not made. It is getting to be understood that no occult or extraordinary original powers are needed to make a man an efficient practitioner of medicine, but that, given a fair mental constitution, reasonable conscientiousness, systematic training, and moderate experience, the desired product is pretty sure to be turned out, a creditable exponent of the medicine of the times. More than this, medical science is now recognized as progressive in another and a better sense than that of adding accidental discoveries or happy conceptions to its stock. It is to appreciation founded on such grounds that we must attribute the general acquiescence in anatomy laws and clinical teaching, as well as the gratifying frequency with which of late years men of wealth have contributed to

endow institutions having for their purpose, solely or largely, the education of coming generations of medical men; the disposition of communities to submit to sanitary regulations based on medical research and administered by medical men; and the willingness of governments to look at military and commercial matters with some regard for the application of medical knowledge.

A writer in the "Union médicale" finds a reason for this change in the closer acquaintance into which modern society has been brought with the actual work of medical men, as exemplified in hospitals, in campaigns, and, above all, in the organized medical service now connected with the great railways and with engineering and manufacturing operations of unusual magnitude. That this agency has had its effect we may undoubtedly believe, but that its action has been subsidiary to that of the essential difference with which now, as compared with former times, the study of medicine is carried on we are equally certain.

ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Fourth Division of the Health Department for the following statement of cases and deaths reported during the two weeks ending January 11, 1887:

DISEASES	Week ending Jan. 4.		Week ending Jan. 11.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever.....	18	5	10	10
Scarlet fever.....	39	6	49	9
Cerebro-spinal meningitis...	1	1	8	8
Measles.....	437	53	537	6
Diphtheria.....	136	50	122	4

The Alumni Association of the Medical Department of the University of the City of New York will hold its annual meeting, to be followed by the annual dinner, at Delmonico's, on Thursday evening, the 27th inst.

The City Board of Health.—A petition was recently presented to the board, asking that six women might be appointed sanitary inspectors. As there were no vacancies in the force, and as there was no money to pay for additional inspectors, the request could not be complied with. The Committee on Hygiene of the Medical Society of the County of New York has appeared before the board, urging the adoption of an ordinance requiring manure to be baled before it is removed from stables.

The Death-rate of Boston.—During the year 1886 there were 9,263 deaths, or 23.39 to every thousand inhabitants. There were 1,092 deaths from consumption, 770 from pneumonia and other lung diseases, 568 from diseases of the heart, 718 from diarrheal diseases, 477 from croup and diphtheria, and 322 from diseases of the brain.

The Army and Navy General Hospital at Hot Springs, Ark., it is announced, will be opened next week, with beds for eighteen officers and sixty-four enlisted men.

The Woman's Hospital.—On the nomination of the Medical Board, the Board of Governors recently elected Dr. Fordyce Barker president of the Medical Board.

The Possibilities of Photography.—The "Evening Post" says: "In the 'Camera' magazine a very curious phenomenon in connection with photography is recorded by the person who observed it. He took a portrait of a child apparently in full

health and with a clear skin. The negative picture showed the face to be thickly covered with an eruption. Three days afterward the child was covered with spots due to prickly heat. 'The camera had seen and photographed the eruption three days before it was visible to the eye.' Another case of a somewhat similar kind is also recorded where a child showed spots on his portrait which were invisible on his face a fortnight previous to an attack of small-pox. It is suggested that these cases might point to a new method of medical diagnosis."

The New Haven Medical Association.—At the annual meeting, held January 5th, officers were elected as follows: President, Dr. Henry Fleischner; vice-presidents, Dr. William H. Carmalt and Dr. Gustavus Eliot; secretary and treasurer, Dr. Frank W. Wright; finance committee, Dr. F. L. Dibble and Dr. C. A. Lindsley; prudential committee, Dr. Henry Pierpont and Dr. Herbert E. Smith. There are now sixty-one members, an increase of five during the past year. At the twenty regular meetings held during the year there was an average attendance of sixteen, histories of fifty-two cases were related, ten papers were read, nine questions were discussed, and three addresses were delivered. The building fund amounts to \$1,644.70.

Adulterated and Factitious Cod-liver Oil.—The "St. Petersburger medicinische Wochenschrift" says that liquid vaseline is being used in the adulteration of cod-liver oil, and that it may be detected by its not being saponifiable. The same journal mentions the American device of making artificial cod-liver oil by macerating herrings in good olive-oil, the product being an oil that has a clear yellow tint and the characteristic smell of cod-liver oil. By allowing the herrings to remain in the olive oil for eight or ten days, a "brown cod-liver oil" is obtained.

Asylum Attendants.—In the "Fifth Biennial Report of the Kansas State Insane Asylum at Topeka," the superintendent, Dr. B. D. Eastman, says:

"One of our greatest anxieties in administration is the difficulty of securing suitable employees in many places, particularly in the immediate care of patients. The welfare and comfort of inmates, and their recovery as well, depend largely upon the personal character of the attendants. In foreign asylums it is customary for persons to expect to make their life business the care of the insane, as attendants; here it is looked upon as a temporary make-shift, particularly by men. The duties of those directly engaged in the care of patients are very varied, and for their most successful performance require talent of no mean order. The attendant needs to control and direct those under his care, and at the same time to be a companion and an entertainer. He must also be an adept at household work, and fertile in resources. It often happens that he who entertains and pleases best fails in housekeeping, while the good housekeeper, who polishes the door-knobs to the brightness of a mirror, rasps the patients' feelings with equal vigor. Hence the complaint is rife all over the country that attendants are continually changing, and so often unsatisfactory. But when the faithful, conscientious attendant is found, he is highly prized, and he may be assured he is laying up treasures, figuratively if not materially."

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from January 2, 1887, to January 8, 1887:*

RAYMOND, H. L., First Lieutenant and Assistant Surgeon. Ordered for duty at Presidio of San Francisco, California. S. O. 127, Department of California, December 29, 1886.

IVES, F. J., First Lieutenant and Assistant Surgeon. Granted one month's leave of absence, with permission to apply for twenty-three days' extension. S. O. 1, Department of the Platte, January 3, 1887.

Society Meetings for the Coming Week:

MONDAY, *January 17th*: New York Academy of Medicine (Section in Ophthalmology and Otology); New York County Medical Association; Hartford, Conn., City Medical Association; Chicago Medical Society.

TUESDAY, *January 18th*: New York Academy of Medicine (Section in Theory and Practice of Medicine); New York Obstetrical Society (private); Medical Societies of the Counties of Franklin (annual), Kings (annual), and Otsego (semi-annual—Cooperstown), N. Y.; Ogdensburg, N. Y., Medical Association; Connecticut River Valley Medical Association (Bellows Falls, Vt.).

WEDNESDAY, *January 19th*: Harlem Medical Association of the City of New York; Northwestern Medical and Surgical Society of New York (private); Roman Medical Society (private); New Jersey Academy of Medicine (Newark); Philadelphia County Medical Society (clinico-pathological).

THURSDAY, *January 20th*: New York Academy of Medicine; New Bedford, Mass., Society for Medical Improvement (private).

FRIDAY, *January 21st*: Chicago Gynecological Society.

SATURDAY, *January 22d*: New York Medical and Surgical Society (private—annual).

Obituaries.

John Scott, M. D., M. R. C. S. I., of San Francisco, died on Friday, December 24, 1886, of acute pericarditis. Shortly before his last illness occurred, he made a visit to New York, where a slight operation was performed for the cure of a chronic infirmity. At that time his physician here, Dr. A. Palmer Dudley, detected a trifling degree of mitral insufficiency. Dr. Scott's general health was improving, however, and he reached home in better health than he had had before for a considerable period. He at once took up his professional work again with zeal and assiduity. In about a fortnight he was called to San José, and it is supposed that the fatal attack of heart trouble was induced by exposure during the journey. In the course of a few days he began to suffer with cardiac distress, and fever soon set in, with the physical signs of pericardial effusion. Under appropriate treatment, he did well, and was regarded as recovering; but on the tenth day, in spite of the protests of his medical advisers, he went out and resumed his hospital work. After a few days more, he was obliged to take to his bed again, suffering with dyspnea and failing gradually. At the post-mortem examination, about six ounces of semi-purulent liquid were found in the pericardium, with slight adhesion at one point, and the coronary arteries were seen to be in an advanced stage of atheromatous degeneration. The interment took place on the Monday following his death, in the Mountain View Cemetery at Oakland.

Dr. Scott was a native of Ireland, and was about fifty-eight years of age at the time of his death. Early in his professional life he spent a number of years in India, and was a physician to the Black Town Lying-in Hospital, in Madras. In 1865 he came to New York, and made the acquaintance of Dr. Thomas Addis Emmet, under whose guidance he spent several months in the study of gynecology and in observing the management

of the Woman's Hospital. He conceived an enthusiastic regard for Dr. Emmet, and the attachment continued unabated throughout the rest of his life. By Dr. Emmet's advice, he went to San Francisco and organized the California State Woman's Hospital, of which he was the surgeon-in-chief. His professional career in San Francisco was highly creditable to him, both as a surgeon and as a man. In 1879 he was elected a member of the American Gynecological Society, and he almost invariably attended its meetings, being usually obliged to perform the long journey to one of the Atlantic cities for the purpose. The modesty and good sense with which he took part in the society's proceedings, and the unobtrusive but fervid goodness of heart that his fellow-members recognized in him, caused him to be held in high esteem in that body, at whose future gatherings his genial presence will be sadly missed.

Dr. Scott was not a voluminous contributor to medical literature, and his papers, several of which have appeared in our columns, were for the most part of a clinical character. His writings were simple and to the point; he made the most of his art and nothing of himself. Socially, he was a delightful companion; beaming with good nature, but utterly free from levity. His loss will be felt seriously by both the profession and the people of the Pacific coast.

OBITUARY NOTES.

William Perry, M. D., of Exeter, N. H., died on Tuesday, the 11th inst. He was born in Norton, Mass., in 1788, and was the oldest graduate from Harvard University, having been a member of the class of 1811, and was graduated from Harvard Medical School in 1814. He is said to have been a member and the sole survivor of the party that accompanied Fulton on his first steamboat trip down the Hudson in 1807. He was one of the most successful and skillful practitioners of his day in New Hampshire, and had made the subject of insanity a special study.

Edward Dorsch, M. D., of Monroe, Mich., died on Monday, the 10th inst., at the age of sixty-five. He was a graduate of the University of Munich, and was favorably known not only as a physician, but also for his attainments in the natural sciences, polite literature, and art.

Preston M. Chase, M. D., of Danvers, Mass., died on Tuesday, January 4th. He was graduated from the Harvard Medical School in 1857, and at the outbreak of the civil war he was appointed an examining surgeon. He was subsequently appointed a regimental surgeon, in which capacity he served until the close of the war. He was a member of the Massachusetts Medical Society and of the Essex, Mass., South District Medical Society, and had been a member of the Danvers Board of Health.

Proceedings of Societies.

NEW YORK ACADEMY OF MEDICINE.

Special Meeting, December 30, 1886.

The President, Dr. A. JACOBI, in the Chair.

Deformities of the Nasal Septum.—Dr. FRANCKE H. BOSWORTH read a paper on this subject, with an analysis of over one hundred and fifty cases treated with the saw. This condition was probably the most common cause of catarrhal affections of the upper air-passages. Observations made on skulls were more or less deceptive, the cartilages being entirely absent, and the vomer probably warped in the process of drying. The classifica-

tion of these deformities was usually based on the direction and extent of the deflected portion, as involving the cartilage alone, or the cartilage and vomer together, and as presenting ridges horizontal or vertical in direction. But in addition to these true deflections there were other cases of deformity which were not deflections in any sense of the word. They consisted of a prominent ridge running along the sutural lines, the most frequent being that in which the ridge extended along the line of junction between the vomer and the palatal process of the superior maxillary bone; the second in frequency were those in which the ridge extended along the line of junction of the cartilage of the septum and vomer, ending abruptly at the junction of the upper border of the septal cartilage and the vertical plate of the ethmoid; in the third class of cases the ridge extended along the whole anterior edge of the vomer, including its union with the cartilage of the septum and the vertical plate of the ethmoid. There was no depression on the opposite side. The ridge, however, sometimes existed on both sides. The ordinary deflections of the septum could easily be attributed to traumatism. It was a growing conviction in his mind that both the deflections and the deformities described were always due primarily to traumatism, in the large majority of cases, slight, perhaps overlooked at the time, but setting up morbid changes which developed symptoms at a later stage. Probably in the majority of cases the injury occurred in childhood, causing an arthritis or even a deformity which at the time gave rise to no observable symptoms, but which in later years, perhaps ten, fifteen, or twenty years later, caused very serious and annoying symptoms.

Dr. Bosworth then briefly described the operations devised for the correction of deflections of the nasal septum by Blandin, Steele, Ingals, and Jarvis, pointing out their imperfections, and then exhibited a saw which he had prepared and used with great success in over one hundred and fifty cases of which he had records. The instrument was made as thin as possible consistent with strength, an eighth of an inch in width, five inches long, with a cutting edge of three inches, thirty teeth to the inch, each tooth an exact equilateral triangle, with no cross-cut or set to the teeth, the handle being three inches long, and attached at an angle of forty-five degrees. With the aid of cocaine the deformities described could be corrected by this saw without causing the slightest pain. Care should be taken not to saw in a curve, but to keep the instrument straight, and make as rapid motions as possible. There were few deformities of the nasal septum which could not be reached by it. It had been objected that suppuration and cicatrization would follow, but in no case had he seen any such result, and delayed healing had occurred in only a few cases in which he had failed to saw in a straight line, on account of bending the saw. The hæmorrhage immediately after the operation was profuse, but it soon ceased, and he merely directed his patient not to expel the clot for three hours. He had plugged the nose in only one or two cases.

He regarded the primary cause of the naso-pharyngeal catarrh in these cases to be deformity of the septum, causing nasal stenosis and hypertrophic changes in the mucous membrane. The deformity interfered with normal nasal respiration; with each inspiration that portion of the nasal mucous membrane which lay immediately behind the point of obstruction became subjected to diminished atmospheric pressure, which acted on the soft, spongy vascular tissues covering the turbinated bones, producing abnormal turgescence. This action, which was very slight the first few years after the injury which had caused the deformity, went on to permanent hyperæmia of the blood-vessels. If the deflection was but slight, this change occurred only on the side of the deformity; but, if it was extreme, all the inspired air passing through the opposite nostril, a chronic hyper-

æmia developed also on that side. This resulted finally in hypertrophic changes. Then occurred mouth-breathing, which was not a vicious habit, but a necessity produced by nasal stenosis.

It was said that in so-called naso-pharyngeal catarrh there was increased nasal secretion, but he thought this was only apparently true: that there was, in fact, diminished secretion, with difficulty in clearing the nasal passages and vault of the pharynx of the thickened and sticky secretion. As to there being a pharyngitis, he had seldom seen it; it did not occur in connection with disease of the air-passages, for the pharynx belonged to the food tract, and was more likely to show disease in connection with gastritis. The speaker gave credit to Dr. Butlin for having used the jeweler's saw since 1880 for the removal of deformities of the septum causing ear symptoms.

Dr. A. H. SMITH differed with the author with regard to diminished nasal secretion in catarrh. He spoke of his observations made about twenty-five years ago, and referred to by the author, regarding the effect of rarefaction of the air behind an obstruction in the air-passages, and thought it might lead to hyperæmia and hypertrophic changes as indicated by Dr. Bosworth. It was difficult to believe that there was no close relation between asthma and gastric disorder, when the attacks of asthma occurred in some instance only after eating oysters, for instance. He once experimented with inhalations of oxygen in asthma, and some patients were relieved, while others were not. He was disposed to think that in the first class of cases the trouble was with the entrance of air to the lungs, and in the second with the passage of blood through constricted blood-vessels. He thought it a question whether septal deformities always resulted from traumatism. It also appeared to him that the pharynx was, properly speaking, a part of the air-passages; the lining membranes were certainly continuous, and in chronic catarrh the membrane between the tonsils was very generally in an abnormal condition. For clinical purposes, the term naso-pharynx could be employed with entire propriety. As to the cure of so-called nasal reflexes by treatment directed to the nose, he knew of some relapses, and he thought more time was required than was usually allowed before pronouncing the patient cured. In some of the worst cases of nasal catarrh he had ever seen, the turbinated bones had been almost entirely swept away, leaving large nostrils. In general, the results in the treatment of bad cases of nasal catarrh were better than in the treatment of light ones. In bad cases some relief almost always followed treatment; but there was a point in the treatment at which the case would be called a light one, and, if after that the treatment was continued, the patient would get worse rather than better.

The PRESIDENT remarked that the size of the passage required to admit a sufficient amount of air to the lungs had been pretty accurately demonstrated by Dr. O'Dwyer's laryngeal tubes. Thus it would seem that large nasal passages were not required to admit a sufficient amount of air, and that something else than a bony obstruction or deviation of the septum was interfering with the admission of a sufficient amount of air, and this condition, a hyperæmia of the mucous membrane, he overcame by milder treatment, as by the use of a very mild solution of nitric acid (1 to 500). The patient should wash out the nose, which could be done in a gentle manner, two or three times a day for six months or a year. Strong solutions of the acids did harm by destroying the membrane.

Dr. BOSWORTH said that local applications would reduce the hyperæmia temporarily, but the difficulty would again return unless radical treatment by removal of the deformity was resorted to. In answer to Dr. Jacobi's question he said the evidence of sufficiently large nasal passages was ability to sleep at

night with the mouth closed. But the patient's testimony on this question usually did not amount to anything. As to diminished secretion in chronic catarrh, in health there was as much as twelve to sixteen ounces secreted, which was vastly more than was ever put into the nastiest handkerchief. It passed into the stomach without the person's knowing it. But when the secretion was changed and of an unhealthy character it did not pass into the fauces, or it lodged there and could with difficulty be removed.

MEDICAL SOCIETY OF THE COUNTY OF KINGS.

Meeting of September 21, 1886.

The President, Dr. JOHN A. McCORKLE, in the Chair;

Dr. C. E. DE LA VERGNE, Secretary.

Poisoning by Locust Bark.—A report of thirty-two cases was read by Dr. Z. T. EMERY. [To be published hereafter.]

Dr. SHERWELL asked if the erythematous eruption which had appeared in these poisoning cases had been persistent or a marked feature. He referred to the fact that Professor J. C. White, of Harvard, had read a paper on "Native Plants Injurious to the Skin," at the last meeting of the American Dermatological Society, in which he had cited a large number of them not generally considered actively toxic in their properties. He felt sure that Dr. White would be greatly interested in this report. The speaker also remembered reading in the "Homœopathic State Medical Journal," some years since, a report of so-called provings of all the parts of the *Robinia pseudacacia*, in which it was credited with all the attributes of the upas-tree, apparently, and its ingestion or smell said to cause anything from sterility to corns. As far as he could learn, the only part of the tree heretofore causing any symptoms had been the inner bark of the root.

Dr. EMERY said that, so far as he had been able to ascertain, no one seemed to have heard of its poisonous qualities. There had, however, in his cases been an erythematous blush covering the cheeks of those who had suffered in a mild form, and there were spots on the limbs. These, however, had passed away in a few hours. In his reading he had ascertained that the root and flowers were said to be active. They contained an active principle called robinin. He thought this principle had caused the poisonous symptoms, and that it was contained in the flowers as well as the root.

Dr. BURGE recalled the habit that boys had of eating the flowers of the locust. He himself had so indulged in his youth without any bad effects.

A Case of Submucous Laryngitis treated with Hot Water.—Dr. A. H. BUCKMASTER read a paper with this title. [To be published hereafter.]

Dr. SHERWELL said that the method named should be given a trial in such and similar cases, that being so readily and easily done. He thought that its therapeutic action was probably from the effect on contiguous structures and their circulatory supply, and not on account of its entering the larynx, which he thought improbable, if not impossible. In conversations with Dr. A. R. Robinson, of New York, he had been interested in his method and after-treatment in cases of tracheotomy, which operation that gentleman had done many times, and with noteworthy success. The speaker had operated a good many times, but could not offer such favorable statistics.

It appeared that Dr. Robinson—having in all cases secured competent and sufficient professional assistance for care after the operation, which he generally accomplished by retaining two young medical men, or students, one for day, another for night service—placed great stress for a time on the almost constant application of hot water by means of wrung-out sponges

in the vicinity and all round the larynx, only being careful not to stop up the lumen of the tube. He had operated frequently, and his percentage of recoveries had been very large. This was the more noteworthy as he did not prefer what was called the early operation. The speaker's results had been fair, but did not compare with Dr. Robinson's, and he thought in future he should be guided by his experience.

Dr. WESTBROOK had had some experience in the treatment of laryngitis, but none with the use of hot water. He had had experience, however, in the use of hot water in the mouth and facial region. He thought it not an uncommon practice to recommend it as a gargle for pharyngitis. But the instances were rare in which the hot water was brought into actual contact with the laryngeal structures. While, as had been demonstrated by Dr. French, substances used as gargles might penetrate to the larynx, yet the penetration was very slight. Used as a gargle, he thought hot water would become modified in temperature before reaching the larynx. Besides, the constrictor muscles of the isthmus of the fauces seemed to close up the cavity and prevent the hot water from reaching the larynx. While, therefore, he had used hot water, he could not say that he had applied it directly to the larynx. It was not, however, improbable that, with a patient lying on his side with the mouth open, a stream of water might reach the larynx. Yet it might cause a reflex action of the sphincter muscles of the larynx and close the same, so that the patient might not be able to breathe while the water was being applied.

Of course, Dr. Buckmaster's paper had a much wider bearing than merely the treatment of diseases of this region. It had relation to the treatment of obstetrical cases, for instance. He thought it well to try Dr. Buckmaster's method in proper cases before resorting to tracheotomy. He deserved a great deal of credit for having thought of it in the emergency, and for the good results obtained.

Dr. JONES did not think that Dr. Buckmaster could allege priority in the use of hot water for acute laryngitis, but certainly his method was original and successful. The speaker had on several occasions thought of a direct application of hot water to the larynx, but the objection raised by Dr. Westbrook had occurred to him—namely, How could the patient breathe? Professor Delafield, in 1883, had suggested a method of applying hot water by means of sponges—as hot as could be borne.

Dr. Milne Murray's paper on the use of hot water was certainly a very valuable contribution to this subject, and the ingenuity displayed by the investigator was much to his credit. There was one important point which had not been referred to by the reader of the paper, and that was that it was not necessary to apply the hot water directly to the tissue which was to be stimulated. If the stimulus was applied in the immediate neighborhood, the desired effect was obtained. In support of this, Dr. Murray related the following case: Desiring to remove a retained ovum in a case of abortion, he had directed a stream of hot water, under the guidance of the hand, against the posterior vaginal fornix. Almost immediately the uterus had contracted, and the ovum had been expelled into his hand.

Dr. SULLIVAN had used injections of hot water very successfully in the treatment of dysentery. Whether the good effect was from the hot water used or not, washing out the bowels under the circumstances was, in his opinion, good treatment.

Dr. SHERWELL did not suppose that the hot water entered the larynx; it acted, in his opinion, on the tissues by reflex influence.

Dr. EMERY related a case of failure in the use of hot water to produce contraction of the uterus. Some six or eight years ago he had had occasion to use it for a case of post-partum hæmorrhage in a patient suffering from quite a good deal of constitutional

trouble from syphilis—so much so that the ostium vaginæ was surrounded by large suppurating gummy tumors. In this case hot water had failed to answer the purpose. It had been used thoroughly, and so hot that when it flowed back it was almost impossible to bear it upon the hands. A watery solution of Squibb's extract of ergot had produced the desired effect. He had also used hot water successfully in the treatment of external hæmorrhoids; also for an obstinate case of diarrhœa, given by the stomach, very hot. After a few weeks' use the diarrhœa had ceased and had remained cured.

Dr. BUCKMASTER said in reply that the failures in the use of hot water might arise from having the water at too high a temperature. Murray had found that a temperature higher than 120° F. often showed marked descents in the relaxation period. There was danger in using water too hot.

In reply to the gentleman who feared that the patient would be in danger of suffocating from the stream of water, he begged to remind him that the flow from the Davidson syringe was intermittent, and due time should be allowed for comfortable respiration.

As to whether it was possible for the water to reach the larynx directly or not, he was not prepared to say. He had noticed some recently published experiments in regard to the functions of the epiglottis where this organ had been removed without inconvenience to deglutition, and it was found that the flow of liquids into the larynx was prevented by the cords.

Dr. JONES thought that Dr. Buckmaster had misunderstood him. He did not profess anything for himself, but Professor Delafield had applied hot water in the treatment of laryngitis.

Dr. BUCKMASTER replied that Dr. Delafield had applied the hot water externally by means of hot compresses. He thought the application of steam to the larynx would be too dangerous—it would probably burn the tissues—if used to contract the vessels.

Dr. BURGE thought that the use of steam in the treatment of laryngitis was subject to the objection that it relaxed the tissues of the whole body. The use of lime in the treatment of croup had the same objection.

Dr. WESTBROOK had experimented with the atomizer in applying hot water. He had found that the loss of heat was so great that only a sensation of warmth was experienced. If the temperature could be retained, he thought it would be an admirable substitute for hot water. Dr. Buckmaster's method would be difficult to apply in all cases; for instance, in the case of a child it would be dangerous.

Stab Wound of the Diaphragm and Stomach.—Dr. BUCKMASTER reported a case of this injury. [See page 68.]

Dr. JONES said that the recent triumphs in ovariectomy had prepared the way for a rapid advance in abdominal surgery. We had not yet arrived at a stage where we could command that degree of success in the operations of gastrotomy, enterotomy, and abdominal section for intestinal wounds and obstruction which theoretically should be obtained. While the success of the gynecologists offered encouragement, as yet, operations for wounds and disease of the hollow viscera had not been so hopeful as could be desired. Dr. W. T. Bull had reported two successful laparotomies for bullet wound of the intestine; there were only a very few others that had been successful. Dr. Hacker had reported that in Billroth's clinic there had been thirty-three operations on the stomach, with twenty deaths; two of these had been gastrorrhaphy for perforating wound, both fatal. All authorities seemed to agree that laparotomy for wounds of the stomach and diaphragm must be done within a very few hours of the receipt of the injury in order to be successful. In the case reported by Dr. Buckmaster, it seemed that it would have been justifiable to open the abdomen widely, thoroughly clean

the abdominal and pleural cavities, and unite the wound in the diaphragm, as well as that of the stomach, which would have prevented subsequent hernia and strangulation.

NEW YORK CLINICAL SOCIETY.

Meeting of November 26, 1886.

The Vice-President, Dr. ROBERT ABBE, in the Chair;

Dr. B. FARQUHAR CURTIS, Secretary.

Two Cases of Cardiac Disease in Children (Sisters).—Dr. L. EMMETT HOLT read the history of two cases that had been under observation nearly five years, and in which there were rheumatismal nodules in the tendons. [See p. 40.]

The CHAIRMAN asked if the nodules had undergone any change, and referred to their similarity to "trigger finger," of which he had recently reported two or three cases. He thought that it was possible to distinguish whether the thickening was in the sheath of the tendon or in the tendon itself, because in the former case it could be felt "bunching up" under the examining finger on motion, while in the latter it would slip under as one mass.

Dr. T. H. BURCHARD said that he had seen three or four cases in which these nodules were present, and in one case the enlargement had suppurated, which had led him to think that it was analogous to bursitis.

Dr. F. HARTLEY said that there were numerous causes for trigger finger. In one case lately reported there had been no enlargement, but one of the accessory tendons had caught on a projecting point of bone. He thought that it was impossible, as a rule, to distinguish whether the enlargement was in the tendon or in its sheath.

Dr. W. H. KATZENBACH said, in regard to the prognosis of heart disease in children, that in some cases it was worse than in adults, the disease producing death very rapidly.

Dr. HOLT replied that he had found children did both better and worse than adults in heart disease, or, in other words, if they did not do very badly in a short time, the prognosis was very good. In reply to the chairman's question, he said that the nodules had altered, some growing larger, others smaller, but apparently without any reference to the treatment employed.

Aneurysm of the Arch of the Aorta.—Dr. KATZENBACH presented a patient with this disease, and read the history of his case. [See p. 12.]

Dr. B. ROBINSON thought that the attack of rheumatism twenty years before, without any symptoms of heart disease, and its development with a subsequent attack, was an instance of the undue weight given to rheumatism as a cause of heart disease. He was convinced that, just as some persons were unusually susceptible in the kidneys or in the lungs, so others were in the heart, and, consequently, an apparently slight cause might produce a great effect upon the heart, whether that cause was rheumatism or something else.

Priapism of Three Years' Duration; Recovery.—Dr. BURCHARD reported the history of a case. [See p. 66.]

Dr. M. A. STARR said that he knew of no adequate study of priapism in medical literature. He had seen a case, occurring in a boy twenty-one years old (but so backward in mental and physical development as to seem only twelve years old), with lateral curvature of the spine, who had suffered from priapism for seven years, without sexual excitement, and usually without seminal emission. The urinary meatus had been enlarged, the bladder and rectum had been examined, and all drugs and treatment exhausted without effect. Subacute meningo-myelitis (transverse) was evident. There had been no history of masturbation. The speaker had not attempted treatment.

Dr. HOLT had seen a case of fracture of the cervical spine in which priapism had been present, and had lasted until death, three days later.

Dr. L. B. BANGS had seen continuous priapism, due to thrombosis, in a man seventy years of age, and lasting for months, but borne stoically. In another case, that of a masturbator, he had seen paroxysmal priapism very resistant to treatment, but finally cured by passing a steel sound during erection. The passage of the sound excited great pain, but when it reached the prostate the priapism disappeared, and did not return.

Dr. ROBINSON had observed priapism in young boys who did not masturbate, and had found that it was relieved by antilithic treatment, the urine being distinctly of a gouty character.

Dr. D. B. DELAVAN had seen a case with Dr. Peabody, in which priapism had appeared as a symptom of leucocythæmia.

Dr. HARTLEY had seen a case of priapism, and had afterward heard that the penis had been amputated and cancer discovered.

Dr. C. B. KELSEY had seen continuous but painless priapism lasting for months in a case of fracture of the cervical spine at St. Luke's Hospital.

The CHAIRMAN had been able to find in medical literature very few cases of persistent spasm, but had found several cases with thrombosis relieved by incising the corpora cavernosa. He inquired if leucocythæmia was present in Dr. Burchard's case.

Dr. W. MENDELSON asked if the organ was enlarged.

Dr. BURCHARD said that the penis was not enlarged, and that no leucocythæmia was present, nor could any central nervous lesion be discovered. He had seen with the late Dr. McBride and with Dr. Seguin a case of myelitis in which priapism had been so troublesome that myotomy of the erector penis had been advised, but it had not been carried out. He ascribed the successful issue in his case to putting the patient to bed, taking every precaution against erection, and attacking each erection vigorously and at once.

NEW YORK SURGICAL SOCIETY.

Meeting of December 8, 1886.

The President, Dr. CHARLES McBURNEY, in the Chair.

Laparotomy for Pistol-shot Wounds of the Stomach; Perforation of the Small Intestine recognized during Life; Death.—Dr. C. K. BRIDGON presented the stomach and wounded portion of the intestine of a woman who had been brought to the Presbyterian Hospital at 6.30 p. m., November 20, 1886. The report was furnished by Dr. Frank W. Shaw, house surgeon:

The patient reported that she had accidentally shot herself while holding in her right hand a revolver which she had supposed was unloaded. She had been dressing at the time, and the ball had passed simply through the under-clothing. The shooting had occurred about two hours before her admission.

On admission, the patient was not in collapse. Her pulse was 80, full and regular, and her temperature 101° F. Soon after her arrival she vomited a large amount of a dark material, in which were large pieces of undigested meat. This material was examined microscopically, but no blood was found. Percussion over the abdomen gave slight dullness on the left side as compared with the right. The patient was calm, and talked readily about the accident. The abdominal wound was three inches and a half above the umbilicus, and half an inch to the left of the median line. The surface of the abdomen was thoroughly cleaned, the wound dressed antiseptically, and a small icebag applied. The patient was placed in bed and given one hypodermic of morphine. It was decided, owing to the absence of any urgent symptoms, to delay any operative measures until the next morning. Her temperature was 102° F.

The general condition of the patient was about the same as on the previous night. Slight tympanites was present, but no marked increase of pain, and the operation was performed by Dr. Briddon on November 21st, at 11:45 A. M. The abdomen and thighs were made antiseptic previous to the administration of the ether. When the patient was under its influence, the abdominal wall was again washed with a solution of bichloride of mercury, and afterward by a saturated solution of iodoform in ether. The sponges were kept in a warm solution of the bichloride, 1 to 5,000. An incision was made from the ensiform cartilage to the umbilicus through at least three inches of fat. When the muscular layer and posterior sheath of the rectus were divided, another thick layer of fat was laid bare, on division of which the peritoneum was exposed, nicked, and divided the whole length of the wound. On pressing the stomach downward, some bloody serum was found, and, in a deeper recess, a fluid, which it was thought had a milky appearance. The cavity was so deep that an attempt was made to obtain a better view by drawing the omentum and transverse colon out and laying them, enveloped in warm, flat sponges, on the lower thoracic wall. This failing to give sufficient room, the opening in the abdominal wall was enlarged downward to a point midway between the umbilicus and the pubes.

The omentum and colon were now returned to the abdominal cavity, and maintained there by flat sponges; the stomach was again examined, and there was found a small rent in the omentum close to its attachment to the curvature. This was enlarged by the fingers sufficiently to admit a thorough inspection of the space behind the stomach, where there were found a few coagula of blood. After a prolonged search and examination of that portion of the greater curvature from which the omentum was detached, there were found two linear slits with ragged edges communicating with the interior of the stomach, one of these being situated anterior, the other posterior to the insertion of the omentum, and not half an inch apart.

At this time the condition of the patient was critical, and the indications were to conclude the operation as quickly as possible. Hypodermics of camphorated ether were used. The perforations were closed by two lines of Lembert's suture.

As there was a little adherent omentum at either end of the second row of sutures, a deeper suture was carried through at that point so as to include this, the toilet of those parts above the transverse colon was carefully made, and some grumous blood, and what was suspected to be stomach contents, were removed. At the suggestion of Dr. Lange, some iodoform gauze was introduced into the space behind the anterior layer of the omentum, and into the space outside of it.

The abdominal walls were brought together by a number of silver wire relaxation sutures and intermediate ones of catgut. The superficial dressing consisted of iodoform and bichloride gauze.

The operation lasted two hours. The patient's condition was not very promising, and she was immediately placed in bed and surrounded by hot bottles.

The patient recovered from the ether without vomiting. At 8.00 P. M. her temperature was 103.2° F., the pulse rapid but regular.

Hypodermic stimulation of camphorated ether was given every two hours until the pulse became better. Rectal stimulation of brandy and water was given every four hours.

12 Midnight.—Temperature 102° F., pulse 140, respiration 36.

November 22d.—Morphine hypodermically was given frequently enough to prevent restlessness. Temperature ranging between 101° F. and 103° F.

4.30 A. M.—Temperature 101° F., pulse 142, respiration 37.

8.30 A. M.—Temperature 104.2° F., pulse 145, respiration 34.

The stimulation was continued. The urine contained albumin 50-70 and large granular casts.

12 Noon.—Temperature 105° F., pulse 145, respiration 24.

12.30 P. M.—A portion of the iodoform gauze was removed from the abdominal opening.

3.45 P. M.—More gauze was removed, and two rubber tubes were passed to the bottom of the wound. The ice-coil was used on the head and the abdomen.

5.30 P. M.—Temperature 106° F., pulse 142, respiration 28.

8.30 P. M.—Temperature 106° F., pulse 150, respiration 17.

The patient was very restless and delirious.

9 P. M.—Temperature 105.4° F., pulse 150, respiration 15. Pulmonary oedema had begun.

10 P. M.—Pulmonary oedema had increased rapidly during the past hour. The patient was moribund. The oedema was very marked.

11.45 P. M.—The patient died.

Report of Autopsy.—Abdomen prominent, both from the thickness of its walls and from distension of the intestines. The abdominal cavity was opened through the original operative incision. Signs of acute general peritonitis were at once presented. The intestines were adherent, by recent fibrinous exudations, to the walls of the abdomen and to one another; and the great omentum was attached to the greater curvature and anterior wall of the stomach. In the pelvic cavity there were about eight ounces of a red, watery fluid, while in the upper portion of the abdominal cavity there was quite a large quantity of a watery, greenish-brown liquid, thought to be fecal. The adhesions were easily separated, and the original wound of the stomach, with its catgut sutures, was found. A small portion of the great omentum was found quite firmly attached to the lower part of the closed incision. The stomach wound was in the greater curvature, about two inches from the pylorus. It was entirely closed, resisting the presence of water poured into the stomach. Following the small intestines past the duodenum, four wounds were found in the upper portion of the jejunum, all within three inches. The course of the bullet could be easily traced by several spots of ecchymosis in the tissues. Its direction was downward, backward, and outward. It was found anterior to the left kidney in the left axillary line, and about one inch below the line of the umbilicus. The heart was dilated, and its walls were flabby. The kidneys were slightly enlarged, and showed acute parenchymatous nephritis on gross inspection.

Dr. Briddon stated that during the time the stomach wound was being closed, the indications for a speedy operation were shown; and it was probably to this cause that the wound of the intestine was not recognized.

Dr. H. B. SANDS asked if in laparotomy for gunshot wounds, unless the ball was found on the viscera inspected, there was any means of knowing the distance the ball had traversed, or of knowing the number of perforations.

Dr. BRIDDON said that in future he should regard none of his operations as complete until the whole of the intestinal track had been examined from one end to the other.

The PRESIDENT asked what was the duration of the operation.

Dr. BRIDDON replied, two hours; that there were at least between three and four inches of fat outside of the abdominal muscles, and a layer of one inch and a half in the fascia behind the upper end of the sheath of the rectus. It would have been utterly impossible to make anything like a satisfactory examination without prolonging the section downward toward the pubes.

The PRESIDENT said that he had never had any opportunity of testing it, but thought the introduction of some bland-colored fluid internally into one wound might develop the existence of apertures in the neighboring portions of the intestines which could not be conveniently handled—as, for instance, the duodenum; but even that, he thought, might not be a positive test, yet it might assist in the examination.

Dr. BRIDDON said that there was one peculiar condition in the wounds of the stomach, and that was they were perfectly linear; when he first saw them he did not suppose they were wounds at all; they looked like linear extravasations of blood, the wounds of the intestines being, as a rule, round or ragged, sometimes circumscribed. In fact, the wounds of the stomach had been overlooked, and it was not until the edges were separated that they were discovered.

The PRESIDENT asked if that was not owing to the interval

between the receipt of the wound and the operative procedures. He thought union could take place in that time, as he had seen firm union in six hours.

Dr. SANDS did not think it would occur often in the intestines.

Osteoma or Osteo-sarcoma of both Superior Maxillæ.—

Dr. L. A. STIMSON presented a bony tumor involving both superior maxillæ which had been removed that day from the girl who had been presented at the previous meeting. The tumor was almost solid bone; at its back was a small soft outgrowth like a cap covering an area of about two square inches. The removal was done rapidly without much hæmorrhage, but the shock was great. The child had rallied under active stimulation, and was alive when he left the hospital, but her condition was precarious. He would report at another meeting the details of the operation and the result.

Tumor of the Thyroid removed by Socin's Method.—Dr. R. F. WEIR showed a tumor recently taken out of the substance of the thyroid gland after the method advocated by Socin, of Basle. This surgeon, he said, in order to avoid the necessity of extirpation of the thyroid with its consequent risk of myxœdema, had called attention to the fact that in most cases the new growth of thyroid tissue or neoplastic elements could be readily separated from the normal gland-tissues. To do this, it was only necessary to cut through the overlying stratum of healthy thyroid until the capsule of the tumor was reached, when enucleation could be easily accomplished. The divided gland tissue might give rise to considerable venous oozing, but this was easily controlled. Socin's experience embraced now over fifty cases without any cachexia following.

In the case presented by Dr. Weir, the tumor was found in the person of a dwarf of twenty-one, who was defective mentally and had an appearance suggestive of commencing myxœdema, and in whose neck on the left side was an enlarged, irregular thyroid gland which had existed since infancy. On the right side there was no general enlargement of the gland to be seen or felt, but nearly on a level with the larynx was a roundish, movable tumor of the size of a hen's egg, which had appeared within the last eighteen months, and which had caused considerable pain on that side of the head; it had also been increasing in size and moved with the trachea in swallowing. It was explained to the mother, who was anxious to have all the growth removed, perhaps from a commercial reason, that this ought not to be attempted, and that only the swelling, then increasing in dimensions, would be interfered with. An incision was made vertically over it, the thyroid gland reached, and its substance, of a deep-red color, cut through to the depth of more than a quarter of an inch, until the tumor was exposed freely, when, with the end of the scalpel and the finger-nail, the enucleation of an hour-glass shaped growth, two inches long and three fourths of an inch wide, was promptly accomplished. The venous oozing from the substance of the thyroid gland was easily checked by clamps and ligatures, and the cut gland edges stitched together, except at the lower edge, where a drainage-tube was inserted, and then the skin cut was sutured in a similar manner; primary union occurred.

The following was the report of the pathologist, Dr. Peabody:

The main tumor is spheroidal in shape and in great part surrounded by a delicate fibrous capsule. It is about three fourths of an inch in diameter. Connected with it is a smaller one of the same color, consistency, and general character. It is very friable, not easily cut for microscopic examination. Sections show it to be divided into lobes which present the appearance of a compound racemose gland, with tubes and ducts lined by cylindrical epithelium; the general epithelium of the gland is shapeless.

Diagnosis: Adenoma.

Sarcomatous Floating Tumor of the Knee Joint.—Dr. WEIR presented a sarcomatous pedunculated tumor which he had removed October 23, 1886, from the left knee joint of an Italian, aged forty-two years, who had had disability in that articulation for several months. At first beginning as an ordinary synovitis, to this was supplemented

soon sundry painful catchings of the joint, with aggravation each time of the difficulty in walking. On the inner aspect of the knee could be felt a movable and rather hard body of the size of the end of the forefinger, whose excrescences were limited to that side of the joint to an area corresponding nearly to the upper limit of the patella. On making an incision under the carbolic spray down to the mass, previously fixed with a tenaculum, it was found to be, instead of cartilage, a reddish-yellow tumor, about an inch long, attached by a slender pedicle, which, after being tied with catgut, was severed and the growth removed. The wound was not sutured, but dressed antiseptically, and the limb secured in a posterior splint; no reaction followed, and at the end of ten days the dressings were taken away and the patient allowed to move his limb cautiously about the bed; a week later he began to walk. On November 22d, when the patient was fit to be discharged from the hospital, without any intimation, he leaped from the window of the ward and fell a distance of four stories and killed himself. Among his other injuries a compound fracture of the left tibia had occurred; the tissues of the joint were carefully examined microscopically to see if any changes similar to those observed in the tumor removed by the operator existed, but none were found. The reason for this was that the movable body was reported by the pathologist to be a fibro-sarcoma; his statement in detail was as follows:

"Pathologist's Report.—The tumor presented for examination is flattened, caudate, and measures $2 \times 1 \times \frac{1}{2}$ centimetres. It has been incised over its whole length; it weighs one gramme. Microscopic examination reveals it to consist of fibrous stroma with varying amounts of small spindle cells; in some places these lie close together, in others they are few and scattered. It also contains numerous arteries with normal walls, and there is a great deal of blood pigment scattered generally through the tissues."

As this was apparently the first case in which a post-mortem examination had been held, it was interesting as confirming the statement made in a recent article published by Dr. Weir on this subject, that clinically it was sufficient to remove the offending mass. His first case, operated on in 1884, was still free from recurrence, and lent additional support to this view.

Laparotomy for Suppurative Peritonitis from Acute Perforation of the Appendix Vermiformis.—Dr. WEIR exhibited the cæcum and stump of an appendix vermiformis firmly closed by several silk sutures, which had been obtained from the post-mortem of a laparotomy case operated on by him December 6th, and the details of which, taken from the hospital note-book, were as follows:

Edward Vincent, aged twenty-two, single, Canada. Was admitted to the New York Hospital, medical division—Dr. Vought, house surgeon—December 6, 1886, with the history that he had been well until seven days ago, when, on account of headache, he had taken two cathartic pills without relief. At this time he had been exposed a great deal to cold and wet. He had kept on taking cathartic pills, and following this had had an attack of diarrhoea. Four days ago he had begun to have pain in the abdomen, which had grown more severe, especially in the right iliac region; he had also had some cough and vomited eight or ten times during the past week. On the previous night he had had a severe chill, and in the morning more severe and general pain in the abdomen.

Examination.—Abdomen swollen and very tender on slight pressure. Breathing entirely thoracic. Patient maintained dorsal decubitus. Knees not constantly drawn up. In right iliac region there was a feeling of resistance, and over this a slight dullness. Over the rest of the abdomen the resonance was tympanitic, the abdominal muscles were rigid, splenic area large. A needle inserted in the right iliac fossa to the depth of one inch and a half drew thin sero-purulent fluid. Posteriorly and on the left side low down inspiration was rough and a few rough râles were heard over the chest. Temperature 102° 8', pulse 155, respiration 32 at 4 p. m.

He was transferred to the surgical division—Dr. Haggles, house surgeon—at 9 p. m. Operation by Dr. Weir. On examination after etheri-

zation, no marked dullness or swelling was found in the iliac fossa, but an aspirating needle inserted near previous puncture in right iliac region withdrew pus. With the needle *in situ* for a guide, an incision two inches and a half long was made just above Poupart's ligament upward and outward and extending beyond the superior spinous process. On opening into the abscess cavity, considerable watery pus flowed out. By digital examination it at first appeared as if the abscess had been limited on its inner side by the adherent coils of intestine, which could be plainly felt. The unusual amount of discharge, however, led to a more free examination, and it was soon recognized that the general cavity of the peritonæum was involved in a suppurative peritonitis.

A median laparotomy was then decided on; an incision about six inches long was made in the median line, afterward enlarged so as to extend from the symphysis to three inches above the umbilicus; the parts were found very much congested; there was a large exudation of pus, with free, soft adhesions. The intestines were partially taken out and laid in hot towels, and the right side of the pelvis was carefully examined. A perforating ulcer was found at the root of the vermiform appendix on its free surface posteriorly throughout its whole length. In order to occlude this satisfactorily, the entire appendix was tied off with catgut and the stump ligated and covered in by peritonæum by several Lembert's sutures made with fine black silk. The abdominal cavity was thoroughly doused with warm water and the intestines replaced, and a duplicature of iodoform gauze was inserted in the midst of the intestines in the iliac fossa and in the pelvis—Miculicz's method. A large rubber drainage-tube was also introduced into the iliac fossa through the first wound, and another into the pelvis through the lower end of the median incision. The median incision was then sewn together with strong silk; bichloride compresses and cotton dressings were applied and secured by a binder. No intestinal concretion was detected in the appendix or in the peritoneal cavity.

The patient's condition grew rapidly worse during the operation; fl. ex. digitalis, \mathfrak{m} iv, and whisky, \mathfrak{z} ij, were administered hypodermatically and *per rectum*. Ergotine, gr. $\frac{1}{4}$, with firm bandage of the extremities. At the termination of the final dressing his condition was encouraging, color good, pulse 185 and moderately strong at the wrist. Immediately after the operation he was given a hot-air bath and hot-water bottles were placed around him.

12 Midnight.—Temperature 101.2°, pulse 180, respiration 34. An enema of milk, \mathfrak{z} ij, whisky, \mathfrak{z} j, ordered. Tr. strophanthus, \mathfrak{m} ij, brandy, \mathfrak{z} j, every three hours by mouth, and whisky by mouth and by rectum.

December 7th, 3 A. M.—Administered hypodermic of Magendie, \mathfrak{m} iv, at 11 P. M., to quiet restlessness; this was repeated at 1.50 A. M.

3 A. M.—Temperature 102.8°, pulse 180, respiration 24.

3.30 A. M.—He died.

The post-mortem showed that the peritonæum was intensely congested and covered with recent lymph; there was about one drachm of pus in the pelvis; the spleen was a trifle enlarged; the omentum was rolled up toward the transverse colon; the mesenteric glands were large. The stomach was normal; the common bile-duct was pervious, the mucous surface of the duodenum was normal. Some of Peyer's patches were pigmented; the mucous surface of the small intestines was otherwise normal.

The vermiform appendix had been removed and its attachment to the cæcum apparently closed by a ligature. The surgically removed vermiform appendix was markedly thickened by a swelling of all its coats; its interior was lined by a thick, ragged false membrane, and there was a perforation near its attached end. The right lung on its anterior aspect showed evidence of recent pleuro-pneumonia.

Dr. Weir remarked that there were two points connected with the case of particular interest. One was the difficulty of determining without exploratory iliac incision, and sometimes even after this was done, whether or not the typhlitic abscess was yet a local affair; peritoneal symptoms were not infrequently seen with perityphlitic inflammations, especially with that variety that resulted in limited peritoneal abscess. It was possible to get pus by an exploratory needle from a collection

not recognizable to palpation, and it was possible, and nearly was accomplished in this case, to open into the general peritoneal cavity and yet be deceived into thinking it a localized abscess. The absence of tumor and the profuseness of thin seropus led to a renewed and thorough examination which had until then been refrained from, lest limiting protective adhesions should be broken down.

The second point was the treatment of the perforated appendix. Should the sloughy opening be trimmed off and inverted and closed, as in an intestinal perforation, and the appendix preserved, or should it be boldly removed, as in this case? The closeness of the perforation to the cæcum interfered with his desire to cut away the sloughy edge left even after the excision of the appendix, but, where practicable, this he thought should be done before the Lembert sutures were applied. He, however, knew that simple ligation had frequently sufficed where the appendix had been removed in this and other difficulties, and he favored the usual extirpation of the appendix as not adding to the risk, and as preventing future trouble.

Dr. SANDS said that he believed in the vast majority of cases of what was termed peritonitis which terminated in abscesses, the disease arose externally to the peritoneal cavity; he had operated for perityphlitis a great many times, but had never yet found a circumscribed abscess bounded simply by coils of adherent intestine; he was aware that such was a common view, but he believed it to be inaccurate. He had also observed that when perforation of the appendix occurred into the serous cavity, the result was invariably fatal. A short time ago a case came under the speaker's observation in which the symptoms of circumscribed tumor were wanting, but in which there were present marked pain and tenderness in the cæcal region. In that case, upon incision through the abdominal wall over the seat of tenderness, a small amount of pus had escaped, and, on putting the finger into the opening, the feeling of intestine was imparted. The patient died a few hours after the operation, and no examination was made post mortem.

Dr. BRIDGON said that he had made autopsies in three cases where death had occurred in from twenty-four to thirty-six hours, from perforation of the appendix; there had been no limiting adhesions, but general diffuse peritonitis; no formation of an abscess at all, as he did not think there had been time.

Dr. SANDS said, in reply to Dr. Weir's remarks, that he had carefully explored many cases of perityphlitic abscess, but had never found a boundary-wall of intestine; he had felt the colon and the cæcum at the bottom of the wound, but had only been able to recognize bare intestinal coils. In one instance he was called in consultation to see a gentleman, who was said to have had symptoms of perityphlitis. But at the time of his visit the tumor in the cæcal region had subsided, and the patient was almost comatose. The cause of the coma proved to be meningitis, and at a post-mortem the subsidence of the tumor was found to have been due to the pus having traveled within the sheath of the psoas muscle, the intestinal walls forming no part of the boundary of the abscess. As regards Mr. Treve's investigations, he would not dispute their accuracy; but he could not advise very early operative procedures, as he had seen so many of these cases terminate favorably without incision. A few tumors had ruptured spontaneously, but the majority had subsided without evidence of rupture. The speaker believed that very few cases would be injured by being allowed to remain for a week or ten days, according to the local symptoms. He, however, considered that to operate always within two or three days from the onset of the disease would be much like performing laparotomy for every case of pain in the abdomen.

The PRESIDENT asked Dr. Sands if he did not think the use

of the exploring-needle of advantage in these cases of perityphlitis before the end of a week or ten days, in order to enable the surgeon to decide as to the date of operation.

Dr. SANDS replied that, so far as his experience went, he had always found it safe to wait. He deprecated early operations, first, because they might be unnecessary, and, secondly, because they might be unsafe. Regarding the first point, he had seen a large number of cases in which the inflammatory swelling had subsided without any surgical operation, and the patients had got well. The danger of spontaneous opening of the abscess at an early period into the peritonæum he believed to be exaggerated, and to be unsupported by clinical facts. The speaker could recall but a single instance in which such a rupture had occurred as early as the seventh day of the disease. Concerning the second point—namely, the risk attending early operations—he believed it to depend on the liability of the entrance of the foetid contents of the abscess into the peritoneal sac. He thought, perhaps, he had not made himself clearly understood when he had contended that circumscribed perityphlitic abscesses were usually external to the peritonæum. The speaker did not mean to deny the anatomical relations of the cæcum, which, he thought, were generally understood; but he failed to see why the almost complete investment of the cæcum by the peritonæum, or the presence of a mesentery attached to the appendix vermiformis, should determine the entrance of faecal matter escaping from a perforated appendix into the peritoneal cavity. His supposition was that, in cases of circumscribed abscess due to such perforation, this was preceded by adhesion of the serous membrane covering the appendix to that lining the iliac fossa, and that thereby the latter was lifted by the pus and faecal matter, and the invasion of the peritoneal sac prevented. But adhesions would not usually be limited to the perforated appendix; they would often involve the peritonæum covering the cæcum, the abscess, and the back of the anterior abdominal wall; such adhesions, however, would be absent at an early period, and hence one danger connected with early incision. He remembered several cases in which the presence of pus had been demonstrated by the use of the aspirating-needle, and in which an incision, made carefully along the latter held *in situ*, opened the peritoneal sac, adhesions not yet having taken place. After closing the opening made in the serous sac, adhesions ultimately occurred, and the abscess vacated its contents externally with safety and without further surgical operation. The speaker remarked it was fair to presume that the simultaneous opening of the peritoneal sac and the cavity of the abscess might have been followed by a fatal result. Dr. Sands would not dispute the desirability of an early evacuation of the contents of a perityphlitic abscess, but he thought that the danger attending such an operation should be duly weighed.

Another reason for delay was that, even when the peritonæum covering the abscess did not become adherent to that lining the back of the anterior abdominal wall, the line of reflection might be pushed upward by the growing swelling, so as to be above that generally selected for incision.

Dr. BRIDDON said that a patient, in the service of Dr. Andrew Smith, had been referred to him, in whom there had been a swelling, the most prominent portion of which had appeared to be about three inches above Poupart's ligament, with a zone of less resistance immediately above the ligament. An aspirating needle had been introduced one inch above the ligament, and gave exit to pus; it had been left in position and the usual incision had been made. When the transversalis fascia had been reached, it had been found that the peritonæum had not been pushed up by the abscess, and that the needle had consequently passed through two of its layers. It had been displaced upward by the fingers until the cavity of the abscess had been opened

without further implication of the peritonæum than that caused by the needle. The patient had made a prompt recovery.

The PRESIDENT asked if, given a case where there was no appreciable tumor, symptoms should lead to the use of the needle and pus be detected, would there be greater danger of opening the peritonæum at that time than in operating for ligation of the external iliac artery, the incision being made close to Poupart's ligament.

Dr. SANDS thought it would be possible, but considered that it might be more difficult in consequence of morbid alterations due to inflammation.

Dr. BRIDDON said that he had regretted operating early in one case which had been under the care of the late Dr. William C. Hunter; the swelling had been situated deep in the iliac fossa and aspirations had given exit to pus. The needle had been left *in situ*, and, after division of the muscular and aponeurotic coverings by the scalpel, further separation had been made by the fingers until a cavity had been reached at a very considerable depth from the surface. It had only contained a small amount of pus; it had been drained and dressed in the usual manner, and everything had gone well for forty-eight hours, when he had developed an acute and rapidly fatal peritonitis.

Dr. WEIR was unwilling to let the remarks of Dr. Sands pass unchallenged. He would recall three instances that had occurred tolerably recently in which, after the abscess had been opened, he could feel with his finger, toward the median line, several coils of small intestine, which, glued together, made up the inner wall of the abscess. Moreover, the extensive research of Treve utterly disproved the old idea of the cæcum and appendix being continuous posteriorly or otherwise with the subperitoneal areolar space. In fact, in a hundred dissections made by this English observer, he had never yet seen the posterior surface of the cæcum uncovered by peritonæum, nor had he encountered a meso-colon. The reality was, that in the great majority of cases the entire beginning of the large intestine was completely surrounded by peritonæum, up and on to the ascending colon. Moreover, the mesentery of the appendix was derived from the ileum in nearly every instance. Hence, perforating appendicitis, and the still more rare cecitis, must primarily produce a peritoneal suppuration, limited or diffused, or else, by the lucky occurrence of adhesions before the accomplishment of the perforation, give rise thus to a subperitoneal abscess, the so-called para-typhlitis. Both varieties undoubtedly existed, but if it was admitted that the first form occurred, it was right that an evacuation of the matter should be had as soon as its presence was recognized. This could often be arrived at early by the use of an aspirating needle, or the question of time would generally decide surgical interference. This, in a consideration of over two hundred and fifty cases, had been placed by Fitz at not later than the third day, and the dictum he should agree with certainly in those cases where the symptoms were marked and existed with persistent temperature elevation. He believed that many of the cases that got well either evacuated themselves by the bowel or bladder, or underwent absorption, which was not often, or were, what was more likely, cecitis from faecal impaction and not of a suppurative character, and there he had seen and learned to suspect a ready subsidence of temperature. Leat after the administration of anodynes. Fitz, who had been just cited, was firmly of the view of the intra-peritoneal origin and seat of these abscesses. Bartholow, writing on the same subject, had taken a similar view. Individually, the speaker had never yet regretted operating too early in cases of right iliac inflammatory tumors. His impression of the site of such abscesses had been formed for many years, he having been led to the investigation by once witnessing the occurrence of a rupture of a perityphlitic abscess into the general peritoneal cavity under very

slight palpation of the tumor with a rapidly fatal issue without surgical interference, as the accident took place before the general use of laparotomy. Dr. Weir concluded by reiterating the fact that if a laparotomy was necessitated for an advanced general suppurative peritonitis, or even in the rarer cases of acute perforation of the appendix, by lifting out the intestine filling the right iliac fossa, the entire field of exploration was fully brought into view, and that lesions difficult to detect at a post-mortem examination could be recognized in the living subject quite readily by changes in color and consistence, which were lost in cadaveric alterations.

The Treatment of Inveterate Talipes Equino-varus by Osteotomy.—A paper with this title was read by Dr. CHARLES T. POORE. [See page 57.]

Dr. STIMSON asked if in the latter case it were possible to raise the foot in dorsal flexion inside of a right angle.

Dr. POORE replied that he thought there was limited motion in the ankle joint.

Dr. STIMSON remarked that the basis of Boeckel's operation was removal of the astragalus, because that motion was interfered with, and a limp was the necessary consequence.

Dr. POORE said that he did not see how that could be, as he was certain that some of his cases in which cuneiform osteotomy had been performed had normal motion at that joint.

Dr. STIMSON quoted another objection to cuneiform osteotomy—viz., that it interfered with the growth of the foot. Cases had been reported in which good results had been secured at first, but as the child grew the foot failed to grow in proportion.

Dr. POORE replied that he thought it was probably the case, because the operation had been performed anterior to Chopart's joint, and thus an inch and a half had been removed from the foot. He said of course it could not be known how much shorter the foot would be on reaching maturity, but he considered it better than the cuneiform operation in front of Chopart's joint.

The PRESIDENT asked Dr. Stimson if he considered the growth of the foot as a serious objection except as to its appearance.

Dr. POORE stated that the removal of the astragalus had been followed by ankylosis, and also the use of a brace afterward.

Dr. STIMSON replied that he spoke from memory of the literature of Boeckel, of Strassburg, in his paper which was read before the Paris Society, in which good results were reported, asking Dr. Poore if it were not so.

Dr. POORE replied that it was not; all of those cases were reported by Shakespeare, and all of them had joints more or less stiff.

Dr. STIMSON stated that he could hardly believe he had been so mistaken while perusing the article mentioned.

Dr. POORE said that he could not see why removal of the astragalus should be followed otherwise than by a stiff joint.

Systems, Medical Ophthalmology and Otology. Philadelphia: Lea Brothers & Co., 1886. Pp. 19-877.

This volume presents a series of articles which will commend it as warmly and to as large a circle of readers as any of its predecessors in this excellent series. Of its 877 pages, 382 are devoted to affections of the pelvic organs in women, while the remainder treat of diseases of the kidneys, urine, and male bladder, those of the muscular system and the skin, and medical ophthalmology and otology. These last two articles are somewhat novel in scope and treatment, inasmuch as, especially in that on ophthalmology, by Dr. William F. Norris, the time-honored subdivision according to anatomical structure is not followed, but the diseases of the eye are discussed as they are related to other general diseases or those of special organs. Thus, *e. g.*, one looks in vain for a section on iritis or glaucoma, but can readily find what serious disturbances of vision may be due to overdoses of quinine, or what may be looked for in epilepsy, in disordered menstruation, or in pernicious anemia. This plan has doubtless been adopted as in consonance with the general scheme of the work, which is pre-eminently designed to meet the needs of the general medical practitioner. His requirements are also kept in view when such an article is introduced as that on abortion, by Professor Engelmann. This gentleman most urgently insists upon the duty of the family physician alike to discourage the procuring of abortion, and to inculcate a more healthy moral tone regarding this practice, as also to recognize its earliest symptoms, and, when it actually occurs, to see that both during its progress and afterward the patient is managed with a due sense of its importance at the time and in its remote consequences. This essay would be well worthy of a place in a special treatise, for in thoroughness and elaboration the subject as presented here far surpasses the chapters devoted to it in any work on obstetrics with which we are familiar. Needless to say, the author advocates active treatment, and is in no sense an apostle of expectancy, for he recognizes all the evils that spring from timidity and neglect. It is unfortunate that these excellent teachings should be marred by faults of style leading to obscurity, and by verbal inaccuracies, of which the following are examples: On page 476 the word *ostea* is repeatedly used for *ostia*, and in one place *tuber ostea*, meaning, apparently, the uterine orifices of the Fallopian tubes. On page 477 the Latin equivalent of smooth chorion is given as chorion *levæ*. On page 479 *papular* appears in the place of *papillary*, and on page 510 *endogenous* for *indigenous*. We need do no more than refer to the articles on diseases of the parenchyma of the kidneys and perinephritis, by Professor Francis Delafield, and on pelvic hæmatocele, by Professor T. Gaillard Thomas, characterized the one by painstaking and unadorned accuracy of statement based upon thorough study and personal pathological investigations, the other by brilliant though practical generalizations drawn from the most extensive experience gained under exceptionally favorable conditions.

We must next call attention to the article by Dr. James C. Wilson on myalgia, one of the minor ailments we are frequently called upon to treat, and the pathology of which has been most variously estimated by different authors of repute. After giving an interesting summary of the views of those who severally regard the affection as a rheumatism, a neuralgia, and an inflammation, Dr. Wilson concludes that, while its essential pathology is obscure, "there is ground for the opinion that the lesions are of the nature of a subinflammatory process within the muscle." Other articles worthy of special attention, did space permit, are that of Dr. Edward L. Keyes, on diseases of the male bladder, which is condensed, but eminently satisfactory; that of Professor B. F. Baer on inflammation of the pelvic cellular tissue and pelvic peritonæum, a subject to which

Book Notices.

A System of Practical Medicine. By American Authors. Edited by WILLIAM PEPPER, M. D., LL. D., Provost and Professor of the Theory and Practice of Medicine and of Clinical Medicine in the University of Pennsylvania, assisted by LOUIS STAER, M. D., Clinical Professor of Diseases of Children in the Hospital of the University of Pennsylvania. Volume IV. Diseases of the Genito-urinary and Cutaneous

recent discussions have added fresh interest; and that by Dr. W. W. Jaggard, on disorders of pregnancy, notably well arranged and scholarly.

The Principles and Practice of Medicine. By the late CHARLES HILTON FAGGE, M. D., F. R. C. P., Physician to, and Lecturer on Pathology at, Guy's Hospital, etc. Including a Section on Cutaneous Diseases, by P. H. PYE-SMITH, M. D., F. R. C. S., Lecturer on Medicine at Guy's Hospital; Chapters on Cardiac Diseases, by SAMUEL WILKES, M. D., F. R. S., Physician to Guy's Hospital, etc.; and Complete Indexes, by ROBERT EDMUND CARRINGTON, M. D., Assistant Physician to Guy's Hospital, London. Vol. I. Philadelphia: P. Blakiston, Son, & Co., 1886. Pp. 1040.

As one sees the announcement of a new work on the practice of medicine he questions whether we may not have an embarrassment of riches in the large number of new ones and new editions of those already well known. Those who have read Guy's Hospital Reports for the past twenty years, the articles in Reynolds's "System of Medicine," and the many articles in the different English journals from the pen of Charles Hilton Fagge, will expect a comprehensive, carefully prepared, and painstaking volume. They will not be disappointed. One can not proceed far in his reading of this book before he is impressed with certain features of it which are very remarkable. Let him turn to almost any page at random, and he is likely to find reference made to half a dozen authors, the authors being perhaps of three or four different nationalities. The author is said to have been very familiar with German, French, and Italian, which, with his own English, would give him four different languages from which to cull his information. His memory must have been marvelous, and he was an original worker and thinker. The last twelve years of his life were devoted to the preparation of this work, as we learn from a short memoir of him, and it will give a fair idea of the scope of the work when we mention the fact that Koch and his methods are quite fully discussed. As one reads the introductory chapter he can get a good idea of the style of the author, which is such as to make his work classical and fit to stand by the side of that most delightful of books (so far as style is concerned), Watson's "Practice of Physic."

Inflammation, that prolific subject for medical and surgical text-book writers, is very fully and clearly discussed, and in such charming style as to make it very interesting.

Tubercle receives much consideration. Laennec's views are contrasted with those of von Niemeyer, to the decided disadvantage of the latter. The author says: "My own view is, and always has been, entirely in accord with that of the older writer." The various phases of the tubercle discussion receive attention, Laennec, Louis, Bayle, Virchow, Cohnheim, Rindfleisch, Koch, and many others getting their share of notice.

Syphilis has a chapter. It seems odd to an American physician to see syphilis discussed in a general treatise on the practice of medicine.

The author next discusses, under the head of Specific Diseases, the various forms of continued and eruptive fevers, diphtheria, and cholera. Then follow very exhaustive chapters on Diseases of the Nervous System and the Neuroses. Diseases of the Respiratory System, starting with those of the larynx, are very fully treated of. The author has adopted a very simple and yet practical plan in his discussion of diseases of the lungs. He begins by considering the symptoms common to various chest affections, dyspnoea, cough, and pain, with their special significance afterward. When he comes to the subject of percussion, we can not agree with him in his idea of pitch. He says the tympanitic percussion-sound is the lowest-pitched

tone. It seems to us that the normal pulmonary percussion-note, as found in the left infra-clavicular and infra-scapular regions, is the lowest-pitched.

Another statement seems incomplete, that "dullness on percussion may mean either of two things: 1. Consolidation of the pulmonary tissue. 2. Compression of it by fluid or some adjacent organ enlarged." No mention whatever is made of that dullness which is frequently found in pleurisy with plastic exudation.

We are quite surprised to find no mention made of Cammann's binaural stethoscope, although many other stethoscopes are referred to. The use of the term "whispering bronchophony" is referred to as having been first used by Dr. Gee. The credit of first using this term and others in connection with the whispered sounds is usually given to the late Professor Austin Flint. Dr. Fagge believes that a person who has had pneumonia is more likely to be attacked by it again than if he had not already had it. He still leaves the question *sub judice* as to whether pneumonia is an acute specific disease. He believes in early thoracocentesis if there are evidences that the pleural sac is nearly full. Phthisis receives full consideration. Much stress is laid on the tubercle bacillus as a means of diagnosing phthisis by an examination of the sputum. The author does not accept the view so strongly advocated by von Niemeyer that phthisis can develop from retention of blood in the air-passages after an attack of hæmoptysis. If it does develop then, the phthisis, he says, antedated the hæmoptysis. This was the view held so firmly by Flint.

The volume closes with a very complete chapter on Asthma, Influenza, and Whooping-cough. We close this volume with the feeling that here was a master. If the second volume is as good as this, we do not hesitate to say that the whole work will take and hold the very front rank among works on the practice of medicine.

Les bactéries et leur rôle dans l'anatomie et l'histologie pathologiques des maladies infectieuses. Par A.-V. CORNIL, Professeur d'anatomie pathologique à la Faculté de médecine de Paris, et V. BABES, Professeur extraordinaire d'histologie pathologique à l'université de Budapest. Deuxième édition revue et augmentée, contenant les méthodes spéciales de la bactériologie. 348 figures en noir et en couleurs dans le texte, et 4 planches hors texte. Paris: Félix Alcan, 1886. Pp. 839. [Prix, 30 francs.]

Less than a year elapsed between the appearance of the first and second editions of this work—too short a time to permit of a very thorough revision—and the most important changes in the book consist in the correction of some of the errors, which were numerous in the first edition, and the addition of a chapter upon Pasteur's method for the prevention of rabies, and several short chapters upon subjects of less importance.

The authors have undertaken in this work a difficult task, namely, that of presenting in systematic form the present state of our knowledge in regard to the pathogenetic micro-organisms. The satisfactory accomplishment of this task is rendered more difficult by the fact that the whole subject of the relation of micro-organisms to disease is a comparatively new one; it is great in extent, very many of the questions connected with it are far from being definitely settled, and the literature, although recent, is very widely scattered and is very extensive. Both of the authors are well known to all workers in bacteriology from their previous publications on this subject, and M. Cornil had also previously attained a high position among the pathologists of the French school. The work consists of an introduction and a first and second part. The first part, formed of ten chapters, treats of the general characteristics of the schizomycetes

the ptomaines, histological technique, methods of culture, description and classification of the schizomycetes, experimentation upon animals, vital competition of bacteria, attenuation of virus, lesions of tissues caused by pathogenetic bacteria, and experimental diseases. The second part is given up to a detailed consideration of the organisms of the infectious diseases. The work is the product of much time and labor, the literature of the subject has been rather carefully reviewed, and many references to it are appended. The work as a whole, however, lacks individuality and has rather the character of a compilation than that of an independent treatise. This compilation, too, seems to have been done somewhat hastily, and not always with the best judgment. There are numerous errors and inaccurate statements scattered through the work, and not a few of the references to the literature of the subject are incorrect. These inaccuracies, however, are much less noticeable in the second edition than in the first, though there are still many remaining.

The cuts are very numerous, and many of them are in color. There are not so many subjects figured in these cuts as would at first appear, as a very large proportion of them have been introduced twice to illustrate different parts of the text, and a few have been introduced as many as four or five times. Some of the cuts are excellent, but many are poor and add nothing to the value of the book. The colored plates represent very well what they were designed to show.

The work is valuable in that it presents in compact form the larger part of our present knowledge of the pathogenetic micro-organisms and their relation to the infectious diseases.

Transactions of the American Surgical Association. Volume the Fourth. Edited by J. EWING MEARS, M. D., Recorder of the Association. Philadelphia: P. Blakiston, Son, & Co., 1886. Pp. xxiii-339.

THE American Surgical Association has become so well established that one looks forward to the yearly publication of its transactions with the expectation of pleasure and profit from its perusal. The present volume forms no exception to the statement, and, as a rule, the papers are fully equal in excellence to those presented at former meetings. We note, however, that the number of members presenting papers has been steadily diminishing since the first meeting; whether this means a flagging of interest or is only accidental, time alone must determine.

The volume contains the following papers: "The Union of Nerves of Different Functions Considered in its Pathological and Surgical Relations," by Moses Gunn, M. D.; "Diagnostic Laparotomy," by Christopher Johnston, M. D.; "A Consideration of the Bacteria of Surgical Disease," by Harold C. Ernst, M. D.; "The Surgery of the Pancreas," by N. Senn, M. D.; "Traumatic Aneurysm of Internal Carotid Artery following Gunshot Injury," by T. F. Prewitt, M. D.; "Successful Nephrectomy on a Patient of Twenty-three Months," by Roswell Park, M. D.; "Lipoma Testis," by Roswell Park, M. D.; "Stretching of the Facial Nerve," by William W. Keen, M. D.; "Two Cases of Cholecystotomy," by Charles T. Parkes, M. D.; "Subcutaneous Division of Urethral Stricture," by C. H. Mastin, M. D.; and "An Improved Tracheotomy Tube," by Roswell Park, M. D. These papers, together with the discussion following their reading, form a valuable contribution to surgical literature. Dr. Senn's paper on "The Surgery of the Pancreas" occupies about one third of the volume, and, although showing great research in looking up cases and in experimental inquiry, yet is not based on any practical experience in the diseases and injuries of this organ. It is more the paper of a student and physiologist than that of a practical surgeon.

All the contributions are of such a high order that to mention the others in detail would be useless. The members of the association may well be proud of their labors.

The Adirondacks as a Health Resort, showing the Benefit to be derived by a Sojourn in the Wilderness, in Cases of Pulmonary Phthisis, Acute and Chronic Bronchitis, Asthma, "Hay Fever," and Various Nervous Affections. Edited and Compiled by J. W. STICKLER, M. S., M. D., etc. New York: G. P. Putnam's Sons, 1886. Pp. x-198. [Price, \$1.00.]

DR. STICKLER's little work is essentially a compend from other publications. The data as to the natural features of the Adirondacks are first given; the topography, altitude, temperature, avenues of approach, resorts for invalids, accommodation for guests, and methods of camp-life are fully detailed with acknowledgment to guide-books and authorities quoted. The Adirondack region has an altitude ranging from eighteen hundred to two thousand feet. Its great salubrity results from the purity of the air, its dryness, and its uniformity. The density of the primitive forests contributes to these conditions, as does also the porosity of the soil. The speedy transition from winter to spring is a feature conducive to healthful residence there throughout the year. Dr. Levick's well-known monograph on the curative value of this region is reproduced in full. Next are presented the "twenty cases" of Adirondack treatment as originally published by Dr. Loomis. These are of special interest, as they include the cures and personal experience, during a succession of years, of both Professor Loomis and Dr. Trudeau, the well-known Adirondack physician. The succeeding chapter of letters from prominent divines and men of note presents various experiences and impressions of the life in the woods and its benefits. These letters will help to reassure the invalid who contemplates a first sojourn there, but they have no scientific value. The sanitarium is fully described, with all it proposes to do for the poorer class of consumptives. The book is a valuable one, from which physicians can obtain definite information in referring their patients to the Adirondacks, and as a popular presentation of the rationale of mountain and forest life, guiding the patient in his methods as well as in his anticipations of what he may profit thereby.

GENERAL LITERARY NOTES.

AMONG recent foreign publications we note the following:

F. ALCAN, Paris.—O. Schmidt, "Les mammifères dans leurs rapports avec leurs ancêtres géologiques." (6fr.) — W. Preyer, "Physiologie spéciale de l'embryon." Transl. by Wiet. (16fr.)

G. CARRÉ, Paris.—E. Verrier, "De la deuxième enfance.—Hygiène, éducation."

O. DOIX, Paris.—"Bulletins et mémoires de la Société française d'ophtalmologie," 1886. — Cadet de Gassicourt, "Traité clinique des maladies de l'enfance." 2d ed.

J. F. BERGMANN, Wiesbaden.—Duke Carl, of Bavaria, "Ein Beitrag zur pathologischen Anatomie des Auges bei Nierenleiden." (5M.)

BREITKOPF & HARTEL, Leipsic.—F. Winckel and R. Frommel, "Verhandlungen der deutschen Gesellschaft für Gynäkologie," 1886. (7M.)

BOOKS AND PAMPHLETS RECEIVED.

The Science and Art of Obstetrics. By Theophilus Parvin, M. D., LL. D., Professor of Obstetrics and Diseases of Women and Children in Jefferson Medical College, Philadelphia, and One of the Obstetricians to the Philadelphia Hospital. Illustrated with Two Hundred and Fourteen Wood-cuts and a Colored Plate. Philadelphia: Lea Brothers & Co., 1886. Pp. xv-17 to 701.

Sul valore comparativo degli Antisettici. Note sperimentali dei Dottori C. Bergonzini e R. Frignani. Modena: C. T. Vincenzi e Nipoti, 1886. Pp. 40.

De l'intervention chirurgicale dans les affections du rein. Par Azaire Brodeur, docteur en médecine de la Faculté de Paris; ancien interne en médecine et en chirurgie des hôpitaux de Paris, etc. Avec cinq planches en chromo-lithographie et neuf figures intercalées dans le texte. Paris: G. Masson, 1886. Pp. iv-576.

Miscellany.

The Abolition of Mechanical Restraint in the Alabama Insane Hospital.—In the recent "Biennial Report" of the superintendent of this institution, Dr. P. Bryce, a document of unusual excellence, we find the following remarks on mechanical restraint:

"It is very generally known that the system of mechanical restraint has for five years past been entirely discarded in this institution. And it gives me great pleasure, at the end of another biennial period, to reaffirm in the most emphatic manner all that I have previously stated in behalf of the new departure. With the exception of the occasional confinement to his room of a maniacal or excited patient, there has positively been no restraint of any kind imposed upon our patients. No advance that has been made in the treatment of the insane within the past fifty years has in my judgment accomplished better and more far-reaching results than the abolition of mechanical and other unnecessary restraint. It has been argued by some, who are not prepared to proceed to the extremes that we advocate, that in the absence of all mechanical restraint it becomes necessary, in the treatment of the destructive, violent, and suicidal insane, to resort either to the administration of dangerous narcotics, or to close and prolonged confinement. Our five years' experience has not borne out the truth of this statement, as I am prepared to prove. Out of a daily average of 722 patients during the past year, the total number secluded was only 37, of whom 18 were men and 19 were women. The total number of hours was for the men 204, for the women 326. There are weeks and even months at a time when no patient has been secluded or placed in solitary confinement, a result which was never obtained under the old coercive system. In the matter of medical or chemical restraint, as it is called, it is a fact that less narcotic medicines are given now than at any previous period in the history of the hospital. I do not misstate the case when I say that our consumption of hyoscyamine—a very common as well as safe and effectual hypnotic and quieting drug—does not exceed half a dozen grains during the whole year.

"The great changes which have taken place in the general characteristics of the hospital—in the quietness that pervades the wards, the tranquillity and contentment of the patients, and the confidence and good-will with which they regard their officers and nurses—are very striking when compared with the noise, restlessness, ill-will, and suspicion that prevailed under the old system of restraints. That this manifest improvement is largely if not entirely due to the substitution of the more natural and rational methods of discipline for the too often arbitrary and cruel use of mechanical apparatus, there is hardly room for a reasonable doubt. It is gratifying to record that restraint of all kinds has been greatly reduced in all of our best-managed hospitals for the insane, and that in its most objectionable forms it is now seldom or never resorted to by them except in those extreme cases where the life or safety of the patient or others is supposed to be in jeopardy. I am glad to say that we have never met with such extreme cases in our past five years' experience, although we frequently encountered them before, and we have pretty much reached the conclusion that the remedy itself does more to produce than to prevent them."

The Ohio State Sanitary Association will hold its fourth annual meeting in Columbus on Thursday and Friday, February 10th and 11th. The following papers are announced: "The Probable Results of Sanitation One Hundred Years hence," by Dr. D. J. Snyder, of Scio; "A Scientific Standard for the Safety of Illuminating Oils," by Dr. D. H. Beckwith, of Cleveland; "The Causes of Deafness and Blindness, with special reference to the Eruptive Fevers," by Dr. S. L. McCurdy, of Denison; "Cremation of the Lower Animals," by Dr. E. S. Ricketts, of

Portsmouth; "Water-closets and Privy-vaults," by Dr. John McCurdy, of Youngstown; "Injurious Gases," by Dr. David O'Brine, of Columbus; "Our Fever Epidemic from Drinking Sewage," by Dr. C. E. Kurz, of Bellaire; "The Sanitary Condition of Sandusky before and after the Completion of Water-works and a Sewerage System," by Dr. Elwood Stanley, of Sandusky; "The Plumber's Role in the Sanitary Drama of the Day," by Mr. E. A. Futerer, master plumber, of Columbus; "Syphilis from a Sanitary Standpoint," by Dr. C. E. Beardsley, of Ottawa; the President's Annual Address, by Dr. H. J. Herrick, of Cleveland; "School Sanitation," by the Hon. Le Roy D. Brown, of Hamilton; "Some of the Practical Results of our Criminal Laws from a Sanitary Standpoint," by Dr. R. H. Reed, of Mansfield; "Diagnostic Responsibility," by Dr. H. M. Lash, of Athens; "The Results of a Mistaken Diagnosis, and its Consequences in Loss of Life and Financial Paralysis," by Dr. T. W. Gordon, of Georgetown; "The Examination of the Air of Apartments," by Professor C. C. Howard, of Columbus; "The Hygiene of the Sick-room," by Dr. F. C. Larimore, of Mt. Vernon; "The Sanitary Condition of the City of Mexico, from Personal Investigation," by Mr. E. D. Shreve, of Bucyrus; "The Plumber's Plea for Representation on the State Board of Health," by Mr. William Halley, master plumber, of Columbus; "Ptomaines and Poisoning by Tainted Foods," by Dr. J. U. Barnhill, of Columbus; "The Relation of Climatic Changes to Certain Diseases, with chart illustrations," by Mr. E. M. Mark, of Columbus; and "The Chronic Insane under County Care and in the Care of Families," by Dr. F. H. Darby, of Morrow.

An Addition to the recognized Varieties of Intra-scrotal Disease.

At a recent meeting of the New South Wales branch of the British Medical Association, Mr. Philip E. Muskett, honorary surgeon to the Sydney Hospital, read a paper in which he described a case of hydatid cyst simulating hydrocele. There was an intra-scrotal tumor of about the size of a large emu-egg on the right side. It was smooth in outline, and in its general contour nearly oval. It was tense and dull on percussion, but gave to the fingers on palpation the sensation of fluid within. There was no impulse on coughing, and it was irreducible. The position of the testicle at its posterior part was made out by the presence of testicular sensation. The cord could not be clearly defined at the upper portion of the swelling. Light was transmitted by the ordinary manner of procedure, and the history had been that of an eight years' growth, painless except from its mere weight. The house surgeon (Dr. Westrum), on July 17th, the day after admission, tapped him with a fine exploring trocar and cannula, and removed about an ounce of "serous-looking fluid," of "pale-yellowish tinge." A few days afterward his temperature rose repeatedly every evening two or three degrees above the normal, being attended with much heat and swelling about the tumor. Mr. Muskett now determined (July 30th) to empty it of its contents, and for this purpose used a full-sized trocar and cannula, giving exit to about six ounces of purulent-looking fluid. After this a good deal of pus drained away daily, and, feeling satisfied that there was something demanding freer outlet, he opened the scrotum antiseptically on the following morning, inserted a full-sized drainage-tube, and then stitched the cut edges of the tunica vaginalis and integument together. In the afternoon of the same day, however, a hydatid sac partly forced its way, and was partly extracted, through the opening left from the tapping ten days previously. It presented the usual and unmistakable characters of a hydatid sac, being grayish in color, translucent, elastic, and in its collapsed condition of such a size as would about fill an eggcup. From this time the swelling gradually subsided, the sinus ceased to discharge, the scrotum returned to its normal condition, and the patient was subsequently discharged, cured.

Laryngology at the College of Physicians and Surgeons.—Dr. Leferts's next lecture, to be given on Tuesday, the 18th inst., will be on the subject of malignant tumors of the larynx.

The European Faculties.—According to the "Lancet," there are 1,297 medical students at the University of Berlin; the one hundred and fiftieth anniversary of the founding of the University of Göttingen will be celebrated this year; the Government has promised to provide funds for building a new anatomical institute at Junsbruck; Professor Braun, of Jena, Dr. Madelung, and Dr. Mikulicz are candidates for the

chair of surgery at Königsberg; Professor Crédé has intimated a wish to resign the charge of the Lying-in Institution at Leipsic, which he has held for over thirty years; Dr. Simon Thomas, for nearly forty years the professor of obstetrics at Leyden, died recently, at the age of sixty-six; an extraordinary professor of anatomy is to be appointed at Upsala, charged with teaching histology and embryology; Professor von Bergmann, of Berlin, is reported to have declined a call to St. Petersburg, and Privat Docent Beltschoff has been appointed to take temporary charge of the late Professor Kolomnin's surgical clinic; Don Daniel de Zuloaga y Santos, professor of obstetrics at Granada, died recently of cerebral hæmorrhage, which occurred as he was going to his morning lecture. "Lyon médical" states that Dr. Laguaitte has been nominated *professeur suppléant* of surgery and obstetrics in the Marseilles *École de médecine*.

The "Ephemeris of Materia Medica," etc.—We are glad to see that the publication of this work has been resumed. The first number of the third volume, for January, 1887, opens with this statement:

"A year ago the issuing of these pamphlets was abandoned with regret, and, as inclination and material are not wanting, they would be gladly resumed with something like the original frequency, if only the time for the necessary work was at command. Experience has shown that it is one thing to know a subject fairly well in a general way, and even to practice upon it with success, but quite another thing to write upon it with that degree of accuracy and definiteness necessary to publication for the use and information of others. As a rule, the work has to be done at or near the time when it is to be described, and in a busy life, with occupations hourly changing, special attention to one subject is at best confused and disturbed, and in a little while details get crowded out and forgotten. The one condition essential to successful work for publication seems to be abstraction from other occupations for a few hours at a time at least, and this the writer can very rarely command now that age and failing faculties have made night work impracticable. Under these circumstances, all that is indicated by the issuing of this pamphlet, as a number of the former series whereby a third volume is begun, is that, as time and circumstances may permit, it is proposed to prepare some material for publication, and, whenever such material may be in readiness, to offer it in this form, even if that should only be once or twice in a year. The writer has many papers which are occasionally asked for, published during the past thirty years in books not accessible to all interested in these subjects. Some of these, at least, he would very much like to revise and republish in this form if it were reasonable to entertain a wish so unlikely to be accomplished."

The French Prizes for 1887, 1888, and 1889 are announced by "Progrès médical" as to be awarded for the best essays on the subjects mentioned below. *The Academy prize*.—For 1887, "Vaginal Hysterectomy, the Indications and Operative Procedures"; for 1888, "Night-soil and Water-supply in the Sanitation of Private Houses"; for 1889, "The Physiology of the Pneumogastric Nerve." *The Capuron prize*.—For 1887, "The Normal Involution of Tissues and Organs after Parturition, and the Pathological Changes and Conditions that may result"; for 1888, "Mineral Waters in the Treatment of Chronic Rheumatism"; for 1889, "The Various Forms of the Cæsarean Operation." *The Cuvier prize*.—For 1887, "Vesical Neuralgias"; for 1888, "Auditory Hallucinations"; for 1889, "Sensory Disturbances in Tabes." *The Daudet prize*.—For 1887, "Actinomycosis"; for 1888, "Syphilitic Gummata"; for 1889, "Congenital Neoplasms." *The infantile hygiene prize*.—For 1887, "The Clinical Study of Athrepsia." *The Lefèvre prize*.—For 1887, "Melancholia." *The Portal prize*.—For 1887, "Primary Renal Tuberculosis"; for 1888, "The Pathological Anatomy of Erysipelas"; for 1889, "The Pathological Anatomy and Physiology of the Suprarenal Capsules." *The Falret prize*.—For 1888, "The Relations between General Paralysis and Syphilis." *The Orfila prize*.—For 1888, "The Venom of the Viper." *The Louis prize*.—For 1889, "Antithermic Medication."

Medicine and Dentistry.—In an editorial article with this title, our able contemporary, the "Independent Practitioner," says:

"It should be remembered that dentistry in America occupies an

anomalous position. Whether wisely or not, and whether for the ultimate best interests of dentistry or not, the founders of our modern practice had no alternative, if educated and thoroughly equipped members were to be received, except in the establishment of segregated schools, and the conferring of a distinct diploma. This cut us off from medicine, for no one will for a moment imagine that the mother profession could acknowledge any diploma save her own, or recognize any school as competent to confer that diploma save regularly constituted medical ones, teaching the whole science of medicine. In no other country does this anomaly exist. In most of the European nations, until within a recent time, to become a fully recognized and approved dentist, a complete medical training was necessary. Now, in most of them, a special curriculum of dental study has been established, and the dentist recognized by medicine is not required to graduate in general surgery or obstetrics.

"In America, the tendency is toward a higher education in dentistry, and since the peculiar course of some of our separate schools in cheapening the dental degree and conferring it upon doubtful candidates, foreigners especially, there has been a deepening feeling in favor of a degree that has not been, in a measure, tainted by unworthy men. Years ago we drew upon ourself the censure of some of our separate schools by the statement that, in our opinion, the tendency of the times was toward the education of dentists in medical schools with special dental departments. It was a simple, bald statement of what we believed to be a fact, whether of good or evil import. The course of the dentists in other countries in securing the establishment of dental professorships in the universities, and the sending of dental students to those institutions, has proved that we were correct.

"In America we have arrived at the parting of the ways. Shall we, in the future, endeavor to draw yet closer the bond which unites us to the mother profession, or shall we strike out an independent course, cut ourselves adrift from medicine and burn our bridges behind us? It is time that a future policy be marked out, and we enter upon an intelligently resolved course of action. This can only be determined by calm and dispassionate debate. It is not the part of wisdom to appeal to prejudice, nor to allow our passions to dominate our action. The disputant who appeals to personal bias, or who harbors unworthy and ulterior motives, should be allowed no voice in our discussions. Hard words only provoke hard words in return. Our opponents are not half as bad men as we usually picture them.

"It is not to be supposed that this is a question of the existence of our separate schools. Their immediate and unconditional abolition, even were it possible, would be a backward step. Neither is it the diploma of D. D. S. *versus* that of M. D. This question need not enter into the consideration of the case. In England, where the relations of dentistry and medicine are so close, the separate degree of Licentiate of Dental Surgery (L. D. S.) has been established, but it emanates from a medical source, and the qualified dentist is amenable to a medical tribunal. In Germany, the approbated dentist derives his authority to practice from a medical court. It is not, perhaps, generally known that, in one State of our Union—Alabama—long before the war, an enactment placed dentistry directly under the control of medicine, and gave to medical authorities the sole right to license dentists to practice. The gulf which separates the two is not now a wide one, and it may be bridged over or irreparably extended. The question to be decided is, whether we shall, by precipitate action, sever all ties, or endeavor to get into yet closer relationship with medicine. We can not occupy the anomalous position of neither actually belonging to it nor being separated from it."

The Health of Michigan.—According to returns made to the State Board of Health for the five weeks ending January 1st, diphtheria was observed at seventy-one places, scarlet fever at forty-six, typhoid fever at twenty-six, measles at sixteen, and small-pox at one place (Detroit).

The Massachusetts General Hospital.—We learn that the trustees have decided to build a new ward, to be devoted to abdominal surgery. The details of its arrangement have not yet been all decided upon, being left largely to the judgment of the surgical staff, but the general idea is that of an operating theatre with beds attached. The foundation will soon be laid.

Original Communications.

IMPACTED FRACTURES OF THE NECK OF THE FEMUR.*

By W. H. WILDER, A. M., M. D.,

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THE importance of recognizing and properly treating so grave an injury as a fracture of the femur goes almost without saying. The importance of properly recognizing an impacted fracture of the *neck* of this bone, and of obtaining this valuable information without detriment to the interests of the patient, is quite as apparent, and should induce the surgeon to keep in mind a bright and clear knowledge of this subject. We can hardly conceive of a surgeon who would have the temerity to dislodge the impacted fragments of a broken femur, with the vain hope that thereby he might avoid the deformity that is an almost inevitable sequel of this class of injuries; but we know that he is content if he can apprehend this happy condition of affairs in time, that it may aid his course of treatment, and give some promise to the unfortunate sufferer that he still may have a useful if not a perfect limb.

However, this very practice of dislodging the fragments is unwittingly employed by the operator who uses rough and ill-timed manipulation in an endeavor to obtain a crepitus, which in many cases is not obtainable, and in many more is only received at the expense of breaking up the impaction, and thereby doing at times irreparable mischief.

In many cases the displacement of the fragments of the fracture is due to the continued action of the force that produced the injury; and in many more the same result is accomplished by the contraction of the muscles covering the part, or by an attempt to stand on the injured member; but it is very probable that a considerable number suffer this further accident by a careless attempt at a diagnosis, or a useless endeavor to overcome the shortening and the deformity.

The frequency of this form of fractures, and the advantage of its recognition, seem to have been overlooked by some of the earlier writers, while several of the later authors prefer to discard the old classification of intra- and extra-capsular fractures for the more practical one of impacted and non-impacted. R. W. Smith, of Dublin, writing in 1834, after the examination of one hundred specimens, expressed the opinion that all extra-capsular fractures were at first impacted, and that those within the capsule might sometimes be impacted. Malgaigne also believed that impaction associated with fracture through the trochanters was the invariable result of an extra-capsular fracture. This accords with the view of Mr. Bryant, who also thinks that impaction may occur, though not commonly, entirely within the capsular ligament.

Professor Bigelow classifies these cases as impacted

fractures of the base of the neck and unimpacted fractures of the rest of the neck, regarding this as a rule to which all other forms are exceptions.

In an analytical table of 322 fractures of the femur in Bellevue Hospital from 1865 to 1873, inclusive, elaborated by Dr. Hyde, there are 61 fractures of the neck, of which 14 are recorded as intra-capsular and 17 extra-capsular, with 30 undetermined ("Medical Record" for 1875).

Dr. Frank Hamilton compiled a table of fractures, of which 81 were of the neck of the femur, 42 of which were extra-capsular, 30 were within the capsule, and 9 were undetermined. This, in connection with the opinion of Nélaton, who believed that extra-capsular fractures were the most common, and that of Bonnet and other observers, would lead us to suppose that extra-capsular, and therefore impacted, fractures of the neck of the femur comprise one half, if not more, of the cases in which the neck of this bone is broken. This injury is one that occurs with much greater frequency to individuals who have passed the meridian of life, thus presenting a striking contrast to dislocation of the femur, the majority of cases of which are seen in persons of younger age and more active habits. Indeed, when scrutinizing an injured hip, one should suspect a dislocation in a person under forty-five or fifty, and a fractured bone in one over that age. An explanation of the fact that fractures of the neck of the femur are more frequently seen in the later years of life and in women has been offered by Dupuytren, who says he never saw an injury of this kind in a child. This eminent surgeon maintains that the angle that is formed by the axis of the neck and the axis of the shaft is different in the two sexes, and that as age advances it changes perceptibly.

In the majority of normal healthy femora of adult life this angle is an obtuse one, varying from 125° to 135° , and furnishes the greatest resistance to injuries of this part.

But later in life, as this bone keeps pace with other senile changes, the angle of the neck becomes more acute, until it may reach 90° . This change is supposed to be due to wasting of the extremity of the bone and the increasing porosity of the cancelli incident to old age, whereby the bone yields to the superincumbent weight of the body. The supposed reason for the loss of strength that results from this change of direction of the neck will be mentioned when we consider the internal arrangement of the lamellæ of this bone. The more obtuse is the angle of the neck, the less liable is a fall upon the feet or upon the trochanter to fracture the bone.

In children this part is further protected on account of the small size of the trochanter, the prominence of the ilium, and an abundance of fat and soft tissue, which acts as a cushion to the bone.

The cervix femoris of women is supposed to be longer than in men, without the proportionate increase in thickness; and this, together with the notable prominence of the greater trochanter, renders this sex more exposed to accidents of this nature. The wasting of the muscles, the general emaciation, and the weakness consequent upon this senile change, are other elements of danger to aged persons,

*Read before the Cincinnati Academy of Medicine, November 29, 1886.

and should be considered predisposing causes of such fractures.

Packard questions the truth of the existence of this altered direction of the neck of the femur in old age, and states that, many times, he has seen young femora which presented a more acute angle than old ones, and he has also seen aged femora in which there was no decrease in the normal obliquity of the neck. These apparently exceptional cases might be explained by an existing disease of the bone in youth, tending, of course, to weaken it, and by a pre-natural vitality in old age able to resist the destructive tendencies of that period.

It is generally conceded, however, that this altered direction of the neck exists in the majority of aged people, and that it increases the liability of this bone to fracture.

The consideration of the pathology of this fracture, of the arrangement of the cancelli and their beautiful adaptation for strengthening this part, and of the operation of certain forces that may cause the destruction of their integrity, affords an interesting topic for study. A section through the head and neck of a healthy adult femur reveals a series of lamellæ or columns of bony tissue, starting from a point corresponding to the junction of the anterior intertrochanteric line with the lesser trochanter, on the internal surface of the bone, and curving upward and inward to support the thin concave covering of the head. These serve the purpose of braces for the head and neck, but, without any other support than that obtained from the internal surface of the shaft, they would be inadequate to support the weight of the body.

We find other lamellæ passing upward and outward from the same point, to reach the junction of the upper surface of the neck with the shaft, just within the greater trochanter; and there, meeting lamellæ that start from a corresponding point on the outer surface of the shaft, a series of beautiful arches is formed, beneath the upper wall of the neck, which are essentially Gothic in their style and strength. These arches, with their bases implanted in the firm tissue of the shaft, furnish the support for other columns or braces which pass from them to the head, and lend strength to those first mentioned. In consequence of this beautiful provision of Nature, any force brought to bear upon the head of the bone in a vertical direction, such as the weight of the body in standing, or when it is suddenly thrown upon the head of the femur, as from a fall on the feet, is transmitted to this series of strong arches by means of the bands that run to them from the head. Part of the force is thus sustained by them, while the rest is transmitted to the shaft near the lesser trochanter through the bands that pass from this point upward to the head.

It will be readily perceived that when the angle of the neck with the shaft is very obtuse, and the direction of the axis of the neck approaches that of the shaft, the lamellæ that pass from the lesser trochanter to the head of the bone will be more nearly vertical, and hence can sustain a force applied to them in this direction better than if they were separated farther from the arches, as they are when the obliquity of the neck is decreased.

A knowledge of this lamellar arrangement will explain

the fact that comparatively few of these fractures are received by a fall upon the feet, although this may be the case when the force is severe, or when there is an altered direction of the neck. In thirty-six cases examined by Desault, with especial reference to this point, twelve were caused by falls upon the feet, while twenty-four were the result of a fall upon the greater trochanter. When a fall upon the feet does produce the impacted form of fracture, the neck is usually crushed in at a point just above the lesser trochanter, where the fibers converge to receive their support. The force, continuing, may crush in the side of the arches that have been described, and drive the neck into the upper part of the shaft, either splitting the trochanter, an occurrence which is quite common, or only breaking the under surface of the neck, a much rarer form. When a fall is received upon the trochanter, the most common cause of injuries to the neck of the femur, the force of the accident is occasioned by the weight of the body suddenly impinging upon the head of the bone. In this position, the fibers or lamellæ are at a disadvantage, for the neck, representing a lever with the fulcrum at its attachment to the shaft, will either force in the sides of the arches, producing an impacted or complete fracture at the base of the neck, or be broken off at its weakest point, the constriction around the head. In this case the force has a tendency to increase the obliquity of the neck, or, in other words, to make the axis of the neck parallel to that of the shaft. If the obliquity were normal at the time of such an accident, it would seem that the force would not be transmitted to the shaft and base of the neck, but would expend itself principally upon the head, thereby causing an unimpacted fracture of the neck within the capsule; but if the direction of the neck were altered so as to form a right angle with the shaft, the force would be applied in the direction of the axis of the neck, and so might either produce an impacted fracture near the head (a form that is said to be very rare), or an impacted fracture near the base of the neck. With the same difference in direction of the neck, and with the force applied in a slightly different manner, there might be a tendency to make the angle of the neck with the shaft an acute one, thus forcing the head of the bone still farther down, and crushing in the base of the neck near the lesser trochanter. This is a form of impacted fracture that is very uncommon. In the work of R. W. Smith ("Fractures and Dislocations," 1834) there is an engraving of a case, illustrating this variety of injury, in which the neck forms an acute angle with the shaft.

Smith, having examined one hundred cases of so-called extra-capsular fractures, believes not only that all fractures of the neck, external to the capsular ligament, are impacted, but that they necessarily involve the trochanteric region. Cruveilhier alludes to the same point by saying, "One rarely sees an extra-capsular fracture of the femur perfectly simple." In this fracture the neck is driven through the sides of the arches that have been described by a force which is supplemented by an outward rotation of the femur, which usually occurs, thus pressing the posterior intertrochanteric ridge against the neck, and thereby virtually splitting open the shaft. If this force continues

long enough, or if, in attempting to rise, the individual falls again, the cervix may be loosened from its bed, and a complete fracture will be the result; but it commonly remains impacted. The force may be severe enough to send the base of the neck completely through the shaft, so that it will protrude through the outer side, and present itself just beneath the skin. Rodet has attempted to adduce diagnostic signs from the knowledge of the direction of the applied force, maintaining that when the fall is vertical—*i. e.*, on the feet or knees—the line of fracture will be intra-capsular and oblique; when antero-lateral—*i. e.*, on the anterior surface of the trochanter—it will be transverse and intra-capsular; and when directly on the trochanter, it will be extra-capsular and impacted. These directions, although they may be of some general utility, are not altogether reliable, and could only be used as corroborative signs.

On account of the thin covering of the posterior surface of the neck, just internal to the posterior intertrochanteric ridge, this part is commonly broken first, and pressed more deeply into the cancellous tissue of the shaft, thereby causing an eversion of the limb, the pathology of which is perfectly clear.

In certain cases the opposite of this may occur, the anterior surface of the neck being the more deeply impacted, causing the rare condition of inversion of the foot.

When impacted fracture of the neck occurs entirely within the capsular ligament, the form of the injury does not resemble that at the base of the neck, in which the superior fragment is implanted in the inferior fragment, for the reason that the relative size of the parts is such that one could not be received into the other. In this interesting form the head of the bone is described as "sunken below the natural level, and the line of the fracture has taken an undulatory course." The internal portion of the upper fragment is seen to overlap the lower, while the external portion of the lower fragment—that is, the upper wall of the neck—presses up over the upper fragment. The compact layer of the internal or lower wall of the neck is forced up into the yielding reticular structure of the head, and so the broken parts support each other. Of sixty cases of fracture of the neck of all varieties described by R. W. Smith in his admirable work on fractures, four were of this character; and, in perusing the histories of these cases, one is impressed with the belief that several more in the list of intra-capsular fractures may have been impacted at first after this manner.

Why may not a fracture of this kind heal by bony union, even if it is within the dreaded boundaries of the capsular ligament? This dovetailing of the fragments holds them firmly in position, and gives the bone the best possible chance of recovery. Indeed, it is quite probable that this form of intra-capsular fracture occurs more frequently than has been supposed, and that, if more broken femora could be examined after a proper course of treatment has been pursued, bony union within the joint would be found in many more cases than those rare ones recorded in surgical literature.

It is so doubtful that impacted fractures ever occur after a sudden muscular action that we will not stop to consider

the operation of this supposed cause. A sudden twist of the body is much more likely to be a cause of complete intra-capsular fracture than of the impacted form; but, when it does produce the latter, the force must be applied in much the same manner as that pertaining to falls.

The prognosis of this class of injuries is of such importance that it may affect the happiness of the surgeon on the one hand, and that of the patient on the other. If, when called to a case of this kind, the physician, after a hasty examination and a failure to detect crepitus, inadvertently announces his opinion that there is no fracture and that the patient will soon recover from a simple contusion of the hip, he will probably be surprised soon after, when the patient attempts to get about and separates the fragments, and his face will get longer as the limb gets shorter.

Of course, the prognosis will be affected by the degree of the impaction, the age and vital resistance of the individual, and other considerations. The bone is in the best possible condition of healing if the fragments are not displaced by an attempt at walking, at moving the limb, or by an over-zealous search for a correct diagnosis, or an immoderate amount of extension. It is conceded by all eminent authors who have engaged in the celebrated controversy regarding the possibility of a bony union resulting after an intra-capsular fracture that, if it ever does occur, it is much more liable to do so when the fragments are held together by a natural impaction. Theoretically, we can see no reason why an intra-capsular impacted fracture should not heal as well as one impacted outside of the capsule, provided, of course, the general condition of the patient is favorable to any kind of healing process. If the impaction remains until the continuity of the bone is restored, the deformity will probably be the same as at the time of the receipt of the injury, unless further shortening of the bone should happen on account of interstitial absorption of the neck.

There is much less likelihood of a large mass of bony tissue being thrown out around the seat of fracture to interfere with the mobility of the joint than in the unimpacted varieties. Great stress is laid upon the statement that shortening is an inevitable result of impacted fractures of the neck, provided the impaction remains permanent, by such eminent authorities as Sir Astley Cooper, Mr. Robert W. Smith, Dr. Frank Hamilton, and others. I can not see why this result, which takes place in the vast majority of these injuries, must be inevitable or invariable. We can conceive of an injury to this bone received by a force applied to the anterior part of the great trochanter, which crushes in the posterior wall of the neck, and forces it to change its lateral position, as viewed from the side, without affecting the obliquity that the neck makes with the shaft. In such a case the eversion and all the other signs of fracture would be marked, but the shortening would be nil. I have this reason to believe that a case which I recently treated was of this nature, for, after the most careful measurements, repeated several times, I have been unable to detect any difference in the length of the limbs. This accident happened to Mrs. S., sixty years of age, on June 19, 1886, from a fall on the left hip.

When I was called, about two hours after the injury, I found her in bed, suffering great pain, which was aggravated by pressure behind the great trochanter. There was no shortening of the limb upon measurement, nor was there any shortening of the line devised by Mr. Bryant. The eversion of the left foot was marked; the trochanter rotated through a normal arc. I placed her in bed and applied moderate extension, with sand bags to the outer and inner surfaces of the thigh to steady it. In six weeks I allowed her to sit up, and in eight weeks she was walking about with the assistance of a crutch. There is no shortening at the present time, but the eversion is just as marked as at the time of the receipt of the injury, and incommodes her somewhat in walking. Five months after the date of the injury, with the assistance of Dr. Longstreet Taylor, of Cincinnati, the limb was re-examined and found to be of the same length, if not a trifle longer than the other. A bony callus could be felt behind the trochanter.

If so many cases of fracture are impacted at first, it behooves us to exercise great care in our efforts to establish a diagnosis, and to examine every case of recent injury of the hip with as much caution as if we suspected an impacted fracture of the neck within the capsule. Furthermore, the reputation of the attending surgeon is so much at stake in cases of this nature that he can not afford to commit an error in diagnosis by pronouncing a certain injury to the hip a contusion, not to be followed by any serious impairment of function, when it is in reality an impacted fracture. There will almost invariably be deformity or shortening in these cases, and probably always lameness.

It will be impossible to tell the difference between an extra-capsular and an intra-capsular fracture of the neck of the femur; the signs will be the same. Of course, the fact that extra-capsular impacted fractures occur with much more frequency than those within the capsular ligament will help to determine the character of the injury, but it should always be borne in mind that fractures of the latter class may occur. It is very probable that more fractures are partly intra-capsular, or intra-articular, as Packard expresses it, than has been generally supposed, and the fact that a fracture of this mixed variety may be present does not in itself impair the chances of the patient for a good recovery.

Loss of function is one of the commonest signs of this accident, as it is of non-impacted fractures of the neck of the femur; but this is not invariable, for cases have been reported in which the patients were able to walk upon the injured limb, and move it about easily, although not without pain. In such a case the fragments of the broken bone must be held very firmly in place by each other.

Shortening of the injured member is noticed in almost every case, the degree depending, of course, upon the extent and character of the fracture. It has been said that lengthening of the affected limb may occur, this being due to a "peculiar form of impacted fracture, in which the rupture of the osseous tissue occurs at the inferior surface of the neck, by which its obliquity is increased." Dupuytren gives M. Lallemand the credit for first calling attention to the fact that this sign may exist in cases where there is a paralytic condition of the muscles of the injured limb. Such a sign would be particularly manifest, on account of the weight of the leg, if the patient were in the erect posture. The shortening is rarely so great as that which is

present in the non-impacted varieties of fracture, especially those that exist entirely outside of the capsule. In many complete intra-capsular fractures the firm ligamentous bands that pass along the neck from the reflected surface of the capsule, described first by Weitbrecht in 1742 under the name of "retinacula," may not be broken by the force of the injury, in which case the fragments will be held in close apposition and the shortening will be very slight. Such a case might possibly be mistaken for an impacted fracture, but an attempt at rotation would probably show this condition.

An everted position of the foot is one of the most characteristic signs of any fracture of the neck of the femur, and in the vast majority of cases it will be present in such an injury. It is without the scope of this paper to discuss the cause or causes of this abnormal position in complete fractures, for it is quite evident that in the class under consideration it must be due, generally, to the nature of the impaction.

But this is not a constant sign, for the foot may remain in its natural position, or it may be inverted as first described by Ambroise Paré. This rare condition, of which Dupuytren saw but two cases in his practice, is probably due to the peculiar obliquity of the fracture, by which the shaft of the femur is rotated forward upon the neck. It is important to differentiate this from dislocation of the head of the femur upon the dorsum ilii. In the latter there will probably be much greater shortening and eversion; the limb can not be rotated, and the head of the bone may be felt beneath the soft parts. Dislocation will probably be seen in individuals under fifty years of age, while fracture will usually occur in later years. The method of diagnosis originated by Maisonneuve, by which he detects a fracture of the neck by placing the patient on the belly and carrying the injured limb to a greater degree of extension than the sound one, would hardly be applicable in the class of fractures under consideration.

I will now mention briefly a rule for diagnosis of impacted fractures of the neck, devised and practiced by Mr. Bryant, of Guy's Hospital, London, and described by him in the "Lancet" of January 22, 1876, and also in his work on surgery. It seems to approach more nearly to infallibility than any ever before offered. The patient is placed upon his back, in a horizontal position, on a hard mattress or the floor. A vertical line is dropped from the anterior spinous process of the ilium. A horizontal line, drawn from the tip of the trochanter to this line, and at a right angle to it, will indicate at once the distance of the trochanter from the vertical line, and a comparison of the two sides will show any shortening that may exist. If shortening is present, the trochanter of the injured side will be nearer the vertical line before described than that of the sound side. This valuable method of diagnosis will fail only in those rare cases in which no shortening exists.

The practitioner must avail himself of all these signs, for none of them alone is pathognomonic; and it is only with the utmost care and the attentive consideration of the evidence that these afford that he will be able to differentiate some of these impacted fractures from severe contusions of the hip.

THE CLIMATE OF EL PASO, TEXAS.*

By E. W. SCHAUFFLER, A. M., M. D.,
KANSAS CITY, MO.

MR. PRESIDENT AND GENTLEMEN: I propose in the present paper to lay before you very briefly such facts as a recent visit to that place has enabled me to collect with regard to the climate of El Paso, Texas. I do so because I believe El Paso to possess one of the best winter climates in the United States, while it is at the same time in the near neighborhood of some of our most salubrious summer resorts, such as the Hot Springs of Las Vegas, N. M.

In presenting to you its qualities I rejoice in the assurance that I repeat to you no twice-told tale, for the town itself is but five years old, and I am not aware that its advantages as a winter resort have ever been brought to the notice of any body of medical men.

El Paso is situated at the extreme western boundary of Texas, in that tongue of land which is bounded on the north and west by New Mexico and on the south by the Rio Grande River. Its longitude is 106° west and its latitude 32° north, the longitude being the same as that of Santa Fé, N. M., and the latitude nearly the same as that of Savannah, Ga., and San Diego, Cal. It is 340 miles south of Santa Fé, constituting the southern terminus of the Atchison, Topeka, and Santa Fé Railroad, and the point where this road connects with the Mexican Central Railroad. Three other trunk lines—two from the East and one from California—center here, bidding for the Mexican trade, and thus what was five years ago a sleepy little settlement under the wing of Fort Bliss has now become an active, enterprising town of some five or six thousand inhabitants, with much actual business and boundless expectations.

The mountain ranges of New Mexico and old Mexico abutting on the river at this point give variety and beauty to the landscape, and contribute that exhilarating quality of "mountain air" which, combined with the mild temperature of the winter season, constitutes the charm of the El Paso climate.

The altitude is 3,760 feet above the sea-level—high enough to be pure and bracing, and yet not high enough to embarrass the heart's action and increase the dyspnoea of those affected with pulmonary complaints. I found it true with regard to myself while suffering from a severe attack of bronchitis, and also with regard to others whom I met, that whereas at Las Vegas and Santa Fé (at an altitude respectively of 6,700 and 7,100 feet) we suffered from dyspnoea and had to walk slowly, like confirmed invalids, the descent to El Paso enabled us to walk briskly and soon made us feel equal to running a foot-race.

The soil is sandy and very porous.

The temperature is hot in summer, mild in winter. For those who have the means of traveling, it would be folly to summer in El Paso, and yet the dryness of the atmosphere

is such that a temperature of 100° to 105° in the shade is more endurable than that of 80° to 85° in Philadelphia. Sunstroke is unknown, in spite of a maximum temperature of 110° in summer, and those who are compelled to remain there do not perish with the heat, nor suffer much if any more than the inhabitants of Eastern cities.

But it is the winter temperature to which I wish to call attention, as well as the small amount of rain-fall and the small number of cloudy days, these conditions combining to constitute the charm of the winter, during which season the invalid can walk, or even sit out of doors, almost every day. Combined with the mild temperature there is, as I have before remarked, a bracing, tonic quality to the air, due, perhaps, in part, to its rarity and dryness, which I have failed to find in the air of Florida, of the Gulf, or even of San Antonio, Texas.

The following tables of temperature, etc., are taken from the report of the Chief Signal Officer of the United States army, a signal station having been maintained at Fort Bliss, one mile from El Paso, for the period covered by this report:

YEAR AND MONTH.	TEMPERATURE.				Rain-fall and snow, in inches.	NUMBER OF DAYS.				
	7 A. M.	3 P. M.	11 P. M.	Mean.		Clear.	Fair.	Cloudy.	Rain.	Snow.
1881.										
July	70.5	91.5	78.8	80.3	8.18	5	23	3	9	..
August	70.7	88.4	76.0	78.4	3.15	16	12	3	15	..
September	63	85.3	70	72.8	1.44	19	7	4	5	..
October	55.4	79	64.1	66.2	1.45	13	18	0	10	..
November	36.3	58.6	46.2	47	.5	19	9	2	2	..
December	35	57.1	43.6	45.2	.78	19	11	1	3	..
Total or mean .....	...	...	...	64.9	15.50	91	80	13	44	..
1882.										
January	35.1	53.3	43.7	44	.64	15	12	4	4	..
February	37.8	56.2	47.3	47.1	.78	16	7	5	5	..
March	43.3	67.0	55.4	55.2	.38	21	6	4	4	..
April	49.1	75.2	60.7	61.7	...	23	5	2	0	..
May	55.3	83.8	70.2	69.8	.10	27	3	1	1	..
June	65.8	93.3	77.8	79	.43	16	13	1	7	..
July	71.8	96.8	87.5	83.4	1.26	16	13	2	9	..
August	66.5	88.4	75.1	76.7	2.52	18	9	4	11	..
September	57.5	82.1	67.8	69.1	.40	24	4	2	5	..
October	44.3	75.9	59.2	59.8	...	28	3	0	0	..
November	40.8	60.7	49.3	50.3	1.46	15	10	5	7	..
December	33.1	54.2	42.3	43.2	...	27	4	0	0	..
Total or mean .....	...	...	...	61.59	7.69	246	89	30	53	..
1883.										
January	32.2	52.6	42.7	42.5	.10	20	10	1	3	..
February	40.3	57.8	49.5	49.2	.40	10	12	6	6	..
March	48.9	65.0	55.7	56.5	2.09	16	9	6	3	..
April	49.7	72.5	60.2	60.8	.10	26	3	1	1	..
May	60.1	83.1	71.4	71.5	.02	26	2	3	1	..
June	71.1	95.3	81.7	82.7	.02	24	6	0	2	..
Total or mean .....	...	...	...	60.5	2.73	102	42	17	16	..

In looking at these tables, I would especially call attention to the large number of clear and fair days and the small amount of rain-fall shown during the winter months.

The following table of the mean monthly temperature, the rain-fall, and the number of clear, fair, and cloudy days during the year 1884 is taken from a pamphlet published by the El Paso Bureau of Information, and is entirely consistent with the Signal-Service reports of previous years:

* Read before the American Climatological Association at its third annual meeting.

1884.	Mean temperature.	Rain-fall in inches.	Clear days.	Fair days.	Cloudy days.
January.....	39.9	.55	15	13	3
February.....	50.6	.84	14	12	2
March.....	54.5	.33	19	9	3
April.....	59	.91	16	13	1
May.....	69	none	19	10	2
June.....	78.4	.11	19	9	2
July.....	85.5	.46	11	16	4
August.....	79.6	3.98	5	16	10
September.....	72.7	3.68	15	10	5
October.....	62.6	5.15	11	12	8
November.....	51.5	.22	18	10	2
December.....	46.9	2.07	11	13	7
Total or mean,...	62.5	1.83	173	143	49

The following comparison of the number of cloudy days in Denver, Col., and El Paso, Texas, for eighteen months, taken from the Signal-Service reports, is offered for what it is worth, the length of time covered not being sufficient to give it great value:

Total number of cloudy days.

PERIOD.	Denver.	El Paso.
12 months, 1882.....	33	30
6 months ending June, 1883.....	36	17

Wishing to compare the monthly and annual mean temperature and the rain-fall of El Paso with those of Las Vegas Hot Springs, Denver, and San Diego, Cal., I have had recourse to some tables compiled from the Signal-Service records by Lieutenant W. A. Glassford, U. S. Army, which appear in a pamphlet entitled "Illustrated New Mexico," edited by W. G. Ritch, and published by the Bureau of Immigration at Santa Fé, N. M.:

Monthly and Annual Mean Temperature (Fahrenheit) of places named, being the mean of the observations of several years.

	Santa Fé, N. M. (Las Vegas).	Denver, Col.	El Paso, Texas.	San Diego, Cal.
January.....	28.2	27.1	46.9	53.7
February.....	31.7	33	50.6	54.4
March.....	39.1	39.4	57.4	55.5
April.....	45.5	46.3	64.6	57.8
May.....	56	56.9	73.3	61
June.....	65.4	67	81	64.2
July.....	68	72.1	81.8	67
August.....	65.9	70.5	78.6	68.7
September.....	59	60.7	72.8	66.5
October.....	49.4	50.2	64.3	63
November.....	36.7	35.5	50.5	58.2
December.....	30.2	30.4	46.3	55.4
Annual mean.....	47.9	49.2	63.4	60.4
Mean for winter months	30.0	30.1	47.9	54.5

Precipitation of Rain and Snow, in inches.

PLACE.	1875.	Average of several years, differing at the several places.
Santa Fé (Las Vegas).....	16.65	13.89
Denver.....	15.24	14.57
El Paso (Fort Bliss).....	9.56	11.90
San Diego.....	9.16	9.62
New York.....	43.24	43

In view of its mild winter climate, as shown by the foregoing tables, its altitude, the great dryness of the at-

mosphere and soil, and the remarkable preponderance of clear and fair days, especially during the winter and spring months, I think it must be conceded that El Paso presents many of the requisites of a winter resort for persons suffering from pulmonary complaints. Nor is this merely a theoretical conclusion. It is confirmed by the experience of a considerable number of asthmatic, bronchitic, and phthisical patients who have already tested the virtues of this climate. Some of these I met myself during a stay of some weeks last February and March, and with regard to others I was informed by the physicians of the place and the army officers at Fort Bliss. The testimony was the same that is usually obtained at such places—viz., that the patient soon began to lose his cough, to improve in appetite, and to gain in weight and strength.

Notwithstanding the newness of the place, the accommodations of El Paso are very fair. There are several quite large and respectable hotels, there is a good market, and the price of living is not high. Although in Texas, it is a very wide-awake Yankee town, or rather a cosmopolitan town, with an elegant court-house, public-school building, numerous churches, etc. One great charm to the visitor or sojourner is the proximity of old Mexico, just across the Rio Grande, where, within an easy walk or drive, he finds the city of Paso del Norte, surrounded by a well-irrigated and cultivated country, teeming with a kindly and industrious population. For myself, I never wearied of watching their strange seventeenth-century methods of living and working.

El Paso is best reached by way of the Atchison, Topeka, and Santa Fé Railroad from Kansas City. It offers to young men especially one inducement belonging to but few health resorts, and that is a reasonable probability of securing employment, inasmuch as it is a growing business place and not overrun with invalids.

A CASE OF SUBMUCOUS LARYNGITIS TREATED WITH HOT WATER.*

By A. H. BUCKMASTER, M. D., BROOKLYN,
ALUMNUS OF THE WOMAN'S HOSPITAL, VISITING GYNECOLOGIST TO THE
HOSPITAL FOR MENTAL AND NERVOUS DISEASES, ETC.

WHILE I was house surgeon at St. Peter's Hospital, Dr. Rushmore was called in consultation to see a case of acute laryngitis in which the respiration was becoming difficult.

The patient was a stout young Irish girl, eighteen years of age, who had suffered for a couple of days with the symptoms usually accompanying a sore throat, such as pain, hoarseness, and difficulty in deglutition. After an examination of the patient I was directed to perform tracheotomy should the symptoms become urgent during the night.

At midnight the Sister called me to the bedside of the patient, who was cyanosed and breathing with the greatest difficulty. Her voice had been hoarse during the day, but she now seemed unable to speak. Her pulse was rapid and feeble, and I felt that the only method for relief was the surgical one of opening the trachea. When I examined her throat it seemed a pity

* Read before the Medical Society of the County of Kings, September 21, 1886.

to make a scar in this position. This thought was emphasized by the fact that we had in the wards at this time a boy whose neck presented an unsightly cicatrix, the result of a previous operation. I had recently read Dr. Emmet's article on the use of hot water, and determined to try it in this instance. A rubber blanket was quickly spread upon the bed, and the patient placed so that the head was lower than the shoulders. A large supply of hot water, at about 120° F., was thrown against the oedematous tissues by means of a Davidson syringe. The head was turned on its side, so that the water could easily return and be carried by the sheet into a pail. At first this procedure caused the patient to attempt to swallow, but it was quickly overcome; the breathing became easier, and, at the end of half an hour, the distressing symptoms had disappeared.

It might be urged that the obstruction to the breathing was due to a spasmodic closure of the vocal cords, but the gradual progression of the symptoms was favorable to the view that the oedema was the chief cause. While making preparations to use the hot water, the danger seemed so imminent that I retained a knife in my hand ready to act instantly if necessary.

In looking up the literature of the subject I am unable to find any reference to the use of hot water for this purpose. Very little is said as to the *modus operandi* of hot water. It has been studied chiefly from its clinical standpoint. To this, however, there is a recent exception in favor of Dr. Milne Murray, of Edinburgh.

The honor of having first brought this therapeutic agent prominently to the attention of the medical world, which belongs to Dr. T. Addis Emmet, should be shared by the investigator who accurately indicates its method of action. The studies of Dr. Murray promise to elucidate the subject, and, as they are very recent, I venture to speak of them. He experimented on rabbits of different ages, both pregnant and not pregnant. By exposing the uterus and fixing one of its cornua, the distal end of which was connected by a fine tenaculum with a lever arrangement, the slightest contraction could be noted. Not only could the time of such a contraction be observed, but its force estimated by a tracing such as we are familiar with in dealing with the arteries. This tracing indicated that rhythmical movements were constant, and, in reaching this conclusion, great care was taken to guard against sources of error. In addition to being constant, these contractions presented certain well-marked characteristics. There was a sharp up-stroke, denoting a rapid contraction; then a down-stroke, divided into two parts—at first rather abrupt, then lengthening out gradually. By comparing the tracings obtained with water at different temperatures, he arrived at the following results, which I quote from his paper:

Cold water from 32° to 60°.

Hot water, 110° to 120°.

- | | |
|--|---|
| 1. Marked latent period. | 1. Latent period absent or very short. |
| 2. Contraction develops slowly. | 2. Contraction develops rapidly. |
| 3. Relaxation about three times the duration of contraction. | 3. Relaxation about twelve to twenty four times the duration of contraction. |
| 4. Successive applications can only induce contraction after a period of rest. These | 4. Successive applications followed at once by response. Efficiency of contraction great- |

ly increased. The periods of relaxation and maximal contraction are much increased. *Gain in four experiments, FOUR TIMES* the initial efficiency. *Loss in four experiments, four fifths* of the initial efficiency.

- | | |
|--|--|
| 5. Continuous application produces rapid exhaustion, the muscle becoming completely relaxed, and failing to respond. | 5. Continuous application produces a high degree of contraction, broken up by secondary waves of partial relaxation and contraction. |
|--|--|

Dr. Murray takes exception to Dr. Emmet's statement that in the application of hot water there is first dilatation followed by contraction, or that "the reaction from heat is contraction." The tracings showed no such dilatation, and the first manifestation in the tissue experimented on was always that of contraction. This also seems well established for the tissue in the arteries, in an experiment I shall describe later on.

Dr. Emmet states in illustration of his view "that the hands and arms of a washerwoman when in hot water become swollen at first, from the increased flow of blood to them, but it is a well-known fact that they afterward become markedly shriveled." In relation to this observation I performed the following experiment:

I placed in a basin of water at a heat of 110° F. to 120° F. one hand of a lady whose white skin permitted the vascular changes to be readily observed. I then instructed her to place the other in the water, but to remove it from time to time. The two hands were compared frequently under water for two minutes when it was found that the one continually under was becoming bleached while the other was red and swollen. From this I presume that occasional exposure to the air at first interferes with the effect of the heat.

The summary of the results already given applies to the whole muscular tissue of the vagina and uterus, which is of the unstriped variety. The following experiments are designed to show the effect of water at different temperatures on the walls of the arteries themselves:

Two jets of water, one at 40° F. and the other at 115° F., were directed at different places on the meso-metrium of a rabbit and continued for four minutes. Both sides became pale—almost white—and nothing was to be seen save two or three arterial twigs distended to their utmost by the spasm of the arterioles. "At the end of four minutes the side receiving the cold water showed signs of returning vascularity; that receiving the hot was still perfectly anemic. Four minutes later the cold side was bright red and the hot side was still white. Eight minutes after, the cold side was an intense scarlet, the blood-vessels standing out in spiral lines all over the tissue, while the hot side had assumed the appearance it had before the experiment. Half an hour later the conditions were the same, and the observation was not continued longer."

I will take the liberty of quoting one more of Dr. Murray's experiments.

An incision was made into a gravid uterus and the free bleeding completely checked by a small stream of water at 120° F. Cold was added to the vessel containing the water, and the temperature slowly fell to 100° F. "About one minute afterward the bleeding recommenced, at first slowly, but as the tem-

perature fell to 90° the blood escaped more rapidly. During the five or six minutes which were necessary to reduce the temperature to 50° F. the blood continued to flow as before. When 46° F. was reached the escape of blood became markedly less, and, a piece of ice being added, the temperature rapidly fell to 38° F. and then to 36° F., when the bleeding entirely ceased, the water running off colorless. In about two minutes thereafter, the stream of water still being kept up, the oozing again commenced. A morsel of ice laid on the wound was quickly dissolved and washed away in the escaping blood, and it was evident the cold had lost its influence. A sponge was dipped in water just hot enough to be barely tolerable to the hand; wrung out over the wound, the bleeding ceased at once and the wound was closed by a Péan forceps."

Hot water has become a fashionable remedy and has been used for many purposes, including, of course, the treatment of the vomiting of pregnancy and of gonorrhœa. That it has a most powerful influence over the vascular apparatus is not to be gainsaid. I think that in my case of submucous laryngitis it saved the girl an operation by diminishing the congestion and œdema, and that its use is not attended with danger is another reason for its more extended employment.

REPORT OF THIRTY-TWO CASES OF POISONING BY LOCUST BARK.*

By Z. T. EMERY, M.D.,

ATTENDING PHYSICIAN TO THE BROOKLYN ORPHAN ASYLUM, AND TO THE GRAHAM INSTITUTE.

In the latter part of March of the present year there occurred a sudden outbreak of illness among the boys at the Brooklyn Orphan Asylum, which was found to be due to poisoning by chewing the inner bark of the locust-tree.

The boys had obtained this bark from the yard, where the men had been stripping fence-posts. The quantity chewed or eaten—for some of them had swallowed their ends as well as the expressed juice—varied greatly, according to the testimony of the patients; and if their statements are to be relied upon, which I somewhat doubt, the severity of the symptoms was not always proportional to the amount chewed; as, for example, the severest cases were in those reported to have used only a moderate quantity, whereas some of the lighter cases were in those, especially among the older boys, who had partaken of a large quantity—of about the size of a man's hand.

For convenience of reporting, the thirty-two cases of poisoning will be divided into three classes, according to the severity of the symptoms.

CLASS A, CASES I and II.—These were boys eight and ten years of age, well nourished and healthy. When I first saw them, which was about an hour after the first symptoms appeared, they were lying in a stupor, being aroused with difficulty, or when vomiting and retching. Their extremities were cold and pulseless, the heart's action was feeble and intermitting, the pupils dilated, and their faces of a dusky pallor.

They were vomiting large quantities of ropy mucus mixed with blood, and complained of pain in the epigastrium. The debility was so marked as to excite apprehension for the results.

These patients were given subcarbonate of bismuth and

* Read before the Medical Society of the County of Kings, September 21, 1886.

brandy by the mouth, and morphine hypodermically. Sinapisms were applied over the stomach, and bottles of hot water along the extremities. They made good recoveries, and were discharged from the hospital in two days.

CLASS B, CASES III to VIII.—These were boys from eight to twelve years old, and presented symptoms similar to those of the first class except as to severity. The pulse was feeble, the extremities were cool, the face was alternately pale and flushed; the ejecta contained ropy mucus and blood. They were able to move about the room and make known their complaints vigorously. Their respirations were regular, while those of the first class were irregular and sighing. These patients were given a mixture containing subcarbonate of bismuth ten grains, tr. opii camph. one drachm, brandy one drachm, in aromatic water, after each vomiting. Sinapisms were also applied over their stomachs. Their improvement was rapid, and they were discharged in thirty-six hours.

CLASS C, CASES IX to XXXII.—This class of cases was of boys of the same age as the preceding class, and presented much milder symptoms—vomiting of ropy mucus without blood, pulse not affected, face flushed, complaint of dryness of the throat, pupils dilated, extremities natural, respiration regular. Treatment was the same as in the second class. They were discharged cured the following morning, with a dose of castor-oil to move the bowels, and forcible instructions not to eat of the forbidden bark.

The symptoms of the foregoing cases were those of acro-narcotic poisoning, and lead us to the consideration of the chemical properties and physiological action of locust-tree bark, or *Robinia pseudacacia*. The literature upon the subject is meager and disappointing.

The root was examined by H. Reinsch in 1845, who found it to contain much albumin, tannin, sugar, starch, and other common vegetable principles, and *robinic acid*.

Hlasiwetz also obtained (1852) *asparagin*. Zwenger and Dronke (1861) obtained a yellow glucoside, *robinin*, which, on being boiled with acids, is resolved into sugar and *quercetin*.

Three cases of poisoning in children were reported in the "Ann. de thérapeutique," 1860, p. 64, who had eaten the root by mistake. The symptoms were like those produced by an overdose of belladonna. All three recovered, while one, who was suffering from an attack of intermittent fever, had no return of the paroxysms.

The bark of the root is said to be a tonic in small doses, and an emetic and purgative in larger doses; but I have been unable to verify the first and last statements from the literature of the subject, or from personal observation.

There have been but three recorded cases of its poisonous action, and the foregoing is offered with the view of stimulating others to report their experience with the substance.

CHLOROFORM:

ITS MORE GENERAL USE ADVOCATED AND DEFENDED.*

By JOHN M. FARRINGTON, M.D.,

BINGHAMTON, N. Y.

For several years past my attention has every now and then been called to articles in our medical journals designed

* Read before the Medical Society of the County of Broome, January 4, 1887.

to prejudice the profession against the use of chloroform. In fact, its use as an anæsthetic has been so extensively denounced that probably a large majority of the members of our profession have abandoned its use, or have limited it to special obstetrical cases.

Writers have boldly charged that the use of chloroform in dental or minor operations was malpractice, alleging that thereby persons were subjected to unjustifiable perils, as it was maintained that nitrous oxide or ether should have been used.

Now, while I yield to no one in careful conservative views, and firmly believe that, as guardians of human life, we should take no risk in using a powerful agent when a milder one would do as well, I do protest in the strongest terms against this movement to crowd chloroform from the list of our most useful and valuable anæsthetics by unjust and unfair statements, comparisons, and records prepared by prejudiced writers.

I have been prompted to rise at this time in defence of chloroform by a recent publication upon this subject in which comparisons were made and conclusions reached by a writer who gave ample evidence to the careful reader that, while he perhaps intended to state the facts, the evidence presented was *ex parte*, and he was a prejudiced witness.

Now, with all proper deference to those who have had advantages for observation and experience greater than I, I humbly maintain that the personal experience and observation of one who has practiced medicine for thirty years is worth something, and is entitled to some weight in deciding the question under consideration.

I speak not from theory or speculation, nor from the records or statistics of those with whom I am unacquainted, but I speak of what I know, and I know of what I affirm.

The statement I am about to make may appear bold and reckless to those timid souls who have been frightened by the terrible tales of the awful mortality from the inhalation of chloroform; but I assure you I am not rash nor beside myself, but speak in perfect calmness, when I say to you that I regard the administration of chloroform by inhalation in competent hands as but little more perilous than eating beefsteak. Now and then a man gets a piece of beef in his wind-pipe and dies from suffocation, yet people are not deterred thereby from the use of beef.

For one third of a century I have from time to time witnessed the inhalation of chloroform in almost every department of the practice of medicine and surgery. From 1853 to 1857, as a student of medicine, I saw it used in all the medical colleges and hospitals of New York city and vicinity. In the summer of 1857 I witnessed its use in the hospitals of London and Paris, in operations by Erichsen, Fergusson, Civiale, and Velpeau. From October, 1857, to October, 1858, as an interne of Bellevue Hospital, I, or my assistant, used it in all of the important operations in our wards, which comprised one half of the surgical department of the hospital. In 1862-'3 I used it and witnessed its use extensively by others in the United States army service. I have observed its effects in thousands of instances during my professional life when administered by others, and I

have personally used it thousands of times myself, and in almost all forms of surgical operations, as well as in a wide range of the list of constitutional diseases—in infancy and old age, in minor as well as in grave surgical operations—such as ovariectomy, strangulated hernia, lithotomy, etc.—in cases of organic pulmonary and cardiac disease, where the use of anæsthetics of any form is deemed uncommonly perilous.

Now, I will give you the result of these observations, extending over thirty-three years, and embracing, as above stated, most of the diseases and surgical operations known to our profession. In all this wide range of observation and experience I have never seen a person die from the effects of chloroform, nor have I personally known of a fatal case from its use. With one exception, I have never administered it, nor seen it used by others, in a case in which I would not willingly repeat its use were it desired. Nor have I ever known of a case where any permanent bad result followed its use. It is true that I have witnessed cases where its effects were temporarily unpleasant, and sometimes alarmingly so, of which I will fully speak.

During my first six months in Bellevue Hospital it was my duty, as senior assistant, to administer the chloroform in all the operations in my surgical division, of which Dr. James R. Wood was visiting surgeon, and my first experiences at this duty were decidedly unpleasant, for several times the patients stopped breathing when we had them on the operating-table in the amphitheatre, which was filled with medical students and practitioners, and, perhaps, when Dr. Wood was in the midst of an important operation. Some moments would elapse before respiration could be excited and our anxiety relieved. But all this occurred because I did not then know how to administer it. I had been taught to keep my finger upon the pulse, and regard the heart's action with the greatest care, but with no special attention to the respiration.

But I soon learned from personal observation that my teaching had been defective and did not cover the case, and that the most important thing to observe in the administration of chloroform was the respiration, for oftentimes when the heart gave no indications of danger the patient would stop breathing. Since then I have had but little trouble with the use of this agent. I watch the respiration closely, and, as soon as there is any modification of it, go slowly and carefully, and, while I do not disregard the pulse, but note its character, I deem it of secondary importance, unless the patient has cardiac disease.

Understand me that, while my confidence in the value and safety of chloroform is so great, I also believe that death has resulted from its use in the hands of physicians of eminence and ability, when also a pure article was used. But such instances are so rare that they should not deter us from its use, nor permit its condemnation. While I regard the use of this agent in competent hands as safe, I would not permit any one to put me under its influence unless I knew him to be experienced in its use.

May it not be safely assumed that many of the fatal cases reported as resulting from the use of chloroform were really due to other causes? For example, the incident I am about to relate, which occurred soon after the introduc-

tion of this agent into practice, gives a forcible illustration of how easy it would be to charge a result upon an agent that had nothing to do with it.

I may not be exact in giving the details of the affair, but the facts were in substance as follows :

It was somewhere in England or Scotland that it had been arranged to make the first test of chloroform as an anæsthetic in a surgical operation. The hour had arrived, the patient was upon the operating-table, the surgeon was ready, but Professor Simpson, who was to administer the anæsthetic, did not arrive. All desired to have the test made, but, after waiting a long time, it was decided to go on with the operation without the chloroform, providentially it would seem, for otherwise the unnumbered thousands of suffering humanity who during the many years that have followed since that time have been relieved from the shock and terror of operations would not have had the benefit of this beneficent boon. If chloroform had been used on that eventful day, it would probably have been ever afterward consigned to ignominious seclusion, for the surgeon had no sooner made his first incision than the patient suddenly died.

Assuming that my experience has been remarkably fortunate, and that my next case may be a fatal one, should I remain silent and allow these attacks to go on unanswered? No, I think it is the duty of every practitioner to let the truth be known, and not shrink from confronting the imputations cast upon an agent that has given only good results in his practice.

Chloroform is one of the greatest boons that has yet been discovered for the relief of suffering humanity ; it has robbed grave operations of their terrors, and saved many lives by sparing the patients the shock of the operation. It has alleviated the pains and controlled the spasms of millions of our race, and it should have a fair chance to establish its virtues and not be driven from its fair fields of victory by prejudiced and timid observers and writers.

It is far more pleasant and prompt in its action than ether, and produces far less excitement to the nervous system. Practical experience and not theory is what is required to properly determine the status of chloroform among the anæsthetics. And now, without detaining you with the literature of the subject or the history of the agent under consideration, I desire to emphasize the truth of the assertions I have made by a few illustrations of many that I might give, that chloroform in my hands has been one of my best aids in the practice of my profession, and I have nothing but good to say of it.

Among the many emergencies in which I have been prompted to avail myself of this remedy when nothing else would do has been the arrest of hæmorrhage of the lungs, which was so copious that, unless promptly controlled, death was near at hand and inevitable. Chloroform, used liberally and with promptitude, stopped the cough, which at every expiration threw forth mouthfuls of blood. The patient was sure to die from hæmorrhage, and that speedily, if the cough was not arrested; and if, by the accumulation of blood-clots that seemed to fill the air-passages under the influence of chloroform, death resulted, I felt that I had given my patient the only chance for life, even if my efforts failed. But, instead of suffocation and death, which for a

time appeared imminent, the hæmorrhage was controlled; then by large doses of morphine the patient was kept from coughing, and in a quiet stupor long enough for nature to close the bleeding vessels by organized clots; the patient gradually rallied and got about the house again, until another attack, which, treated promptly in the same manner, was again successfully controlled, and thus I was enabled to prolong the life of a dear sister for a whole year, when she was eighty years of age. All of the usual remedies for pulmonary hæmorrhage were used during the progress of her case, after the bleeding was controlled and during the intervals, to prevent, if possible, its recurrence. Salt, ergot, gallic acid, aromatic sulphuric acid, etc., were employed, but it was chloroform alone that repeatedly snatched her from the jaws of death, and, by its positive control of the cough, allowed the hæmorrhage to be arrested, as before stated.

Ether could not have taken the place of chloroform in this case, for the hæmorrhage was so profuse that seconds of time were of the utmost importance, and ether would not have been prompt enough. There have been three of these extreme cases in my practice in which I have controlled bleeding of the lungs in this manner. In the two other cases life was prolonged for a few days, and death came calmly to the individual, rather than by the appalling scenes which death from sudden hæmorrhage brings to all present.

I will cite another instance where chloroform was used in which most authorities would state that it should not have been used; and, while I acknowledge that my course of procedure was heroic, it nevertheless secured immunity from a fatal result in a case where the use of chloroform is alleged by authorities to be contra-indicated.

Several years ago I had charge of the case of a young man with congenital cardiac disease. Valvular insufficiency and enormous hypertrophy existed. After he grew from youth to manhood he contracted rheumatism which soon attacked the heart, and he suffered from endocarditis. He recovered from the first attack, but each successive winter brought on a recurrence of the trouble. On one occasion when he had been for weeks prostrated with one of these attacks, his heart's impulse, however, so powerful as to cause a movement of the bed with every pulsation, an agonizing toothache came on which defied all measures used to control it, and I advised extraction. The excitement of the heart's action that would be caused by an attempt to extract the tooth without using an anæsthetic was fraught with greater peril than I was willing to assume; as he was very nervous and excitable, and the slightest mental emotion caused such tumultuous action of the heart, it was likely to prove fatal.

I advised putting him under the influence of chloroform, but he and his parents were afraid of it and objected. I told the parents that the matter was in their hands, and I was not going to urge them to have done what we all knew to be perilous, but, if the patient was my son, I would use the chloroform and take out the tooth rather than witness his unrelieved suffering, which was aiding materially to wear him out; that if he died while under the anæsthetic I should feel justified that I had done the best I could to relieve him, and I would submit to the inevitable with a clear conscience. No relief came, and within forty-eight hours after they had thus objected to its use they each and all begged me to use it, and acknowledged their willingness to accept the result. Realizing the great responsibility thus laid upon me, which, however, I was willing to assume, I took

with me, besides a dentist, a brother practitioner as additional support in case of an unfavorable issue.

We lifted the young man from the bed into a chair, and, departing from my usual custom, I began with the administration of ether; as the risk appeared so formidable, I was for once willing to yield to the prejudice against my old friend chloroform. But the exciting stage under the influence of ether was so increasingly great that I dared not continue its use, and, casting it aside, promptly administered the chloroform. Under its effects the excitement was steadily allayed, and he soon became unconscious. I directed the dentist to proceed with his duty. He was to remove two teeth adjoining each other so as to make no mistake in securing the real offender. He was apparently successful, and we placed the patient in bed; but when he came to consciousness he informed us that the tooth that had caused his suffering had been simply broken off, and instead of relief from, there was a great aggravation of, the previous pain.

I was greatly annoyed and disappointed, for we had had all of our mental strain for naught; yet, after a moment's reflection, I said to my companions, "Well, we came here for a purpose, and we will not leave until it is accomplished; we will try again," and we did. The dentist, who had evidently been excited, was now more deliberate, and secured the fang of the broken tooth. The second time chloroform alone was used, and he came under its influence nicely.

That young man recovered and is living to-day in active business as a druggist, but carries about with him a pathological specimen of organic cardiac disease most rare and extreme in its extent and dimensions.

In conclusion, perhaps it will be expected that I should give an account of my mode of administering chloroform, the preparation of the patient, the management of untoward symptoms, etc.

I will condense my remarks, as details are not important to those experienced practitioners who listen to me to-day:

1. I always administer it with the greatest care, especially to a new subject.

2. Avoid the ingesta of a full meal within two or three hours of its administration. If there has been a long interval without food, I prefer that the subject have a light lunch an hour or two previous to the use of the chloroform, yet I would rather give it midway between meals, for reasons which are no doubt obvious to you. You thus avoid the depression that comes from long fasting, as the stomach is not in a condition to appropriate food for some time after the chloroform has been used. And, on the other hand, the stomach is not gorged with food, a condition which is almost sure to excite nausea and vomiting, that are always unfortunate; if the food is not rejected, arrest or retardation of the digestive process takes place.

3. I do not object to giving in advance some alcoholic stimulant, but prefer that it should not be used, especially in those unaccustomed to its use, for to them it is a perturbing agent and tends to mask their natural condition. It is well to have some alcoholic or diffusible stimulant at hand, to be used subsequently if required, but I have rarely found any need for it.

4. I prefer not to administer chloroform to a woman at the time of the menstrual period.

5. It is well, as far as possible, to have the subject

freed from all mental anxiety and excitement, and to be assured of care and probable safety in its administration.

6. Always stop the inhalation as soon as total insensibility is secured, and give thereafter just sufficient to keep the patient under its influence.

7. Promptly stop the use if the breathing becomes stertorous, irregular, or modified, so as to be scarcely perceptible, and, if the respiration is not spontaneously improved, excite deep inspiration by alternate pressure and relaxation upon the epigastrium. If not successful by these means in establishing respiration satisfactorily, dash cold water upon the face and chest, and resort to the usual measures to induce artificial respiration.

But, with careful watching during the administration of chloroform, such measures will very rarely be required.

In closing this hastily prepared paper, I would here express the ardent hope that we may hear from many others who have not thus far published their experience with the use of chloroform; that we may have reports that will more fully represent the voice of the profession. One side alone seems to have spoken; let us hear from the other.

ASTHENOPIA

COINCIDENT WITH, AND LARGELY DEPENDENT UPON,
UTERINE AFFECTIONS.

By CLIFTON S. MORSE, M. D.,
NEWARK, OHIO.

WHILE having observed for several years that asthenopia was a common attendant upon uterine affections, I have generally been inclined in the past to consider the occurrence as a mere coincidence. A few recent cases, however, possessing very marked characteristics, have led me to recognize the direct relationship existing between uterine and ocular affections. Upon endeavoring to look up the literature of the subject, I found it entirely ignored in most works where one would naturally expect to find it, and in most other instances, where my search was rewarded, the mention is of the most meager and unsatisfactory sort.

In a recent paper, published in the "New York Medical Journal" of February 13, 1886, Dr. Thomas R. Pooley enters into the subject at some length; and, by comment, quotation, and case recording, has given a very interesting and instructive article. Yet, while he recognizes asthenopia as attendant upon, and more or less resultant from, uterine affections, he does not place any degree of stress upon the occurrence of what I shall term "*menstrual asthenopia*." This condition, either with or without ametropia, will be found extremely common, annoying, and quite intractable to ordinary treatment. Its peculiar characteristics are plainly depicted in Cases III, IV, and V.

The relationship existing between uterine and ocular diseases has long been "coldly" recognized by the profession; still, very little real attention has been paid to it until recently, and the scientific investigation of the subject has not even yet been taken up with any amount of vigor or enthusiasm. Three or four widely scattered contributions comprise, perhaps, all its recent and reliable literature.

It is not my object to enter into a minute discussion of the pathology and therapy of this condition, only in so far as pertains to the ocular symptoms, and is rightly within the domain of ophthalmology. At the same time, I fully recognize the ocular affection in its true relationship—of a very evident effect resultant from an oftentimes obscure uterine cause.

With these facts before us it must be admitted that the ophthalmologist can do little to alleviate and scarcely anything toward the cure of such patients where the condition of the refraction is emmetropic or only slightly ametropic. The gynecologist must of necessity put his finger in the pie. While the ophthalmologist may be of considerable assistance, especially in pointing out the peculiarities of the case in reference to its ætiology, good results can be expected only from careful conjoined treatment of the ocular and uterine symptoms. To add my mite to the evidence already presented to the profession, I offer a few cases which I trust will go a trifle toward illustrating the relationship in its several phases:

CASE I.—Widow, aged thirty-three. Has suffered for years with intense supra-orbital neuralgia, invariably intensified by close visual effort. At times also spontaneous and periodic. Occasional chromopsia. Fundus normal. Hyperopic astigmatism $\cdot 50$ D., axis 90° ; with these lenses V. = $\frac{2}{3}\%$. No insufficiency. Glasses, however, failed to relieve the asthenopic symptoms, although making her vision normal. She was badly nourished and anæmic. Upon inquiry, it was found that she had been suffering with some sort of uterine affection for about ten years. Her asthenopia was first troublesome a year following. She particularly stated that her ocular trouble was greatly intensified during the menstrual flow. By my advice she consulted and placed herself under the treatment of a competent colleague. Under his care she has so far improved as to be able to use her eyes for any reasonable length of time with entire comfort, *except* during the menstrual epoch; at this time she suffers just about as badly as ever. She is very grateful, however, for the periodic relief afforded, and we have about concluded to be satisfied with that degree of success.

CASE II.—Single, aged twenty-three. Has been troubled for years with supra-orbital pain, painful vision, photophobia, and persistent headache. These conditions are very much worse during the menstrual flow. The patient is strong and well nourished. Fundus normal. No insufficiency. Hyperopic astigmatism O. D. = $\cdot 50$ D.; O. S. = $\cdot 25$ D., axis 90° . After correction V. = $\frac{2}{3}\%$. Glasses failing to effect a cure, inquiry revealed her as a sufferer from dysmenorrhœa, with a catarrhal discharge of several years' standing. She kindly took my advice and had her uterine difficulty "looked into." Very good results have followed. The asthenopia has almost entirely disappeared, and, although it troubles her during menstruation, the long inter-menstrual rest has amply satisfied her.

CASE III.—Widow, aged thirty-four. This patient is of the well-nourished, round, and rosy sort. No insufficiency. Fundus normal. The correction of a hyperopia of 1 D. brought her vision to $\frac{2}{3}\%$. However, for a few days before and after, and during the menstrual flow, her eyes are in a truly pitiable condition. At these times her asthenopia is of a most aggravated form, all visual effort being attended with intense supra-orbital pain and photophobia, followed by conjunctival hyperæmia. When at its maximum of intensity she is obliged to remain in a darkened room during daylight, and wait till it subsides. However, shortly after the flow has ceased her eyes become

better and she has a period of comfort and rest. I directed her to the office of one of my gynecological friends, with a rather surprising result. No uterine trouble could possibly be found. No discharge. Nothing, in fact, but the most tantalizing health. No treatment being possible, the case remains as found.

CASE IV.—Single, aged eighteen. Has been troubled with supra-orbital neuralgia, photophobia, and persistent headaches at each menstrual epoch since her fifteenth year. She consulted me for the purpose of obtaining an order for glasses to correct a presumed defect of refraction. Vision was found to be $\frac{2}{3}\%$. Fundus normal, and no insufficiency. I examined her eyes several times during the menstrual flow. The retinal veins were very full, otherwise everything as before. There was increased intra-ocular tension, however, which was relieved somewhat by the alternate instillation of eserine and pilocarpine. No lasting effects were produced by any treatment. There is no history of uterine disease. Two sisters of the patient are similarly affected.

CASE V.—Single, aged twenty-five. Has been troubled with a formidable array of asthenopic symptoms for years, being much intensified at the menstrual epoch. With cyl. — $\cdot 50$ D., axis 180° , V. = $\frac{2}{3}\%$. Her family physician has been treating her for some time for a catarrhal discharge, perhaps non-specific, which he says he has entirely cured. Her asthenopia is very little lessened in severity, although its character is materially changed. While formerly she suffered more or less at all times, now there is very little inconvenience except at the recurrence of the monthly flow. Ophthalmoscopic examination revealed nothing abnormal, neither was there insufficiency. Here, also, I found increased intra-ocular tension, and the near point moved farther away. Neither eserine nor pilocarpine produced any lasting good effect.

A large number of cases have come under my notice within the past few years resembling the cases herein recorded, and varying greatly in intensity and persistence. None, however, were more pronounced in character than the examples submitted. I could extend the record very considerably, yet the additional evidence gained thereby would hardly justify the space occupied. It would doubtless add very materially to our knowledge of "menstrual asthenopia" if the general practitioner would contribute to the subject from his rich experience, as the attention of the ophthalmologist is not generally called to such cases unless there is evident ametropia. The treatment is usually very unsatisfactory. The uterine trouble should receive prompt attention, conjoined with the correction of any existing ametropia. As to "menstrual asthenopia," uncomplicated with any ametropia or evident uterine disease, I have never yet seen a case very much benefited by treatment.

N. W. COR. CHURCH AND THIRD STREETS.

Correspondence.

LETTER FROM VIENNA.

Syphilitic Tabes Dorsalis.—A Case of Gunshot Wound of the Thorax and Abdomen.

VIENNA, December 27, 1886.

AN interesting discussion as to the existence or non-existence of syphilitic tabes dorsalis took place at one of the recent meetings of the Imperial-Royal Society of Physicians of this

city, which is notable from the fact that such prominent physicians as von Bamberger, Nothnagel, Meynert, Benedikt, and others took part in it. The occasion was the case of a patient shown by Dr. Hebra, the dermatologist. A man, twenty-eight years old, had a chancre on the penis in February last. In the middle of March a macular syphilide appeared on the right side, and there was iritis. These manifestations disappeared in four weeks, the patient having been treated with injections of corrosive sublimate, inunctions of mercurial ointment, and the use of atropine. There had been no syphilitic manifestations on the mucous membranes. About the middle of July the patient complained of headache and giddiness; in spite of the use of potassium iodide, these symptoms increased and the man began to complain of weakness of the lower limbs. On the 3d of September Dr. Hebra observed that locomotor ataxia was present, but the patellar reflexes were still unchanged, although on the 4th they were no longer present. The patient fell down when he shut his eyes, and complained of a feeling of constriction round his waist and of lancinating pains. Eight days later he was no longer able to walk, there was complete paralysis of the bladder and intestines, and he was losing flesh constantly. On the 21st of September he had an apoplectic attack; the right arm and the parts supplied by the right facial nerve became paretic, and both lower limbs were totally paralyzed. By the 24th, after energetic treatment with mercurial ointment and potassium iodide, the paralytic symptoms had partly disappeared, and by the middle of October nothing remained of them but traces in the parts supplied by the facial nerve. On the 5th of October the patient was able to attend to his usual business. The only symptom still present was a feeling of numbness of the right side of the body. In all, two hundred grammes (about 3,000 grains) of mercurial ointment and a hundred grammes (about 1,500 grains) of potassium iodide had been used.

Dr. Hebra remarked that all these symptoms were to be looked upon as belonging to tabes, and added that the course of the case, from the time of infection to the recovery, was proof of a possible connection between tabes and syphilis. The inunction treatment had been of great value, although most authors had observed recovery only after the use of potassium iodide.

Professor von Bamberger thought that the succession of phenomena described represented, indeed, an affection of the central nervous system, but that that affection was not to be looked upon as a tabes dorsalis; many of the symptoms that were of constant occurrence in tabes—such as the pupillary symptoms, disturbances of sensibility, etc.—were missing, while some of those that were present—such as the attacks of giddiness and the hemiplegic phenomena—were not observed in tabes. Surely, there could have been no gray degeneration of the posterior columns of the spinal cord, for that condition would never have been recovered from. The case could neither be considered as one of tabes dorsalis, nor taken as a proof of the curability of tabes, or of the connection of tabes with syphilis. Tabes was nothing else than that affection of the spinal cord in which the posterior columns underwent gray degeneration: hence we should speak, in such a case, of syphilitic disease of the nervous system. If tabes was accidentally present in an individual suffering with syphilis, neither mercury nor potassium iodide was of any value whatever; on the contrary, they were both injurious. If syphilis was to be considered a cause of tabes, it was strange that the latter disease was so seldom met with in prostitutes. At the most, the case under consideration could only be looked upon as one of locomotor ataxia.

Professor Nothnagel looked upon it as a case of myelitis and encephalitis of syphilitic origin.

Professor Benedikt said that the difference between his

opinion and Professor von Bamberger's lay in the fact that, whereas the latter restricted the term tabes to cases of gray degeneration of the posterior columns, he applied it to various affections of those columns.

At the same meeting, Professor von Mosetig referred to a very rare and interesting case of gunshot wound of the stomach. A man, thirty-one years old, tried to commit suicide by shooting himself with a pistol in the left side of the chest. The ball entered between the fourth and fifth ribs and passed to the right side of the thorax, perforating the diaphragm, the left lobe of the liver, and the stomach; then it took a backward course, and was found between the eleventh and twelfth ribs. Although there were two holes in his stomach, the patient lived twenty-three days, and on the day of his death he ate and digested half a fowl. The speaker remarked that it might be supposed that adhesions had soon formed in the neighborhood of the perforations in the stomach, and that these adhesions had possessed sufficient resistance to prevent the contents of the stomach from passing into the peritoneal cavity. The abdomen was neither distended nor painful, so that the occlusion of the stomach was sufficient. On the thirteenth day after the injury, the first indication of sepsis was observed, when a hæmorrhagic collection in the thorax became fetid. It was suggested that the gastric juice had gradually digested the occluding exudate, after which the matters in the tract of the wound were swept away, so that the contents of the stomach came in contact with those of the thoracic cavity and gave rise to septic decomposition in the hæmatothorax. Another interesting feature bearing upon this supposed sequence of events was the fact that the patient, having been anaesthetized for the purpose of having his thoracic cavity washed out with a solution of potassium permanganate, vomited a large quantity of this solution after coming out of the anaesthesia, showing that there was somewhere a communication between the thoracic cavity and the alimentary canal. As the patient had already been under treatment for sixteen days, it might also be suggested that the bullet had come in contact with the œsophagus in its passage across the thorax, or that there was at first no perforation of the œsophagus, but that an opening in that organ formed subsequently, its wall having been simply furrowed by the passage of the ball, as sometimes happens in cases of furrowed gunshot wounds of the great arteries, in which fatal hæmorrhage does not occur until many days after the reception of the injury.

Batley's Operation in Paris.—The Paris correspondent of the "Lancet" says: "After meeting with considerable opposition here when first made known, Batley's operation is gradually coming into favor, and, though we can not as yet compete in surgical activity with Liverpool, a number of speakers were able to give their experience of the operation at the recent discussion at the Société de chirurgie. M. Terrier mentioned the case of a woman who, manifestly hysterical, suffered from intolerable pains in the ovaries at the menstrual periods. No relief being obtained by ordinary means, and life being a misery, these organs were removed last February. The right ovary caused no difficulty, but the left was so bound down by adhesions that it could only be extracted piecemeal. Since the operation there has been but insignificant malaise at the catamenial periods, which are perfectly normal. The hysterical condition, although it remains, appears amended; there are no longer any abdominal pains, and the general health is good. This is the second success of the kind obtained by M. Terrier. M. Lucas-Championnière has also performed the operation in two cases: one of his patients died three days after the operation; the other was relieved of her symptoms, and at the same time cured of bad temper. Before the operation she easily became angry at trifles, whereas she is now quite calm. M. Monod said that he also had been successful in two instances, and M. Pozzi was able to endorse the treatment by one operation."

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THE REPORT OF THE SURGEON-GENERAL OF THE ARMY.

THE report for the fiscal year ending June 30, 1886, prepared by Acting Surgeon-General J. H. Baxter, is a document of very moderate compass, embracing only 111 pages. The health of the army is one of the more important subjects with which it deals, and it is satisfactory to learn that there were fewer admissions to sick-report than in any previous period of a year within the history of the department, and also that the death-rate was lower than in any former year. It is somewhat remarkable that, of the thirty-two cases of diphtheria occurring in the whole force, twenty-five should have been reported from the single post of Fort Assiniboine, in Montana. The medical officer in charge, Assistant Surgeon Burton, is quoted as "unable to specify any local condition to account for the sudden development of this severe sickness." The admissions for venereal diseases showed a relative as well as an absolute decrease from those for the preceding year (fifty-five against sixty-five in a thousand), with the ratio slightly lower among the colored troops than among the whites.

That our exemption from actual warfare during the year was almost complete is strikingly indicated by the fact that there were only twenty-seven deaths from gun-shot wounds. It is melancholy to reflect that, of the injuries which gave rise to this small number of deaths, two were homicidal and nine suicidal. Eight of the deaths are reported as due to "accidental and other shooting," and the same number as resulting from wounds received in action. The statistical data pertaining to the work of the medical corps are given briefly, but with sufficient particularity.

Dr. Baxter very properly calls attention to the desirability of the publication of a catalogue of the museum. Such a catalogue, with proper illustrations, would make, he says, three large volumes. The third medical volume of the "Medical and Surgical History of the War of the Rebellion," the last of the series, it is stated, has been delayed in the printing by the pressure of current work at the Government Printing Office. It seems that the manuscript was ready last February. Dr. Baxter urges the appropriation of money for extra-duty pay to enlisted men detailed as cooks and nurses at post hospitals, also for the remuneration of those who have rendered such services gratuitously during the year. He expresses the hope that the bill for increasing the efficiency of the hospital stewards of the army will soon become a law, although he expresses the conviction that the rate of pay it allows this valuable class of non-commissioned officers is too low.

The accessions to the medical corps show a continuance of the satisfactory conditions that have obtained in the past. Out

of seventy-six candidates, fifty appeared for examination, of whom seven were found competent, eighteen were rejected, and twenty-five withdrew after a partial examination. Of the seven successful candidates, five have been appointed assistant surgeons, and two are awaiting vacancies.

THE COMING MEETING OF THE STATE SOCIETY.

IN another part of this issue we publish the preliminary programme for the eighty-first annual meeting of the Medical Society of the State of New York, to be held in Albany on Tuesday, Wednesday, and Thursday, the 1st, 2d, and 3d of February. The announcement states that the list comprises the titles, or the names of the authors, of all the papers offered up to January 7th, and adds that it is probable that other valuable articles will be presented. We do not question the probability alluded to, but it may be said of the programme as it stands that it gives promise of abundant material for the three days' work, and that of an excellent character. Indeed, the list is so long that the utility of the resolution to be introduced limiting the time for the reading of any one paper to twenty minutes can not be doubted. That length of time ought to suffice for an author to give in full those portions of a paper on which the discussion may be expected to turn, and the *pièces justificatives*, together with all other matter not essential to a due understanding of the writer's views or of the facts on which he founds them, may well be left for insertion in the society's annual volume.

But it is quite as much the diversity of the subjects to be treated of as the intrinsic value of the papers that is likely to prove attractive. No one special branch of medicine overshadows the others, and all the specialties combined do not, as has sometimes happened, threaten to swamp general practice. Nor is there any evidence in the programme of undue prominence given to men from the large cities. The smaller communities are fairly represented, and it is particularly gratifying to find that several distinguished members of the profession in England are to contribute, including Sir T. Spencer Wells, Mr. Lawson Tait, and Dr. Sydney Ringer, all of whom are honorary members of the society. Of late years our countrymen have had ample opportunities of being heard at the meetings of the British Medical Association and of other foreign societies, and it is graceful in the English gentlemen we have mentioned that they have shown a willingness to embrace like opportunities offered to them by us. It is well known to how great an extent the work of preparing things for such a meeting falls upon the president, and, judging from the programme thus far settled upon, we feel it but just to say that the present president, Dr. Ely, of Rochester, has exerted himself to good purpose.

MINOR PARAGRAPHS.

THE GOLDSMITH LECTURES.

WE would call our readers' attention to the announcement, which will be found in this issue of the Journal, of the Middleton Goldsmith Lectures, to be given under the auspices of the

New York Pathological Society. The first course, to be given next week, by Dr. M. Allen Starr, is on a subject about which a good deal has been published of late, but concerning which there is no doubt that the lecturer will find much to present that will not only prove in a measure novel, but also go far toward enabling the busy practitioner to study the current literature of the subject to better advantage. The Cartwright courses no longer remain the only lectures of the sort to be heard in New York, and it is to be hoped that some of our other organizations will add still further to the list.

ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Fourth Division of the Health Department for the following statement of cases and deaths reported during the two weeks ending January 18, 1887:

DISEASES.	Week ending Jan. 11.		Week ending Jan. 18.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever.....	10	10	16	5
Scarlet fever.....	49	9	44	7
Cerebro-spinal meningitis....	8	8	6	6
Measles.....	537	61	632	86
Diphtheria.....	122	47	130	38
Small-pox.....	0	0	6	2

The Medical Society of the County of Kings held its sixty-sixth annual meeting last Tuesday evening, and elected officers for the ensuing year as follows: President, Dr. W. Wallace; vice-president, Dr. A. R. Matheson; secretary, Dr. C. De la Vergne; assistant secretary, Dr. C. N. D. Jones; treasurer, Dr. W. B. Chase; and librarian, Dr. J. H. Hunt.

The Alumni Association of the Woman's Hospital held its third meeting on Wednesday of this week, at the New York Academy of Medicine. The attendance of members from various parts of the country was satisfactorily large, and many of them contributed papers to the proceedings. Those of the out-of-town members who arrived in New York on Tuesday met the members of the New York Obstetrical Society at the house of Dr. Thomas Addis Emmet in the evening, where they were handsomely entertained. On Wednesday evening a reception in honor of the Alumni Association was given by Dr. James B. Hunter, at the University Club.

The Long Island College Hospital.—It is announced that the interest of a sum of money bequeathed by the late Dr. Dudley is to be expended annually in a gold medal to be awarded to the author of the most meritorious graduation thesis.

The Northern Dispensary.—At the recent annual meeting, Dr. S. B. W. McLeod and Dr. Gerardus H. Wynkoop were elected on the board of trustees.

The Hospital Saturday and Sunday Collection.—The whole amount reported as received up to the time of our going to press is \$47,328.16.

A Medical Composer of Music.—The "Lancet" states that a piece of sacred music has recently been composed and performed in private by one of the professors of the medical faculty of Madrid, which is highly spoken of by the press of that capital.

Medical Teaching in Vienna.—The Austrian Minister of Education, Herr von Gautsch, some time ago asked the Medical Faculty of Vienna what measures ought to be taken concerning the great number of medical students at the university, that

state of things being especially prejudicial to practical instruction—instruction by demonstration. The Minister asked whether it would not be well to establish a *numerus clausus*, preference being given to students for whom there was the greatest necessity to go to Vienna. The *Professoren-Collegium* declared unanimously against the proposition, and the decision of that learned body was received with great satisfaction. One of the distinguished members of the *Collegium*, Professor Billroth, who had declared himself in favor of the *numerus clausus* to a certain degree, was invited to take part in the deliberations of a committee appointed for the purpose by the *Collegium*, but declined. He had already given close attention to the question by himself, and had published a brochure on it, entitled "Zum Lehren und Lernen der medicinischen Wissenschaften." This publication led to a general discussion of the matter, also to the appearance of another work, by the director of the Vienna Poliklinik, Professor Johann Schnitzler, "Zur Reform des medicinischen Unterrichts," taking ground against the *numerus clausus*.

In another communication Herr von Gautsch called the attention of the *Professoren-Collegium* to the matter of the institute of *Privat-Dozenten*, on the ground that he was anxious lest the institute should suffer in importance if the possession of the *venia legendi* was made too readily attainable. This communication was referred to a committee consisting of Professor Wiederhofer, Professor Meynert, Professor Kundrat, and Professor Nothnagel. The committee proposed to admit in future only those competitors for the *venia legendi* who had occupied themselves with one of the cardinal branches, or, in exceptional cases, those who had given evidence of extraordinary talent and scientific merit. The committee's report to this effect gave rise to an eager discussion in the *Professoren-Collegium*, the representatives of the special branches opposing the measure, and pleading warmly for the importance of cultivating the specialties. The report was not adopted, and the sense of the meeting was declared to be that the laws now in existence were quite sufficient to protect the university against a superfluity of teachers, provided they were enforced with due severity and persistency.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from January 9, 1887, to January 15, 1887:*

BAILY, JOSEPH C., Lieutenant Colonel and Assistant Medical Purveyor. Ordered from the Department of the East to New York city to take charge of the medical purveying depot in that city, relieving Captain Henry Johnson, medical storekeeper, from duty as acting assistant medical purveyor. S. O. 9, A. G. O., January 12, 1887.

BROWN, HARVEY E., Major and Surgeon. Granted leave of absence for six months on surgeon's certificate of disability, with permission to leave the Division of the Missouri. S. O. 9, A. G. O., January 12, 1887.

CORSON, J. K., Captain and Assistant Surgeon. Ordered to Fort Cœur d'Alène, Idaho Territory. S. O. 227, Department of the Columbia, December 31, 1886.

MUNN, C. E., Captain and Assistant Surgeon. Ordered to Fort Canby, Washington Territory. S. O. 227, Department of the Columbia, December 31, 1886.

BANISTER, J. M., First Lieutenant and Assistant Surgeon. Ordered to Fort Cœur d'Alène, Idaho Territory. S. O. 227, Department of the Columbia, December 31, 1886.

BARNETT, RICHARDS, Captain and Assistant Surgeon. Leave of absence further extended six months on account of sickness. S. O. 9, A. G. O., January 12, 1887.

WILSON, GEORGE F., First Lieutenant and Assistant Surgeon. Leave of absence extended twenty days. S. O. 9, A. G. O., January 12, 1887.

Society Meetings for the Coming Week:

MONDAY, *January 24th*: Medical Society of the County of New York; Boston Society for Medical Improvement; Lawrence, Mass., Medical Club (private); Cambridge, Mass., Society for Medical Improvement

TUESDAY, *January 25th*: New York Dermatological Society (private); New York Academy of Medicine (Section in Laryngology and Rhinology); Buffalo Obstetrical Society (private); Medical Societies of the Counties of Onondaga (semi-annual—Syracuse) and Putnam (quarterly), N. Y.; Boston Society of Medical Sciences (private).

WEDNESDAY, *January 26th*: New York Surgical Society; New York Pathological Society; American Microscopical Society of the City of New York; Medical Society of the County of Albany; Auburn, N. Y., City Medical Association; Berkshire, Mass. (Pittsfield), and Middlesex, Mass., North District (Lowell) Medical Societies; Gloucester, N. J., County Medical Society (quarterly); Philadelphia County Medical Society (conversational).

THURSDAY, *January 27th*: New York Academy of Medicine (Section in Obstetrics and Diseases of Women and Children); New York Orthopædic Society; Brooklyn Pathological Society; Roxbury, Mass., Society for Medical Improvement (private); Cumberland, Me., County Medical Society (Portland); Pathological Society of Philadelphia.

FRIDAY, *January 28th*: New York Academy of Medicine (Section in Materia Medica and Therapeutics); Yorkville Medical Association (private); New York Society of German Physicians (private); New York Clinical Society (private); Philadelphia Clinical Society; Philadelphia Laryngological Society.

OBITUARY NOTES.

Edward Livingston Youmans, M. D., died on Tuesday, the 18th inst., of chronic pulmonary disease, in the sixty-seventh year of his age. Professor Youmans was a graduate of the Medical Department of the University of Vermont, but was never a practitioner of medicine. From an early period of his life he was an ardent student of the natural sciences, and for a time he held the chair of chemistry in Antioch College. He was the author of a number of works on scientific subjects, all of which showed great skill in presenting facts and expounding their connection with natural laws. In particular, when the new chemical nomenclature and notation came to be taught in our medical schools, but a few years ago, those members of the medical profession who had obtained their knowledge of chemistry from the same institutions in former years found themselves somewhat at a loss to comprehend the current literature of the science; and it was very largely with the aid of one of Professor Youmans's books that they were enabled to learn the new order of things without too great a sacrifice of time, and so get over the difficulty. Not only by his books, but also as the founder and senior editor of the "Popular Science Monthly," the deceased was widely known as a promoter of science, and the part which he bore in inducing his countrymen to study the writings of Darwin, Tyndall, Huxley, and Spencer can scarcely be overstated. For the last year or more of his life, his failing health compelled his abandonment of active work, but his sufferings never diminished the amiability of his character or clouded his understanding; to the last, he was a clear-headed and loyal adviser to those who sought his judgment on scientific matters.

Christopher R. McClellan, M. D., of Brooklyn, died on Thursday, the 13th inst. The deceased was a graduate in medicine of the University of Maryland, one of the consulting physicians to St. Peter's Hospital, and a member of the New York Academy of Medicine and the New York Physicians' Mutual Aid Association.

Frederick C. Newton, M. D., of Chicago, died on Wednesday, January 12th, at the age of twenty-eight. He was born in Milford, N. H., was educated at the Phillips Academy, Andover, Mass., spent one year in Dartmouth Medical College, and was graduated from the Medical Department of the University of the City of New York in 1882. He had been for some time assistant demonstrator of anatomy at the College of Physicians and Surgeons of Chicago. His death was due to diphtheria contracted from a child that he was attending, who, it is said, bit him.

Letters to the Editor.

A CAUTION AS TO THE USE OF ANTIPYRINE.

324 EAST FIFTIETH STREET (BEEKMAN HILL),
January 10, 1887. }

To the Editor of the *New York Medical Journal*:

SIR: Perhaps you can spare space for a word of caution in the use of antipyrine from one who has used it very extensively in private and dispensary practice.

It has happened to me to watch three very severe attacks of collapse following its use. The first of these occurred very early in my acquaintance with the drug. I was hastily summoned to the bedside of a patient, a man forty years old, with acute articular rheumatism, and under the care of another physician. Antipyrine had been given "in the way the doctor ordered," and the patient was in collapse. I administered hypodermics of morphine and of whisky, and made free use of friction and heat, with the result of seeing the patient revive. I came away impressed with the idea that the fault rested with the physician in not giving sufficiently careful directions as to the avoidance of this danger.

I went along in the use of the drug, happy in the consciousness of superior care upon my own part until comparatively lately, when, two such occurrences happening with my own patients, I have been forced to modify my opinion.

These were both cases of typhoid fever in a boy and a girl aged, respectively, ten and eight. In both, the attendants (parents) of the patients were intelligent, and belonged to the middle walks of life. The cases were similar: a history of the latter will suffice. In ordering the antipyrine I had taken great pains, as usual, to impress upon the attendants that, though rise of temperature was an indication for its use, this must at all times be governed by the strength of the heart and pulse. Ten grains of the drug were to be administered every three, four, or five hours, according to the degree of pyrexia, and, if this was followed by a fall in pulse *power*, aromatic spirit of ammonia was to be given and the whisky increased.

At the end of the second week I was hastily summoned about midnight to the bedside of this patient. I found her in a state of complete collapse. The body temperature was subnormal, the pulse almost imperceptible, and the heart's action slow and labored. She was completely unconscious to all sensory impressions. I at once administered an eighth of a grain of morphine hypodermically, and then considerable doses of whisky and ammonia. I had her wrapped in hot blankets, beneath which three others assisted me in keeping up incessant

body friction. I think it must have been fifteen or twenty minutes before the patient showed signs of revival, this being initiated by a long-drawn sigh. She ultimately revived, and made a somewhat tardy recovery from her fever.

Careful and persistent inquiry into the cause of the collapse brought forth very grudgingly the facts. The temperature running quite high, and the usual dose failing to lower it rapidly enough, the mother, in her anxiety, had administered numerous further doses of the drug within short periods. After two hours the temperature began to fall, the patient first becoming comfortable, then sleeping, and finally passing into this stage of collapse, the change being rapidly noticed by the anxiously watching mother.

The conclusions to be drawn are: The drug, like many others, after repeated administration, may in the usual doses act less rapidly. The attendants are to be specially cautioned that at such times the remedy must not be pushed too rapidly, but, if the rise of temperature is considered a dangerous one, the physician is to be summoned.

GEORGE DALTON HAYS.

MASTURBATORY INSANITY.

BLOOMINGDALE ASYLUM, NEW YORK, *January 1, 1887.*

To the Editor of the New York Medical Journal:

SIR: In the *Journal* of this date, in the report of the meeting of the New York Neurological Society, it is stated that "Dr. Noyes said the case referred to by the author [Dr. Spitzka] was the only one in the Bloomingdale Asylum in which a cure had been effected, and he attributed recovery in that case to transferring the patient to a farm, where his mode of life, including diet, was changed, and for the better." What I had intended to make distinctly understood was that, of the cases referred to by Dr. Spitzka as having been treated at Bloomingdale Asylum, only one had come under my personal observation (in a service of eleven months), and that this patient had recovered; and I attributed much of the good accomplished in his case to his having been transferred to the Bloomingdale Farm, where he was able to spend almost all his time outdoors, and, with plainer diet and plenty of work that he was interested in, rapidly recovered. My remarks had special reference to the methods of treatment spoken of by Dr. Parsons. Dr. Spitzka himself spoke of other cases of his that had been treated here and had ended in recovery, but none of these had fallen under my immediate observation.

Respectfully,

WILLIAM NOYES.

Proceedings of Societies.

NEW YORK SURGICAL SOCIETY.

Meeting of December 22, 1886.

DR. L. A. STIMSON in the Chair.

Notes on the Operative Closure of a Large Laryngeal Fistula.—Dr. ROBERT ABBE reported a case in which he had successfully operated for the closure of a laryngeal fistula, and gave the following history:

In November, 1885, a man, aged forty-five, presented himself for treatment of an opening in the side of his larynx immediately above the vocal cords, into which the end of one's thumb could be thrust.

In the month of April preceding he had trapped while rising from his cobbler's bench with a shoemaker's knife in his hand, and had so stumbled that he fell upon the point of the knife, which was thrust well

into the thyroid cartilage on the left side. It was an ugly gash and bled severely. He was carefully treated in the Bridgeport Hospital at once, a tracheal tube was inserted, and he said that it was worn for a month. The hole in the cartilage was just above the vocal-cord attachment, and laryngeal inflammation probably followed and impaired his breathing. After another month an operation was performed to close the fistula by suturing, but was ineffectual. He then came to New York and was subjected to five more attempts at closure by his physician at home. The methods varied. Sometimes silver-wire sutures were used, after paring the edges; sometimes silk. Twice were the hare-lip pins and figure-of-eight suture used. But after each operation mucus and discharges burst the wound open and left him more desperate than before. The successive parings of skin and cartilage had resulted, with what ulcerations had occurred between times, in the sacrifice of a considerable portion of the left lateral half of the thyroid cartilage, the entire gap being nearly three quarters of an inch, though the opening in the cartilage proper was five eighths of an inch in diameter. The edges of the fistula were cicatricial, and induration extended half an inch beyond the opening. Through this great gap one could get a most extraordinary view of the vocal cords in action. The anterior ends were attached just within the lower edge of the fistula on the median side, and when at rest the cords fell flat on either side and were lost in the mucous membrane. On attempted phonation, they sprung into view and vibrated at an angle of 30° with the horizon, afterward falling back



FIG. 1.

to nearly the horizontal position. This movement of the cords to assume this angle with the horizon when the patient was erect the speaker had not found noticed in such authors as he had consulted. Attempts to speak or make audible sounds when the fistula was uncovered were futile. All he could do was to produce a fizzing or buzzing note like the sound one might make by blowing through a single reed of a reed-organ. When, however, a flat pad covered the fistula completely, he could phonate perfectly, though with a slightly husky tone. It was decided that by the following not very complicated plastic operation the fistula could be closed, if preliminary tracheotomy was done to prevent expulsive efforts at coughing from blowing mucus and air through the sutures.

On November 13, 1885, Dr. Bangs assisting, the patient was etherized and tracheotomy done at the two upper rings. When the patient breathed well through the tube the glottis was stopped through the fistula with a sponge attached to a string drawn out through the mouth.

The edges of the fistula were thoroughly pared. A broad elliptical space was then included between two incisions, *a b*, being somewhat wider than the fistula and extending obliquely downward on the patient's neck. A part of the included skin below the fistula was dissected up so as to make a flap hinged on its upper edge, which, when

turned over, more than covered the hole. The cuticle was then removed from the part of this surface not wanted to cover the hole, and the rest of the elliptical space made raw for the reception of the over-turned flap. The latter was then stitched over the fistula by two rows of fine continuous catgut—one row, on the edge of the orifice, tacking the surface of the flap at the circle of denudation; and the second, on the outer edge of the flap, fastening it to the outlying cellular tissue.

The skin on either side of the neck was then undermined and slid over the flap mentioned so as to meet directly over its center. A lateral slash, one inch and three quarters away, was necessary to relieve tension, and served to admit a drainage-tube.

Antiseptic compresses were applied and the sponge was removed from the larynx by the mouth. The patient made a very comfortable recovery, with primary union throughout.

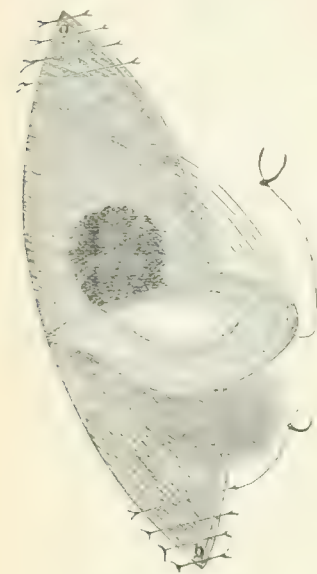


FIG. 2.

The tracheal tube was removed on the fifth day, and he was allowed to talk at the end of a week.



FIG. 3.

He left the hospital with a perfectly solid larynx and excellent phonation, which had been maintained.

Dr. ABBE remarked that it seemed to be the general impression that this class of cases could not be cured.

The CHAIRMAN asked to what cause this supposed impossibility was attributed; whether it was simply a mechanical one.

Dr. ABBE thought that it was owing to the force of the air in respiration which broke down the union.

Cicatricial Stricture of the Œsophagus.—Dr. H. B. SANDS presented a patient eleven years old whom he had treated for a cicatricial stricture of the œsophagus more than three years previously, and whose case he had made the subject of a paper read before the society January 22, 1884. (See "N. Y. Med. Jour.," Feb. 9, 1884, p. 153.) As she was now on a visit to New

York, he availed himself of the privilege of showing her to the members, and of demonstrating the passage of large bougies through the œsophagus at the site of the former stricture, which, when the patient first came under his notice, was so small that only instruments of filiform size could be introduced. After a number of operations of internal œsophagotomy had been performed, however, the child left New York, in November, 1883. She was then entirely relieved of dysphagia, and a bougie No. 40 F. could be readily passed into her stomach. When the history of her case was related before the society, some doubt was naturally felt regarding the duration of the improvement, which, it was believed, would be only temporary. The speaker was therefore interested in stating certain facts connected with her past and present condition. After the cutting operations had been discontinued, the patency of the œsophagus had been tested with bougies at intervals of increasing lengths until May, 1885. Between that date and October, 1886, a period of seventeen months, no instrument had been used; and when at the end of that time the caliber of the œsophagus was examined, a bougie No. 40 could be readily passed beyond the site of the former stricture. Within the past week the speaker had introduced a bougie of that size, and he now demonstrated before the society the easy passage of a bougie No. 38 F. No. 40 was not tried, because the patient did not wish to have so large an instrument employed, as it caused discomfort when passing behind the cricoid cartilage.

Dr. SANDS remarked that he attributed the long absence of recontraction to the shortness of the stricture, as well as to its complete division. He hoped that the cure would prove permanent. The patient's health had for a long time past been excellent, and no difficulty was experienced in swallowing solid food.

Naso-pharyngeal Polypus.—Dr. SANDS also presented a patient from whom he had removed a naso-pharyngeal polypus by means of the galvanic éraseur, and read the following account of the case, which had been copied from the records of the Roosevelt Hospital by Dr. E. V. Silver, one of his assistants:

H. R., aged eighteen, Ireland, single, laborer. Admitted October 26, 1886. Family history negative. Previous personal history: Has always had good health. Gives no history of phthisis, Bright's disease, or rheumatism. For ten or twelve years he has had a thick, difficult enunciation, but this trouble has made no noticeable progress. His other symptoms are all of recent date, beginning with a cold caught ten months ago, after which he had much difficulty in breathing through the nose. Eight months ago he had a slight hæmorrhage from the nose. It was easily stopped, but four months afterward a severer bleeding began and lasted a week, occurring three or four times a day. Since then talking and breathing have been much worse. He is a large, strong-looking young man, but appears rather anæmic. Examination of the pharynx shows a round, smooth mass pendent from the posterior nares, and projecting into the upper part of the pharynx. It is slightly visible beneath the free border of the soft palate when the mouth is well opened. It can be easily felt with the finger, and is found to be of a rather soft and compressible character. The finger can be passed without difficulty in front of and behind it, showing that no adhesions exist, and that the probable origin is from in front of the foramen lacerum medium. Examination through the anterior nares shows only that the left side is wider. The growth is not seen from this direction. He has no discharge from the nose, and is chiefly inconvenienced by the obstruction to breathing.

Urine amber-colored, alkaline; specific gravity, 1.033; cloudy; sediment, five per cent. albumin, phosphates, ammoniac urates. Fifty-three ounces.

October 28th.—Ordered Bland's pills (gr. v), ij, t. i. d.

30th.—Ordered oxygen, ex, p. d.

November 3d.—A wire was easily passed through the left nostril into the mouth and made to surround the new growth.

6th.—Cocaine anæsthesia. Operation, 2.30 p. m., by Dr. Sands. A copper wire was introduced through the left nostril and brought out through the mouth. To this the end of a platinum loop was connected and passed back again, the platinum being brought out of the left nostril, care being taken that these wires did not cross. The loop was then adjusted about the polypus and drawn up tightly, and its free ends were passed through the handle of a galvano-cautery, which in turn was pressed as far as possible through the left nostril toward the posterior nares. The connections were then established, and a fair current of electricity was passed over the platinum wire, heating it to a red heat. Just before the current was applied, a strong silk suture was passed through the bottom of the polypus by a curved needle, so that traction might be made on the tumor from below, and that it might be prevented from slipping out of reach when the pedicle should be divided. The separation was rather slow (six minutes being required), and during this time there was a good deal of bleeding, and the patient seemed to suffer some pain. At last the pedicle was divided and the tumor drawn out of the mouth. The bleeding then ceased, and did not recur. The pain also did not continue. The polypus was half as large as an egg (*i. e.*, $1\frac{1}{2}$ in. \times $1\frac{1}{4}$ in. in diameter). The pedicle had been very evenly removed close to the body of the tumor.

9th.—Patient has had no bleeding at all, but has a slight nasal catarrh. He is discharged cured.

Microscopical examination by Dr. Delafield shows the tumor to be a polypoid fibroma.

The speaker remarked that his object in bringing the patient before the society was mainly to emphasize the fact that very few cases of naso-pharyngeal polypus were suitable for treatment with the galvano-cautery. The method, which dated back to the time of Mitteldorf and his followers, had been practiced often enough to prove its value; but, as most naso-pharyngeal polypi were attached to the skull by a broad base, and could not be embraced by a loop of wire, this safe and easy method of operation was inapplicable.

Dr. GEORGE A. PETERS asked if Dr. Sands had any difficulty in handling the pedicle.

Dr. SANDS replied in the negative.

Dr. PETERS said that he had operated on several naso-pharyngeal polypi, but had never seen one with a narrow stem like that presented by Dr. Sands.

On the Use and the Abuse of Passive Motion.—Dr. SANDS read the following paper:

I am induced to bring before the society for discussion the well-worn but important subject of passive motion, in the hope of putting it, if possible, on a broader and a more scientific basis. So many claims are made in its favor which seem to me to be unfounded, that I think it desirable to state just what amount of good may be expected from it, and in what class of cases the method is unsuitable. I approach the subject with some hesitation, because I am apprehensive that my opinions will encounter opposition. I shall present, however, little more than the results of my own experience; and I entertain some views which I should be glad to alter, provided I could find other ones supported by credible testimony.

The phrase passive motion may appear to be somewhat ambiguous, as the word passive implies merely that the patient either offers no resistance to manipulation, or that the resistance offered is overcome. On the other hand, the movements made by the surgeon are always active and sometimes very forcible. A degree of severity, therefore, may belong to the procedure which the term is not adapted to convey.

Concerning the common form of injury known as a sprain, which most often occurs at the ankle, it may be remarked that various lesions are doubtless included under this designation. In slight cases the ligaments are, perhaps, only severely stretched; in bad ones they may be more or less completely torn. Subcutaneous extravasation of blood is usual, and occasionally hæmorrhage takes place into the adjacent joints and tendinous sheaths. In a few cases the parts continue weak and painful for a considerable, or it may be an indefinite, period, while in a still smaller number the foundation is laid of serious organic disease.

In no form of injury do wider diversities of opinion exist regarding treatment than in that called sprain. The old-fashioned treatment, which prescribes rest and fixation of the sprained joint, is preferred by some, while wonderfully good results are declared by others to proceed from the early employment of massage, combined with passive motion, and the almost immediate use of the injured parts. As in many other instances, the truth here probably lies between the extremes. My own practice has generally been conservative. Unless the injury is of trifling degree, rest and immobility would seem to be instinctively, if not imperatively, demanded. By rest and immobilization an opportunity is afforded for a reunion of the ruptured parts, while the pressure of a bandage favors the diffusion and absorption of blood, serum, and other extravasated fluids. When it may be reasonably presumed that the injury has been repaired, usually after the lapse of from one week to two weeks, passive motion has seemed to me useful by preventing or removing stiffness or pain. Aside from tuberculous disease of the joint, which may undoubtedly arise in consequence of this form of injury, I have often known the use of a badly sprained ankle to be followed by long-continued lameness and pain. I am therefore inclined to be cautious, and to enjoin rest for, perhaps, an unnecessary period, rather than recommend motion which might be premature. Massage and passive motion I have found most serviceable in recent sprains of mild degree, and in cases of stiffness resulting from old adhesions or prolonged disease. In such instances I have witnessed excellent effects from these remedies, but I am disposed to look with distrust upon active treatment applied to recent sprains at all severe. I have been reminded by Dr. William G. Le Boutillier, lately my house surgeon in the Roosevelt Hospital, that a favorite method there, when the sprain is not severe, consists in the immersion of the injured foot for several hours in hot water, and the subsequent application of a firm bandage. Under this treatment many patients are enabled to leave the hospital, walking tolerably well, at the end of three days.

After the reduction of dislocations I have rarely found it necessary to employ passive motion. I have usually kept the injured parts quiet by means of a sling or a bandage for a period varying from a week to a fortnight, and have then encouraged the patient to resume the normal movements. In a few instances, after reducing dislocations of the shoulder, I have been obliged to use considerable force in order to break up adhesions which had formed outside the articulation, in consequence of inflammation caused by the primary injury.

Experienced surgeons are divided in opinion regarding what mode of treating fractures is least likely to be followed by stiffness. Verneuil maintains that immobilization never induces ankylosis, but tends to prevent it by averting inflammation. Other surgeons are so apprehensive of causing, by immobilization, a loss of movement that they renounce the use of splints almost entirely, and practice passive motion very early. Both parties state that they have obtained good results; and, without pretending to be dogmatic, I desire to give my own views as founded on personal observation.

In the first place, true ankylosis must be extremely rare. The only examples of the kind I can recall are those in which comminution had taken place of the bones composing the ankle or the elbow joint, which had become fused during the process of repair. Provided a fracture is simple, comminution, however extensive, is not very likely to be followed by ankylosis; and, at the present day, with suitable antiseptic treatment, such a result should be infrequent, even when joint fractures are compound.

But, if true ankylosis after fracture is rare, stiffness from false ankylosis is less uncommon, and, if incurable, may greatly diminish the usefulness of a limb. Its nature and causes are various. Undoubtedly it may occur in joints from simple disuse. I remember an example of the kind which I met with many years since, while I was serving an apprenticeship in the Bellevue Hospital. A woman broke her left femur at about its middle three times in the course of eight months. During the whole of this period she was kept in bed, with the limb maintained in a straight position by means of a weight attached to the foot. Meanwhile the knee, which was remote from the seat of fracture, became so rigid that, even with the aid of an anæsthetic, only the slightest motion was possible. She was dismissed with a stiff joint.

That organic changes occur in such cases can not be questioned. Shortening and rigidity of the capsule have been conjectured to exist, while distinct pathological conditions have been described by Bonnet* and Terrier,† who found, on post-mortem examination, or on inspecting limbs which had been removed by amputation, effusion of blood within the affected joint, undue redness of the synovial membrane, newly formed connective tissue uniting opposed articular surfaces, and swelling, erosion, and adhesion of the articular cartilages. Moreover, Menzel‡ has shown by experiment that in animals swelling, hyperæmia, and pterygium-like affections of the synovial membrane, and degenerative changes in the articular cartilages, often take place in consequence of the enforced rest of a joint. Examples of the kind referred to may have been met with by every surgeon present, but they are seldom grave enough to cause serious apprehension. Furthermore, they are rare. As a rule, I have not observed that long-continued immobilization of a healthy joint gives rise to any stiffness which can not be quickly overcome, either by passive motion or by the unaided efforts of the patient. The early restoration of the natural movements, and the absence of sharp inflammatory reaction when these are resumed, prove that no important lesions have occurred. Nevertheless, the occasional sequel of obstinate stiffness suggests the propriety of watchful examination, and the avoidance, by timely passive motion, whenever necessary, of the injurious consequences that might otherwise ensue.

False ankylosis after fracture is usually dreaded when the fracture complicates a joint, or when it is situated very near to one. But I am satisfied that the danger in such cases has been greatly exaggerated, and that the stiffness, when it occurs, is often erroneously ascribed to the presence of morbid adhesions. In many examples of fracture at the elbow or at the ankle the subsequent limitation of motion can be traced to some bony displacement which happened at the time of the injury, and which was not accurately reduced. Or, as we have all noticed, the displacement may recur even after reduction has been accurately effected. Again, in rare instances, a bony callus may impede motion by projecting into the interior of a joint. Impediments of the kind referred to are often discovered only at a late period, after the swelling of the soft parts has subsided. The ankylosis in the two first-mentioned sets of cases does not depend on the formation of adhesions, but on a faulty position of one or more of the bony fragments. It can not be attributed to the long-continued wearing of splints, except so far as these may hide from view the existence of the impediment, and lead the surgeon to believe that things are right, whereas they are wrong. Whenever any such uncertainty is met with, therefore, I am in the habit of frequently examining the injured parts, and of resorting, if necessary, to such manual force as will restore the fragments to their proper position. Here passive motion will often be expedient, both as a test and as a remedy; but it is not practiced with the intention of rupturing abnormal adhesions. At a later period, when consolidation has taken place and motion is prevented by bony prominences, the ankylosis must be overcome, if at all, by some form of cutting operation. Passive motion, although often tried in these circumstances, would be obviously improper.

Adhesive inflammation, mainly circumarticular, I believe to be the chief agent in producing the stiffness due to false ankylosis following fractures. Fortunately, this affection rarely occurs to any troublesome extent when fractures are judiciously managed, and the broken bones are held in position by splints which do not exercise undue pressure. Accordingly, much stiffness of a joint seldom follows the usual treatment of a fracture which involves keeping the parts immobilized for three or four weeks.

Even after the patella has been fractured, and the knee has been confined in a straight position for a period of eight weeks, the joint is sometimes supplé almost immediately after the splints are removed, and, without artificial assistance, will allow full flexion after the lapse of several months. Believing that adhesive inflammation is rarely severe after fractures in the neighborhood of joints, or extending into them, I have not feared the occurrence of ankylosis, but have generally

avoided making movements before the consolidation of the fracture. So far as my experience goes, I have never had occasion to regret having followed this practice, and have never known ankylosis to result from it. Early motion, in my opinion, is very apt to be premature, and to cause the very stiffness it is intended to prevent. The case is different, however, when inflammation, denoted by pain, swelling, and œdema, has actually set in. It may be argued that, at this period, the plastic material is soft, and that, by passive motion, the formation of adhesions and the consequent stiffness may be avoided. But even here my practice has nearly always been mild and conservative. By removing pressure, by keeping the injured parts at rest, and by making cold external applications, I have sought to control the existing inflammation and to limit the amount of fibrinous exudation. To anticipate one evil effect of ankylosis, however, I have in these cases been careful to place the joint, if possible, in such a position as would render the limb most serviceable in the event of subsequent stiffness. Passive motion I have seldom practiced under these conditions, because it has appeared to me that it might do harm. Indeed, while the parts are swollen and tender, motion is difficult and painful, and, if perseveringly made, is likely, according to my experience, to cause an aggravation of all the unpleasant symptoms. On this point, however, I desire to speak with some reserve, because I have very little actual knowledge concerning the effect of passive motion practiced under the circumstances described. I have found it to be extremely painful, and I have suspected it to be mischievous. This is all I am willing to say. After operations for the correction of the deformity caused by Dupuytren's contraction of the finger, and after plastic operations on the hand, I have usually resorted to passive motion within a week, and have thought that stiffness was thereby prevented. Now, a similar rule may apply to fractures when threatened with ankylosis; but I have had no experience which would convince me that such is the fact.

In common with many other surgeons, probably, I have met with stiffness most often after fractures of the lower end of the radius. I have seldom seen it except in persons who had passed the middle period of life, and I have never known it not to have been preceded by signs of inflammation, which I have believed to be adhesive in character, and to involve especially the sheaths of the tendons in the neighborhood of the wrist. Certainly, the stiffness which occasionally follows is due rather to adhesion of the tendons than to any affection of the joints. The liability to this unfortunate occurrence has led some eminent surgeons to discard altogether the use of splints in the treatment of these fractures, and to seek to prevent stiffness by an early resort to massage and to active and passive motion. I am not prepared to condemn such treatment entirely, or to deny that it may sometimes be expedient. But I am unwilling to believe that it is usually either necessary or safe. Some of the worst results I have witnessed have followed a neglect to fulfill the ordinary indication to reduce the displacement, and to maintain the reduction by the application of suitable splints. Not only deformity, but also loss of motion, may follow such neglect; and I am sure that a proper reduction of the fragments will go far toward preventing the occurrence of inflammation, on which the stiffness ultimately depends. It can be conclusively shown that immobilization of the injured parts may be usually enforced for a long time without giving rise to ankylosis. At the Roosevelt Hospital, where many fractures of the lower end of the radius are treated, the plan adopted is to reduce the displacement at once as far as possible, and to apply two straight wooden splints, which extend along the forearm and the hand, but not so far as to impede the movement of the fingers. These splints are occasionally removed for the purpose of examining the parts, which are otherwise allowed to remain undisturbed for a period of four weeks. The splints are then dispensed with, when the bones are found to be firmly united, the freedom of motion being only slightly impaired. The results thus obtained are excellent, and the normal movements are soon regained.* Two hundred and twenty-seven cases have been treated according to this method during the past three years, and only one case has terminated in permanent stiffness.† It

* "Traité des maladies des articulations," A. Bonnet, Paris, 1855.

† "Gazette médicale de Paris," 1841, pp. 609, 625.

‡ "Archiv für Chirurgie," Band xii, S. 990.

* I am indebted for these statistics to Dr. George S. Huntington.

† The patient referred to was a man, who was treated in the usual manner soon after the accident. He remained away from the hospital,

may be fairly maintained, therefore, that, as a rule, these fractures can be successfully treated without resorting to early passive motion. Moreover, the fact that such fractures commonly get well without stiffness when the surgeon early begins passive motion proves nothing in favor of it, because they might have recovered equally soon if this had been omitted. But we must admit that stiffness now and then occurs; and the problem to be solved is how this can be obviated. I frankly confess that I am unable to offer, under all circumstances, a sure remedy. When the patient is old and rheumatic, the injury severe, and the inflammation active, I believe that stiffness may follow, whatever plan of treatment is pursued. I should be careful in such a case to remove all pressure of splints, which might increase the existing inflammation, and to combat the latter by rest, by elevation of the limb, and by making cold applications to the tender and swollen parts. Passive motion I should defer until the acute stage had subsided. An early resort to the latter method while active inflammation is in progress I have never dared to prescribe, fearing that it might cause harm. If I could be convinced from the experience of my colleagues that such a practice was beneficial, instead of injurious, I should be glad to change my present opinion, and to renounce the plan of treatment which I have found generally, if not uniformly, successful.

I can speak much more positively and favorably respecting the efficacy of passive motion in promoting convalescence after fractures by removing what are called their residua—namely, swelling, stiffness, and pain on attempting movement. Often, it is true, these symptoms are not very marked, and will disappear entirely if the patient is encouraged to use the limb. But when they are decided and persistent, and when the natural movements are shunned on account of pain, indolence, or timidity, the value of massage and passive motion is unquestionable. When practiced daily, or every second day, such treatment will frequently cause rapid improvement by rendering the circulation in the swollen parts more active, by dissipating the swelling, which is usually due to passive oedema, and by making motion easy and painless. As every surgeon knows, patients who have suffered from fractured limbs are often reluctant to use them, even after the bones are firmly united, and it is in this class of cases that friction and passive motion are so valuable. Not infrequently, indeed, physicians, as well as patients, are deceived by the idea that the symptoms are indicative of inflammation which requires rest; and for this reason patients are sometimes disabled for a long period, and possibly treated for rheumatism or for some other disease which does not exist. A few active manipulations will reveal the error in diagnosis, and not seldom accomplish a cure. The sudden disappearance of pain on motion, which is occasionally noticed in these cases, can hardly be otherwise explained than by supposing that abnormal bands or adhesions have been forcibly ruptured. Whatever be the *rationale* of the treatment referred to, there can be no doubt that it is eminently successful.

In a small number of cases of stiff joint following injury, or dependent upon long-continued fixation of a limb, I have derived great advantage from the employment of an anæsthetic. The absence of pain and of muscular contraction thereby induced facilitates the necessary movements, and occasionally affords valuable aid in diagnosis. As a rule, however, anæsthetics may be dispensed with, and, furthermore, repeated movements are commonly needed to obtain the desired result.

I possess no personal knowledge of cases of slipping or adhesion of tendons, or of mysterious and unexplained lesions which, having resisted the ordinary means of treatment, have been brought to speedy recovery by the rough handling of bone-setters, and I believe that most of the statements made regarding their achievements are, to use a mild term, inaccurate. I am incredulous and suspicious of all marvelous cures, whether alleged to have been wrought by bone-setters or by orthodox members of the medical profession.

I have met with little or no success when employing passive motion for the purpose of overcoming the firm contractions of the skin and deeper tissues which follow burns and other injuries accompanied with much loss of substance. The limit of stretching of which scars are

contrary to instructions, for a period of three weeks. When he returned, his wrist was found to be stiff. No further particulars are contained in the records.

capable by passive motion is soon reached, and further attempts to extend them are quite liable to cause rupture.

The value of passive motion as a means of overcoming ankylosis due to disease, not caused directly by injury, is a subject which admits perhaps, of but little discussion. But there are some facts relating to it which should be distinctly stated, and there are some errors prevalent which should, I think, be corrected. Among the severer affections of the kind referred to, I have found most amenable to treatment cases of stiffness of the shoulder, apparently unconnected with disease of the joint, but dependent upon the presence of adhesions in the large bursa situated beneath the deltoid muscle. This disease, which has been well described by Duplay, has many features resembling those due to arthritis, from which, however, it is not hard to distinguish. But the movements of the arm at the shoulder joint may be limited and painful, and the usefulness of the limb nearly lost. I have encountered many such cases, and have invariably succeeded in affording relief by the employment of passive motion. This I have always practiced after administering an anæsthetic, and I have sometimes been compelled to resort to considerable force in order to overcome the resistance. The adhesions, wherever situated, usually give way with an audible sound, and the freedom and extent of motion are completely, but sometimes only temporarily, restored. By the subsequent use of passive and of voluntary motion, and by repeating the manipulations while the patient is under ether, if necessary, I have seldom failed to obtain a complete and permanent cure.

Unfortunately, I am unable to record equally good results from the treatment by passive motion of any other form of ankylosis, if I except certain cases of hysterical muscular contraction, which may be dismissed with this bare allusion. Most often I have had occasion to employ passive motion with the simple but important object of putting the diseased limb in a suitable position. Even before such an attempt is made, however, discrimination and caution are sometimes necessary. Probably most surgeons would agree that, when true bony ankylosis exists, passive motion should not be made to correct the deformity, which should be dealt with, when necessary, by the use of the knife and the saw. Passive motion may also fail to alter the position which a limb has assumed in the course of tuberculous arthritis of long standing. When, in old hip disease, the thigh has become much flexed and adducted, forcible motion, intended to secure a straight position, is at least a doubtful expedient. It will probably turn out to be unsuccessful, because the soft parts will be found so contracted and rigid that nothing short of actual violence will cause them to yield enough to permit a correction of the deformity, which, moreover, may be further maintained by bony alterations impossible to anticipate or overcome. Again, the employment of much force in such circumstances has often been known to set up severe inflammation, with even fatal consequences. Excision, therefore, although apparently a harsher remedy would seem to be preferable, as involving less danger, and obtaining a better and more definite result. Similar remarks may be made respecting the knee. When, in consequence of old joint disease, the leg has become flexed and rotated outward, the head of the tibia partly luxated backward, and the soft parts behind the joint contracted, any attempt to straighten the limb by passive motion, even when preceded by tenotomy of the hamstrings, will be futile, and the end in view can be gained only after a formal excision has been performed. But, in the early stages of arthritis, whether tubercular, gonorrhoeal, rheumatic, or of other origin, a bad position can always be safely corrected by manual force, aided by an anæsthetic, when necessary, and thereby, in the event of ankylosis, one of its most disastrous consequences can be prevented.

For the purpose of restoring movements which have been impaired or lost from the occurrence of firm false ankylosis of the joints from whatever cause, or for the removal of stiffness dependent on the firm adhesion of tendons to their synovial sheaths, my results, after many trials of passive motion, have been so discouraging that I now seldom advise this mode of treatment as a means of cure. As, however, the exact amount of resistance to be overcome, and the exact pathologica condition can not be settled beforehand, I almost invariably, when consulted in cases of the kind referred to, advise the administration of ether, and the trial of a fair amount of forcible manipulation. But, if

the adhesions are numerous and firm, and great force is required in order to re-establish mobility, I have found that, even when the movements become very free and extensive at the time of operation, they are lost again almost immediately afterward, the stiffness returning and being as bad as before. It is often said that failure in these cases is due to a neglect on the part of the surgeon to maintain the advantage already gained by the continued practice of passive motion. But I am convinced that this assertion is untrue. So much pain, swelling, and ecchymosis follow the first attempts to move the stiffened parts that for a day or two afterward they must be allowed to rest; and when the inflammation has abated sufficiently to warrant a repetition of passive motion, the whole thing has to be done over again, and with the same result. My experience with this method in such cases has been so uniform that I can not doubt the correctness of the opinion I have expressed. I recall an instance in which a man who once consulted me was treated in the manner I have described; and although, at the time of the operation, the leg, which was at first extended, could be well flexed, the stiffness soon returned, and was as marked as ever. I kept the man's leg extended during his convalescence, and then advised him to let it alone. But he fell into the hands of an enterprising and enthusiastic surgeon, who promised to cure him, and who afterward boasted that he had done so. I finally caused an inquiry to be made about the patient, and ascertained that the joint had soon become again immovable.

To sum up what I have said, I am not an advocate of passive motion, except under the restrictions which I have endeavored to define. I believe that, when practiced without discrimination, it will often be unsuccessful, and sometimes injurious, by inducing or increasing inflammation. I am certain that the severer forms of ankylosis and of fixation of tendons are frequently due to this disease, and that the inflammation will be aggravated by employing passive motion before the active symptoms have disappeared. The idea that motion will always prevent ankylosis is a fallacy which is contradicted by common experience. I have performed the operation of excision of the elbow for the cure of true ankylosis, and I have seen such operations performed by others, during which, perhaps, too little bone was taken away; and, in spite of the early and diligent use of passive motion, the stiffness has returned, bony consolidation has recurred, and the operation of excision has had to be repeated. But motion may even be successfully employed as a means of causing a bony deposit to take place. It is a well-known fact that, in many instances of ununited fracture of the thigh or of the leg, bony union may be determined by the inflammation which is set up by making forcible motion of the fragments, or by causing the patient to walk about upon the injured limb, with the view of pressing them against each other. On the other hand, by operating according to modern antiseptic methods, which tend to prevent inflammation, partial excisions of even so intricate a joint as the elbow may sometimes be performed without any impairment of its mobility.

I have brought the subject of passive motion to the attention of the society, because it is one of great practical importance, concerning which surgeons are frequently consulted, and about which there may be honest differences of opinion. What I have stated here is the result of my own personal experience; but, as I mentioned in the beginning, I should be glad to change some of my present views if others could be advanced which were sustained by evidence that appeared to me to be clear and trustworthy.

(To be concluded.)

NEW YORK ACADEMY OF MEDICINE.

SECTION IN OPHTHALMOLOGY AND OTOTOLOGY.

Meeting of November 15, 1886.

Dr. C. R. AGNEW, Chairman; Dr. J. A. ANDREWS, Secretary.

Double Optic Neuritis with Meniere's Disease.—Dr. T. R. POOLEY related the history of a case. [See page 31.]

Dr. H. KNAPP said that he had had no personal experience of sudden ear affection in Bright's disease. The retinal hæmorrhages so common in albuminuria would suggest their occur-

rence in the inner ear; Dr. Moos had, indeed, found hæmatoidin crystals in the cochlea, for which the speaker had long sought in the retina, but in vain.

Left-sided Homonymous Hemianopsia; Recovery.—Dr. T. R. POOLEY related the history of the following case:

"A gentleman, about thirty-five years of age, who was under my treatment in 1879 for a circumscribed choroidal exudation of specific origin in the left eye, which recovered with central scotoma and vision of $\frac{20}{200}$, consulted me again on the 30th of September, 1885. One week before, while out driving in a cold wind, he became suddenly faint, sick at the stomach, and, for a few seconds, quite blind, so that he was obliged to give the reins to his wife, who sat by his side. Upon recovery he found that he saw objects indistinctly, and in some directions not at all. When I saw him he was very much alarmed, excessively pale, and apprehensive. Examination of his eyes at once showed that he had left homonymous hemianopsia. The field of the right eye on its nasal side failed to nearly the point of fixation. In the left, the temporal half was in like manner affected. In neither eye did the defect extend quite to the point of fixation. The vision of the right eye was normal, that of the left $\frac{20}{200}$, due to the old lesion referred to. Both discs were of normal color, nor could I detect any change in the size of the vessels. Bearing in mind the antecedent history of the case, I advised an immediate and energetic plan of treatment. The patient was confined to bed in a darkened room, and the administration of large doses of iodide of potassium begun at once, under the belief that there was a gummy tumor or hæmorrhage, due to syphilitic degeneration of the artery, situated in the right occipital lobe. So far as my ability to determine went—I did not have the advantage of expert consultation—there were no other symptoms of cerebral disease. Finding that the patient tolerated the iodide very well—which was surprising to me, as in my former experience in treating him even very small doses would produce iodism—I rapidly increased it until he took one drachm at a dose, three times a day. Under this treatment there was a gradual restoration of the dark fields until, at the expiration of about six weeks, he had quite recovered.

"The improvement was first noticed after he had been under treatment for about a week, when, by examining the fields, as he lay in bed, with the hand, it was evident that the periphery of both blind fields saw it much sooner than before. Measurements were made from this time on with the perimeter. The first, taken October 10th, showed a very decided improvement of the fields. I regret to say that these have not been preserved in such a manner that I can present them here. The improvement took place at first in the periphery of the horizontal median plane, the defect disappearing much sooner in the upper inner quadrant of the right eye, and in the outer upper of the left. For a long time even after objects were seen here, they were far less distinct than in other parts of the field, but at the expiration of six weeks to two months from the time of beginning treatment, the blind fields were fully restored, and have continued so from that time until now, as I have had frequent opportunity to know by visits from the patient."

The speaker said he knew of only one other case in which restoration of the fields had occurred in hemianopsia, which was also in a syphilitic patient, and was reported by Dr. Oswald Baer, of Breslau ("Sammlung klinischer Vorträge in Verbindung mit deutschen Klinikern," herausgegeben von Richard Volkmann, No. 246), on the diagnostic significance of the measurements of the fields of vision, to which he would but briefly refer.

Patient, aged thirty-five, 1870. Contracted syphilis. Was treated in the usual way. Seven years later married, and had a perfectly healthy boy. His wife had never aborted. He came under Dr. Baer's treatment on the 4th of April, 1883. He was employed on the railway as secretary of the post-service, and rode daily on the train from Breslau to Berlin. Eight weeks before, when only four miles from Breslau, he had been seized with dizziness, fell over, vomited, and was unconscious for from two to three minutes. During the rest of the journey

vomiting was repeated. On the arrival of the train in Berlin he had to be helped out of the car.

The next day he was brought back to his house in Breslau, where he remained three weeks in bed. His sensorium and memory were much affected. The attack was probably treated as an apoplectic seizure. When he got about again, squinting and dilatation of the left pupil were noticed, in spite of which he returned to work, but, as he could neither write nor read, he went to see Dr. Baer.

His intelligence and memory were undisturbed. The left eye strongly turned outward. In forcible attempts to look to the right, the inner margin of the cornea remained $2\frac{3}{4}$ " from the punctum lacrimale. There was also impairment of the movements of the eye upward and downward, with drooping of the upper lid. The pupil middle was wide and reacted sluggishly to light. The gait was feeble; the right hand feebler than the left. There was no diplopia, except in looking to the left in the dark with a red glass before the eye, showing that the abducens was also parietic. The failure of double images to appear when looking to the right was explained by the presence of a typical right-sided homonymous hemianopsia; the right halves of the visual fields were wanting; throughout, the unaffected region was marked by a vertical line which went through the points of fixation in both eyes; a peripheral contraction of the left halves of the fields was not noticed. Treatment consisted first of iodide of potassium; then, from the 26th of April to the 25th of May, inunction; then again iodide of potassium. Improvement began in a few weeks after, first in the paresis of the ocular muscles. On the 24th of April there was first observed a small white spot in the periphery of the right horizontal meridian, in which there was perception of light. On the 17th of May there was a similar return of perception of light in the right half of the field in the left eye. The improvement continued still more, but slowly, until it seemed at a standstill, the right upper quadrants of both eyes remaining without perception of light. A marked improvement continued until, on December 10, 1883, the fields were nearly restored, but there was not, as in the speaker's case, a complete restoration of the blind halves. He regretted that he had failed to keep more careful notes of his case as to the dates of examination, but he was very busy at the time, and, as he saw the patient at his home instead of at the office, he failed to make careful entries of the dates of examination. The principal value of both his case and the similar one referred to, however, was that, when hemianopsia depended upon a specific lesion, it might be cured by large doses of iodide of potassium and mercury. He should, however, place his chief dependence on the former, in the belief that if the lesion was, as would most likely be the case, a gummy tumor, this was the most reliable drug.

The more complete recovery of his patient was, he believed, due to the fact that the patient came under his treatment very much sooner than in the case referred to, where eight weeks had elapsed from the date of the attack; and also to the use of iodide of potassium alone, and very probably in larger doses than those given by Dr. Baer, for the credit of using the iodide in such large doses belonged, he believed, mainly to this country.

Dr. KNAPP said, in reference to Dr. Pooley's query whether complete restoration of the visual field after cerebral apoplexy had been observed by others, that he had seen it, and more than once. He had stated this fact ten or twelve years before in a paper on "Sector-like and Hemipic Defects in the Visual Field," read before the State Medical Society, and published in the only volume of Brown-Séquard's "Archives of Medicine," page 302, 1873.

In this paper not only was the fact of total recovery mentioned, but also its mode was described and illustrated. The

restoration of the field always began at the upper or lower limit, never at the side, and advanced toward the opposite limit, showing in the course of recovery quadrantic or sector-like defects which, without the history, it would be difficult to account for. Though he had seen and described such cases, he wished to say that they were comparatively rare, and that, as a rule, all other symptoms of cerebral apoplexy disappeared sooner than the hemianopsia, and he had seen cases in which the latter was the only apparent symptom that had remained permanent.

Dr. EMIL GRUENING thought that Dr. Pooley's case was one of cortex hemianopsia.

Dr. J. A. ANDREWS spoke of a case of right-sided hemianopsia associated with aphasia, the result of cerebral hæmorrhage, from both of which conditions the patient had recovered. Although recovery from aphasia in cerebral hæmorrhage was not uncommon, recovery from hemiopia from a similar cause was a rare circumstance.

In closing the discussion, Dr. POOLEY said that the feature of special interest in his case was that there remained no gaps or sector-like defects in the visual field, as had been observed in other recorded cases in which recovery had taken place.

Orbital Tumor.—The CHAIRMAN spoke of a case of orbital tumor occurring in a woman aged twenty-nine years. The growth had been noticed for the first time ten years before the patient consulted him. Two years after the first appearance of the growth it had been removed by a surgeon, but it had recurred three years later. The tumor, when first seen by the speaker, last spring, filled the upper part of the right orbit, and was hard, with deep-seated fluctuation near the supra-orbital notch, and there was exophthalmia. The ophthalmoscope showed the right optic disc to be choked. An incision was made into the pus cavity, half an ounce of pus was let out, and the cavity of the abscess was syringed out twice daily with a solution of bichloride of mercury, 1 to 2,000. Four weeks after the operation the choked disc had wholly disappeared and the vision was improved.

Dr. KNAPP said that, in collections of pus at the superior orbital margin, he found that the frontal sinus was more frequently the starting-point of the suppuration than was commonly supposed. Not only when there was a tumor at the inner upper angle of the orbit, or at the inner or middle third of the supra-orbital margin, was the pus in many cases derived from the frontal sinus, but also when the tumor was located at the outer third. Suppuration in the frontal sinus was mostly chronic, and, as to its outward manifestations, the pus found its outlet through the infundibulum into the upper nasal passages; at other times it was stored up. Then it forced its way into the diploe of the roof of the orbit, separated the two tables from each other, and thus created a space which resembled a triangular prism the base of which was at the partition wall of the two sinuses, whereas its apex might reach to the outer upper corner of the orbit. In some cases the upper table was perforated by the pus, and death ensued from meningitis, or, what he had also seen and described, from abscess in the cerebral lobes. In other cases—the majority—the pus found an outlet somewhere at the roof or superior margin of the orbit. As the development of the swelling was slow, and its osseous and periosteal walls differed greatly in consistence, mistakes in diagnosis (diagnoses of osteoma, cyst, or sarcoma, with osseous spicula) were not infrequent, and only corrected during the operation. The chairman's case, it seemed to the speaker, might also have developed in the way he had endeavored to describe. The frequency of suppuration at the upper margin and roof of the orbit could not, he thought, sufficiently be accounted for by the anatomical condition or a particularly exposed situation of these parts; its cause might rather be sought for in the neighboring pneumatic cavity, where

caries, polypi, and the stagnation of secretion might be mentioned as favorable conditions for suppuration.

The CHAIRMAN replied that he had thought of the connection indicated by Dr. Knapp, and looked for it, but had been unable to convince himself of its existence in his case.

Chronic Inflammation of the Middle Ear.—Dr. O. D. POMEROY spoke of a case of this disease in which he had produced great improvement in the hearing by multiple puncture of the drum membrane.

Book Notices.

The Diagnosis and Treatment of Diseases of the Kidney amenable to Direct Surgical Interference. By W. BRUCE CLARKE, M. A., M. D. Oxon, F. R. C. S., Assistant Surgeon to and Senior Demonstrator of Anatomy and Operative Surgery at St. Bartholomew's Hospital, etc. With Illustrations. London: H. K. Lewis, 1886. Pp. ii-176.

Surgical Diseases of the Kidney. By HENRY MORRIS, M. A., M. B., F. R. C. S., Surgeon to, and Lecturer on Surgery at, Middlesex Hospital, London, etc. With Forty Engravings and Six Chromo-lithographs. Philadelphia: Lea Brothers & Co., 1886. Pp. viii-548. [Price, \$2.25.]

THE history of systematic efforts at kidney surgery dates back only to 1869, when, in England, Mr. T. Smith proposed before the Medico-chirurgical Society, from theoretical considerations, the operation of reaching the kidney from the loin, and incising it for the removal of calculi within its cavity, and in Germany, Gustav Simon, after a series of painstaking experiments on animals to demonstrate its feasibility, successfully extirpated a kidney for the relief of an abdominal urinary fistula. The progress which the few years that have elapsed since then have accomplished is well shown in the two books whose titles are given above.

The literature of renal surgery has already become extensive, and the clinical experience which has resulted from the work of a large number of laborers has become sufficient to make this department of surgery even now well elaborated. The work of digesting and systematically presenting all the material now available in this new field of surgery seems to have been nearly simultaneously undertaken by these two London surgeons, and the result of their labors is seen in these books.

The general plan of the two books is quite similar; both begin by a description of the regional anatomy of the kidney and of its anatomical abnormalities; then injuries of the kidney are considered; the subjects of new growths in the kidney, calculus, perinephritic abscess, pyo-nephrosis and hydro-nephrosis are treated by each, though not in the same order. Morris gives, in addition, chapters on "Renal Affections secondary to Diseases of, or Operations upon, the Lower Urinary Organs," and on "Renal Disease as a Cause of Irritability of the Bladder, and Diseases of the Kidney which simulate Disease of the Bladder." The subject of urinary fistula, which is treated of by Clarke in a brief paragraph, is expanded into a chapter of eighteen pages by Morris. Both authors conclude with a chapter on "Methods of performing the Operations on the Kidney." Although the general scope and teaching of these two books are so nearly identical, the books themselves are essentially different. Mr. Clarke's book is brief, condensed, practical; the type is large and clear; the style is good; the book is easy reading. Mr. Morris's book is an elaborate and comprehensive study. He

presents four times as much of solid matter as is contained in the book of his colleague. His style is more diffuse, and the smaller type and page, which have been required to compress his material into a hand-book of the desired size and cost, has put the book at a disadvantage. Both are desirable additions to surgical literature.

The Medical Aspects of Bournemouth and its Surroundings. Illustrated with Chromo-lithographs (by Hanhart) and Photographs (by Debenham and Gould) from Original Sketches by the Author. By HORACE DOBELL, M. D., etc. London: Smith, Elder, & Co., 1885. Pp. xv-338.

THE well-known author of "Winter Cough" and many other works presents us a volume of results of more than thirty years' personal experience and study. Since 1849 he has sent his London patients to Bournemouth, and since 1882, when he retired from metropolitan practice, he has resided there exclusively. The book has the charm of books written by men of ripe years, long experience, and matured judgment, with the fondness for detail and retrospect which come from those who are fortunate in retirement and rest. Bournemouth is on the English coast, at the mouth of the river Bourne, and opposite the Isle of Wight. The bay is in outline an amphitheatre, with cliffs or sand-hills on three sides varying from fifty to one hundred and thirty-nine feet in height. The residence portion of the town is situated on an extended plateau above the cliffs, with a wide expanse of marine and inland views. Despite the direct exposure to the sea, the place is asserted to enjoy a relative immunity from rain and fog, by virtue of the semicircular range of cliffs and the numerous "rain-traps" which indent their sandy fronts. Bournemouth possessed a limited distribution of pine-trees. But the artificial production of a pine-grove region by private energy and enterprise, and largely from Dr. Dobell's advocacy, is phenomenal. In one estate alone (Branksmere Park) 3,388,000 pines have been planted, and over 1,150,000 are standing. A terebinthinate atmosphere has thus been provided. A second feature of the place is the remarkable porosity of the soil of the plateau and sand-hills. There is no clay within fifty feet of the surface. The air is therefore uniformly dry. Special care has been given to town sewerage and house sanitation. The author regards the location of the town on the elevation above the cliffs, rather than upon the beach below, at the sea-level, as of great importance. It secures immunity from what he designates "marine cachexia," a product of the decomposing mixed fresh-water and salt-water vegetation of the estuaries and coast. This has long been a favorite theory of Dr. Dobell's. But most observers will ascribe the cachexia to defective drainage and the contaminated drinking-water of springs or shallow and driven wells, made necessary by the sandy soil and sea-level.

The book includes the author's views, already known, of the influence of climate on thoracic diseases. How true his statement: "The majority of phthisical patients die of septicæmia, and the arrest of this daily re-poisoning is a primary object of treatment"! Hence the importance of an antiseptic climate—air pure, dry, terebinthinate, with a surplus of ozone, and free from particles which favor decomposition.

The author's analysis of the numerous pathological conditions in chronic phthisis and "winter cough" is excellent. Too few clinicians concede the complexus of lesions which contribute to make up a case of phthisis. The recognition of such a state of things leads to more careful differential study, more varied treatment, and often to a more hopeful prognosis and prolonged lease of life, than results from a sweeping diagnosis of tuberculosis. Dr. Dobell's closing chapter treats of general climatology. He displays a more accurate knowledge of our Western health resorts than is usual with foreign writers.

The Laws of Generation, Sexuality, and Conception. By H. M. GOURRIER, M. D., of the Faculty of Paris, etc. Translated and edited by FRANKLIN DUANE PIERCE, M. D., Superintendent of the Union Springs, N. Y., Sanitarium. Union Springs, N. Y.: Hygeia Publishing Co., 1886. Pp. 94.

It is curious how many theories have been advanced to account for difference of sex in the product of conception. Our faith in the ultimate possibility of formulating any fixed law by which sex can be determined at will is often rudely shaken by the contradictory statements of those who have given special attention to the subject. Dr. Pierce has rendered into smooth English this little monograph, in which the reader can not fail to be interested because of its vigorous, epigrammatic style, however much he may feel inclined to doubt whether stock-breeding and the generation of the human species are subject to a common law.

A Compend of the Diseases of the Eye; including Refraction and Surgical Operations. By L. WEBSTER FOX, M. D., Ophthalmic Surgeon to the Germantown Hospital, etc., and GEORGE M. GOULD, A. B. Philadelphia: P. Blakiston, Son, & Co., 1886. Pp. xi-9 to 148.

This little book is No. 8 of the Quiz-Compend which have proved so useful to students, and is a concise account of the leading facts relating to the refraction, diseases, and surgery of the eye. It is divided into four parts. The first treats of the refraction of the eye; the second, of functional disorders affecting vision; the third, of the diseases of the eye; and the fourth, of surgical operations, instruments, etc. The first part is an excellent *résumé* of our knowledge of the errors of refraction and accommodation, and of the means employed for their correction, and the rules for prescribing spectacle-glasses are especially to be commended. In Part III, on the diseases of the eye, the classification of diphtheritic or croupous conjunctivitis as one type of purulent ophthalmia is an error into which the authors should not have fallen. In the light of modern pathology, diphtheritic conjunctivitis is *not* one of the types of purulent ophthalmia, though croupous conjunctivitis may be, and is certainly distinct from the latter. The fourth part includes a description of the instruments used in ophthalmic surgery, and a list of formulæ, which may prove useful. The illustrations are all good, and there is a satisfactory index.

Reports on the Progress of Medicine.

NEUROLOGY.

By J. LEONARD CORNING, M. D.

The Nature and Action of the Venom of Poisonous Snakes. The **Venom of the Indian Cobra** (*Naja tripudians*).—Wolfenden ("Jour. of Physiol.") has conducted an elaborate series of experiments with cobra venom, from which he feels justified in drawing the following conclusions regarding the nature of the poison: 1. Its toxicity is not due to any bacillus, bacterium, or living organism. 2. It is not due to any alkaloid. 3. It is not due to any hypothetical "cobric acid." 4. It is wholly due to the proteid constituents of the venom. 5. These proteid constituents are: (a) Globulin, which is always present and probably kills by interference with the respiratory mechanism (asphyxia), and without paralysis—causing local inflammation, but not of great intensity (compared with *Daboia*). (b) An albumin resembling acid albumin, which is precipitated along with globulin by saturation, and which is in some degree dialysable. This proteid probably acts on the respiratory apparatus chiefly, like globulin, but less intensely. (c) An albumin

which is precipitated by Na_2SO_4 out of the magnesian filtrate, and which is serum albumin. This is also toxic, and produces a kind of ascending paralysis with fatal termination, by suppression of the respiratory function probably from paralysis of the muscles concerned in respiration. (d) Traces, in some specimens, of hemialbumose, and questionable traces of peptone. The author regards these as accidental, and probably due to the length of time the poison had been kept.

In a subsequent paper in the same journal Wolfenden gives the account of some experiments which he conducted with the venom of the Indian viper (*Daboia Russellii*). The dried venom of this snake is very similar to that of the cobra, the proteid scales, if anything, being a little yellower in color, and finer and more glistening than the dried cobra venom. It is, like cobra venom, soluble in water, the solution not being quite clear (containing epithelial scales), and frothing on shaking like an albuminous fluid. It is also, like cobra venom, acid in solution. The toxic symptoms ordinarily evoked by *Daboia* venom are not constant, and usually fall under one of the following headings: 1. Death from primary convulsions. 2. Death from convulsions and paralysis. 3. Death from blood-poisoning. The local effects of *Daboia* poison are in the majority of cases exceedingly great. In this respect it resembles the venom of the viper class of serpents, even the comparatively weak, like the common English vipers, producing great local derangements. Passing a stream of CO_2 through *Daboia* venom, well diluted, produces a fine precipitation of globulin in the fluid, preceded by opalescence. Upon dialysing the venom, there is at the end of three or four days a whitish yellow deposit of globulin on the dialyser. Injections of the globulin produced severe local symptoms and chronic poisoning, followed by death. There was also obvious implication of the respiratory system.

The Effect of Cocaine upon Mixed Nerves.—Kochs ("Ctrbl. f. klin. Med.") has demonstrated, by a series of ingenious experiments on animals, that, when a concentrated solution of cocaine is brought in contact with a nerve-stem containing both sensory and motor fasciculi, conduction in the former is abolished in an exceedingly short space of time. Thus, after placing a small quantity of cocaine crystals upon the exposed sciatic nerve of a frog, abolition of sensibility was obtained in about one minute in those portions of the integument supplied by the nerve. On releasing the frog from the operating-table and placing it upon the floor, it was seen, however, that the motor fasciculi of the nerve were entirely unaffected, since the animal's movements were in all respects normal. It must be borne in mind, however, that the phenomena just described are those observed after short applications of the anæsthetic. When, however, the applications of cocaine to the nerve are prolonged and oft-repeated, abolition of conduction in the motor fasciculi ultimately takes place. This fact is well shown by the following experiment: The sciatic nerve of a rabbit was carefully exposed and repeatedly treated with cocaine. At first the transmission of centripetal impressions was abolished (sensory paralysis), and ultimately centrifugal conduction was also arrested at the cocaineized segment of the nerve (motor paralysis). From these researches it is evident that, when cocaine is applied to the trunk of a mixed nerve, sensory, and finally motor, conduction is abolished temporarily. [By passing a ligature around the leg of the animal *above* the point of application, in such wise as to exclude the nerve, while at the same time interrupting the circulation, there is no doubt that the phenomena may be indefinitely prolonged.—J. L. C.]

Meconeuropathia.—Hughes ("Alienist and Neurol.") calls attention to the fact that the long-continued use of opium or its alkaloids (in any considerable quantity) engenders a disorder of the nervous system which is entitled to distinctive recognition. It is as much a pathological entity as alcoholism, saturnism, hysteria, or chorea. Meconeuropathia, then, is entitled to as much consideration as many other obscure neuroses. The various symptoms of the affection become thoroughly manifest after withdrawal of the drug. Among the psychical symptoms are extreme restlessness, which may develop into morbid suspicion, or even spectral illusions, hallucinations, and delusions. Afterward there is delirium, with great agitation and tremor. This condition of transient insanity will depend in its ultimate manifestations and course much upon the constitutional idiosyncrasies of the patient. Melancholia and suicidal tendencies are therefore often developed in those of less sanguine tem-

perament, while mania and modified delirium will appear in others. The lower neuropathic features are pains in the limbs resembling those of rheumatism, which are particularly manifest in the forearms. Sometimes the character of these pains resembles that of the pains of locomotor ataxia, the patient complaining of pains which "shoot" along the course of the nerve-stems of the extremities. In conjunction with these painful manifestations there are usually profuse sweating and watery diarrhoea. The tense appearance of the facial muscles, so characteristic of those under the influence of opium, gives place to relaxation, and the whole expression of the countenance is one of extreme dejection. A subnormal temperature is also sometimes observed. The reflexes are exaggerated, and the function of sleep is more or less deranged. Sometimes the subject is the victim of persistent wakefulness, whereas in a not inconsiderable number of cases there is present a morbid kind of drowsiness, resembling that induced by inordinate drugging. With the diarrhoea there are also nausea and vomiting, accompanied by a continual desire to micturate. Indeed, many of the phases of the affection resemble, to a certain extent, those of cholera nostras. Too sudden an attempt to abandon the drug may give rise to symptoms of a most portentous character; and, indeed, death has frequently resulted from its precipitate withdrawal. A rational system of gradual reduction is to be commended, especially where the symptoms exhibited on temporary abandonment are at all threatening. The opium neurosis is not cured, even when the subject has been weaned from the drug; indeed, he is often affected with neuropathic symptoms, and is therefore a proper subject for neurological treatment for many months, even after the drug has been definitively abandoned.

Idiocy complicated with Pachydermatous Cachexia.—Bourneville and P. Briean ("Arch. de neurol.") have contributed an interesting paper on this subject, which is somewhat difficult to abstract, owing to the somewhat desultory method of treatment. Starting out with the observation that Fletcher, Beach, and Ireland have already published accounts of this form of idiocy under the designation "Cretinoid Idiocy," they state that they propose to designate the affection "idiocy with pachydermatous cachexia." They are influenced in this by the recent addition to pathology of the malady commonly known as myxœdema. The cases of idiocy with pachydermatous cachexia which have been reported are exceedingly rare, and those in which autopsies have been obtained still more so. Indeed, the latter become reduced to only four cases; but, what is of paramount importance, absence of the thyroid gland has been observed in all of them. From these facts there would seem to be an evident relation between the absence of the gland and the myxœdema. But what renders the correlation still more certain is the fact that a large number of individuals who have undergone extirpation of the thyroid have subsequently had "operative" myxœdema. Again, experimental physiology, as exhibited by the experiments of Horsley, goes to support the correlation existing between the absence of the thyroid gland on the one hand and pachydermatous cachexia on the other. Following this line of argument, the authors have divided their argument into two parts: the first is devoted to a consideration of cases of idiocy with pachydermatous cachexia; the second, to an examination of instances of extirpation of the thyroid gland with subsequent development of pachydermatous myxœdema. [We await with interest the appearance of their concluding paper, in which will doubtless be communicated the final results arrived at by this mode of analysis.]

Tumors of the Spinal Cord.—Sachs ("Jour. of Nervous and Mental Dis.") has published an interesting case of tumor of the cord without involvement of the membranes. The chief clinical manifestations may be summarized as follows: The affection, which was at first supposed to be of rheumatic origin, began with pain in the left shoulder, which radiated down the arm, becoming progressively more intense. The location of the pain in the beginning of the trouble was chiefly in the area of the ulnar aspect of the forearm. Afterward it became disseminated over the entire dorsal and volar surface of the left forearm and hand. Besides this, there were puffiness of the fingers and marked weakness of grasp in the left hand. Nevertheless, there was only slight loss of power in the muscles of the arm, forearm, and shoulder. This condition of the left arm remained unchanged during the entire course of the disease—a period of about two months. Slight paresis, from

hyperæsthesia of the left leg, exaggerated tendon reflexes (at the knees), and ankle clonus, were the only other symptoms discovered during the first few weeks of the disease. These symptoms, chiefly unilateral, continued until the close of the seventh week. During this interval the paresis of the left leg had developed into an almost complete paralysis, and the unilateral paresis became in the eighth week a complete paraplegia. With the increase in the paralytic manifestations the abdominal muscles and, to a certain extent, the respiratory muscles, as well as those of the right arm, became affected. To this picture were added incontinence of urine and bed-sores. As to the evolution of the sensory disturbances, it was noted that there developed by degrees a general hyperæsthesia of the left half of the body below the level of the third rib. Later on this hyperæsthesia developed into anæsthesia, which spread from the left half, and finally involved the right leg and, to a less degree, the right half of the trunk and the right upper extremity. The patient finally died quietly, and apparently without suffering. The main feature of the autopsy, which was conducted by Dr. Waldstein, was a round tumor, of the size of a hazel-nut, located between the sixth and seventh cervical segments, pressing upon the emerging posterior fibers without displacing them, and extending inward as far as the median line. At its caudal end the tumor had exceeded the median line by a small fraction of an inch. The dura and pia were readily detached from the spinal cord at the level of the tumor. No visible changes were found in the dura or pia, except a few small tubercular deposits in the latter over the middle dorsal region.

[This case is taken as the text for some excellent observations on the relation of the clinical phenomena to the cord lesions. It must be confessed, however, that post-mortem reasoning in matters of the kind will commend itself to the logical perception of the clinician more than any amount of *a priori* speculation. To the majority of neurologists, then, the difficulty of forming a correct physiological and pathological diagnosis, ante mortem, in cases of spinal tumor, is practically insurmountable. A carefully presented case like this of Dr. Sachs's will, nevertheless, prove of value in the construction of a future symptomatology of tumors of the cord.—J. L. C.]

A Case of Tubercular Tumor of the Optic Thalamus, with Post-hemiplegic Chorea-like Movements.—Ashby ("Med. Chronicle") has published an interesting case of this kind, with autopsy. The following are the main points of interest: E. C., aged five years, was admitted into the Children's Hospital on July 8, 1886, his mother giving the following account of the child's previous condition: "The boy was strong and well up to two months ago, when playing one day he complained that he had pain in his left arm and leg, followed by weakness in both limbs, and when he walked he dragged the limb after him. The arm, which was at first useless, began to be 'always on the work,' moving constantly and never at rest. The child is quite healthy in other respects. He has never been convulsed." On admission, it was observed that the left arm was in constant motion, the movements assuming the form of short, irregular, jerky contractions of the muscles of the forearm and arm, following each other with great rapidity, and closely resembling those seen in severe chorea. When the boy was in bed at rest the arm was more quiet, only a sort of fumbling movement of his hand being noticed, but, on asking him to sit up or give his hand, vigorous, almost violent, movements at once began. The left leg was weaker than the right, and all the reflexes on the affected side were somewhat exaggerated. There was no facial paralysis. No loss of sensation was noted, nor was any difficulty of sight discovered. There was no optic neuritis. The condition of the boy remained practically unchanged till August 3d, when tubercular meningitis set in, of which he died on August 17th. Besides the usual appearances of tubercular meningitis, an examination of the brain revealed the following state of things: "A vertical section made in front of the optic commissure showed on the right side a cheesy tumor half an inch by five eighths of an inch in the lenticular nucleus; a section made through the optic commissure showed that the same tumor extended backward, being seven eighths of an inch by one inch, occupying the optic thalamus, bulging upward the lining membrane of the lateral ventricles, pressing the thalamus inward, and also compressing the internal capsule. In a section through the peduncular parietal region the tumor, reduced in size, involved the thalamus and crus. There was no evidence of softening around the

tumor, which shelled out without much difficulty." In conclusion, the author observes that the irregular movements already referred to had no resemblance to those of the affection commonly known as athetosis; but, on the contrary, they were much like those of certain forms of chorea.

Urethane.—Andrews ("Am. Jour. of Insanity") has conducted some interesting experiments with this hypnotic. Having first tested the effects of the remedy upon himself, he proceeded to try it in six cases of acute mania, four of paresis, four of melancholia, two of chronic mania, and two of dementia. The results of these experiments were on the whole decidedly favorable; but the author justly observes that before definite conclusions can be arrived at a more extended series of trials is necessary. Irrespective of this fact, however, the results obtained by Andrews are decidedly encouraging. The dose usually employed by him was thirty grains. On two occasions, however, doses of sixty grains were given. The result of these observations goes to show that urethane possesses marked hypnotic properties. Throughout these experiments no unpleasant effects were observed, and there were no phenomena pointing to other than an action affecting the cerebrum. The effects of the drug were felt, so far as Andrews was able to estimate them, within an hour after its administration.

Acute Melancholia Caused by Impacted Fæces.—Hutchinson (*ibid.*) has detailed an interesting case of this kind occurring in a married woman of forty. At the time of her admission into the Western Pennsylvania Hospital for the Insane, the patient suffered from acute melancholia, was very weak and extremely emaciated, her skin was bronzed, dry, and harsh, her hair was dry and falling out, and all the secretions of the body were perverted. On examination, a distinct tumor could be felt through the abdominal walls, following the course of the rectum and sigmoid flexure and making the introduction of a catheter to relieve the distended bladder almost impossible. The tumor was immediately thought to be an accumulation of hardened fæces. Accordingly, the scoop and appropriate injections were employed for several days, with the ultimate result of removing the mass entirely. Rapid improvement in the patient's health, both mental and physical, followed this evacuation, so that in less than one month she was discharged, being then in the enjoyment of perfect health of body and mind alike.

Miscellany.

The Medical Society of the State of New York will hold its eighty-first annual meeting in the Court Room, in the City Hall, Albany, on Tuesday, Wednesday, and Thursday, February 1st, 2d, and 3d. The preliminary programme includes the following: "A Plea for Intra-uterine Medication," by Dr. Paul F. Mundé, of New York; "Separation and Displacement of the Upper Epiphysis of the Os Brachii in a Child two weeks old, caused by violence," by Dr. William C. Wey, of Elmira; "Paroxysmal Cardiac Dyspnoea," by Dr. Alfred L. Loomis, of New York; "The Radical Cure of Reducible and Irreducible Herniæ, touching on the Advantage of the High Removal of the Sac and the Wound being Dressed Openly to secure a Firm Compressive Cicatrix," by Dr. Robert F. Weir, of New York (the discussion to be opened by Dr. A. Vander Veer, of Albany); "Observations on Reflex Nervous Disturbances," by Dr. W. E. Ford, of Utica; "The Influence of Small Doses of Salts of Lime and Potash on Muscle, Cardiac and Skeletal," by Dr. Sydney Ringer (an honorary member), of London; "Is the Danger of Post-partum Hemorrhage increased by the use of Anæsthetics during Parturition?" and "Remarks on Antiseptic Midwifery," by Dr. Fordyce Barker, of New York; "Remarks on the Indiscriminate Use of Pessaries," by Dr. J. W. Whitbeck, of Rochester; "The Therapeutic Uses of Bismuth," by Dr. F. A. Castle, of New York; "Is Modern Midwifery Meddlesome?" by Dr. David Little, of Rochester; "Some Important Points in the Management of Deep Urethral Stricture," by Dr. Fessenden N. Otis, of New York; "The Necessity for the Complete Removal of the Uterine Appendages whenever the Operation is called for," by Dr. A. Vander Veer, of Albany (discussion by

Mr. Lawson Tait, of Birmingham, England, an honorary member of the society, and Dr. W. Gill Wylie, of New York); "The Treatment of Membranous Croup" and "Peritonitis of the Infant," by Dr. A. Jacobi, of New York; "The Clinical Significance of Cardiac Murmurs," by Dr. Wesley M. Carpenter, of New York (discussion to be opened by Dr. Alfred L. Loomis, of New York); "On a Case of Dislocation of the Head of the Left Femur under the Pubic Arch," by Dr. Jarvis S. Wight, of Brooklyn; "On the Supposed Virus of the Chancroid," by Dr. Frederic R. Sturgis, of New York (discussion to be opened by Dr. F. N. Otis, of New York); "The Correction of the Deformity termed Pug-Nose by a Simple Operation," by Dr. John O. Roe, of Rochester; "The Surgery of the Lungs," by Dr. Roswell Park, of Buffalo (discussion to be opened by Dr. R. F. Weir, of New York); a paper (subject to be announced) by Dr. Cornelius R. Agnew, of New York; "Cascara Sagrada," by Dr. Alexander Hutchins, of Brooklyn; "Intubation of the Larynx," by Dr. Edward L. Partridge, of New York; "A Demonstration on the Cadaver of the Method of Intubation of the Larynx," by Dr. J. O'Dwyer, of New York; "An Unusual Method of Ridding the Male Bladder of Small Calculi," by Dr. A. Dann, of Rochester; "The Duty of the Medical Profession in Promoting Cremation," by Sir T. Spencer Wells, of London, England, an honorary member of the society (discussion to be opened by Dr. A. Jacobi, of New York); "The Diagnostic Areas of the Human Chest," by Dr. James R. Leaming, of New York; a paper (subject to be announced) by Dr. Alfred Mercer, of Syracuse; "Tobacco Amblyopia," by Dr. H. Bendell, of Albany (discussion to be opened by Dr. D. B. St. John Roosa, of New York); "Practical Observations on Abdominal Surgery," by Dr. W. Gill Wylie, of New York; "Irregularities of the Septum Narium as an Ætiological Factor in Nasal Catarrh," by Dr. F. W. Hinkel, of Buffalo; a paper (subject to be announced) by Dr. George H. Fox, of New York; "The Duration of the Syphilogenic Capacity in Relation to Marriage," by Dr. P. A. Morrow, of New York; "The Management of Certain Forms of Varo-equinus," by Dr. A. M. Phelps, of Chateaugay (discussion to be opened by Dr. V. P. Gibney, of New York); "An Unusual Form of Diphtheritic Paralysis," by Dr. Laurence Johnson, of New York; "The Palliative Treatment of Cancer of the Uterus in its Later Stages," by Dr. Andrew F. Currier, of New York; "Perinæorrhaphy," by Dr. W. W. Potter, of Buffalo; "The Physiology of Menstruation," by Dr. Bach McE. Emmet, of New York; a paper (subject to be announced) by Dr. William Hailes, of Albany; "External Urethrotomy," by Dr. L. Bolton Bangs, of New York; "The Intoxicant Habit," by Dr. H. R. Hopkins, of Buffalo (discussion to be opened by Dr. W. C. Wey, of Elmira); "Transfusion of Saline and Saccharine Solutions in Cases of Extreme Exhaustion," by Dr. Joseph W. Howe, of New York; "Some Points of Medico-legal Interest in the Scientific Investigation of the Case of the People *vs.* Roxalana Druse," by Dr. A. Walter Suiter, of Herkimer; "Questions in Nutrition," by Dr. E. V. Stoddard, of Rochester; "A Plea for a more Careful Investigation of the Urine in Infants and Young Children," by Dr. L. Emmett Holt, of New York; "Tests for an Antiseptic," etc., and "Two Cases of Transplantation, without Pedicle, from Arm to Eyelid," by Dr. Lucien Howe, of Buffalo; "Report on a Ninth and a Tenth Series of One Hundred Consecutive Cataract Extractions performed according to von Graefe's Method," by Dr. H. Knapp, of New York; "Details of Antiseptic Treatment in Emergencies and Private Practice, with a Practical Demonstration of Methods," by Dr. Arpad G. Gester, of New York; "The Relation of Laryngeal to Pulmonary Phthisis, and the Importance of Local Treatment," by Dr. C. C. Rice, of New York; "The Obstetrical Experience of a Country Practitioner," by Dr. J. V. Kendall, of Baldwinsville; a paper (subject to be announced) by Dr. L. Duncan Bulkley, of New York; "A New Means of Treatment of Disease of the Frontal Sinus," by Dr. D. H. Goodwillie, of New York.

All physicians wishing to attend the meeting are informed that the New York Central Railroad Company has consented to issue excursion tickets at the rate of a fare and a half (\$1.65), the regular rate being \$6.20. It is the intention of the majority of the delegates from New York and its vicinity to go to Albany on the 31st of January, by the 3.30 p.m. train. If a sufficient number take that train, a drawing-room car will be furnished for their exclusive use (additional fare for that car, \$1). Gentlemen who can arrange to go on that day

and by that train are asked to notify Dr. Clarence C. Rice, secretary of the New York delegation, No. 115 East Eighteenth Street, on or before January 25th. Certificates for tickets can also be had by applying to him.

The Middleton Goldsmith Lectures, under the auspices of the New York Pathological Society, will be given at the College of Physicians and Surgeons, on Tuesday evening, the 25th, and Friday evening, the 28th inst., at 8 o'clock, by Professor M. Allen Starr, M. D., Ph. D., of the New York Polyclinic, on the subject of "Multiple Neuritis and its Relations to Peripheral Neuroses." Members of the profession are cordially invited to attend the lectures.

The Health of Chicago.—According to the Health Department's "Condensed Statement of Mortality" for the month of December, the whole number of deaths was 1,109, including 1 from carbuncle, 5 from cholera infantum, 152 from croup and diphtheria, 2 from diarrhoea, 5 from dysentery, 4 from entero-colitis, 4 from erysipelas, 5 from cerebro-spinal fever, 17 from scarlet fever, 29 from typhoid fever, 8 from typho-malarial fever, 19 from measles, 8 from pyæmia and septicæmia, 4 from whooping-cough, and 3 from chicken-pox.

The Health of Burlington, Vt.—The Health Officer, Dr. J. H. Linsley, reports 22 deaths during the month of December, including 1 from cerebro-spinal fever, 3 from croup and diphtheria, 2 from pneumonia, and 1 from whooping-cough.

The Health of New York City.—During the six months ending December 21, 1886, there were 697 cases of typhoid fever and 219 deaths; 558 cases of scarlet fever and 99 deaths; 104 cases of cerebro-spinal meningitis and 99 deaths; 3,755 cases of measles and 492 deaths; 1,841 cases of diphtheria and 843 deaths; 8 cases of small-pox and 1 death, and 1 case of yellow fever which was fatal. As an evidence of the rapid spread of measles, it may be stated that during the week ending October 19th there were 98 cases reported, and during the week ending December 21st there were 569 cases reported. The greatest number of cases of diphtheria reported during any week of the six months was 126, and the smallest number was 27.

The Chicago Medical Society.—The society's last regular meeting, held on Monday evening, the 17th inst., was noteworthy for the number of short ("ten-minute") practical papers announced on the programme, including "A Clinical Study of Glaucoma," by Dr. Lyman Ware; "A Case of Foreign Body in the Anterior Chamber," and "A Case of Intra-ocular Tumor," by Dr. E. L. Holmes; "The Connection between Ocular and Nasal Diseases," by Dr. B. Bettman; "Some Modifications in the Treatment of Stricture of the Nasal Duct," by Dr. H. M. Starkey; and "Cases of Sympathetic Ophthalmia in Practice," by Dr. W. Franklin Coleman. This arrangement is much to be commended, not only for providing for a number of short papers, but also for grouping the subjects in the single branch of ophthalmology.

Protection against Non-paying Patients.—The "Boston Journal" says that the physicians of Brockton, Mass., have, after several conferences for the purpose of devising means of protection from the class of people known as "dead beats," issued the following manifesto, which was signed by eighteen physicians:

"It is generally understood among members of the medical profession in Brockton that there are in this, as in every city, a certain class who pay no doctors' bills. The method usually adopted by such parties, now familiar to all physicians, is to employ first one and then another, retaining each until such time as compensation is requested, when the physician in attendance is dropped and another called, to be victimized in the same manner. That our purpose may be better understood by the public, we wish to state that no class of professional men contribute more willingly to the relief of suffering humanity than do members of our profession. A glance at our books would satisfy the most incredulous upon this point, and to the appeal of the honest and worthy poor none will more cheerfully and quickly respond. But, as a measure of protection against the professional dead beats, it is hereby agreed by the undersigned that we will publish a list to be known as the 'dead-beat list.'

"First, of such parties as, having employed one or more of our num-

ber, have for a year failed to make payment or just explanation of neglect.

"Second, of such parties as, leaving town with bills unpaid, fail to arrange a satisfactory settlement; and such list shall be kept for daily reference in the offices of the undersigned.

"In forming this list chance will be given each party to settle his or her account, as notice of intention will be sent to our agent before the name is published. And we hereby pledge ourselves to refuse attendance upon such parties as may appear upon this list until satisfactory settlement is effected through our agent, unless circumstances of charity seem to warrant such attendance. Care will be taken in forming the list and making additions thereto to discriminate between worthy and unworthy poor, our object being to protect ourselves against dead beats."

The New York Academy of Medicine.—At the next meeting of the Section in Laryngology and Rhinology, Tuesday evening, the 25th inst., the programme will include "A Contribution to the Study of Diseases of the Uvula," by Dr. Wendell C. Phillips; "A Case of Foreign Body in the Nose and Antrum," by Dr. S. O. Vander Poel; and a demonstration of a patient on whom partial extirpation of the larynx has been performed, by Dr. A. G. Gerster and Dr. J. W. Gleitsman.

At the meeting of the Section in Obstetrics and Diseases of Women and Children, Thursday evening, the 27th inst., Dr. S. Henry Dessau will read a paper on "Certain Peculiar Features of Bronchitis as it occurs in Children," and the annual election will be held.

The Section in Materia Medica and Therapeutics will meet next Friday evening, the 28th inst. Dr. Seneca D. Powell will read "Histories of Cases of Pulmonary Disease Treated with Inhalations of Ozone," Dr. Joseph O'Dwyer will demonstrate intubation of the larynx on the cadaver, and Dr. Andrew H. Smith will read a paper entitled "Suggestions as to the Study of Different Antipyretics in relation to Different Causes of Pyrexia."

The College of Physicians and Surgeons.—The building and lot on the corner of Twenty-third Street and Fourth Avenue are said to have been sold for the sum of \$160,000. Possession is to be given the purchaser in September next, if the new college building on Tenth Avenue is completed by that time.

"The Living Skeleton," as Isaac W. Sprague, who for several years has been a familiar feature in the dime museums, was called, died last week at Rockland, Mass., from pneumonia. An autopsy was made by Professor W. E. Whitney, of the Harvard Medical School, who found the organs of the body, with the exception of the lungs, in a healthy condition. The skeleton-like appearance of the body, which weighed only forty pounds, was due to muscular atrophy of supposed spinal origin, there being a marked lateral curvature of the spine.

The Massachusetts State Board of Health has made its first annual report to the Legislature, on the subjects of water-supply and drainage. After referring to the condition of the water in many of the Massachusetts rivers used as sources of water-supply, and showing how their pollution is increasing, the report recommends that for one year at least chemical and, when necessary, biological examinations should be made once a month of all waters supplied for domestic purposes by water boards, water commissioners, and water companies within the State, and that thereafter such examinations should be made at intervals not exceeding six months, partly for the purpose of assuring to the various cities and towns all the certainty derivable from this source as to the healthful condition of their drinking-water, but also with the hope of arriving at some more definite information as to the substances constituting the harmful elements and the best means of detecting them. The board asks for \$30,000 for the purpose of carrying on its work this year in the directions indicated in the report.

Laryngology at the College of Physicians and Surgeons.—Professor Lefferts's next lecture, to be given on Tuesday, the 25th inst., will be on the subject of "Non-malignant Tumors of the Larynx."

The "Deutsche medicinische Wochenschrift."—It is announced that the place of publication of this excellent journal has been changed from Berlin to Leipsic. Dr. Guttman remains the editor.

Original Communications.

THE ANTISEPTIC TREATMENT OF SUMMER DIARRHŒA.*

By L. EMMETT HOLT, A. M., M. D.,
ATTENDING PHYSICIAN TO THE NEW YORK INFANT ASYLUM.

I HAVE chosen the title summer diarrhœa for this paper, as it indicates with sufficient exactness the clinical symptoms that we all understand, while not committing us to any one of the theories advanced regarding their pathology. As my purpose is to consider a method of treatment, I shall only incidentally discuss the subjects of ætiology and pathology, as these bear directly upon the therapeutics of the disease.

Lest any one may misunderstand me, I wish to state at the outset, and with emphasis, that I do not ignore nor undervalue other methods of treatment than the use of drugs. The question that I propose is, What is the best treatment for that vast number that crowd our dispensaries and other institutions, summer after summer, for whom no change of air is possible, and only limited and imperfect dietetic regulations are practicable?

One conclusion has been long forcing itself upon my mind with increasing strength every summer—viz., that, excepting the comparatively rare cases of pure cholera infantum, nearly all the diarrhœas and intestinal catarrhs of young children are essentially dyspeptic in their origin.

I have been pleased, within the last few days, to find virtually the same statement from the pen of so high an authority as Hensch, of Berlin. All the well-recognized factors in the causation of summer diarrhœa—excessive heat, artificial or improper feeding, and bad hygienic surroundings—unite in this, that they prevent the food in the child's stomach from being digested, in consequence of which it undergoes fermentative or putrefactive changes. It is a combination of the three factors rather than any one alone which produces the resulting dyspepsia.

If it were heat alone, we should expect the greatest frequency of the disease to be at the most tender age—under six months. Such is not the case. Of four hundred and thirty-one patients of my own, only 12·8 per cent. were under six months, while 59·5 per cent. of the cases occurred between the ages of six months and two years. The explanation is obvious. Under six months the great majority of the children of the poorer classes receive breast-milk either exclusively or principally, while from that time on they are accustomed to be fed from the table, or on articles totally unfitted for infantile digestion. It is a striking fact that Hope,† of Liverpool, brings out, in his statistics of five hundred and ninety-one fatal cases of summer diarrhœa in children under two years of age, that only twenty-eight had the breast exclusively; while Ballard‡ states that of three hundred and forty-one fatal cases occurring in Leicester, only 2 per cent. of the children had had no food but the

breast. These statistics show that we are to attribute to the feeding quite as much as to the heat, if not the occurrence of the diarrhœa, at least its fatality.

Heat is a causative factor in many ways. It impairs the child's power of digestion by depression of his nervous energy. It causes thirst from free perspiration and leads the child to take more food than the stomach can take care of, even though it be pure breast-milk. It increases all decomposition in the streets, in the sewers, and in filthy tenements, and these children breathe an atmosphere charged with the products and germs of decomposition. But more important than all else, perhaps, are the changes it causes in the food itself before it is taken into the body. Most of the articles of food are of such a nature that these changes readily take place, even in a few hours, in August weather.

An instance of how quickly diarrhœa is caused by tainted milk came under personal observation not long since, where every one of twenty-three healthy children occupying a ward was taken in a single day with diarrhœa after eating milk which subsequent examination showed to be unfit for consumption.

When we consider the manner in which food is prepared for these children in tenement-houses, the want of cleanliness in utensils and in hands, how it is often left standing for hours in open vessels at the temperature of the room, the wonder is only that so few suffer from diarrhœal diseases during the hot term.

This brings us to the subject of the poisons produced from food, or ptomaines, and their effects. The investigations of Brieger and others upon this subject have let in a flood of light, it seems to me, upon the pathology of some of these cases of diarrhœa.

In the investigation of the well-known Michigan cases of ice-cream poisoning recently, Professor Vaughan has reached the conclusion that the symptoms, prominent among which were the vomiting and purging, were due to an alkaloid developed from the milk, to which he has given the name tyrotoxin.

Brunton states* that most of the alkaloids which have been obtained from the decomposition of albumin tend to produce diarrhœa.

This knowledge of poisons developed from food is of only recent date—too recent for us yet to say to what degree we may be compelled to reconstruct our pathology of many diseases connected with the organs of digestion. But enough has been already established to lead us to hope that along this line of investigation we may find a solution to many hitherto insoluble problems.

A strong popular prejudice has long existed that there is great danger of the supervention of cerebral symptoms if diarrhœal discharges are abruptly checked. It is also well known that in severe and protracted cases a cessation of the diarrhœa often occurs for a few days before death, coincident with the development of symptoms commonly denominated hydrecephaloid. And now Bouchard tells us, as the result of his investigations upon ptomaines produced within the body, that "the poisonous activity of

* Read before the New York Academy of Medicine, January 6, 1887.

† "Liverpool Medico-surgical Journal," July, 1885.

‡ "Brit. Med. Journal," 1883, ii, 363.

* "Disorders of Digestion," chapter "Food and Poisons," p. 291.

human fæces is very great even when they are quite healthy. A substance obtained from them by dialysis caused violent convulsions in rabbits. Enough alkaloids are produced in the intestines of a healthy man in twenty-four hours to kill him, provided they were all absorbed and excretion stopped. There seems to be little doubt that the amount of ptomaines produced in disease is greater than in health."*

Aside from the toxic effects which, it seems very probable, are produced by food-poisons, we have the local effects of undigested food in the stomach and intestines, and these it is which produce the catarrhal changes. The great proportion of these cases begin with vomiting and diarrhœa, the vomiting ceasing usually after the first day or two. The first stools are those of a dyspeptic character, and it is generally not until several days have elapsed that we find proof in the passages of catarrhal inflammation in the bowel.

I need not cite statistics, as it is the all but universal testimony that inflammatory changes are mainly in the colon; it is uncommon to find any changes in the small intestine further than a swelling and redness of Peyer's patches, and slight congestion of the lower part of the ileum.

In the colon itself the most marked lesions are found in the cæcum and sigmoid flexure, just where the irritating substances are longest detained in their movement onward. The colitis, then, I think, is to be looked upon, in most cases at least, as secondary and consecutive, depending upon how long the morbid process has been suffered to go on before it is checked.

Regarding a special microbe as a cause of summer diarrhœa, we lack as yet sufficient evidence of its existence. Immense numbers of bacteria of many varieties are found in the discharges. Baginsky† asserts that often the small white lumps seen in the passages and called curds are made up of nothing but masses of bacteria. This same investigator has isolated one bacillus which, he thinks, is peculiar to cholera infantum; but, as Clado and Damaschino have settled upon a different one, and as experiments with pure cultivations from neither have yet been made, we must consider the subject as still *sub judice*.

We are now prepared to consider the different indications for treatment. These may be grouped under four heads:

1. To clear out the bowels.
2. To stop decomposition.
3. To restore healthy action in the intestine.
4. To treat the consecutive lesions.

The bowels should be emptied as completely as possible, as the first step in the treatment, and for precisely the same reasons that the surgeon cleanses a wound thoroughly before applying his antiseptic dressing. It is a rule laid down in all text-books that if an antecedent constipation has existed, or if there is evidence that indigestible food has been swallowed, it is the proper thing to begin with a cathartic.

I wish to go a little further than this, and say that in

all cases, whether such a history is obtained or not, it is a good rule to follow. If not decomposing and irritating food, we have almost always altered secretions undergoing the same putrefactive changes.

If the stomach is not very irritable, nothing, to my mind, compares in efficiency with castor-oil. If there is severe vomiting, a copious injection of pure water at a temperature of about 65° F. may be used. To be efficient, this must be large enough to reach the ileo-cæcal valve. This, by experiment on the cadaver, I have found to be about one pint in a child six months, and about two pints in one two years old. It should, of course, be given slowly, with a fountain syringe, the abdomen meanwhile being gently manipulated.

I have had abundant proof, in the cases occurring among the children at the Infant Asylum, that a great many of the mild cases, if taken promptly at the start, can be cured by the castor-oil alone, provided suitable regulation of the diet after it can be enforced. In severer cases, and especially those in dispensary practice, it produces temporary improvement only. The value of oil in these cases is well understood by the laity—better, I sometimes think, than by many in the profession. I kept a record for a time, and found that about one fourth of all the patients brought to the dispensary for treatment had been previously given the oil at home, usually at the outset. The almost invariable testimony was that on the day or two following decided improvement occurred; by the third day, however, they were usually as sick as ever.

There is obviously no need either of cathartics or of irrigation of the bowel in cases where, after two or three fæcal or semi-fæcal movements, the discharges consist of almost pure serum, large in amount, alkaline in reaction, and odorless.

To meet the second and third indications—*i. e.*, stop decomposition and restore a healthy action in the intestine—two things are requisite: the administration of an antiseptic, and attention to the diet.

The antiseptic must be given in small doses and frequently—in small doses, lest the stomach reject it; and frequently, as it is a continuous effect that we desire. It must be of such a nature and in such a form as to be easily administered. A nauseous prescription, no matter how excellent its ingredients, should never be given, and need never be. I have seen many cases where, I am sure, the medicine given was the chief factor in keeping up the gastric disturbance. It must be one, if possible, which has the effect of restoring the tone of the alimentary tract. After experimentation with various drugs, my own preference is in favor of the salicylate of sodium. The details will be given in a subsequent part of the paper.

If there is much vomiting, no food whatever should be given for from twelve to twenty-four hours. Thirst can be satisfied by giving either carbonic-acid water or thin barley gruel, cold, and a teaspoonful at a time. If the child is at the breast, as soon as vomiting is controlled it can gradually be brought back to its accustomed diet, great care being used that too much food is not given.

In children under two years not fed at the breast it is

* Brunton, *op. cit.*, p. 290.

† "Verdauungskrankheiten der Kinder," 1884.

better to *withhold milk entirely*. This has been a subject of careful investigation during the past summer at the New York Infant Asylum, and both the resident physicians and myself have had this proved to our satisfaction by a large number of cases. Peptonized milk is very much less likely to disagree than either condensed milk or fresh cow's milk. But in many even this caused an aggravation in the intestinal symptoms, particularly in severe and protracted cases. Again and again have I seen relapses brought on when milk was added to the diet in cases where the stools had been practically normal for two or three days.

Our "no-milk diet," as it came to be known, comprised the following articles: Wine whey, chicken and mutton broths, Mellin's food with barley gruel, expressed juice from rare beefsteak or roast beef, and in a few cases raw scraped beef. With this variety we usually had no difficulty in dispensing with milk.

The fourth indication, or the treatment of consecutive lesions, is not so easily met. As hinted above, the essential changes are in the colon, and consist practically of little else than a follicular colitis.

When the condition of ulceration is reached, I believe the use of astringents by the mouth to be absolutely useless. Cases treated by such means I have nearly always found to run on until cool weather came. What, in fact, ought we to expect from fraction-of-a-grain doses of nitrate of silver or acetate of lead when we remember that their action is needed upon the last four feet of the bowel? Bismuth in large doses seems more plausible, but practically it has failed with me five times where it has succeeded once.

I have settled upon three things as valuable:

First, as careful attention to the diet as during the acute stages, and in recent cases. Deviation from dietetic rules has been the most frequent cause of relapses.

Secondly, the continuance of the use of the antiseptic as the only sure means of checking intestinal decomposition, and hence stopping the irritation.

Thirdly, the whole large intestine should be washed out once every day, either with pure water at a temperature of about 65° F., or with a weak antiseptic solution, or with an astringent solution. Of the former the best are probably benzoate and salicylate of sodium; of the latter, the nitrate of silver and tannic acid.

Before taking up the use of antiseptics historically, I wish to call attention to this fact: that, except opium, with regard to the value of which in summer diarrhœa there has always been much controversy, almost all the drugs that have held their place for the last twenty-five or fifty years are now universally recognized as antiseptics—some of them very powerful ones. Prominent among these I may mention bismuth, calomel, the mineral acids, especially sulphuric, the chloride and sulphate of iron, and the nitrate of silver. It seems to me altogether probable that the value of these drugs, for value they certainly possess, depends not upon their astringent action, as we have so long been taught, but upon their effect as antiseptics.

The earliest treatment of diarrhœal diseases by pure antiseptics of which I have been able to find record was by

Mayes* in 1846; the drug he used was *creasote*. He states that it should be preceded by a cathartic, since diarrhœal diseases are oftenest caused by undigested food in the intestine in a state of decomposition. In his second publication† he confirms his earlier impressions.

In 1847 an article on the value of creasote was published by Beirão.‡

In 1849, Spinks,§ after using creasote extensively, published some statistics of two hundred and twenty-four cases of simple diarrhœa. Ninety-three were treated by opium, chalk, etc., in all of which the disease lasted several days, and was followed by flatulence. One hundred and thirty-one cases were treated by creasote alone, "in all of which the diarrhœa immediately ceased." This drug he used in twelve cases of "rice-water purging," with equally good results.

In 1851, Kestevan,|| influenced by the writer just mentioned, published his results of the use of creasote in over one hundred cases of diarrhœa and dysentery; in no single case did improvement fail to occur. He thought it more efficient than any other drug in stopping the vomiting, purging, and pain.

Woodson^ the next year still further confirmed Kestevan's experience, after the use of creasote in twenty cases in children and in adults. Its action was prompt and invariably successful. He places it far above opiates.

Further testimony to the value of creasote was borne by J. G. and W. F. Westmoreland,◇ who had seen cases of malignant army dysentery cured by it in large doses, and others of a protracted character which had resisted for months all the ordinary methods used.

Davis,‡ in 1872, spoke in high terms of the value of carbolic acid in diarrhœal cases, but, with this exception, for the last twenty years the drug is scarcely mentioned in current literature, and then usually only as a means of controlling vomiting.

Oil of Naphtha was used as early as 1849 by Lavisotte,‡ whose published experience, although embracing reports of ten cases only, was still enough to show that some very obstinate cases of diarrhœa, which had resisted for months the usual treatment of opium and astringents, could be cured by naphtha alone in a few days.

Two years later, Mavel‡ contributed to the same subject reports of four chronic cases of diarrhœa promptly relieved by naphtha.

Salicin was first recommended in diarrhœal diseases, so far as I have been able to learn, by Mattison, in 1873,** He alleged for it, after considerable use, great superiority over opium and astringents in the treatment of cases of protracted diarrhœa, both in children and in adults.

* "Southern Med. and Surg. Journal," 1846, ii, 583.

† *Ibid.*, 1847, iii, 161.

‡ "Jour. Soc. de Sci. Med.," Lisbon, 1847.

§ London "Med. Gazette," 1849, 254. || *Ibid.*, 1851, 255.

^ "Western Jour. of Med. and Surg.," Louisville, ix, 1852, p. 289.

◇ "Atlanta Med. and Surg. Jour.," vii, 1866-67, p. 249.

‡ "Boston Med. and Surg. Jour.," Jan. 4, 1872.

‡ "Gazette des hôpitaux," 1849, i, p. 46.

‡ *Ibid.*, 1851, i, 565.

** "Southern Med. Record," 1873, p. 671.

During the next three or four years numerous articles appeared in the Southern medical journals, by Tucker,* Bishop,† T. C. Smith,‡ Hughson,* Tidd,|| and others, confirming the statements made as to the great value of salicin. Many of the gentlemen referred to had used it extensively, but all were inclined to regard its mode of action as tonic or specific. In 1877 Mattison published^Δ a second article, collecting quite a large number of cases, the experience of all who had used salicin being that, especially in protracted cases, it was the most valuable drug we possessed.

I have found but scanty reference to this treatment since that date, except by S. W. Smith,◊ in 1884, who states that, as early as 1858, the value of willow charcoal was made known to him by some sea-captain upon the Mediterranean, and that since that time he had regarded salicin as "a sheet-anchor in diarrhœal cases." He calls special attention to its antiseptic properties, which, he states, exceed those of carbolic acid.

Salicylic Acid and its Salts.—The acid was first applied to the treatment of intestinal diseases by Stephanides,‡ who reported in 1875 two cases of obstinate dysentery promptly relieved by this drug. The acid was further employed in the same disease by Abelin in 1877.†

In 1879, Kilner‡ published the results of some extensive experiments with the salicylates of bismuth and calcium. He speaks of them in the highest terms in cases depending upon summer heat, also those in autumn from sudden changes in temperature, and in all cases where indigestion and disturbance of the stomach are present.

In 1880, Hutchins,** of Brooklyn, reported twenty-seven cases of severe serous diarrhœa in young children. He was led to use the drug from reading the article just referred to, and abundantly confirmed the statements made regarding salicylate of calcium, which he had employed. He used the single drug only, and in every case its administration was almost immediately followed by a cessation of the serous discharges. Slight catarrhal diarrhœa continued in some cases for a few days, but in none was there any recurrence of the watery stools. Segur, of Brooklyn, has used the salicylates in the treatment of the diarrhœa of phthisis, and both he and Hutchins speak in very high terms of its value here. In a recent personal communication to me, Dr. Hutchins states that subsequent experience has not changed his opinion regarding the great value of the salicylates, particularly in diarrhœas with serous discharges tending to cholera infantum.

In 1881, Calleja†† published an article on the value of salicylate of sodium in diarrhœal diseases.

In 1885 Northridge* published eight cases treated by the salicylate of calcium. This writer believes firmly that it is to its antiseptic properties that the success of the salicylic-acid treatment is due.

During the present year Shank† has written upon the value of the salicylate of sodium in the treatment of diarrhœal disease in children, but he gives us no particulars regarding the cases in which it was used.

Braithwaite‡ has spoken of the great value of the salicylate of iron in many diarrhœal affections, especially where the stools were offensive.

Naphthalin was introduced as an antiseptic in intestinal diseases by Rossbach* in 1884. The advantages stated for it were that it was a powerful antiseptic, that it was not toxic, and that, as it was insoluble both in alkalies and in acids, we could be sure of its local action. He found it of great value in old intestinal catarrhs of adults, and used it in twenty-four cases in children with the most gratifying results.

The same year Cognali|| published six cases in which naphthalin was used with negative results; all were chronic, and all in adults.

In 1885, good results were published by Pauli^Δ and Pribram◊ from the use of naphthalin in the diarrhœa of children. Falkenberg‡ used it in numerous cases of dysentery with uniformly good results. This writer quotes from Karelin, who stated that the naphthalin treatment had "done wonders" in dysentery in the army, and also from Kusmin, whose experience in the Foundling Asylum at Moscow confirmed the good reports already given.

During the present year naphthalin has been recommended by Bonchard‡ in combination with iodoform and charcoal.

Bichloride of Mercury.—This has in several editions of Ringer's "Therapeutics" been recommended in dysentery. Communications regarding its use, both in diarrhœa and dysentery, have been published by Ravenberg‡ in 1878, Reed** in 1879, Shultz†† in 1880, and Millard†† and Morton** during the present year. With one exception, particulars regarding the kind and number of cases treated, and exact results, have been omitted.

Shultz states that he has treated one hundred and twelve cases of severe dysentery with this drug, with only one fatal result. He thinks it deserves the title almost of a specific in severe cases of dysentery. In mild cases, opium and calomel might succeed, but in severe ones seldom.

* "New York Med. Jour.," Aug. 29, 1885.

† "Archives of Pediatrics," July, 1886.

‡ "Brit. Med. Journal," July 17, 1886.

* "Berlin. klin. Wochenschrift," Nos. 42 and 46, 1884.

|| "Gazz. med. ital. Lombard.," Milan, vi, 1884, p. 465.

Δ "Berlin. klin. Wochenschrift," xxii, 1885, p. 153.

◊ "Wien. med. Wochenschrift," xxxv, 1885, p. 242.

‡ "London Med. Record," Dec., 1885, from "Voënnö-Sanitaröë," 1885, No. 45.

† "Revue de therapie," May 15, 1886.

‡ "Med. Record," xiv, 1878, p. 4.

** "Philadelphia Med. Times," 1879-'80, p. 207.

†† "Louisville Med. Herald," ii, 1880-'81, p. 341.

†† "Brit. Med. Journal," July 31, 1886.

** "Med. Record," Sept. 18, 1886.

* "Southern Med. Record," 1873, p. 599. † *Ibid.*, 1874, p. 585.

‡ *Ibid.*, 1875, p. 328.

* "Charleston Med. Jour.," ii, 1875, p. 297.

|| "Detroit Rev. of Med. and Pharmac.," xi, 1876, p. 7.

Δ "Proceedings of the Med. Soc. of the Co. of Kings," i, 1877, p. 248. ◊ "Brit. Med. Jour.," ii, 1884, p. 711.

‡ "Wien. med. Presse," xvi, 1875, p. 297.

‡ "Allg. med. Central-Zeitung," 1877, Nos. 37, 38.

‡ "St. Thomas's Hosp. Reports," ix, 1879, p. 21.

** "Proceedings of the Med. Soc. of the Co. of Kings," 1880, p. 223.

†† "Rev. de med. y Cir.," Madrid, 1881, 97, p. 145.

During the past year or two several other drugs have been proposed, following out the idea of antiseptic treatment. Resorcin has been advocated by Baginsky* and Faludi,† chloride of potassium by Moncorvo, bisulphide of carbon by Dujardin-Beaumetz,‡ and benzoate of sodium by Guaita.* Each writer alleges good results with his peculiar mode of treatment.

It would seem that enough facts have been given to the profession to establish the point that a great many other drugs besides opium, bismuth, chalk, and castor-oil possess real value in the treatment of diarrhœal diseases. Yet it is marvelous to see how wedded we have become to these old methods. In looking over a dozen of the most recent text-books on diseases of children, I find the treatment of summer diarrhœa described in almost the same words as those used by Eberle, Condie, and Dewees nearly half a century ago.

In the preparation of this paper I have endeavored to ascertain what drugs were most used in public practice in this city. In response to a circular letter sent out I have received information regarding the treatment of summer diarrhœa at the following institutions: Nursery and Child's Hospital, Foundling Asylum, Infant Asylum, Infants' and Children's Hospitals on Randall's Island, St. Mary's Hospital for Children, Infirmary for Women and Children, Demilt, New York, Northern, Northwestern, Eastern Dispensaries, Polyclinic, and the Out-door Department of Bellevue and that of Roosevelt Hospital. I wish here to thank the gentlemen who have been kind enough to furnish me with the particulars sought. The reports of these institutions show that upward of forty thousand children come under treatment annually. Roughly estimating from my own hospital and dispensary experience, I should say that at least twenty-five thousand of these come for diarrhœal diseases.

These twenty-five thousand cases are treated as follows:

Bismuth is used largely in every one of the fourteen institutions.

Opium in some form is used everywhere; Dover's powder and paregoric generally. Opium is an ingredient in nearly every compound prescription given. Many physicians have testified that they relied almost entirely upon bismuth and opium.

Castor-oil as a preliminary step was much used in six institutions, followed usually by bismuth and Dover's powder.

Castor-oil emulsion, with opium, containing from three to ten drops of the oil and about the same quantity of paregoric to the dose, was extensively used at three places.

Chalk-mixture, usually combined with paregoric and some vegetable astringent, is a standard prescription in almost every dispensary, and is largely used.

Calomel, in small doses, is much used at three places.

Rhubarb and soda are largely used in four places, usually in conjunction with opium.

Ipecac is used at two places, aconite at one, pepsin largely at one, sulphuric acid and sulphate of magnesium mixture at one, benzoate of sodium at one, iodoform with opium and pepsin at one, coto bark at one, astringent injections, usually of nitrate of silver, in three places.

One physician begins his treatment with oil to clear out the bowels. Beyond this point he has come to the conclusion "that all drugs are useless, particularly opium." His reliance after clearing the bowels is upon careful feeding.

Morphine and atropine hypodermically had given good results in some bad cases of cholera infantum in one hospital, though it was admitted that in other similar cases they had been useless.

The following is my personal experience with similar modes of treatment in dispensary cases: I have collected and tabulated from my history-books three hundred cases of which I had sufficient data to enable me to draw conclusions from them. They are scattered through three summers, and include all the cases in which the result of treatment was recorded. They were treated, with but few exceptions, by one of the following methods: (1) A compound prescription, consisting of chalk-mixture, paregoric, and some vegetable astringent; (2) the same, preceded by castor-oil; (3) an emulsion of castor-oil and paregoric, containing from three to eight minims of each, according to age; (4) bismuth and Dover's powder, frequently but not always preceded by castor-oil.

TABLE I.

Three hundred cases treated by opium, bismuth, astringents, and castor-oil.

Duration of Treatment.	Cured.	Improved.	Unimproved.	Died.	
2 days or less.....	102	40	44	13	5
3 to 4 days.....	68	27	23	16	2
5 to 6 days.....	44	20	17	4	3
7 to 9 days.....	46	17	12	13	4
10 days and over.....	40	12	11	9	8
Total.....	300	116	107	55	22

Inasmuch as twenty-five of the cases treated two days, and ten of those treated from three to four days, were put down as "greatly improved," the probabilities are strong that if they had been followed up a little longer they could have been transferred to the column "cured." This would raise the "cures" to 151, or 50 per cent., and reduce the improved to 82, or 27 per cent.; unimproved, 18.3 per cent.; died, 7.3 per cent.

TABLE II.

Showing previous duration of disease, and results in two hundred and eighty-four of the same cases.

Previous Duration.	Cured.	Improved.	Unimproved.	Died.	
2 days or less.....	79	34	24	17	4
3 to 4 days.....	80	36	29	7	8
5 to 6 days.....	16	9	4	2	1
1 to 2 weeks.....	83	27	36	15	5
2 to 3 weeks.....	5	2	1	1	1
4 weeks and over.....	21	2	12	6	1
Total.....	284	110	106	48	20

Under four days' duration, 55 per cent.; over one week's duration, 38 per cent.

* *Op. cit.*

† "Pest. med.-chirurg. Presse," Buda-Pesth, xviii, 1882, p. 806.

‡ "Therapeutie Gazette," 1885, No. 3.

* "Archives of Pediatrics," 1884, p. 380, from "Gazz. degli ospitali," 1884, 26.

TABLE III.

Showing variety and severity of the same cases.

Diarrhœa, severe.....	93
Diarrhœa, moderate.....	175
Colitis and entero-colitis.....	28
Cholera infantum.....	2
Total.....	298

In 129 cases vomiting was also present.

The results given in the foregoing tables are certainly nothing to be proud of. And yet I venture to affirm that they are quite as good as other men under similar circumstances have obtained with the same methods of treatment, as they would find out for themselves if they took the trouble to record and then analyze their results critically. My own "impressions" regarding the value of many drugs, after using them, I have so often found erroneous when an appeal to cold facts was had that I have become very loath to accept the "impressions" merely of others.

Still it must be remembered that many of the above-mentioned were bad cases, and all were seen under the worst surroundings. So I hope no one will for a moment think of comparing them with results obtained among the better classes in private practice.

The dietetic regulations above laid down were carried out so far as practicable, with the single exception that in the earlier cases abstinence from milk was not so strongly and so universally insisted upon. Recourse was had to cold sponging and the cold bath where the temperature was high, to alcoholic stimulants in almost all protracted cases, and to day-excursions upon the water on the Floating Hospital.

Could anything more be done for these unfortunate children than I was doing? was a question I often revolved in my mind, as many of them came back day after day and week after week, while I shifted about from bismuth and Dover's powder to calomel and chalk, and from calomel and chalk to castor-oil and opium, etc., often with improvement, but too often, alas! but temporary, until patience was exhausted, and they sought advice elsewhere, much to my relief, and I hope to theirs also.

It was a year ago last summer that the monograph of Baginsky, already mentioned, came into my hands. To him I give the credit of starting me in what I believe to be the correct and rational method of treatment. He had used evacuants and antiseptics largely, and commended them. He regarded resorcin as the most valuable antiseptic in intestinal diseases, and, though my own experience has led me to differ with him here, I think his views in the main correct.

Quite an extensive experience with the salicylate of sodium in various dyspeptic disorders of adults led me, without knowing to what extent it had been already used, to try it here.

The following table gives the results obtained with this treatment. The cases were not selected; it was used indiscriminately in all varieties and all stages. In about two thirds of the cases it was preceded by castor-oil. In one or two cases with great nervous irritability a grain of Dover's

powder was given once or twice a day for this symptom merely. With these exceptions, no other drugs were used:

TABLE IV.

Showing duration of treatment and results in eighty-one cases treated by salicylate of sodium.

Duration of Treatment.	Cured.	Improved.	Unimproved.	Died.
2 days or less.....	29	20	6	3
3 to 4 days.....	31	22	6	2
5 to 6 days.....	12	11	0	1
7 to 9 days.....	7	6	1	..
Over 10 days.....	2	1	1	..
Total.....	81	60	14	6

This would give the following results in percentages: Cured, 66 per cent.; improved, 19·7 per cent.; unimproved, 7·4 per cent.; died, 1·2 per cent.

This does not quite state the facts in the case. It will be noticed that all of the twenty-one cases except three, in which treatment was followed up for over four days, were cured. Further, in the "improved" column, eight of the twelve patients, taking the drug for four days or less, were marked "greatly improved," and it is highly probable in all of these cases that, had treatment been continued a little longer, a cure would have resulted. Making these changes as we have done in Table I, we shall have: Cured, 84 per cent.; improved, 7·4 per cent.; unimproved, 7·4 per cent.; died, 1·2 per cent. This certainly does not overstate the results obtained in the foregoing cases.

TABLE V.

Showing previous duration of disease, and results of eighty-one cases treated by salicylate of sodium.

Duration.	Cured.	Improved.	Unimproved.	Died.
2 days and less.....	22	19	2	1
3 to 4 days.....	18	14	1	3
5 to 6 days.....	8	6	2	..
1 to 2 weeks.....	20	12	7	1
2 to 3 weeks.....	3	3	..	..
4 weeks and over.....	10	6	2	1
Total.....	81	60	14	6

Under four days, 49 per cent. Over one week, 40 per cent.

Some of the most striking results seen from the drug were obtained in the cases of long standing. Thus, all three of the cases of three weeks' duration were cured, the average duration of treatment being 3·6 days.

Of the ten cases which had lasted four weeks and over, six were cured, the average length of treatment being 5·6 days. One of the "improved" patients took the medicine for about four days with great benefit, and was well in ten days or two weeks without further treatment. The other had had entero-colitis all summer, did not take the medicine over three days, and was greatly improved, but it was then discontinued, and I learned a week later that the case had relapsed.

The six "unimproved" cases are interesting and deserve something more than mere enumeration, as they illustrate quite well some of the difficulties in treating these cases.

Three of the patients were brought to the dispensary but once. All of these were recent cases, and only one was severe. Prompt relief not being evident, physicians were summoned to the house in two cases, and the third patient was taken to another dispensary three days later. I have no means of knowing how much or how little of the medicine was given.

A fourth patient with severe diarrhœa, of eight days' standing, the passages being watery in character, took the salicylate for two days without benefit; the drug was continued, but the case was never heard from again.

A fifth patient had had a severe entero-colitis for two or three months. Salicylate of sodium was given for five days, and then opium and astringents were used for four days, but without benefit in either case, and the patient was not traced farther.

The sixth patient took the drug ostensibly for four days without improvement. Subsequent events proved the mother's statements concerning the case to be utterly untrustworthy, and it is extremely doubtful if any directions were carried out as given.

The single fatal case was as follows: It was that of a wasted, wretched child in its fourth severe attack during the summer. The salicylate was given for four days with the effect of controlling the diarrhœa; vomiting, however, continued, and the child wasted steadily and died about two weeks later.

In twenty-nine cases vomiting was also present when the patients came under treatment; in many more it was a prominent symptom at the beginning of the attack.

TABLE VI.

Showing type and severity of salicylate-of-sodium cases.

Colitis or entero-colitis	23
Diarrhœa, severe.....	18
Diarrhœa, moderate.....	39
Genuine cholera infantum	1
Total.....	81

TABLE VII.

Showing duration of treatment and results of forty-four naphthalin cases.

Duration of Treatment.	Cured.	Improved.	Unimproved.	Died.
2 days and less..... 15	7	3	4	1
3 to 4 days..... 12	11	..	1	..
5 to 6 days..... 10	6	3	1	..
7 to 9 days..... 6	5	1	..	..
Over 10 days..... 1	1	..	..	..
Total..... 44	30	7	6	1

Cured, 67 per cent.; improved, 15·8 per cent.; unimproved, 13·5 per cent.; died, 2·2 per cent.

The "improved" cases were as follows: One patient was greatly benefited at the end of five days, but the mother stopped attending, and I heard a week later that the case had relapsed. In the second, a chronic case, the patient was greatly improved after two days; took no more medicine; ultimate recovery in two weeks. A third, also chronic, was doing nicely after two days' treatment, when measles developed which proved fatal. A fourth the notes simply

state to have been "improved" after one week's treatment. A fifth, with severe gastro-intestinal catarrh, had diarrhœa controlled after two days' treatment, but vomiting continued; the patient could not be found when looked for afterward to learn the final result. A sixth, also not found, with severe chronic colitis, was greatly improved when last seen, after being under treatment for five days. The remaining patient would not take the medicine in the doses directed. It was stopped after three days, only slight improvement having occurred. Thus it appears that in no case, except possibly the fourth, was there a real test as to the value of the treatment.

In one of the six "unimproved" cases, a recent one, the patient took the drug for four days without any benefit, ultimately recovering at the end of two weeks without further treatment.

A second patient, a boy nine years old, who had had dysenteric stools for a week, after two days' treatment was worse; opium, bismuth, and salicylate of sodium subsequently failed also, and he was then lost sight of.

A third patient, with a moderate diarrhœa of two weeks' standing, was no better after taking naphthalin, but was promptly relieved by the salicylate of sodium.

In a fourth case, one of chronic diarrhœa of four weeks' standing, the patient took the medicine for two days only; I learned subsequently that he had not been relieved, and that the disease lasted a month longer.

A fifth case was similar, except that the patient recovered in two weeks instead of four.

The remaining case, a severe diarrhœa of a month's duration, was not improved after five days' treatment. I learned that no further treatment was employed, and the child died two weeks later.

The only fatal case occurring while under treatment was a severe one, where vomiting was very persistent; there was no relief, and death took place two days after the patient was first seen.

TABLE VIII.

Showing previous duration of disease, and results in naphthalin cases.

Duration.	Cured.	Improved.	Unimproved.	Died.
2 days and less..... 17	16	..	..	1
3 to 4 days..... 8	4	3	1	..
5 to 6 days..... 3	2	..	1	..
1 to 2 weeks..... 9	6	1	2	..
2 to 3 weeks..... 2	1	1	..	..
4 weeks and over..... 5	1	2	2	..
Total..... 44	30	7	6	1

Less than four days' duration, 56 per cent.; over one week, 36 per cent.

TABLE IX.

Showing variety and severity of naphthalin cases.

Colitis and entero-colitis.....	13
Diarrhœa, severe.....	9
Diarrhœa, moderate.....	19
Total.....	41

Vomiting was present in ten cases; in several severe,

TABLE X.

Showing results in twenty-seven cases treated by resorcin.

Duration of Treatment.	Cured.	Improved.	Unimproved.	Died.
2 days or under.....	9	6	1	2
3 to 4 days.....	11	6	2	3
5 to 6 days.....	1	1	..	..
7 to 9 days.....	4	1	2	1
Over 10 days.....	2	1	1	..
Total.....	27	15	6	6

Cured, 55 per cent.; improved, 22 per cent.; unimproved, 22 per cent.

TABLE XI.

Showing previous duration of twenty-five resorcin cases.

Duration of Disease.	Cured.	Improved.	Unimproved.	Died.
2 days or less.....	10	5	2	3
3 to 4 days.....	5	3	1	1
1 to 2 weeks.....	8	5	2	1
4 weeks and over.....	2	..	2	..
Total.....	25	13	7	5

Four days' duration or less, 60 per cent.; over one week, 40 per cent.

TABLE XII.

Showing variety and severity of resorcin cases.

Colitis or entero-colitis.....	4
Diarrhœa, severe.....	7
Diarrhœa, moderate.....	14
Total.....	25

Vomiting was present in ten cases of diarrhœa when coming under treatment.

The cases treated by resorcin, as regards variety, severity, and previous duration, it will be seen, correspond very closely with those treated by naphthalin and salicylate of sodium. Experimentation with the three drugs was carried on at the same time. Yet it soon became evident, as the tables show, that it was not nearly so effectual as either the salicylate or naphthalin. Castor-oil was used as a preliminary step in about the same proportion of cases as with the two latter drugs.

The use of the same drug at the Infant Asylum among a different class of patients led to about the same conclusion, although I have not the figures at hand of the number of cases in which it was given.

This experience with resorcin strengthens me much in the opinion that in the naphthalin and salicylate cases it was not to the initial dose of oil and the subsequent attention to feeding alone that the results obtained in these cases were due, since exactly the same measures were used in the resorcin cases, and yet 22 per cent. of the patients were unimproved.

TABLE XIII.

Showing length of treatment and results in twenty-eight bichloride-of-mercury cases.

Duration of Treatment.	Cured.	Improved.	Unimproved.	Died.
2 days and less.....	10	2	4	3
3 to 4 days.....	14	3	8	3
5 to 6 days.....	4	1	2	1
Total.....	28	6	14	7

Cured, 21.4 per cent.; improved, 50 per cent.; unimproved, 25 per cent.; died, 3.6 per cent.

TABLE XIV.

Showing duration before treatment of bichloride cases.

Duration before Treatment.	Cured.	Improved.	Unimproved.	Died.
2 days and less.....	5	2	2	1
3 to 4 days.....	7	2	4	1
5 to 6 days.....	2	..	1	..
1 to 2 weeks.....	11	1	6	4
3 weeks and over.....	3	1	1	1
Total.....	28	6	14	7

Four days or less, 42 per cent.; over one week, 50 per cent.

TABLE XV.

Showing variety and severity of bichloride cases.

Colitis and entero-colitis.....	22
Diarrhœa, moderate.....	4
Diarrhœa, severe.....	2
Total.....	28

These bichloride cases are the only ones in all my tables given which were selected. In point of time they belong not to my later experience while studying the use of antiseptics, but to an earlier time, being contemporaneous with the castor-oil, opium, and astringent cases. Hence many of them were among the worst ones that were treated during that period, and they would have made the results given from that period appear still worse than they do had they not been separately considered. The drug was used not as an antiseptic, but more with the idea of its specific action, in cases of colitis and entero-colitis, as recommended by Ringer and others. It was rarely preceded by a purgative to clear out the bowel, or perhaps the cases would have made a better showing.

The cases are introduced for what they are worth, and, although very strikingly beneficial results were seen in some very obstinate cases, still, on the whole, naphthalin and the salicylate of sodium have been in my hands much more successful in exactly similar cases, as a study of the foregoing tables will make evident.

TABLE XVI.

Showing comparative results from different methods of treatment.

	Number.	Cured.	Improved.	Unimproved.	Died.
Opium, bismuth, castor-oil, etc.....	300	50 %	27 %	18.3 %	7.3 %
Salicylate of sodium....	81	84 %	7.4 %	7.4 %	1.2 %
Naphthalin.....	44	67 %	15.8 %	13.5 %	2.2 %
Resorcin.....	27	55 %	22 %	22 %	..

It is unnecessary to compare the cases treated in other particulars. The previous duration of the disease in the different classes does not show any marked variation; they average about the same, except that those treated by the salicylate of sodium were of a little longer standing than those treated by opium, astringents, etc. A comparison of the duration of treatment in the cured cases shows the great superiority of the salicylate and naphthalin, particularly in cases of long standing.

It is evident from this table that theoretical considera-

tions of the value of antiseptics in this disease are fully substantiated by the facts. I have included in these tables none but dispensary cases, since I wished to get at the comparative results in the same class of patients.

It was not my intention to introduce reports of special cases, but the following one illustrates so many points that I will give it, although the result was no more striking than was seen in dozens of others. As one man was convinced by it, others may be:

A boy seventeen months old was seen on the fifth day of his illness, with the physician who had treated the case from the beginning. The stools were first thin and yellow, afterward green, with some mucus and curds. Bismuth in four-grain doses every two hours had been used from the beginning, and on the third day ℥ij of deodorized tincture of opium had been added. Although the number of stools had been reduced from ten to five a day, there had been no change in their character, and the child's condition was growing steadily worse.

When I saw him he was really in a critical condition; his temperature had risen to 103° F.; he had begun to vomit quite often, his pulse was rapid and weak, he had had five stools that morning, and was losing ground rapidly. He was dull and heavy, mostly from the opium. I suggested a dose of castor-oil to be followed by the salicylate of sodium, gr. ij, every two hours. But my friend said: "He is so weak that it seems to me it would be dangerous to do anything to give him any more stools." He consented to give the treatment a trial in view of the hopelessness of the case under the present methods.

I saw him two days later. He greeted me with the remark, "Doctor, I am a complete convert." During the afternoon and night after I saw the case the boy had seven passages. In the next twenty-four hours he had two of nearly normal character, and a slight catarrhal diarrhoea lasted four or five days more, by which time he was well. I never saw a patient gain more rapidly.

The objections raised against the oil in the case related are no doubt felt by many, so prevalent is the idea that the great object of treatment is to arrest the discharges. The opium and bismuth here *had* reduced the number of stools from ten to five a day, and yet the child was getting worse all the time. What was the explanation here of the rise of temperature to 103°, the supervention of vomiting, the great prostration, and the rapid and weak pulse? To my mind these were toxic symptoms dependent on the retention in the bowel of the products of the decomposition of food and altered secretions.

Is not the rational treatment, then, to clear out the intestine as promptly and thoroughly as possible, and then address our energies toward stopping further decomposition? In other words, to treat the cause and not the result?

How should the antiseptics be administered?

The salicylate of sodium I have been accustomed to prescribe in doses of from one to three grains every two hours, according to the age, from three months to three years. In these doses the aqueous solution is tasteless, and can be readily given in the food or drink. I have never seen it produce vomiting, but often have seen severe and persistent vomiting controlled by it.

Naphthalin, although possessing a strong odor, is not disagreeable to the taste. On account of its insolubility, it is best given to children rubbed up with some inert pow-

der, like sugar of milk. It should be used in a little larger doses than the salicylate—i. e., gr. j to gr. v in young children, according to the age.

Resorcin must be used in smaller doses, gr. $\frac{1}{2}$ to gr. ij, at corresponding ages. It is bitter, and not so easily given, though freely soluble in water. The bichloride was used in doses of gr. $\frac{1}{120}$ to $\frac{1}{100}$, but, even in these doses, I have more than once seen it produce vomiting.

In all cases I have insisted upon the antiseptic being given at short intervals, as many small doses are much more likely to succeed than a few large ones.

From the foregoing discussion the following conclusions are drawn:

1. Summer diarrhoea is not to be regarded as a disease depending upon a single morbid agent.
2. The remote causes are many, and include heat, mode of feeding, surroundings, dentition, and many other factors.
3. The immediate cause is the putrefactive changes which take place in the stomach and bowels in food not digested, which changes are often begun outside the body.
4. These products may act as systemic poisons, or the particles may cause local irritation and inflammation of the intestine.
5. The diarrhœal discharges, *at the outset* at least, are to be looked upon as salutary.
6. The routine use of opium and astringents in these cases is not only useless, but, in the beginning particularly, they may do positive harm, since, by checking peristalsis, opium stops elimination and increases decomposition.
7. I do not deny nor undervalue opium in many other forms of diarrhoea than the one under discussion.
8. Evacuants are to be considered an essential part of the antiseptic treatment.
9. Experience thus far leads me to regard naphthalin and the salts of salicylic acid as the most valuable antiseptics for the intestinal tract.

15 EAST FIFTY-FOURTH STREET.

ARTIFICIAL ALIMENTATION.*

By GEORGE DALTON HAYS, M. D.,

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By the phrase artificial alimentation the writer has meant to imply a selective method of nutrition based upon rational conclusions in the mind of the physician, as distinguished from a dietary chosen by the patient or his attendants to gratify the cravings of a perhaps morbid palate.

Dr. Abercrombie is reported to have said that the cause and cure of every disease might be found upon the table. This is, no doubt, a great exaggeration; but, with our increasing knowledge of the diseases introduced into the system through the alimentary canal, it would be rash to attempt to state just how much truth it contains. That, possessed of a better knowledge of the causes of pathological conditions, we shall come to rely more upon nutrition and

* Read before the Clinical Society of the New York Post-graduate Medical School and Hospital, December 17, 1886.

less upon medication, hardly any one will be inclined to question; or is it too utopian to hope that we are ever likely to reverse Dr. Holmes's criticism, "pills and theories in place of wholesome living"?

Man is an omnivorous animal, though many investigators think he has become so only through habit. Pigeons have been made to attain their highest physical perfection on a flesh diet, and eagles on bread; the domestic dog and cat have accustomed themselves to a mixed diet, and in doing so have altered their forms from those possessed by these animals in the wild state. Climate, custom, religion, and the different degrees of civilization largely determine the character of man's food and drink—from the rude meal of the savage to that of the Parisian epicure, from the wholly carnivorous diet of the Esquimaux to the equally exclusive vegetable food of the Brahman.

For his proper nutrition, we are told, he needs water, sugar, fats, nitrogenous matter, and salts; and with an unerring instinct he is found to have sought these even in his most barbarous state. Either kingdom, animal or vegetable, is capable of supplying him with these wants, but his organic structure seems to approach more nearly to that of the carnivora, and the proportion of the excess of animal over vegetable food seems to bear a close relationship to his purely physical perfection.

All kinds of food contain nutritious principles, which, being extracted by digestion, undergo the further process of assimilation, and in this state serve to repair the body losses.

That this process of digestion is begun in the mouth with the ptyalin of the saliva is pretty generally established; but that the action of this ferment ceases entirely after reaching the stomach has lately been strongly doubted.

The first effect of the gastric juice upon the albuminous matter which it receives is to convert it into syntonin (parapeptone); this is soluble in acids, but not in pure water. The next step is the conversion of this syntonin into peptone.* This is a body very soluble in water, and not precipitated by acids nor alkalies. While insoluble in alcohol, it is precipitated by that liquid with great difficulty from its watery solutions. It is precipitated by tannin, corrosive sublimate, salts of silver, and the biliary acids. These are points of such practical importance in the treatment of diseases demanding the administration of any of these drugs as to require no excuse for their introduction here. Recently Dr. Klikovitch, of Russia,† has conducted a series of experiments to determine the influence of certain remedies upon artificial digestion with the following results:

1. Alcohol: Five per cent. has no influence on peptonization. Five to ten per cent. retards it. More than ten per cent. stops it.

2. Antipyrine: No effect except in very large quantities.‡

* Physiologists sometimes speak of "peptones"—including parapeptone and other modifications of that body.

† "Deutsche Medizinisch-Zeitung."

‡ Seventy grains a day, given by the writer for two weeks to fever patients, did not influence the appetite for the worse.

3. Iodide and bromide of potassium: Slow digestion in doses of from fifteen to thirty grains.

4. Salts of iron with organic acids do not influence it. Reduced iron and salts with inorganic acids retard it.

5. Calomel and arsenate of sodium have little effect. Sodium salicylate and sulphate, and magnesia in large doses, retard it.

6. Chloral in less than fifteen-grain doses has little effect. Larger doses retard it greatly.*

The gastric juice has some antiseptic properties; hence the immunity with which some people eat partly decayed articles. The American Indians are said to prefer their meat putrid.† The Greenlanders preserve the heads and fins of seal under the grass during summer,‡ and consume them during the winter.

The fact that the stomach does not undergo digestion itself has been explained as due to the saturation of the mucous membrane with blood containing a large proportion of alkaline salts. Dr. Pavy showed that if one or two vessels of the stomach were tied, the parts deprived of the circulating blood underwent digestion and perforating ulcers occurred.

The trypsin of the pancreatic juice is capable of digesting albumin, and it is supposed that these ferments are in some degree complementary to one another.

The pancreatic juice is the only one of the digestive ferments capable of forming a complete emulsion with the fats. This emulsion is none the less complete when the fluid has been neutralized by the acid gastric juice.* It is thought, however, that in this it is in some degree aided by the bile. The pancreatin and the diastase complete the action of the ptyalin on the starches.

Bernard|| has shown that the liver has the power of forming glucose out of the blood even in exclusively flesh-feeding animals; and Professor Seegens^ has proved that one of the functions of this viscus is to convert fats into sugar. On digesting oily emulsions with freshly chopped liver at 100° F. for a short time, much more sugar could be extracted from the mixture than from the substances separately.

According to Flint,◇ a prolonged and heavy sleep after a meal is almost always injurious. After a sudden loss of blood, the stomach is incapable of digestion.

We can not decide positively on the digestibility of foods from experiments like Dr. Beaumont's, since the conclusions reached are not in accord with general experience. We are told salt tripe takes one third as long to digest as roast beef; sauerkraut is twice as digestible as soup made of beef and vegetables; but this takes cognizance of the stomach only. How about the duodenum and the ileum?

These are the agents and conditions concerned in digestion which the writer has thought worth while to sum up in the light of recent physiological research.

* Dr. Eccles has lately published results of work of same kind—since this paper was written.

† Wilkes, "U. S. Exploring Expedition."

‡ Simmonds, "Curiosities of Food."

* Bernard, "Experimental Studies in Physiology."

|| *Op. cit.*

^ "Pharm. Central-Halle."

◇ "Physiology."

"I like to dine, sir; I like to dine," said the great Dr. Johnson. Who among us does *not* like to dine? But sometimes the digestive powers fail, and we are forced to supply the economy either with the digestive agents or with concentrated or predigested foods.

Of the digestive ferments, the most important is pepsin. This occurs in the market in a great variety of forms, as saccharated, scale or "crystal," wines, and solutions. These differ widely in their power to digest albumin. The writer has had a considerable experience with these different varieties, and yet feels very diffident as to praising or condemning one above the other. Many careful experiments made with different samples have given variable results. This seems to be equally true of the work of other investigators. The scale pepsins, when kept, develop a most disagreeable animal odor, and in several instances among my own patients have been the cause of nausea. This may be due to the fact that many of these preparations are peptone-pepsin—that is, pepsin mixed with a certain amount of digested albuminous matter. It is to this they owe their ready solubility. Still, in most cases this is the form to be preferred if it is obtained fresh, the addition of other bodies, as sugar of milk, glycerin, wine, etc., being rather objectionable than otherwise.

In the same way we have a host of pancreatic preparations. Some practitioners prescribe pancreatin to be taken at the time that the food is ingested. Given in this way, however, it undergoes decomposition in the stomach, being itself digested, and thus rendered incapable of acting on the starches in the intestine, for which purpose it was administered. Others order it in connection with bicarbonate of sodium, to be taken an hour or so after eating. Its efficacy even in this way, however, is open to doubt, the best mode of using it being to pancreatize the food under the proper conditions before it is given.

The other important constituents of the pancreatic juice—trypsin and diastase—have both been isolated. The latter occurs also in grain, where during germination it changes the starch into sugar. It is conveniently employed in the form of malt extract. The digestive ferments may be used with advantage in exhibiting such medicines as copaiba, cubebs, and sandal and cod-liver oils, with which bodies they form emulsions. They have also been employed of late as solvents of false membranes in diphtheria, croup, etc.

As for the foods, their name is legion; their pretensions to a *sine-qua-non* value are boundless. We shall give them but a passing notice.

First, however, a word about bread. We have long been accustomed to hear that many of the evils of modern life owe their origin to our choice of *white* flour. That this is not so an examination of the wheat-berry will show. This has five coats—an epi-, meso-, and endocarp, an episperm, and a tegmen. The three outer ones have no value whatever as nutriment. Within the episperm is a layer of gluten cells, chiefly albuminoids, and finally in the endosperm, which constitutes the bulk of the grain, we find starch mingled with albuminoid cells. In the old process of milling, the perisperm (the part within the episperm) was, on account of its close attachment to the inner husk, largely carried

away, leaving the bolted flour the poorer for its loss. Hence the vegetarian Sylvester Graham, whose name is applied to bread made from unbolted flour, was correct in his time in saying such bread contained the most nutriment. The present "gradual reduction" process saves this portion of the wheat. The bran itself is composed of woody fiber and contains absolutely no nutriment. It may have a mechanical value in those of a constipated tendency, but this is all. The wheat loaf and the white flour contain a much larger percentage of phosphates and gluten than the Graham loaf, or unbolted flour. In regard to the dietetics of bread, it is well to recall that we have nitrogeous matter (gluten) mixed with starch. In baking, a certain amount of this starch is changed to dextrin, and thus made soluble, the quantity formed depending upon the degree of heat. Hence the crust contains more of it than the crumb. Hence also, when we do not wish to supply any waste material, we carry this a step further and furnish our patients with toast.

Of the preparations of raw meat, three or four have a clinically proved value. These products are rich in nitrogenous substances and in phosphates. They are readily digested and absorbed, and can be relied upon for the entire sustenance of the body for considerable periods.

Next come the predigested meat products—beef peptones, or "peptonoids," as they are called. These also vary greatly in quality, many of them being practically worthless. A few of them contain considerable amounts of nutriment in a concentrated and partially digested state. The once highly valued "extracts of meat" and the beef-tea made from these have proved to possess stimulant properties only, and have come to be used largely by old toppers when liquor will no longer remain on the stomach.

The malt extracts seem to be Fothergill's great panacea for all forms of malnutrition, and perhaps no one will dispute their great value in certain cases. When long kept, however, or when too much heat has been used in their preparation, the diastatic action of converting starch into sugar seems to be lost; hence samples should be tested in this way before being used.

There have recently been put upon the market a number of "nerve foods." They are all "brain energizers, nerve invigorators, and therapeutic Samsons with a blue-blood pedigree." Tincture of nux vomica, fluid extract of coca, and some flavoring matter is reported to be their composition (W. L. K., in "Drug. Circular").

In milk we have a natural food possessing all the elements for complete nutrition—a food of great value, but one which only a certain proportion of persons can be made to take. It is often spoken of as an ideal food for the ill-nourished. "A serious flaw in this argument," says King Chambers,* "is that, while it is prepared for and truly suits the newly born, we have no evidence that it was intended for or would suit the adult." Asses' milk, goats' milk, and mares' milk closely resemble human milk. Cows' milk contains more casein and less sugar than mother's milk, and has an acid reaction. Mother's milk has an alkaline reaction and appears to contain its casein in the form of a peptonoid.

* "Diet in Health and Disease," Thomas King Chambers, M. D.

"Milk does not represent a typical diet for an adult, the nitrogenous matter being in considerable excess of the carbonaceous. This is suitable to the young of all animals whose main duty consists in growing, but not to the full-grown, who has to develop force by the combustion of carbon, and had rather not go on growing."*

Buttermilk or boiled milk will often prove acceptable where ordinary milk disagrees. According to Dr. Reichmann, of Germany,† boiled milk is more rapidly coagulated, and the curds are much softer and more quickly digested than raw milk. Kumyss is another modification of considerable value. If the digestion is feeble we may peptonize the milk; and it should be remembered that, if this is done carefully, there will be no bitter taste developed. All these changes are frequently rung with bottle-fed infants until we find the one most suitable for it. In such cases, it has been remarked, "it is well to change the milk, as it is impossible to change the baby."

According to trustworthy analyses, a marked similarity exists between the composition of grape juice and woman's milk. Under the title "grape cure," an exclusive diet of it is used on the Continent in diseases of the liver, spleen, and kidneys, and after treatment at the baths.

Cod-liver oil is generally accredited a food. Its value depends upon its digestibility. Given in the form of a well-made emulsion, it is absorbed in this state without undergoing further digestion. It should be given *between* meals, when it will pass at once into the small intestine and not disturb the stomach. Fats have their principal use in chronic wasting diseases, but are of occasional service endermically in acute disorders. Butter is a very digestible fat, and, in the state of cream, a very palatable one.

"Peptonized oils" are, to say the least, unscientific in their title.

Physiologists define peptones as bodies resulting from the action of the gastric or pancreatic juice upon albuminous compounds.‡ Hoppe-Seyler* defines them as hydrated albuminous matter, altered only in physical properties.

Arrow-root, rice gruel, barley gruel, panada, egg-nog, meat jelly, and broths furnish satisfactory forms of nourishment, suitable when the digestive powers are enfeebled.

As for alcohol, no subject ever had more prolific attention. One must read whole libraries to find out its true place in dietetics, the general consensus of medical opinion, however, being that, properly used, it is a food. It will not of itself, however, sustain life. Dr. Bennett says: "There are no sufficient trustworthy statistics available to prove to what extent diseases may be safely and satisfactorily treated without the aid of alcohol. But that in many cases where it was formerly given it may advantageously be dispensed with, there can not be any doubt. But in the severer forms of fevers I believe its use to be imperative."||

A failure to assimilate food is a common cause of dis-

ease. While the nitrogenous bodies are converted during digestion into peptones, they are dehydrated again in the liver into proteid bodies. Bernard* found that when albuminous matter was injected into the jugular vein, it was eliminated by the kidneys. If it is injected into the portal vein, so as to pass through the liver, it is not so excreted.

When too large a quantity of nitrogenous matter is taken, or when metabolism does not go on in the liver,† a series of nitrogenous substances is produced, some of which are excreted by the kidneys, while others continue to circulate in the blood. Dr. Lauder Brunton‡ has shown that peptones in the general circulation act as depressant poisons.

A. Gautier* has obtained from the muscles of animals five new alkaloids (leucomaines), definite in composition and crystalline form, which, when administered to animals, act upon the nerve centers, causing sleep, and in some cases vomiting and purging, similar to the alkaloids of snake-poison. The mental hebetude attending disorders of the liver probably owes its origin to the presence in the blood of some of these products. Professor George Johnson, F. R. S., says: "Renal degeneration is a consequence of long-continued elimination of products of faulty digestion through the kidneys."

This "faulty digestion" has its origin in certain conditions of the liver. One of these conditions is hyperpyrexia. It is in acute febrile disorders that many of the "beef peptones" are said to be of such value. If these bodies are not appropriated in a rapid histogenesis, they will circulate through the blood as poisons, adding their harmful effects to the already over-abundant products of retrograde metamorphosis.

And here we meet with that ever-momentous question, the feeding of fevers. If we break a limb and then attempt to use it, it gives us pain, and from this we draw the very logical conclusion that the first essential to its repair is rest. In acute diseases an absolute loathing for food is among the earliest symptoms. An apparently logical deduction from these premises would seem to be, not to feed our fever patients. And, indeed, this was the routine treatment at one time. As though in irony, the French called this method "diète." Hippocrates thought so much of the value of feeding fevers that this is the most important point of his treatise "On the Management of Acute Diseases," in which he recommends the use of wine and of gruel. These teachings were ignored until Dr. Graves insisted on the necessity of feeding such patients. He was satisfied with barley water and gruel the first few days, but after this ordered chicken broth, meat jelly, and strong soup. "You may perhaps think it unnecessary," he says,|| "to give food, as the patient appears to have no appetite. You might as well think of allowing the urine to accumulate in the blad-

* *Op. cit.*

† The peptones are converted by it into sugar and glycogenic substances. Seegen, Pflüger's "Archiv," xxviii, p. 990.

‡ "Pharmacology, Therapeutics, and Mat. Medica."

* "Journ. of the Chem. Society," July, 1886, p. 634.

|| "Clinical Lectures," R. J. Graves, M. D., Amer. edition, 1838, p. 258.

* "Diet in Health and Disease."

† "Med. World."

‡ Carpenter, Foster, Flint, Dalton.

* "Physiologische Chemie," Berlin, 1878, p. 227.

|| James Risdon Bennett, M. D. See also writings of Paget, Lauder Brunton, Murchison, Wood, and others.

der because the patient feels no desire to pass it. You are called on to interfere when the sensibility is impaired and the natural appetite dormant."

This plan is universally adopted now;* the difficulty lies in our selection of a suitable diet, and here some knowledge of the causes of fever will aid us. †

Hippocrates ‡ imagined it to be a salutary effort of nature to throw off noxious matter. Stahl supported this doctrine, but said that, if this matter was too abundant, or the powers of the body were insufficient, fever was hurtful. Boerhaave assumed as the proximate cause of fever a viscid state of the blood. Cullen and Rush § held that the cause was seated in the blood-vessels. For a long time fever was held to be an "inflammation," and was starved. The most rational views were those of Hoffman, who believed the primary factor to be diminished nervous energy. Quite recently Wood* showed that, in the fever of pyæmic dogs, in which, of course, there exists a lessened capacity for food, more heat is produced than in healthy fasting dogs, though less than in healthy high-fed dogs. As fasting does not produce fever, and as full feeding in health also does not produce fever, it follows that retention of the produced heat is the important factor in the pyrexia. The variations in the temperature are apparently due to the influence of the vaso-motor system, checking or allowing the dissipation of the heat, though, in addition to this, Wood || believes in a "heat center" independent of the vaso-motor. The high temperature, therefore, seems to be due to agents influencing the nervous system.△

The increase of temperature serves to explain certain of the phenomena of fever, and among these the digestive disturbances; not only are the digestive solvents lessened in quantity and impaired in quality by the pyrexia, but the muscular acts necessary to forward solution are arrested by its local action.◇

If these are the correct views, it is our duty to supply our patient with concentrated or partially digested nutriment, and we have abundant clinical evidence that when this is done the emaciation is less marked and the convalescence more rapid.

Liebig's great division of foods was into hydrocarbons, or "fuel foods," and albuminoids, or "tissue foods," the human frame being likened to an engine in which comparatively small quantities of "tissue foods" are needed to keep in repair the slowly wasting structure, while large quantities of "fuel foods" are required to enable it to do its work.

* NOTE.—"A correspondent of the 'Levant Herald,' writing from Selenitza, gives an account of the manners and customs of the inhabitants of that Albanian village. . . . The sick have a hard time, the first principle in the case of illness being that the patient can not possibly eat." "Harpers' Weekly," December 18, 1886.

† "On the Management of Acute Disease."

‡ "Outlines of the Phenomena of Fever."

§ "Fever, a Study in Morbid and Normal Physiology," H. C. Wood, A. M., M. D., Philadelphia, 1880.

|| *Op. cit.*, p. 254.

△ Very recent researches by the same author have led him to conclude that antipyrine lowers the temperature by lessening heat production, and this by stimulation of the inhibitory heat-center of Setschenow. ("Therap. Gaz.," Dec., 1886.)

◇ Bernard, *op. cit.*

This classification is still adhered to in the main,* since work only slightly increases the excretion of urea, and largely increases that of carbonic acid; and it is upon this point that an intelligent feeding of fevers depends. According to King Chambers, the "chief aim is to supply that which you clearly see is passing away—nitrogenous tissue."† In other words, to supply to the body materials for histogenesis. To this Fothergill‡ demurs. According to this observer, the danger lies in the body becoming surcharged with nitrogenized waste, and the typhoid condition being set up. To give large supplies of nitrogenized food would tend to increase this nitrogenized waste, since the products of retrograde metamorphosis do not come only from tissue waste, but from the *luxus consumptionis* of albuminoid food.

During the fever, then, he would have us feed our patient on carbohydrates, reserving the albuminoids till convalescence is established, because, in pyrexia, histogenesis follows, but does not go hand in hand with histolysis. "We should supply him with grape sugar, which is the normal body fuel."* If we give him beef-tea, it should contain baked flour, while the value of milk, independent of the fact that it disagrees with so many, rests upon its comparatively small proportion of lactose. Malt extracts, with effervescing waters, gruel, and oatmeal waters, lactose, and maltose—these are the materials with which we are to nourish our patient without adding to the dangers which beset him.

Which of these views is correct? It is evident that they are diametrically opposed to one another. The one says, As nitrogenous matters are being rapidly drained away, it is our duty to supply them. The other answers, No! for, as the blood is already surcharged with the products of nitrogenous decomposition, by supplying nitrogenous matter we shall only increase the danger.

Now, these "decomposition products" supposed to be the results of tissue waste are usually estimated by the quantity of urea excreted; but, in pyrexial states, this is fallacious, because we can not measure that portion derived *directly* from the nitrogenous elements of the food. A full diet in health increases the excretion of urea; it is still excreted when no food is taken.

Now, as the fully fed healthy man produces more heat, and excretes less urea, than the febrile man, it follows that the increase of body temperature is in part the result of diminished heat dissipation, in part the result of rapid metamorphosis of tissue, and in part due to causes undetermined; the increase of the excretion of urea is, in the main, increased histolytic changes. Hence an excess of urea excreted is not necessarily proof of an excess of nitrogenous decomposition products in the blood.

To sum up, we may conclude—

1. Many pathological processes arise from an improper dietary, and many others may be controlled by a proper dietary. There is a celebrated proposition by M. Broussais: "He who does not know how to manage the stomach will never know how to treat disease." ||

* Bennett, Chambers, Fothergill, *et al.*

† *Op. cit.*, p. 233.

‡ "Food in Acute Diseases."

§ *Op. cit.*

|| "The Celebrated Propositions of M. Broussais," D. L. M. Peixotto, M. D., 1830.

2. Malassimilation is a cause of disease. Peptones in the general circulation being poisons, when from any cause metabolism is interrupted, the system is prone to take on pathological conditions.

3. In pyrexia: *A.* The digestive juices, being less in quantity and impaired in quality, should be re-enforced by the artificial digestive ferments.

B. The stomach is feeble in a muscular sense, and incapable of dealing with large quantities. Hence concentrated or predigested foods should be furnished it.

C. The process is one of tissue destruction (histolytic). Hence we must furnish the materials for repair (histolysis). How and when to furnish these is still a disputed question.

D. Feeding is not the cause of pyrexia, nor starvation its cure. Though the former augments it and the latter decreases it, we gain most by keeping up nutrition.

E. The excess of urea excreted is not proof of nitrogenous waste in the blood.

A CASE OF GUMMATOUS DISEASE OF THE LARYNX, WITH SPONTANEOUS REOPENING OF THE LARYNX AFTER THYROID LARYNGOTOMY.*

By EDGAR HOLDEN, M. D., PH. D.,
NEWARK, N. J.

THE circumstances attending the diagnosis in the following case, its history, and termination, have seemed to me to make it worthy of attention and record:

Mr. L. D., a small, dark-complexioned man of thirty-five, with an appearance of poverty belied by his possessions, came under my observation on May 20, 1885.

Dyspnœa, aphonia, dysphagia, and nausea, with debility, were the prominent symptoms. The mirror showed almost complete occlusion of the larynx, preventing a view of the true cords. There were cicatrices on the epiglottis and right laryngeal wall, but no active ulceration. Several spots, which at first appeared to be ulcers, proved, after cleansing, to be dull-yellowish prominences of rugæ, which formed the infiltrated right wall of the larynx. The left side presented a rounded mass of the same dull yellowish-pink appearance, looking like a coalescence of similar rugæ. These are shown in the drawing herewith submitted. He denied syphilis, admitted gonorrhœa in 1881, and stated that Dr. Elsberg had treated him for ulceration of the epiglottis, and that he pronounced the ulcer specific, and so treated.

In 1883 he was treated by Dr. Rice, a Fellow of this society, for extensive but superficial ulceration, and at that time presented all the appearances and symptoms, as Dr. Rice has since informed me, of tubercular disease, with apparent consolidation at the apex of one lung.

Under local and constitutional treatment the ulcers healed, and the dyspnœa, aphonia, and other subjective symptoms almost disappeared, the improvement being evident in the long intervals between his visits.

When last seen by Dr. Rice, several weeks before my examination, he was much worse, and I take the liberty of quoting from a report kindly given me by him: "Right vocal band almost immovable in median line; only slight movement of the

left, which (if I remember) was about midway between abduction and adduction. During phonation the ventricular folds came together, and the voice seemed to be produced by their approximation. I remarked that the bands were rough with serrated edges."

Upon my examination, May, 1885, this had changed to the condition shown in the drawing, and above described. The appearance of the man, and the fact that there were evidences of some disease at the apex of the right lung, naturally suggested tubercular disease; but the facts that the ulcers were healed, that neither the epiglottis nor the capitula Santorini were tumefied or otherwise suggestive of tubercle, and that the area of consolidation in the lung was not surrounded by progressive disease, led me, after repeated examination, to conclude that the disease was either lupus, syphiloma, or carcinomatous infiltration. Believing it to be syphilis, I put him upon the use of iodide of potassium, rapidly increased to seven grammes daily, with appropriate local treatment.

Suddenly, however, after ten days of marked improvement, he became intolerant of the remedy, and so rapidly did he retrograde that I doubted my diagnosis, and, influenced by his extreme dyspnœa, sleeplessness, and pain, as well as also by the belief of counsel, that the disease was malignant, I had him removed to the new St. Barnabas Hospital as a private patient, and, under chloroform, performed thyroid laryngotomy on June 4, 1885.

There was no ossification of cartilage, and division was readily effected by strong, curved scissors, without previous tracheotomy. Hæmorrhage into the trachea was readily controlled, and was only reasonably profuse. The only feature of the operation that is worthy of record was that respiration stopped whenever traction was made on the alæ of the thyroid, and only recommenced upon application of a strong galvanic current and hypodermic injection of brandy. This occurred three times during the operation.

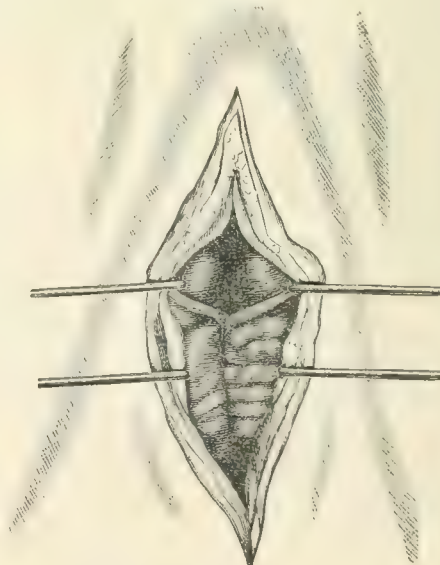


FIG. 2.

* Read before the American Laryngological Association at its eighth annual congress.

There was no ulceration visible; the open larynx, as shown in Fig. 2, exhibited the true cords intact, but hyperæmic and apparently hypertrophied. The rugæ of the right wall, above

alluded to, were of a yellowish-pink color, suggestive of fatty degeneration, not detachable nor movable on the cartilage, and but slightly vascular. The tumor of the left wall was of the same appearance. This was removed by a wire *écraseur*, with but slight bleeding.

The posterior wall of the larynx and the ventricular bands being involved in the same change and of the same yellowish-pink color, the tissues were cauterized with acid nitrate of mercury and washed with a strong alkaline solution. In view of the swelling, sloughing, and inflammation likely to ensue, tracheotomy was performed above the thyroid isthmus, a tube inserted, and the larynx closed with one deep suture through the cartilage (as only the cricoid was left to support the larynx), and the external wound closed with numerous silk sutures.

The progress toward recovery was remarkable; the sloughs separated early, the tube was removed on the tenth day, and breathing was perfectly free and phonation very fair; indeed, unusually so at this early date after operation.

The larynx soon became firm, the external wound healed, and, although the tracheal wound remained open, he was so far recovered as to insist on being allowed to go home.

Contrary to my wishes, he was taken by his friends to his house, situated in a most unsavory locality next to a market, where in the heat of an early summer his health immediately deteriorated, and on the fortieth day after operation the whole wound was torn open during a paroxysm of cough induced by lodgment of food in the glottis.

It is unnecessary to detail the efforts made to keep the parts in apposition. They were unsuccessful. His wife and friends would not allow of his removal to the hospital or to a more healthful quarter, and, with but forlorn hope, I put in five silver sutures, with narrow metallic bars on each side of the larynx, August 27th, eighty-four days after the operation.

Under the wretched surroundings, in a foul atmosphere, and with insufficient nursing, a laryngo-tracheal catarrh developed, and the sutures tore or sloughed out.

Examination of the lungs at this time and subsequently, as well by myself as by a friend especially expert in auscultation, showed no disease; the area of consolidation had disappeared, and the doubt as to tubercular disease, already untenable, was satisfactorily removed.

Strapping of the larynx and efforts to promote granulation were persisted in, and early in September, after removal to a quarter a trifle less unwholesome, there was marked improvement.

Examination by laryngoscope and by external inspection showed no return of the original disease, and breathing and phonation were satisfactory when the external wound was closed by compress; but the hyperemia of the larynx and a commencing necrosis of the divided cartilages, with debility, cough, irritable stomach, the evidences of want of care and proper sustenance, and the impure air of a locality in front of which ran a foul-smelling canal, reeking with the filth of a neighboring market and brewery, augured ill for the patient.

Although now desirous of removal, his friends would not permit it. Several members of the family were ill with intermittent fever, and he himself contracted it.

The catarrhal laryngo-tracheitis increased, and on November 18, 1885, six months and fourteen days after the operation, and after five months with an open larynx, he died of exhaustion.

No autopsy was permitted, and, indeed, aside from possessing the larynx as a morbid specimen and determining extension to neighboring tissues, this was not a serious misfortune, as both intra- and extra-laryngeal inspection were

made easy by a muscular atrophy of a remarkable extent, and an absorption of cellular tissue so complete as to expose the outlines of the hyoid and anterior thyroid and even the scaleni muscles.

There existed some degree of perichondritis, and toward the end, as stated, necrosis of the cut ends of the cartilage.

In reviewing the case I am inclined to believe the morbid growth following the recurrent superficial ulcerations to have been of recent and somewhat rapid development, and secondary to a similar manifestation in the lung.

The latter, if gummatous, might, as is usually the case, have been converted into tough, contracting fibrous tissue, or have disappeared by "simple atrophy, with scanty, fatty metamorphosis."

The microscopical appearance of the part ablated showed the cells and connective tissue usual in syphiloma of mucous membranes, the former resembling uni-nucleate, colorless blood-corpuscles, from 0.02 to 0.04 mm. in diameter, mostly round, with comparatively large nuclei; the abundance of connective tissue, as stated by Wagner, suggestive of formation of callous masses due to fatty atrophy and resorption of cellular elements of the older syphilomata.

The question of diagnosis between lupus, tubercle, and syphilis of the larynx was well presented by Dr. Asch and Dr. Knight, and discussed before this society in 1881, but gummata were not alluded to. A full record may be found in the transactions for that year.

I have made no exhaustive inquiry into their bibliography, but my own experience and the works I have consulted lead me to believe that gummatous infiltration of the laryngeal walls is of rare occurrence. Mackenzie states that gummata are usually found on the posterior wall ("Pharynx, Larynx, and Trachea," p. 261), and his plates represent rounded conglomerate masses of small size, although he quotes one from Norton as of large enough size in the ary-epiglottic fold to destroy life by suffocation.

As the matter of differential diagnosis is important, I would summarize my reasons for believing this case syphilitomatous as follows, viz.:

There was a history of recurring ulceration that yielded to treatment (tertiary syphilis of the larynx having been styled "relapsing ulcerative laryngitis").

The cicatrix of the epiglottis was the result of ulceration, pronounced and treated as syphilis by Dr. Elsberg.

There was suspicious thickening of the sternal ends of the clavicles and of the periosteum of the tibia, with chronic induration of the post-cervical glands.

There was a condition of the apex of one lung simulating consolidation, which disappeared, as far as auscultation and percussion could determine, by atrophy or absorption; and, further, as there was no enlargement of neighboring glands, and the growth was rapid, yet did not recur after operation, and there were no manifestations on uvula or tonsils, malignancy, either of lupus or carcinoma, may reasonably be excluded. In thus speaking I am well aware of the histological similarity between the former and the gummata, and of the difference of opinion as to lupus of the larynx as an isolated affection.

The microscopical appearances were not conclusive, and, as may be inferred, I did not examine the morbid tissue for bacilli, as suggested by Haussmann, of Kiel, in a recent number of Virchow's "Archiv," where disease of the buccal mucous membrane was in question.

In concluding, I would remark that, had I anticipated removal of the patient from the hospital to an unhealthy locality, I should have performed tracheotomy only, and trusted to the destruction of the morbid growths *per vias naturales*, without thyroid section.

A CASE OF HYSTERICAL SNEEZING APPARENTLY CURED BY INTRA-NASAL APPLICATIONS OF THE CONTINUOUS BATTERY CURRENT.*

By SOLOMON SOLIS-COHEN, M. D.,
PHILADELPHIA

Miss —, aged twenty-eight, applied in the latter part of August, 1885, to my friend, Dr. Howard F. Hansell, of Philadelphia, with a ready-made diagnosis of hay fever, and with a ready-made therapeutic course which she desired him to carry out—namely, electric cauterization of the nasal mucous membrane. Dr. Hansell, without investigation of the case, referred the patient to me.

A few questions sufficed to dispose of the fancied hay fever. The attacks of persistent and uncontrollable sneezing, accompanied with lacrymation and dyspnoea, of which the patient complained, occurred at any and all periods of the year, depending upon nothing external to herself of which I could elicit an indication. Her knowledge of hay fever was derived partly from advertisements of quack remedies, partly from the daily papers. A glowing account in one of the latter, from the inspired pen of an imaginative reporter, of the supposititious cure of a prominent hay-fever sufferer by means of the electric cauterizer, had prompted her visit to Dr. Hansell, and her request "to be burned."

Inquiry into the previous medical history of this patient threw light upon the nature of her present trouble. She had, for ten years or more, been under almost unintermitted medical care. She had been in two hospitals: for "irritable spine" in the one, for "nervous tumor of the breast" in the other, to quote her own account. She had been subjected to cauterizations along the spinal column, to a long course of electrical treatment, and to excision of a nodule from a mammary gland. The symptoms narrated as having necessitated the various therapeutic measures were of the most varied character, but largely consisting of pains. Pains in the breast that had been operated upon, and in the shoulder of the same (right) side, were still complained of, and the nasal symptoms were said to become more intense when these pains were aggravated. Upon inquiry of one of the hospital physicians under whose care Miss — had been treated electrically, it was learned that the patient had always been regarded as a neuro-mimetic subject, though the exact nature of her symptoms was not remembered. Organic disease had been positively excluded.

The duration of the present symptoms, according to the statements of the patient, was about twelve months, the intensity having increased gradually. The paroxysms occurred at irregular intervals and lasted for ten or fifteen minutes as a rule, sometimes for more than half an hour; sometimes recur-

ring frequently during a single day, sometimes occurring but once daily; sometimes being manifested but on one or two days in a week, sometimes on a number of days successively. The first manifestation would be a sensation of tickling in the nose, provoking a violent fit of sneezing; the eyes would burn, then water; a limpid fluid would be discharged from the nose, which organ would then gradually become occluded, so that breathing would have to be carried on through the mouth. Sometimes an asthmatoïd paroxysm followed. Sometimes exhaustion brought the paroxysm to a close, sometimes it suddenly ceased without apparent cause. Sometimes somnolence followed. Mental or emotional excitement would sometimes provoke a paroxysm. Sometimes the attack appeared to be brought on by inhalation of dust, sometimes by cooking, sometimes by going into the open air; and often it came without apparent excitant. The statements of the patient were corroborated by her mother. I was very anxious to observe an attack, and I tried on several occasions to provoke one in my office, but without success. The patient was requested to come to the office in the midst of a paroxysm, but—although she twice started from home for the purpose, and, according to her own statement, sneezed all the way—the attack "very provokingly" ceased upon my doorstep. In fact, so potent did my presence or its apprehension seem to be that, on several occasions, the nose of my patient, which had remained occluded during half-an-hour's stay in the waiting-room, "opened" immediately upon her entrance into the consulting-room. For the fact of the paroxysms, then, as well as for their reported relief, the only evidence I have to offer is that of the patient and her mother. The larynx and pharynx were normal. Rhinoscopic examination, anteriorly and posteriorly, revealed normally contracted nasal chambers. The structures were all small, as was to be expected in the small-bodied, small-faced subject. Neither hypertrophy nor atrophy of the turbinated bodies, neither pallor nor injection of the mucous membrane, could be discovered. The septum was unusually well formed, but a slight projection high up on the left side approached very nearly to the middle turbinated body, and it could easily be conceived that, when turgescient, the structures would be in actual contact. Just above this projection (the tuberculum nasi?) I succeeded in locating upon the septum a sensitive spot; that is, pressure with the probe upon the spot in question would cause the patient exquisite pain, and make her feel as if she were going to have an attack. I never succeeded, however, in actually producing a paroxysm.

Although the patient was told that she had not hay fever, and that cauterization was not indicated, she recurred to the subject frequently, and insisted that she "would never be well till she was burned."

Desiring to study the case, I at first instituted a palliative treatment with cocaine, directing instillation into both nasal passages of a few drops of a four-per cent. solution on the occurrence of the initial tickling. For two or three days this measure was successful. After that it failed, as did stronger solutions, both by instillation and by penciling, and the insertion of tablets of one eighth of a grain of cocaine hydrochlorate. Pencilings with a so-called oleate of cocaine (ten per cent.), and with a mixture of cocaine and cosmoline, retained a moderate degree of influence in allaying irritation and preserving the perviousness of the passages. Internal medication was then tried; bromides, valerianates, asafœtida, zinc, belladonna, and arsenic being given in various forms and combinations, separately and together. Belladonna, or rather atropine, seemed to have the greatest influence; but each and all apparently did good for a time and then failed. Bougies of belladonna and cocoa-butter of various strengths, from one-eighth grain to one-half grain of the extract, were inserted into the nostrils, both in conjunction

* Read before the American Laryngological Association at its eighth annual congress.

with internal treatment and independently of it. These seemed to do a great deal of good, especially when inserted high enough to reach the sensitive spot in the left nose, and allowed to remain there until dissolved. At first used three times a day, then once daily, then on alternate days, then with gradually increasing intervals, these applications kept the paroxysms under control for two months, and the patient remained free from attacks for six weeks after cessation of treatment. She then returned (January, 1886), complaining of recurrence, and, although the formerly effective treatment was at once reinstituted, it utterly failed. A spray of ammonium bromide in glycerin and water, and local applications of a similar solution, were without effect. Daily applications of the continuous electric current were then instituted. The positive electrode was inserted into the nostril and placed upon the sensitive spot upon the septum. The negative electrode was placed upon any indifferent point upon the cheek. At first five Daniell's cells were used, the number being gradually increased to twenty. The length of the sittings—at first one minute—was gradually increased to five minutes. During the longer sittings the current was interrupted after one minute by withdrawal of the electrode, and the application was renewed after an interval of half a minute. At first the patient complained of intense pain, and lacrymation was observed. As improvement was reported from day to day, the pain complained of diminished—that is, a stronger current was required to produce it—and lacrymation ceased. Finally, after two weeks' daily sittings, a current from twenty cells failed to produce special pain, and the patient professed herself well. However, she was made to return—at first twice a week, then once a week—for a month longer, during which time no recurrence had taken place. I have learned that no paroxysm had taken place four months after her discharge from treatment.

To what the recovery is due, and whether or not the paroxysms will return when the patient's mind becomes disabused of a peculiar error—for which I am not responsible—I do not know. A not inconsiderable experience with hysteria in its protean forms, especially in hospital practice, has made me distrust even the most plausible connection between recovery and the particular remedial agent employed at the time. I have sometimes seen as good results from the prescription of inert substances, when duly impressive cautions have been given not to exceed the dose, as from valerian, asafetida, or other approved and vaunted remedies. The effect of mental impression upon these self-deluded patients is well known. Dr. Harlan has reported a case which I called to his observation in which apparent unilateral iridoplegia followed mycosis tonsillaris, in which great limitation of the field of vision and other ocular disturbances were noted, and in which I succeeded in relieving the apparent blindness and restoring mobility to the iris by the application of a wooden imitation of a Chareot magnet. When Miss — was told that electricity would be applied, she took it for granted that the cautery was meant—the pain was to her the pain of heat—and her mother tells me that she has triumphantly asserted that she "knew she couldn't be cured without burning!" Rhinoscopic inspection after the applications showed that no eschar was produced by the current.

The Sewerage of Newton, Mass.—On Tuesday last a public meeting was held, at which the subject of sewerage was discussed and the metropolitan system explained in an essay by Mr. J. W. Carter.

A NEW METHOD OF TESTING THE "KNEE-KICK."

By WARREN P. LOMBARD, M. D.

It is the desire of the writer to call the attention of physicians, and more especially of those interested in nervous diseases, to a very simple and delicate method of testing the so-called tendon reflex of the knee, or "knee-kick." Aside from its precision, this method will recommend itself to the practitioner because it can easily be employed on patients who are confined to the bed. As soon as a convenient method of striking the ligamentum patellæ a blow of known force has been devised, the method will gain a new importance, because it lends itself readily to simple means of recording the extent of the movement, and will thus enable the physician to keep an accurate record of the condition of his patient, and of the changes which the "knee-kick" may undergo in the course of disease.

Last winter the writer made a series of experiments, in the physiological laboratory of the College of Physicians and Surgeons, upon the time required for the development of a contraction of the quadriceps muscle in response to a blow on the ligamentum patellæ, as compared with the intervals elapsing when the muscle was stimulated directly by a faradaic current, and reflexly by an irritant applied to the skin near the knee ("American Journal of the Medical Sciences," January, 1887, p. 88). These experiments demanded a more delicate means of testing the "knee-kick" than any in general use. After a time an appliance was found which satisfied all the requirements. It is unnecessary to describe the method followed in this laboratory research, for it is not feasible for the general practitioner; the following imitation of this method, however, can be employed in all places and at all times.

Let the patient lie on his side, the leg to be examined being uppermost. Place a cushion or roll of cloth between the thighs, so as to separate the knees, and, as far as possible, to fix the thigh of the limb to be studied. Support the foot of the leg to be examined by a sling, formed of a loop of bandage, or of a towel, suspended from a cord. Grasp the cord as far from the foot as may be, letting the hand be directly over the ankle, that the leg may swing freely and the degree of flexion of the knee be determined entirely by the tension of the muscles. Strike the ligamentum patellæ with an instrument which has a rounded edge and which is considerably heavier than the ordinary percussion hammer.

Improvements upon this method will readily suggest themselves; such as to make the thigh immovable by letting it rest in a splint which is molded to its inner and posterior surface, and which is fastened to a firm support; to fix the foot in a suitable swing; and to let the cord from which it is suspended come from a pulley at the ceiling.

By means similar to those described, a marked "knee-kick" may often be got from a patient who by the ordinary methods of examination would exhibit little or none. The delicacy of the method depends on the fact that the muscle is relieved of the weight of the leg, and its slightest contraction can, therefore, cause a visible movement. By this

means some rather curious results have been obtained. A marked "knee-kick" was observed in the case of one subject during sound sleep. The re-enforcements described by Dr. Weir Mitchell ("Medical News," February 13 and 20, 1886) were admirably illustrated. In short, the method seems to meet all the requirements of the investigator.

The extent of the motion of the foot, and consequently of the contraction of the quadriceps muscle, may be recorded by the following simple arrangement: A string may be fastened by one end to the heel, and by the other to a strip of elastic, which, in turn, is attached to a firm upright support. The support can then be placed in such a position that the string shall be tense, shall be horizontal, and shall form a right angle with the long axis of the leg. The writing mechanism may consist of a piece of wire bent to form a T, the horizontal arms of which can be fastened to the string, while the free end of the stem can rest on a paper, coated with lamp-black, and secured to a board, which is placed directly beneath.

A contraction of the quadriceps muscle will extend the leg, stretch the elastic, and, by drawing the wire across the blackened surface, leave a record of the extent of the movement. Such a tracing can readily be fixed by passing the paper through the ordinary brown shellac varnish. Crude as such a method is, it would enable valuable records to be obtained with but little trouble.

Correspondence.

LETTER FROM LONDON.

The Proposed new Medical Degree for London Students.—Meeting at the College of Physicians.—Sir James Paget and the Pathological Society.—A New Specialists' Journal.

LONDON, January 16, 1887.

THE new year finds the scheme for providing an attainable degree for London medical students much more nearly within the range of practical politics than it was twelve months ago. Since then delegates from the College of Physicians and the College of Surgeons have held innumerable sittings, and presented a report the most important part of which has now been accepted by both the colleges. The latest transaction in regard to it took place at a meeting of the College of Physicians in December, when the report of the delegates was under discussion. It is quite possible that the report might have been rejected had it not been for the eloquent speech of Sir Henry Pitman, who smoothed away all objections with singular ability. The great argument of the objectors has always been that colleges can not give degrees, that being the function of a university; and therefore, they say, let a university be formed in the management of which the two colleges may have a share. But Sir Henry Pitman first told us that the University of Edinburgh existed as a college for a hundred years before becoming a university, and then gave, perhaps, even a better instance in the recent foundation in London of a Royal College of Music, which has the power to grant degrees in music; it is, therefore, clear that the university-theory objection can no longer be sustained. Another objection that was frequently raised was that the identity and existence of the College of Physicians would be merged in this new body; but those who urged this forgot that the combination of the two colleges had already taken place as

far as is necessary, without in any way producing detriment to the individuality of either of them. The meeting ended with a practically unanimous decision to join with the College of Surgeons in presenting a petition to the Privy Council asking for power to confer a degree. What the exact terms are upon which this degree should be given have yet to be settled; but the only point upon which there is likely to be any difference of opinion is as to whether it should be a *sine qua non* that the student shall have studied at one of the metropolitan schools of medicine. It appears to me that it should be, and for this simple reason—viz., that one of the chief reasons, if not the very foremost reason, for demanding a degree in London is the immense opportunity for clinical study which the metropolis affords, and to give this new degree to men who have not availed themselves of those opportunities would make it appear that the efficient training of the student was not an all-important point. It seems possible that the College of Physicians may differ with the College of Surgeons on this point, as it is rumored that the latter does not wish to insist upon any part of the study being of necessity carried out in London; but I hope it will be brought to see the error of its way, as I know that by many at the College of Physicians the matter will be regarded and treated as a vital one.

Sir James Paget has surprised nearly every one by becoming the president of the Pathological Society, and showing that he is never too senior to accept any office which may lead to the attainment of knowledge. He has always, though a great surgeon, had a leaning to pathology, and his lectures on surgical pathology, delivered many years ago, may still be read with the greatest profit. For several years he has been the leading spirit in the management of the College of Surgeons museum, and has edited the catalogue of the preparations contained therein, a work only recently completed. He is anxious to keep himself quite abreast of what is going on in pathology at the present moment, and he has certainly chosen the best means of attaining his object. The society is especially fortunate in having one to preside over its deliberations who never speaks on any subject without throwing some new light on the point in dispute, and who is without doubt by far the best speaker in the medical profession.

The Pathological Society lost no time in getting to work after the Christmas vacation, and last Tuesday there was plenty of material for discussion. Dr. Wigglesworth communicated a case of Raynaud's disease in which peripheral neuritis was found, but it would appear to be at least doubtful whether that name was rightly given to it, and whether the case might not more justly be placed in the same category as those of perforating ulcer of the foot. It would hardly seem possible that the symptoms would be of so fleeting a character in the real disease if they were dependent upon peripheral neuritis. At the same meeting Mr. Eve showed a specimen of multiple cavernous angiomas, and Dr. Carrington a specimen of supposed recovery from tubercular meningitis, a point on which those who followed him were by no means agreed.

A "Journal of Laryngology and Rhinology" is announced as having sprung into existence with the new year. It is edited by Dr. Morell Mackenzie and Dr. Norris Wolfenden, and published by Messrs. Churchill. I have not seen it yet, but there can be very little doubt that there is room for such a periodical. It is to come out monthly and consist of a record of current literature on the subjects, and not of original papers.

The Board of Health of Brocton, Mass.—The mayor has communicated to the Board of Aldermen his reasons for the removal from office of the present members of the board. The aldermen will take action on the mayor's communication at their meeting on Monday the 31st inst.

THE
NEW YORK MEDICAL JOURNAL,
A Weekly Review of Medicine.

Published by
D. APPLETON & Co.

Edited by
FRANK P. FOSTER, M. D.

NEW YORK, SATURDAY, JANUARY 29, 1887.

LATE PUERPERAL HÆMORRHAGE.

GRÄFE, of Halle, contributes an article on this subject to a recent number of the "Zeitschrift für Geburtshilfe und Gynäkologie," including under the title all uterine hæmorrhages that occur after the time when the lochia ordinarily lose their sanguineous appearance. He believes such hæmorrhages to be far commoner than is generally supposed, the physician's attention not being called to them by the patient or the nurse; so long as the loss of blood is not sufficient to give rise to apprehension, he says, it is allowed to go on untreated, and, even when the attendant discovers that there is hæmorrhage, he rarely seeks to discover its cause, but simply gives a few doses of ergot in a perfunctory way. In itself an occasional slight oozing of blood during the lying-in period is not particularly significant, but when it is a symptom of some pathological condition it acquires great importance. As a result of inadequate tonic contraction of the uterus, its vessels do not receive sufficient compression, and thrombosis occurs imperfectly. Any sudden determination of blood to the organ, as from straining at stool, too early rising after labor, etc., then results in the dislodgment of the thrombi and consequent metrorrhagia. In short, hæmorrhage occurring late in the puerperium is a symptom of subinvolution, provided it is not due to placental residua. The author considers the following deductions warranted: 1. Most puerperal metrorrhagias are of grave significance, and point to imperfect involution. 2. They may be so profuse as actually to threaten life. In this case they are due to "placental polypi," which become partially or completely detached during the first half of the period of convalescence. 3. Placental residua may lead to rapid general enlargement of the uterine mucous membrane, as a result of which hæmorrhage may occur at the close of the lying-in period. 4. Moderate hæmorrhage during the first week may be dangerous if the blood can not find a ready exit from the uterus. If imprisoned within its cavity, it causes gradual dilatation of the organ, so that the mouths of the vessels expand, their thrombi are detached, and what was at first an insignificant metrorrhagia may become extremely dangerous.

The means of prevention consist primarily in the proper management of the third stage of labor. The placenta must be carefully inspected after its expulsion, and, if any part of it is wanting, the missing portion must be detached from the interior of the uterus under strict antiseptic precautions. If atony of the organ is observed, it should be stimulated to contract by the employment of ergot, friction, and hot or cold injections. The physician should make it his business to see that involution is proceeding normally. If metrorrhagia appears, the genital

tract should be explored for its cause; care should be taken that the bladder and rectum are regularly and thoroughly emptied; and ergot should be given in full doses for two or three days, and then in smaller doses for a fortnight. The author has seen no benefit follow the use of *Hydrastis canadensis* in this class of cases. Hot vaginal injections are useful. If the hæmorrhage persists in spite of this treatment, it may be necessary to resort to the curette, but the instrument must be handled with more than ordinary care, as there is danger of perforating the uterine wall. When the uterus is found to be much larger than it should be, and there is profuse hæmorrhage, we should not hesitate to introduce the hand boldly into its cavity, to remove coagula, and to endeavor to promote contraction by counter-pressure over the fundus, as in ordinary cases of post-partum flooding.

MINOR PARAGRAPHS.

THE ANNUAL REPORT OF THE SURGEON-GENERAL OF
THE MARINE-HOSPITAL SERVICE.

SURGEON-GENERAL HAMILTON's report for the year 1886 forms, with the statistical and other appended matter, a volume of over three hundred pages. About one half the volume is taken up with clinical histories of interesting and instructive cases of injury and disease, contributed by the officers of the corps. As heretofore, we find the publication not only interesting in itself, but exceedingly well calculated to maintain the efficiency of the service. As concerns Dr. Hamilton's own part, it teems with crisp and pointed statements, a good example of which is afforded in the following paragraph relating to the hospital at Chicago:

"This, the largest hospital in the service, is still in need of extensive appropriations. The breakwater constructed last year for the preservation of the shore frontage has been largely broken away by the waves, and needs renewal. Some of the piles washed ashore, and it was found that some of them were only eight feet long. I reported the matter to the department, and it was investigated. The superintendent of the work is dead, and the department is considering the question of bringing suit against the contractor. In the mean time the lake goes on encroaching on the front, and an additional appropriation is necessary. The condition of the grounds around this hospital has been so often reported that the facts have lost their freshness. I repeat them once more, in the hope that an appropriation may be obtained to put the grounds in proper order. The hospital was begun in 1867, located on a sand-bank on the lake side, about six miles north of the Chicago River. The sand has never been graded, sodded, or turfed, and the level of the hospital lot changes with the wind-storms. The fence in front is now old, and should be replaced with a new one; it was a temporary board structure in the beginning, which the architect thought would last until an iron fence, in keeping with the handsome design of the building, could be constructed. Twenty years have passed, and the boards, much discolored and worn, are still waiting for the improvements so long ago asked for. A new steam-boiler is needed."

THE BOARD OF HEALTH OF THE HEALTH DEPARTMENT.

THE body which is officially designated by this cumbersome title is threatened with legislation involving its destruction. The bill now before the Legislature, a summary of the leading provisions of which we give elsewhere in this issue, will, if it becomes a law, substitute a single commissioner for the present board. The idea is that individual responsibility in the commissioner and in the Mayor will be likely to lead to a better performance of the duties appertaining to the sanitary department of the city

government, and that the expense of the service will be diminished. Individual responsibility is regarded by many people as a political panacea, but this, we take it, is more or less of a delusion. At all events, it will be exceedingly satisfactory if this or any other device gives us good a sanitary service as we had under the old Metropolitan Board of Health. It is understood that the bill has been prepared largely in accordance with the views of Mr. Gallatin, whose public-spirited and intelligent study of the methods employed by the present board are a sufficient guarantee that the bill is at least deserving of careful consideration. What the chances are of its becoming a law may perhaps best be inferred from the obvious fact that it will not suit the politicians. Not only is the present board thus practically arraigned before the community, but its dealings with members of the medical profession, in the matter of death certificates, is to be made the subject of inquiry by a special committee appointed on the part of the Medical Society of the County of New York, as will be found stated in another part of the Journal. It must be said to the credit of Dr. Nagle, who has charge of the Bureau of Vital Statistics, that this action was taken on his motion. Of course, the committee's report, whatever may be its purport, will carry with it nothing but moral effect, but it is to be hoped that we shall at least get at the facts.

CAPITAL PUNISHMENT BY ELECTRICITY.

THE horrid features of capital punishment by hanging—a term tantamount in the majority of instances to strangling—have often received consideration from a medical point of view. It is now announced that a legislative commission appointed to inquire into the merits of various devices for putting murderers to death with less repulsiveness will shortly report to our State Legislature in favor of the adoption of electricity. It is thought that the result is likely to be the passage of a bill abolishing execution by the gallows. A medical member of the commission is said to have expressed the wish that this State would "take the initiative in this step toward a broad humanity," and to have professed his gratification that France, Germany, and New Jersey seem to have had their serious attention turned to the matter in consequence of the New York inquiry.

ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Fourth Division of the Health Department for the following statement of cases and deaths reported during the two weeks ending January 25, 1887:

DISEASES	Week ending Jan. 18.		Week ending Jan. 25.	
	Cases	Deaths.	Cases.	Deaths.
Typhoid fever.....	16	5	7	5
Scarlet fever.....	44	7	49	11
Cerebro-spinal meningitis....	6	6	6	4
Measles.....	632	86	606	58
Diphtheria.....	130	38	123	50
Small-pox.....	6	2	24	0

Small-pox in New York.—For the past week or more new cases of small-pox have been reported from various quarters of the town almost every day, and the Board of Health has found it necessary to appoint a number of additional sanitary inspectors for temporary duty in connection with public vaccination and other measures for controlling the disease.

The Health of New York City.—During the five weeks ending January 25th there have been reported to the Sanitary Bureau of the Fourth Division of the Health Department 68 cases of typhoid fever and 30 deaths; 215 cases of scarlet fever

and 39 deaths; 27 cases of cerebro-spinal meningitis and 25 deaths; 2,730 cases of measles and 322 deaths; 636 cases of diphtheria and 227 deaths; and 30 cases of small-pox and 2 deaths.

The Medical Society of the State of New York.—We learn that the following additional contributions to the programme have been offered since the list which we published last week was made up: "Embolism of the Radial Artery complicating Endocarditis" (in abstract), by Dr. F. E. Martindale, of Port Richmond; "A Modification of Chadwick's Gynecological Table" (model and photographs), by Dr. Charles Stover, of Amsterdam; "Ametropic Conditions of the Eye as a Factor in Cephalalgia" and "The Treatment of Small Perforations of the Membrana Tympani with reference to the Formation of New Tissue," by Dr. B. H. Grove, of Buffalo; "New Nasal, Pharyngeal, and Laryngeal Instruments," by Dr. Samuel Sherwell, of Brooklyn; "Seven Cases of Solid Pelvic Tumors successfully removed by Laparotomy," by Dr. M. D. Mann, of Buffalo; "Observations on Diphtheria—its Complications and Treatment," by Dr. E. N. Liell, of New York; and "A Case of Floating Liver," by Dr. E. H. Parker, of Poughkeepsie. The meeting will be called to order at 10 A. M. on Tuesday.

The City Health Department and the Profession.—At the last meeting of the Medical Society of the County of New York the secretary read a communication prepared by Dr. John C. Peters, setting forth the evils arising in consequence of the law making it necessary that the president of the board of commissioners should not be a medical man. The result was, the writer said, that politics, in the worst sense of the term, influenced the department, arbitrary authority was used offensively in certain cases of infectious disease, and the board was derelict in abating nuisances. At the same meeting, on motion of Dr. Nagle, the appointment of a committee of five was authorized, to investigate the charges made in the president's inaugural address, to the effect that death certificates were sometimes returned to physicians for correction on the flimsiest pretexts.

Trichiniasis in Wisconsin.—The death is reported of a man and his wife, who lived at Stevens Point, from trichiniasis contracted by eating the flesh of a pig which was known to be diseased, but from which the man supposed that he had rejected all the infected portions.

A Bill to Substitute a Single Commissioner for the present Health Department of the City of New York has been introduced into the Legislature, the provisions of which are as follows: It abolishes the present Health Department, and substitutes a "Commissioner of Health," to hold office for six years, at a salary of \$8,000 a year, on appointment by the Mayor. The latter official is empowered to remove the commissioner "for reasons to be stated in writing and published in the 'City Record,' which reasons shall not be questioned in any other place." Except as otherwise provided in the bill, the commissioner's powers, authority, and duties shall be the same as those of the present Health Department. He shall appoint a deputy, at a salary of \$5,000, who may act as commissioner, for periods not exceeding three months, on written authorization by the commissioner, and his ordinary duties and powers shall be those appertaining at present to the secretary of the Board of Health. The bill abolishes the office of the present Board of Health's legal adviser, and authorizes the Corporation Counsel to assign an attorney, with the necessary clerks, to the commissioner's office, a portion of the appropriation for the Health Department to be transferred to the credit of the Law Department, to pay the salaries of these persons. The bill leaves the existing Sanitary Code in force.

Veterinary Practice in the State.—A bill has been introduced into the New York Legislature giving persons who have practiced veterinary medicine for three years preceding its passage, although without having obtained a diploma from a veterinary college, the right to register at the office of their County Clerk, and thereafter to continue to practice.

The Harvard Medical School.—In the recent annual report, the president of Harvard University spoke as follows of the medical department: "The medical school makes a slow gain in the number of students and its annual income, but is nevertheless doing excellent work. A plan for abridging the four years' course of study in certain cases is now under consideration."

The Boston Board of Health.—Dr. Durgin, who has been a member of the board since its organization seventeen years ago, and has rendered efficient service, has been nominated for another term by the Mayor, and confirmed by the Board of Aldermen.

The Springfield, Mass., City Hospital has had bequeathed to it, in the will of the late Mr. William Merrick, a sum stated to be between \$75,000 and \$100,000. Together with the \$25,000 received from Mrs. Chester W. Chapin, this places the institution on a good footing, and it is understood that the trustees are looking about for a suitable locality for a new building, the present property being at too great a distance from the business portion of the city.

The Study of the Curability of Tuberculosis is meeting with substantial encouragement in France, where, according to the "*Gazette hebdomadaire de médecine et de chirurgie*," a fund amounting now to 54,055 fr. has been subscribed for the purpose. The contributions come not only from individuals, but also from municipalities—a fact that attests the existence of a gratifying public interest in the matter.

Secretary Crises in Tabes Dorsalis.—At a recent meeting of the Paris *Société de biologie* M. Féré said that he had lately observed an ataxic patient who had crises of profuse sweating or salivation, accompanied with fulgurant circumorbital pains and a unilateral increase of the lacrymal secretion, a phenomenon which, the speaker remarked, had already been noticed by Duchenne and Pierret.

An Homology between the Shoulder Blade and the Innominate Bone was brought to the attention of the same meeting, an account of the proceedings of which is to be found in a recent number of the "*Gazette hebdomadaire de médecine et de chirurgie*," by M. Assaky, who stated that, during the formative stage, a small bone was to be found included in the cartilaginous substance of the glenoid cavity, which he proposed to call the glenoid bone (*os glénoidien*), by analogy with the cotyloid bone (*os cotyloïdien*) found by Serres in the cotyloid cavity, in children from nine to ten years old, between the three bones constituting the complete os innominatum.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from January 16, 1887, to January 22, 1887:*

FORWOOD, W. H., Major and Surgeon. Ordered for duty at Fort Meade, Dakota Territory. S. O. 5, Department of Dakota, January 14, 1887.

BROOKE, JOHN, Major and Surgeon. Ordered for duty as post surgeon at Fort Monroe, Virginia. S. O. 10, Division of the Atlantic, January 14, 1887.

GARDNER, W. H., Major and Surgeon. Ordered for duty as

post surgeon at Fort McHenry, Maryland. S. O. 10, Division of the Atlantic, January 14, 1887.

POPE, B. F., Major and Surgeon. Ordered for duty at Fort Clark, Texas. S. O. 15, A. G. O., January 19, 1887.

Society Meetings for the Coming Week:

TUESDAY, *February 1st*: Medical Society of the State of New York (first day—Albany); New York Obstetrical Society (private); New York Neurological Society; Elmira, N. Y., Academy of Medicine; Buffalo Medical and Surgical Association; Ogdensburg, N. Y., Medical Association; Hudson, N. J., County Medical Society (Jersey City); Hampden, Mass., District Medical Society (Springfield); Androscoggin, Me., County Medical Association (Lewiston).

WEDNESDAY, *February 2d*: Medical Society of the State of New York (second day); Harlem Medical Association of the City of New York; Medical Society of the County of Richmond (Stapleton), N. Y.; Penobscot, Me., County Medical Society (Bangor); Bridgeport, Conn., Medical Association; Philadelphia County Medical Society (regular).

THURSDAY, *February 3d*: Medical Society of the State of New York (third day); New York Academy of Medicine; Society of Physicians of the Village of Canandaigua, N. Y.; Boston Medico-psychological Association; Obstetrical Society of Philadelphia; U. S. Naval Medical Society (Washington).

FRIDAY, *February 4th*: Practitioners' Society of New York (private).

SATURDAY, *February 5th*: Clinical Society of the New York Post-graduate Medical School and Hospital; Manhattan Medical and Surgical Society (private); Miller's River, Mass., Medical Society.

Proceedings of Societies.

NEW YORK SURGICAL SOCIETY.

Meeting of December 22, 1886.

(Concluded from page 106.)

The Use and Abuse of Passive Motion.—Dr. SANDS's paper on this subject (see page 103) being under discussion, Dr. L. M. YALE said that so many interesting topics had been raised that it would be difficult to fully discuss them. The speaker considered the use of hot water in sprains of great value, gradually raising the temperature of the water as high as it could be borne, and afterward applying compression: this he had found would alleviate the pain in many cases. The treatment by massage he believed to be only applicable in cases where the injury did not involve the bony parts. The cases he considered most likely to suffer ankylosis from enforced rest were those arising from gonorrhoeal rheumatism and similar pseudo-pyæmic affections, as in such patients ankylosis, more or less severe, occurred quite frequently. In the majority of cases of ankylosis he had found that, after the adhesions had been broken up and the acute symptoms subsided, good motion was generally secured in the joint. But in chronic cases of the kind alluded to he had often met with complete failure.

Dr. C. K. BRIDGES said that the paper had thrown a ray of light on what the editor of the "*Lancet*" had called "a dark corner in the domain of surgery." The editorial referred to applied to papers published in that journal fifteen years ago by Dr. Wharton P. Hood, and subsequently issued in book-form under the title "*On Bone-Setting (so called) and its Relation to the Treatment of Joints crippled by Injury, Rheumatism,*

Inflammation," etc., a book from which he had culled much that was valuable and instructive. It was in return for services rendered to Mr. Hutton, the renowned bone-setter of Great Britain, that Dr. Hood had been allowed to witness the procedures by which he certainly achieved many successes. In one portion of his book he referred to a communication made to him by Mr. Ponsonby in which the latter gentleman, in facetious but not very flattering terms, referred to a bad sprain treated by parboiling, and subsequently by prolonged rest advised by two prominent surgeons, that was at last promptly cured by the manipulations of the "bone-setter."

Dr. Peter Hood had devised a treatment for sprained ankle that had given him more satisfaction than any other—strapping the whole foot and ankle with adhesive plaster and a firmly applied bandage, arranged so as to prevent any stretching of the lacerated tendons, and changed every day.

The speaker would like to indorse the opinion of Dr. Sands with reference to the treatment of firm fibrous ankylosis by forcible movements. He had succeeded in restoring function to some disabled limbs by such means, but had more often failed. In the early part of the present year a lady was placed under his charge with a knee badly damaged by rheumatic arthritis. It was flexed, the head of the tibia was displaced backward, and the leg was rotated; there was scarcely perceptible movement, and the patella was immovably fixed to the condyles. He had her under the full influence of ether and arranged on a stout table, with all the advantages to be obtained by using the leg as a lever. It required all the force he could bring to bear before he succeeded in flexing and extending the limb to his satisfaction, and the reports of the rending adhesions were truly alarming. On the following day there was no local elevation of temperature, but the parts were so sensitive that she would not permit him to touch the limb until she was placed under the influence of ether. For a month he made daily movements under anesthesia, and then, finding the same conditions as those present the day after the operation, the same sensitiveness and inability on the part of the patient to move the joint, he gave up in despair, and, to prevent the return to a faulty position, he immobilized it extended.

In regard to passive movements in cases of fracture in the vicinity of joints, referring especially to those in the neighborhood of or involving the elbow, and including the epiphyseal separations of children, he would say that he would not treat such unless he was allowed to make early passive movements. In the early part of his career he had seen so many stiff joints where the parts were kept uninterruptedly at rest, that he had since insisted on early gentle movement, which could be done without materially disturbing the fracture.

Dr. GEORGE A. PETERS said that he was in the habit of keeping the patient in bed when suffering from a severe sprain, and treating the injured part with hot water and compression. Eighteen months ago a case came under his observation involving the knee joint. Having heard so much talk of massage, he put the patient under the care of a masseur, under his own observation, and the result was very satisfactory. He had since tried it in other cases with good effect, and was inclined to look with favor on massage thoroughly applied.

In cases of false ankylosis of joints from fractures in their neighborhood it had long been his practice, as soon as the union was firm, to put the patient under anesthesia and rupture them by strong manipulations. He had never had cause to regret such treatment, and believed it to be preferable to the slower method of passive motion, which the patient was prone to neglect on account of the pain which it occasioned.

With regard to passive motion in joints with fracture extending into them, it was his practice to remove the dressing,

say, after the fourth or fifth day, and resort to very gentle motion. This he would continue every second day or so until he was satisfied with the results obtained. One advantage at least of such treatment was that the surgeon was enabled to see that the apposition of fragments was good, and deformity was less likely to result.

Fractures of the bones of the forearm near the wrist he had long treated with two short anterior and posterior splints, neither of them extending down upon the hand. These being secured in place, the arm was carried in a sling, the hand being allowed to hang loosely, and the patient was directed to use the hand and fingers as much as possible during the entire treatment. By this method he had secured results which were entirely satisfactory.

Dr. C. T. POORE said that he had seen some eight or ten fractures of the elbow joint in which passive motion was made early; but in one case no motion was made until the parts were healed and the dressings removed finally; in this case the result was excellent also. In regard to ankylosis, either bony or fibrous, he had seen great disaster follow attempts at motion; from his own experience, he believed much good could not be secured at the hip joint from manipulation, and that when it occurred at the knee joint much improvement could not be obtained, especially after suppurative disease.

Dr. ROBERT ARBE said that he must express strong objections to any motion that excited pain. He considered voluntary motion on the part of the patient much better; in the elbow and shoulder joints the patient would generally do this, and in six months could almost always get rid of plastic adhesions resulting from fractures. As to faulty ankylosis of the knee joint following gonorrhœal inflammation, he had observed an article, published by Mr. Barwell in the "Lancet," in which resection of the bone was advised in preference to violent rupture in order to secure an improved position. The speaker quoted a case in which he had assisted Dr. Weir, occurring in a woman whose knee had been flexed at more than a right angle; the adhesions had been broken up, and after a reasonable time the patient had been taught to make passive motion. She had drawn the foot backward and forward by an elaborate apparatus devised for this purpose, but at the end of a year she had not gained much, and had started up meanwhile some inflammatory action which had caused great anxiety.

Dr. W. T. BULL considered Dr. Sands's remarks very opportune. Some thought it necessary after fractures to make passive motion at a certain time, and frequently inflicted pain in so doing, which he considered unnecessary. He thought the idea of passive motion at the end of three weeks in fracture of the patella was wrong, as, if there was a fracture needing freedom from motion, it was this fracture. In his practice for the last ten years he had not allowed motion until the eighth week. In one or two cases where motion had not been regained at the end of the eighteenth week passive motion had been made under anesthesia and the joint liberated. He had met with an instance of the advantage of the "faith cure" in a patient who would not submit to the manipulations he proposed. This patient, who had had a fractured patella, believed in the faith cure, and visited a "shrine" in Hoboken. She was told to kneel down; she complied, and heard something snap, and she afterward had a good knee. In fracture of the elbow joint, the speaker had felt but little hesitation about abandoning the old tradition that passive motion was necessary. But in fractures opening into the joint he had made passive motion two or three times a week, and at the end of the fourth week the patient had been trusted with manipulation of the joint; better results had been secured by this means. He had also directed the patients to apply a hot poultice to the joint every night for two or three weeks after

commencing passive motion; under this influence and their own manipulations stiffness had soon disappeared. He was using less and less passive motion in his practice; he thought there should be some definite understanding on this point; he doubted if passive motion diminished stiffness permanently.

In speaking of fracture of the wrist joint, he considered that a different class of cases; and in the average fracture, if kept at rest, the cure would not be attended with any stiffness; but he had always been in the habit of allowing the patient to move the wrist and fingers at the end of a week or ten days, and would advise this practice in order to prevent adhesions of the tendons. He said that Dr. Sands had referred to periartthritis in speaking of articular rheumatism of the shoulder joint; in some few cases of laboring men he had forcibly ruptured the adhesions under ether and secured good results. In relation to passive motion in gonorrhœal ankylosis of the joints the results had not been satisfactory. In the treatment of sprains Dr. Sands had followed out the same method which the speaker considered the best; as to the use of hot water, he had not gained much from its application, and would never use hot or cold water in the swelling of a fracture.

The CHAIRMAN (Dr. L. A. STIMSON) said that his views were much the same as those of the other speakers. He would like, however, specifically to add his testimony against early resort to passive motion. It was his opinion that the stiffness of the knee following fracture of the thigh was due in part to a co-incident sprain of the joint; only in the joints of the fingers did he think immobilization was liable to cause persistent rigidity, and he therefore had considered it necessary, in treating fractures of the upper extremity, to make passive motion of the fingers at an early date. In relation to fractures in the neighborhood of joints in which the joint was not injured, he had no apprehension of ankylosis; but when the joint was directly involved in the fracture, there was reason to fear it as a consequence of the change in the shape of the surfaces or of the arthritis. One argument advanced in support of early passive motion was that exuberant callus might be thereby molded or shaped so that it would less impair the motion of the joint; but the speaker thought this was purely theoretical and incapable of proof. His opinion was that the exuberant growth of bone seen in children was due to the stripping up or irritation of the periosteum, and the quieter the joint was kept, and the more complete the reduction of the displacement, the less the irritation of the periosteum. His treatment in fractures was to leave the parts quiet for three or four weeks, inspecting them once or twice a week to make sure that the fragments remained reduced, and occasionally changing the angle at which the joint was held. When the splints were removed, the joint was always more or less stiff, but its range of motion usually increased rapidly. In hospital cases it was not easy to speak positively as to ultimate results, as it was difficult to follow them up.

Dr. SANDS said that he was somewhat surprised to find his views concerning passive motion corresponded so closely with those of his colleagues, as he had come prepared to hear that their experience had led them to form on many points opposite opinions. He drew attention to the frequency of ankylosis after fracture of the elbow, compared with the occurrence of stiffness following fractures involving the hip, the knee, or the ankle; and he was unable to explain the difference except by assuming that the complicated bony structure of the elbow often interfered with proper reduction. He urged close attention to this point in the early management of these fractures. To put off what ought to be done at once, and to endeavor to prevent stiffness by employing passive motion, was a common and unfortunate delusion. He inquired of Dr. Peters whether the sprains of which he had spoken were severe.

Dr. PETERS replied that two of them were. The results of treatment by massage were, however, very satisfactory, recovery having followed at an earlier period than usual.

Cancer of the Tongue.—Dr. F. LANGE presented a specimen removed from a patient suffering from this affection, and gave the following history:

A very vigorous and otherwise well-preserved and healthy gentleman consulted me for a cancerous disease which had taken its origin from the fold between the margin of the tongue and the floor of the mouth on the right side, and, though not presenting to a great extent superficial ulceration, had infiltrated the soft parts toward the base of the tongue and in the suprathyoid region. A glandular infiltration along the large vessels on the right side likewise existed, and some enlarged glands could be felt in the submaxillary region of the left. About four months previously the first symptoms had appeared, and lately pain and suffering had become very severe. The main source of trouble was to the patient a perpetual abundant salivation, which had been hardly influenced by the division of the largest nerve, which had been done some time before by another surgeon.

The patient wanted to be relieved at all hazards, and, though the operation had been declined by a most competent surgeon of this city, I decided to do it for the following considerations:

Suppose that it was possible to form a new floor of the mouth by a plastic operation, after the very extensive loss of tissue to be expected in consequence of the operation, so that healthy mucous membrane could be turned against the oral cavity and the wounded surface excluded, we might avert the principal dangers following these operations—those of sepsis and “Schluchpneumonie.” It would be necessary to remove the part of the horizontal ramus of the mandibula adjacent to the tumor, and the operation was done in the following manner: After preliminary tracheotomy, first on the left side, the contents of the submaxillary fossa were removed and the lingual and external maxillary arteries tied. A corresponding incision was then made on the opposite side and the infiltrated portion of tissue laid bare. The right half of the hyoid bone had to be resected also. Then, after cutting through the lower lip at a point corresponding to the external lower incisor-tooth, the soft parts, including the periosteum, were removed from the external surface of the horizontal ramus of the mandibula, and that portion of bone was removed. I then had very free access to the diseased parts, and, after first tying the lingual and external maxillary arteries, the mass of diseased tissue, down to the epiglottis and hyoid bone, could be rapidly removed with only very little loss of blood. So far, the patient had stood the operation very well. He had not suffered an excessive loss of blood, his pulse was good, respiration very quiet, the tamponade of the trachea acting very well. The mucous membrane of the left half of the floor of the mouth had been purposely preserved, and I now tried to unite the edge of it to the mucous membrane of the external surface of the removed alveolar process. In this attempt I encountered some tension corresponding to the base of the tongue, the parts of the right side not yielding sufficiently, on account of the ascending portion of the mandibula still being present. This, therefore, had to be removed, and it seemed to me as if the unavoidable manipulations connected with this act of the operation, and probably the irritation of the intra-maxillary nerve caused by it, contributed to a rather sudden deterioration of the pulse and appearance of the patient. After the artificial floor of the mouth had been formed, the external wounds were left open and loosely patched with iodoform gauze. I intended on the second or third day to do a secondary suture. The tracheal tampon-tube was replaced by the usual tracheotomy-tube. The patient rallied well after the operation. He had a fair pulse of about 112, became conscious, and expressed his satisfaction at the operation being over.

When I came to the hospital on the following day I found that the man had died rather suddenly. His temperature had risen to 107° F., and after a short time of unconsciousness he had expired. After the operation I had placed a soft-rubber catheter through his nostril into the œsophagus to avoid the passage of food or drink into the trachea. An autopsy was refused, and I am at a loss to say what the real cause of death was; possibly a very acute pneumonia or nephritis, which I have observed in a few cases after protracted ether narcosis. I also

thought of the possibility that, by the influence of the ether, disintegration of a large portion of the red blood-corpuscles might have set free enough blood ferment to account for this sudden change.

The operation certainly lasted too long; but I think it could be much shortened by first tying the external carotid arteries on both sides. The perpetual cutting through bleeding vessels which have to be tied is indeed the main source of the dangerous prolongation.

In spite of the unfavorable issue in this case, I should follow the same plans in a similar case, while, on the other hand, I freely admit that such a risky undertaking, with regard to the best result that can be achieved, can only be justified by the miserable outlook which the patient will have if nothing is done.

In another case I should also carefully maintain the tracheal tamponade for some time after the operation. It struck me during the operation that, by sewing up the posterior part of the floor of the mouth, the epiglottis was somewhat drawn forward and the entrance to the larynx widely opened.

Vaginal Extirpation of a Carcinomatous Uterus; Recovery.—Dr. LANGE then presented a specimen of a uterus removed from a married woman, about fifty-five years of age, in whom an advanced cancerous disease was, only shortly before the operation, detected, on account of an obstinate hæmorrhage causing an examination.

The operation was done after Martin's method, and was attended with a great deal of difficulty on account of the broad insertion of the supra-vaginal tissue in Douglas's space as well as toward the parametria, which latter, especially on the right side, were already somewhat affected. Coarse silk was used for all the preliminary ligations. Though some of the offensive contents of the uterine cavity, which in spite of free irrigation could not thoroughly be cleansed, had escaped during the operation into Douglas's space, no peritonitis followed, the after-treatment being the open antiseptic treatment with iodoform gauze loosely packed into Douglas's space and against the wound surfaces. The patient made a good and comparatively rapid recovery, so that, six weeks after the operation, she was discharged with only a small granulating surface at the end of the vagina. Though the prognosis with regard to the probable early recurrence of the disease was not flattering, still the patient had been benefited by the operation. She had picked up in strength, and her life would, at all events, be prolonged and made more tolerable. The cancerous affection included the whole cervix, and the infiltration reached somewhat above the internal orifice. The ovaries and tubes were left. Thiersch's spindles with a handle had proved to be very useful in this case also.

Book Notices.

A Text-book of Medicine, for Students and Practitioners. By ADOLPH STRÜMPPELL, formerly Professor and Director of the Medical Poliklinik at the University of Leipzig. Translated by permission from the Second and Third German Editions by HERMAN F. VICKERY, A. B., M. D., Assistant in Clinical Medicine, Harvard Medical School, etc., and PHILIP COOMBS KNAPP, A. M., M. D., Physician to Out-patients with Diseases of the Nervous System, Boston City Hospital, etc. With Editorial Notes by FREDERICK C. SHATTUCK, A. M., M. D., Instructor in the Theory and Practice of Physic, Harvard Medical School, etc. With One Hundred and Eleven Illustrations. New York: D. Appleton and Company, 1887. Pp. xx-981. [Price, \$6.]

Of the German text-books of practice that have been translated into English, Professor Strümpell's will probably take the highest rank. Between its covers will be found a very complete and systematic description of all the diseases which are classed under the head of internal medicine. Unlike most of the larger works on practice, it is without the preliminary discourse on general pathological subjects, an omission which

is very much to be commended, because there are at the present day so many special treatises upon pathological subjects that there is no longer a necessity for such a section in a work of this kind. The author begins his treatise with a section upon General Diseases, under which head are included all the essential fevers, the exanthemata, malarial diseases, cholera, dysentery, yellow fever, etc. While it is impossible to refer to all these particularly, we may call attention to the chapter on Typhoid Fever as being especially valuable, not only on account of the advanced views in regard to the pathology of that disease, but also because of the careful description of its clinical history and of its treatment.

The German works on practice are all lacking in those graphic descriptions which are found in such a book as Watson's, but we get in Strümpell a more interesting account of the clinical phenomena than is ordinarily found. In this respect it will compare favorably with the works of von Niemeyer and Eichhorst.

Under the head of Diseases of the Respiratory Organs the author includes diseases of the nose, larynx, trachea, lungs, bronchi, and pleura. The section on the Treatment of the Diseases of the Upper Air-passages, while it is necessarily somewhat brief, is nevertheless a sufficient guide to the general practitioner or to any one who does not aspire to a special knowledge of these affections. The paralyzes of the laryngeal muscles, for instance, are disposed of in less than four pages, but the section contains all that any one but a specialist is likely to require. Other more common affections are treated of somewhat more extensively. We note more especially the excellence of the article upon Croupous Pneumonia, and also that upon Tuberculosis of the Lungs. The author adopts Koch's theory in its entirety, and apparently believes in the contagiousness of tuberculosis, but we do not notice any specific statement in regard to that question. He includes under the tubercular processes all the different varieties of pulmonary consumption, the ordinary chronic phthisis, and fibroid induration of the lungs. There is no new point in regard to treatment. The subject of the pneumatic treatment of consumption, which is attracting so much attention at present in this country in consequence of the introduction of Dr. Williams's pneumatic cabinet and the writings of Cohen and others, is dismissed with the statement that "pneumatic treatment by inhalations of compressed air may sometimes give good results in cases of incipient phthisis." It is to be hoped that something far better than this may be the outcome of the experiments that are being tried in various quarters.

The next section is upon the Diseases of the Circulatory Organs. The article on Acute Endocarditis is very carefully written and contains many interesting and valuable points. The author does not draw so clear a line of demarcation between the vegetative and ulcerative forms of the disease as is done by many writers. However, in the present state of our knowledge of the subject, he is probably more nearly correct than those who attempt to make a more distinct classification.

The valvular diseases of the heart receive less space than they are entitled to in view of their prevalence and importance. The clinical pictures of disease in this section are particularly scanty, and we think that an important omission is that of not giving sufficient consideration to the collateral symptoms by which the diagnostician is assisted in estimating the extent of the valvular lesions and the condition of the cardiac muscle. The treatment of the subject is marked by great accuracy, and the only unfavorable criticism that could be made is that the therapeutics of heart disease receives scarcely enough attention. One very important point, that of rest in the treatment of diseases of the heart, is scarcely alluded to.

The section on Diseases of the Digestive Organs is to some extent unsatisfactory, though no more than that of any other work on the practice of medicine with which we are acquainted. We miss particularly the careful treatment of atonic dyspepsia, or functional derangement of the stomach, a disease of great frequency in this country, and one which American practitioners have constantly to deal with. The chapter on Nervous Affections of the Stomach, or Nervous Dyspepsia, does indeed include a description of certain functional derangements such as occur in very sensitive or neurotic subjects, but the description is limited to the more aggravated forms, and such striking conditions as the nervous "gastroxynsis" of Rossbach and Kussmaul's "persistaltic restlessness." In the article on Neurasthenia this subject is also briefly alluded to. The Diseases of the Nervous System are more fully and more satisfactorily treated of in this than in any text-book of practice, unless it is Eichhorst's. The pathology is in the main accurate, and the clinical histories are carefully depicted, all the methods of diagnosis being described, and such slight treatment as is applicable to this class of diseases systematically detailed.

Under the head of Peripheral Diseases of the Nerves will be found many interesting and valuable studies of the various disturbances of sensibility and motility, which will be of great use to the student as an introduction to the study of the particular lesions.

Among the special diseases described we would call attention particularly to the treatment of Multiple Neuritis. The ætiology and pathology of the different forms of this disease are very carefully worked out, so that no point of any value is omitted. The clinical history of the different forms of neuritis is accurately given, and primary multiple neuritis receives special attention. The author has not omitted to allude to its pathological relationship to the endemic beri-beri of Japan and the East Indies. Among Vaso-motor and Trophic Neuroses are included Hemiplegia, Progressive Facial Hemiatrophy, and Exophthalmic Goitre. There are also some preliminary remarks upon vaso-motor trophic and secretory disturbances. The only fault that can be found with this section is that it is too short. The author has made it so interesting that one is disappointed that he has no more to say in it. The descriptions of the diseases of the spinal cord and its membranes are particularly lucid, and will be read with great pleasure by those who are beginning the study of this department.

We would refer, for example, to the author's treatment of locomotor ataxia, amyotrophic lateral sclerosis, and progressive muscular atrophy. The account given of the last two, and of the association of their pathology and symptoms with those of progressive bulbar paralysis, is such as to make the subject perfectly plain to one who has never before sounded the depths of neurology. In fact, all the inflammatory and degenerative changes of the spinal cord are very thoroughly and carefully described. The same may be said in regard to the diseases of the medulla oblongata. The section on the Diseases of the Brain is too extensive to receive an adequate notice in the space at our disposal. We will therefore content ourselves with a simple reference to the care and accuracy with which it has been prepared.

We have been very much interested in reading the part on Diseases of the Kidneys. The author's remarks upon albuminuria and its varying significance are judicious and in accordance with the views of the most advanced pathologists and clinicians. He does not accept the views of Sir William Gull and Dr. Sutton in regard to the changes in the arterioles in Bright's disease. His theory of the production of cardiac hypertrophy, so far as he commits himself, would seem to correspond more to that of Dr. George Johnson, that the increase in the blood-

pressure is due to a tonic contraction of the arterioles, dependent in some way upon the deranged function of the kidney. In describing the treatment of chronic renal disease he does not, in our opinion, lay sufficient stress upon the importance of protecting the surface of the body from chilling. We have regarded it as one of the most important aphorisms in connection with the subject of chronic Bright's disease, in this climate at any rate, that the sufferers from this affection are of all people the most likely to take cold, and the prevention of this by means of flannel garments and warm clothing for the feet has been one of our fundamental principles of treatment.

The book concludes with a section upon Diseases affecting the Blood and Tissue-metamorphosis (constitutional diseases). This includes the so-called diathetic diseases, with the exception of tuberculosis and rheumatism. The former is considered with the diseases of the lungs, but why the latter, which is placed by the author among the diseases of the organs of locomotion, should be omitted from this section, while its near relative, gout, is included, we are unable to conceive.

The translators have been at great pains to convert the centigrade scale and metric system into those ordinarily used in this country and Great Britain; and, where pharmaceutical preparations are mentioned which are not in use in America, they have, as far as possible, given the American equivalents of them. The work is very carefully done. They have not, like most translators of German medical works, sacrificed the rules of English composition to an excessive accuracy of translation, but have given us a work which reads smoothly, and, while of course they have not attempted to secure great elegance of style, we are not continually shocked by those awkward Germanisms which we constantly meet with in some other translations. Dr. Shattuck's notes are always well timed and frequently contain valuable information. If we may be allowed one criticism, we should say that we regret that in preparing the article on sunstroke he entirely neglected to give credit to Professor Wood, of Philadelphia, for his valuable work on that subject.

In order to get so much matter into one volume it has been necessary to use rather smaller type than might be desired, but the printing is so carefully done, and the proofs have been so fully revised, that it makes the reading, after all, very easy. The illustrations, particularly in the section on Nervous Diseases, are valuable aids to the interpretation of the text. The diagrams illustrating the lesions of the spinal cord are particularly valuable to the student in his reading of this complicated subject. Taken altogether, it is one of the most valuable works on practice that we have, and one which every studious practitioner should have upon his shelves.

A Manual of Obstetrics. By A. F. A. KING, A. M., M. D., Professor of Obstetrics and Diseases of Women and Children in the Medical Department of the Columbian University, Washington, D. C., etc. With One Hundred and Two Illustrations. Third Edition. Philadelphia: Lea Brothers & Co., 1886. Pp. xxiii+25 to 379.

This useful little volume appears in a revised shape, and commends itself to the reader by reason of its terseness of style and intrinsic common sense. We note with surprise the omission of Hegar's sign of early pregnancy, the retention of some obsolete, not to say mischievous, ideas regarding the delivery of the placenta (page 148), and the administration of ergot before the uterus is emptied (page 267). The practical directions regarding the management of normal labor are excellent. We have no hesitation in commending the book as a valuable aid to the student, though not to the exclusion of the larger treatises.

BOOKS AND PAMPHLETS RECEIVED.

Gout and its Relations to Diseases of the Liver and Kidneys. By Robson Roose, M. D., F. C. S., Fellow of the Royal College of Physicians in Edinburgh, etc. Third Edition. London: H. K. Lewis, 1887. Pp. xii-164.

Pleurotomy for Empyema; Recovery. By F. C. Fernald, M. D., of Washington, D. C. [Reprinted from the "Journal of the American Medical Association."]

Eighteenth Annual Report and By-laws of the New York Physicians' Mutual Aid Association.

A Text-book of Pathological Anatomy and Pathogenesis. By Ernst Ziegler, Professor of Pathological Anatomy in the University of Tübingen. Translated and Edited for English Students by Donald MacAlister, M. A., M. D., Fellow of the Royal College of Physicians, etc. Part II. Special Pathological Anatomy. Sections ix-xii. London and New York: Macmillan & Co., 1886. Pp. xii-3 to 391. [Price, \$3.50.]

Tubercular Consumption—Is it ever Inherited? By Henry D. Didama, M. D., of Onondaga County. [Reprinted from the "Proceedings of the New York State Medical Association."]

The Truth about Alcohol. By Robert Alexander Gunn, M. D. New York: Belford, Clarke, & Co., 1887. Pp. 4-5 to 73.

Ligation of the Vertebral Arteries for the Relief or Cure of Epilepsy. By J. L. Gray, M. D., Chicago.

Rest for Painful Eyes. Is this Advice always Good? By Julian J. Chisolm, M. D., Professor of Eye and Ear Diseases in the University of Maryland, etc. [Reprinted from the "Maryland Medical Journal."]

A Contribution to the Study of Tumors of the Spinal Cord. By B. Sachs, M. D. [Reprinted from the "Journal of Nervous and Mental Disease."]

Biennial Report of the Alabama Insane Hospital at Tuscaloosa. For the Years ending 30th September, 1885 and 1886.

Constitution and By-laws of the Alabama Surgical and Gynecological Association.

Report of the Surgeon-General of the Army to the Secretary of War for the Fiscal Year ending June 30, 1886.

Sixty-sixth Annual Report of the New York Eye and Ear Infirmary. For the Year ending September 30, 1886.

Annual Report of the Supervising Surgeon-General of the Marine-Hospital Service of the United States. For the Fiscal Year 1886.

Sterility. Management of the Secundines. By William H. Wathen, M. D., Professor of Obstetrics and Diseases of Women and Children in the Kentucky School of Medicine, etc. [Reprinted from the "South-western Medical Gazette."]

Report on Diseases of the Rectum. By Joseph M. Mathews, M. D., Professor of Principles and Practice of Surgery and Diseases of the Rectum in the Kentucky School of Medicine, etc. [Read before the Kentucky State Medical Society at Winchester, June 24, 1886.]

Papers on Hypertrophy of the Prostate Muscle. By Reginald Harrison, F. R. C. S. [Reprinted from the "Lancet."]

Twentieth Annual Report of the Columbia Hospital for Women and Lying-in Asylum. For the Fiscal Year ending June 30, 1886.

Rhinology in the Past and of the Future. An Address delivered before the American Rhinological Association on October 5, 1886, at St. Louis, Mo. By Carl H. von Klein, A. M., M. D., of Dayton, Ohio. [Reprinted from the "Journal of the American Medical Association."]

Reports on the Progress of Medicine.

OBSTETRICS.

By HENRY C. COE, M. D.

Erysipelas and Puerperal Fever.—Gusserow ("Archiv. für Gyn.," Bd. xxv) presents a paper on this subject based upon an analysis of fourteen cases. After referring to the fragmentary state of our knowledge concerning the relation between these affections, he reviews the

work of Hugenberger, Fehleisen, and others, and then calls attention to the discovery of the coccus of erysipelas as indicating the specific nature of the disease. From the history of the fourteen cases in which the latter developed after delivery, Gusserow shows that evidences of puerperal sepsis were present before the erysipelatous eruption appeared, the advent of the latter complication causing no additional symptoms except an increased elevation of the temperature or pneumonic trouble. In fatal cases the ordinary evidences of septicæmia were observed; but in no instance was there any indication that the septic poisoning was connected with phlegmonous erysipelas. Experimental inoculations were made with pure cultivations of erysipelas-cocci, rabbits being the animals selected. In every instance where the fluid was introduced beneath the skin of the ear a genuine erysipelatous inflammation was produced, attended with well-marked general symptoms. Numerous injections of fluid containing cocci were made into the peritoneal cavity, but these never gave rise to any septic trouble—conclusive evidence that there is no direct relation between erysipelas and puerperal fever. Can septic uterine discharges, on the other hand, give rise to erysipelas? No cases have been observed in practice, and the bacteria characteristic of various septic and pyæmic inflammations have not yet been sufficiently differentiated to allow of any positive deductions from experimental inoculations. Assuming that no inflammatory process, however closely it may resemble erysipelas, can properly be regarded as the latter affection, unless its peculiar cocci are found and can be cultivated and successively inoculated, it may be affirmed that erysipelas has never been produced by inoculations with any septic matter derived from a patient with puerperal fever.

Expectant Treatment in the Third Stage of Labor.—Dr. Felsenreich ("Wiener Klinik," 1886, Hft. i), writing on this subject, refers to the uncertainty which exists in the minds of the profession with regard to the indications for interference in cases of retained placenta. He does not approve of Ahlfeld's recommendation to wait for an hour and a half or two hours after the birth of the child, and then to be content with simply emptying the bladder and compressing the fundus uteri, instead of employing Credé's method, since this expectant treatment increases the danger of septic infection; rough or unskillful manipulations may do more harm than good. To support this statement, he cites the statistics of Professor Carl Braun's clinic for four years and a half, including 13,904 cases. It was only necessary to detach the placenta artificially in 51 cases (0.37 per cent.); ten of these patients suffered from septic trouble, and one died. The mortality from septic causes was 0.44 per cent., the entire death-rate being 6.78 per cent. These results he regards as conclusive evidence in favor of Credé's method.

[There is a cogency in the arguments of German writers, founded as they are upon elaborate and carefully prepared statistics, which admits of no questioning. To any one who is familiar with the thorough manner in which cases are observed and recorded in the Vienna lying-in wards, a bold numerical statement like this carries more weight than the vague theories of any single practitioner, no matter how extensive his experience may have been.]

Injuries of the Vagina and Perinæum in Normal and Artificial Delivery.—Professor Freund ("Gynäkolog. Klinik"; "Contrib. für die ges. Therapie," 1886, Hft. xii) considers these lesions in order from above downward, from the *portio vaginalis* to the outlet. The former are secondary to lacerations of the cervix; lesions in the middle portion of the vaginal canal are usually lateral, while at the pelvic floor they are posterior, and near the vulva anterior. Posterior and lateral tears are caused by the pressure of the child's face; anterior, by the occiput. Certain conditions of the soft parts predispose to laceration, chief among which are old cicatrices (from former inflammation or operations), congenital narrowing of the canal, abnormal bony prominences, and rigidity in old primiparæ; in these cases the laceration is often "atypical"—that is, it does not always occur precisely at the point where there is the greatest pressure. The application of the forceps, of course, adds to the risk of laceration, since it not only increases the dimensions of the head which it grasps, but also, when it is not perfectly adjusted, presents an unyielding edge to the soft parts. The lesions correspond in their situation to those produced during spontaneous delivery, but are deeper and more extensive; oblique and transverse tears of the anterior or posterior vaginal column are char-

acteristic lesions in forceps-deliveries when the blades have been unskillfully adjusted. Tarnier's forceps presents no advantages over the ordinary variety as regards the avoidance of such injuries; Freund restricts its use to cases in which the head is arrested at the superior strait, or has not yet become engaged, preferring to substitute the latter for Tarnier's modification as soon as the head has fairly entered the canal.

Recent tears (non-fistulous) should be sutured at once; if small fistulous openings have been made, they are to be plugged with antiseptic tampons. It is necessary to secure absolute approximation of the torn surfaces in primary as well as in secondary operations upon the vagina and perinæum.

Palpation of the Shoulder as a Means of Diagnosticating the Position of the Head.—Dr. Rivière ("Nouv. arch. de gynéc. et d'obstétrique," Oct., 1886) concludes an interesting paper on this subject with the following deductions: 1. We can not have too many aids for determining the exact position in head-presentations. 2. Although the frontal protuberance may often be felt, it is sometimes out of reach. 3. If the shoulder can be palpated, in addition to the latter, the diagnosis becomes easy and certain. 4. The shoulder, when felt, gives sufficient evidence regarding the position. 5. The shoulder always occupies the same half of the pelvis as the occiput, lying on the left in first position, on the right in second. 6. When the head is engaged, the shoulder is immediately above the superior strait, lying on the left side in first positions, on the right in second, while the frontal eminence is opposite to it. When the head is movable at the brim, the frontal bone can not be felt, and then the position of the shoulder furnishes valuable information. 7. In many cases palpation of the shoulder alone enables the accoucheur to determine the exact position of the fetus. If the occiput is anterior, the shoulder forms a broad, but not prominent, projection in the median line; in the posterior variety it is felt as a smaller but longer projection, situated from two and a half to three inches to one side of the median line.

Retroversion of the Gravid Uterus.—Pinard and Varnier (*ibid.*, Nov., 1886) have made a careful clinical and anatomical study of this condition, their conclusions being as follows: 1. Cicatricial contraction of the pelvic connective tissue, especially in the broad and utero-sacral ligaments, rarely results in retroversion and fixation of the gravid uterus. The frequency of intra-pelvic adhesions has been exaggerated; when they do exist, pregnancy causes them to soften and become extensible. 2. Adhesions between the bladder and uterus and the intestine, or between the latter and the pelvic tissue, may prevent the gravid organ from ascending; in short, they may fix it in the pelvis. Although the tissues in the immediate vicinity of the uterus are modified by the pregnant condition, the extensibility of old *extra-uterine* adhesions is not affected.

[These deductions possess no slight interest in view of the great frequency of intra-pelvic intestinal adhesions in women who have had slight attacks of peritonitis. The preceding facts bear also upon the treatment of gynecological retroversion.]

Extraction of the After-coming Head.—Winter ("Ztschr. f. Geb. u. Gynäk."), in an elaborate paper upon this theme, deduces the following conclusions, based upon a comparison between the Leipsic and Berlin statistics: 1. The Veit-Smellie method of extraction has always given the best results whenever it has been thoroughly tried, and has largely superseded the forceps. 2. The method that originated in the Prague school has become obsolete. 3. No child can be saved by applying the forceps to the after-coming head that can not also be extracted alive by the proper and vigorous use of the first-mentioned method. 4. Manual extraction fulfills the indications more perfectly than instrumental. 5. It is less often necessary to perforate the after-coming head when manual extraction is practiced than when previous attempts have been made with the forceps.

Anæsthesia during Labor.—Veit (*ibid.*), discussing a paper with this title, read by Cohn before the Obstetrical and Gynecological Society of Berlin, remarked that the prevailing opinion that chloroform during labor was rather a luxury, applied properly only to multipare during the stage of expulsion. Chloroform was preferable to bromide of ethyl, especially where profound narcosis was not necessary. The extreme pain in the region of the vulva (the condition almost resem-

bling vaginismus) experienced by many women during the expulsive stage, retarded the labor by preventing them from contracting their abdominal muscles strongly; moderate anæsthesia eliminated this opposing factor, and thus hastened delivery. Except in rare instances, actual narcosis was necessary before the forceps could be introduced. Veit had never seen (in either mother or child) any bad effects follow the administration of chloroform.

Bokelmann did not agree with the former speaker in regard to the innocuous effects of the anæsthetic, as he had seen two cases of alarming asphyxia during labor.

Schröder had never observed any cases of asphyxia in the mother, and thought that they must be extremely rare. Profound narcosis might cause the death of the child within a few hours after its birth.

Cohn had noted two cases of asphyxia in women who had been anæsthetized, first with bromide of ethyl, and subsequently with chloroform.

Miscellany.

The Medical Society of the State of New York.—The chairman of the committee of arrangements informs us that arrangements have been made with the Delaware and Hudson Canal Company's railroad to sell return tickets for one third of the usual fare, on presentation of a certificate issued by the secretary, at the meeting, that the holder is entitled to the reduction; that an arrangement has been made with the New York Central and Hudson River Railroad to sell return tickets at half fare; and that it is altogether probable that the same arrangement will be made with the West Shore Railroad. The tickets will be good up to and including February 6th.

Health Reports from Abroad.—By direction of the Secretary of the Treasury, Dr. John B. Hamilton, Surgeon-General of the Marine-Hospital Service, has issued the following abstract of sanitary reports received from foreign countries during the week ending January 20th:

England and Wales.—The deaths registered in twenty-eight great towns of England and Wales during the week ending January 1, 1887, correspond to an annual death rate of 25.1 to a thousand of the aggregate population. The lowest death rate was recorded at Blackburn, viz., 16.8 to a thousand, and the highest in Halifax, 36 to a thousand.

Scotland.—The death rate in eight principal towns during the week ending January 1, 1887, was 26 to a thousand of estimated population. The lowest mortality was recorded in Perth, viz., 16.4 to a thousand, and the highest in Glasgow, viz., 32.9 to a thousand.

Ireland.—The average annual death rate represented by the deaths registered during the week ending January 1st, in the sixteen principal town districts of Ireland, was 33.8 to a thousand of population. The lowest mortality was recorded in Lisburn, 9.7 to a thousand, and the highest in Waterford, 53.3 to a thousand.

Edinburgh.—During the week ending January 1st there were 83 cases of scarlet fever reported, 15 cases of enteric fever, and 1 case of typhus fever.

London.—There were 1,899 deaths registered in London during the week ending January 1st, including 114 from measles, 25 from scarlet fever, 9 from diphtheria, 27 from whooping-cough, 17 from enteric fever, 1 from an ill-defined form of continued fever, 15 from diarrhoea and dysentery, and 1 from choleraic diarrhoea. Different forms of violence caused 74 deaths. Sixty-six were the result of negligence or accident, and 7 cases of suicide were registered.

Austro-Hungary.—At Iglo there were 23 deaths from cholera up to December 9, 1886. At Buda-Pest there were in all 1,329 cases, including cases at first called suspicious, and 586 deaths. At Fiume, from June 6th to November 6th, there were 260 cases and 161 deaths. At Trieste, from June 6th to November 6th, there were 896 cases of cholera and 557 deaths, but the epidemic was declared over on December 2, 1886.

Japan.—After the outbreak there were during the year, up to December 6, 1886, 153,330 cases of cholera and 100,492 deaths. At

Yokohama, from July 1st to November 5th, there were 3,021 cases and 2,273 deaths. At the latter date the city was declared free from cholera.

Calcutta.—There were 345 deaths registered during the week ending December 4th, including 107 from cholera, 77 from fevers, 45 from bowel complaints, 32 from tetanus, 19 from phthisis, and 4 from asthma.

Havana.—During the week ending January 6, 1887, there were 132 deaths from all causes, including 1 from yellow fever.

Pernambuco, Brazil. During the week ending December 17th there were 62 deaths from all causes, including 2 from yellow fever.

MORTALITY TABLE, FOREIGN CITIES.

CITIES.	Estimated population	Week ending—	Total deaths from all causes.	Annual rate of mortality in 1,000.
Calcutta.....	433,219	December 4.	345	41.4
Para.....	30,000	December 26.	46	79.7
Warsaw.....	431,572	December 18.	214	25.7
Rheims.....	98,083	January 1.	40	21.2
Cadiz.....	65,028	December 25.	89	71.2
Zurich.....	87,689	December 25.	33	19.6
Trieste.....	150,157	December 25.	94	32.5
Edinburgh.....	254,591	December 18.	89	18.2
Leith.....	70,329	December 18.	22	16.3
Stuttgart.....	125,510	December 31.	38	15.7
Barcelona.....	300,000	December 10.*	293	35.6
Kingston, Can.....	15,109	January 14.	3	10.3
Three Rivers, P. Q.....	10,000	January 8.	5	26.0
Gibraltar.....	†23,731	December 26.	11	24.2
Leipsic.....	170,000	January 1.	56	17.1
Munich.....	262,000	December 25.	143	28.4
Cape Haytien.....	10,000	January 1.	4	20.8
Bremen.....	118,000	December 25.	23	10.1
Toronto.....	120,000	January 8.	12	5.2
Vera Cruz.....	23,800	December 30.	18	39.3
Marseilles.....	376,000	December 26.	204	28.2

Warsaw.—The 214 deaths registered during the week ending December 18th included 3 from small-pox.

Rheims.—The 40 deaths registered during the week ending January 1st included 4 from small-pox.

Marseilles.—The 204 deaths registered during the week ending December 26th included 3 from small-pox, 5 from enteric fever, and 10 from diphtheria.

Para.—The 46 deaths registered during the week ending December 26th included 2 from yellow fever.

Guaymas.—The 58 deaths registered during the month ending December 31, 1886, included 31 from small-pox.

Zurich.—The 33 deaths registered during the week ending December 25th included 8 from small-pox.

Trieste.—The 94 deaths registered during the week ending December 25th included 3 from diphtheria.

Barcelona.—The 319 deaths registered during the ten days ending December 20th included 17 from enteric fever, 34 from scarlet fever, and 9 from diphtheria.

Leipsic.—The 56 deaths registered during the week ending January 1, 1887, included 2 from measles, 3 from scarlet fever, and 2 from diphtheria.

Munich.—The 143 deaths registered during the week ending December 25th included 5 from scarlet fever and 3 from diphtheria.

Toronto.—The 12 deaths registered for the week ending January 8, 1887, included 2 from diphtheria.

Vera Cruz.—The 18 deaths registered during the week ending December 30th included 13 from diphtheria.

Stuttgart.—The 38 deaths registered during the week ending December 31st included 1 from typhus and 2 from diphtheria.

Germany.—The mortality during the week ending December 18, 1886, in twenty-one large cities, with an aggregate population of 4,625,257, including Berlin (in which the rate was 22.3), was equal to an average annual death rate of 27.2 to a thousand.

* 10 days.

† Including military.

Buenos Ayres.—The United States consul at Buenos Ayres, in his report dated November 27, 1886, states that "the cholera during the last week has assumed no new or more decided phase, but, on the contrary, seems to have not only taken a milder type, but to have, in a great measure, disappeared from the city, there being only 3 new cases yesterday, and they were in one of the city hospitals." No official confirmation of the press reports of the existence of cholera on the west coast of South America has yet been received. The latest telegram, from Santiago, dated January 17th, states "no cholera at Chilean ports."

Montevideo.—The United States consul, under date of January 19th, reports by cable that cholera has been officially declared at Montevideo.

The Paris Faculty.—"Progrès médical" announces that Dr. Pinard is now charged with the obstetrical and gynecological clinic, in place of Professor Pajot, retired.

The State Lunatic Asylum at Utica.—The "Utica Daily Press" announces the abolition of mechanical restraint in the asylum.

A Bill to Regulate the Practice of Dentistry is to be introduced into the Massachusetts Legislature. It proposes to have the Governor appoint "five skilled dentists of good repute" as a board of registration in dentistry. Within six months after the passage of the act every person then practicing dentistry must be registered with this board. Every one who has practiced not less than three years may receive a certificate to that effect, and continue to practice; and all persons regularly graduated from any reputable dental college authorized to grant degrees in dentistry shall be entitled to certificates. All others may obtain certificates from the board by passing satisfactory oral and written examinations. Each person examined shall pay a fee of \$10, which shall go toward carrying out the provisions of the act, and no part of the expenses of the board shall be paid from the State treasury. Every person receiving a certificate shall register the same with the clerk of the county in which he resides, paying a registration-fee of \$1. Severe penalties are provided for a violation of the act.

The Health of San Francisco.—According to the Health Department's "Condensed Statement of Mortality," there were 491 deaths during the month of December, including 3 from cholera infantum, 53 from croup and diphtheria, 1 from cerebro-spinal meningitis, 3 from diarrhoea, 1 from erysipelas, 13 from typhoid fever, 1 from malarial fever, 3 from septicæmia, and 1 from scarlet fever.

Laryngology at the College of Physicians and Surgeons.—The next lecture in Dr. Lefferts's course, on Tuesday, February 1st, at 2 P. M., will be on "Nervo-muscular and Sensory Affections of the Larynx; Neuroses of Sensation."

THERAPEUTICAL NOTES.

The Physiological Action of Vanillin.—Grasset ("Arch. de pharm.," Aug., 1886; "Contrib. f. d. ges. Therap.," Jan., 1887) has found vanillin fatal to frogs in doses of from three quarters to nine tenths of a grain, but has not ascertained that there is a toxic dose for the higher animals. In frogs, it acts chiefly on the spinal cord, causing convulsions followed by a depressing effect on the motor nerves, those of sensation being unaffected; its action, therefore, being that of strychnine, but much milder. It seems to delay putrefactive fermentation. It is antagonized by chloral. Therapeutically, it may be used, in doses of three quarters of a grain, as an aid to digestion, especially in atonic and putrefactive dyspepsia, or as a corrigent of drugs which, like chloral, are not well borne by the stomach; also, in doses of from three to four grains, in mucilage, as an excito-motor.

An Anodyne for Dental Caries.—Dr. K. Gsell-Fels ("Corresp.-Bl. f. Schweiz. Aerzte"; "St. Petersburg. med. Woch.") recommends the following mixture:

Rasped camphor..... 5 parts;
Chloral hydrate..... 5 "
Cocaine hydrochloride..... 1 part.

On heating the mixture to the boiling point of water, an oily liquid is formed. This is to be applied lightly, and it is said that after a few applications the pain will surely be alleviated.

Lectures and Addresses.

AN ABSTRACT OF
THE MIDDLETON GOLDSMITH LECTURES
ON MULTIPLE NEURITIS
AND ITS RELATIONS TO CERTAIN PERIPHERAL NEUROSES.

By M. ALLEN STARR, M. D., Ph. D.,
PROFESSOR OF NERVOUS DISEASES IN THE NEW YORK POLYCLINIC.

Lecture I.

HISTORY.—The first cases of multiple neuritis were described by an American physician, Dr. James Jackson, of Boston, in 1822 ("New England Journal of Medicine and Surgery," vol. xi, p. 351). In a paper "On a Peculiar Disease resulting from the Use of Ardent Spirits," which he named arthrodynia, Dr. Jackson gave a most graphic picture of one form of multiple neuritis. [The lecturer gave a long quotation from Dr. Jackson's paper, and added that the description, even at the present day, could not be improved upon.] Magnus Huss was the next, in 1852, to write upon chronic alcoholism, and he divided its nervous symptoms into paralytic, anæsthetic, convulsive, epileptic, and hyperæsthetic, and attributed them to lesions in the central nervous system. His description was amplified and completed by Lancereaux in 1864, in an article on "Alcoholism," in the "Dictionnaire encyclopédique des sciences médicales." But the pathology of the disease was still a matter of speculation.

In 1855 Duchenne ("Électrisation localisée") recorded a number of cases which we now recognize as multiple neuritis, and grouped them together under the title of *paralysie générale spinale subaigue ascendante*, because he thought the symptoms were due to a gradual advancing lesion in the cord. In the only case in which he made an autopsy he found no change in the cord. From 1860 to 1865 the French school took the lead in microscopic studies of nervous lesions, and their observations lent color to Duchenne's hypothesis, for it was found that such symptoms as numbness, pain, and anæsthesia were associated with lesions of the posterior columns of the spinal cord, and it was also proved that atrophic paralysis was caused by a degeneration of the anterior gray horns of the cord, not necessarily visible to the naked eye. Then atrophic paralyses were invariably referred to spinal lesions, because those lesions were capable of causing atrophic paralysis. But facts soon began to accumulate which did not tally with this theory. Cases of atrophic paralysis were met with in which there was no spinal lesion. In 1864 Duménil ("Gaz. hebdom. de méd. et de chir.," 1864, p. 203, and 1866, No. 4) recorded the first case in which an autopsy established the existence of a widespread disease in the peripheral nerves as a cause of sensory, motor, and trophic symptoms. The patient suffered from pain and numbness below the knees and in one hand, from patches of anæsthesia, and from paralysis of the legs and one hand and forearm. There was atrophy of the muscles of the hand and forearm, and faradaic contractility

was abolished in all the paralyzed muscles. He died in four months and a half, and at the autopsy the spinal cord and the nerve roots were found normal. The finer nerve branches in the legs and hands were degenerated, only a small number of nerve fibers being found. The myelin sheath was segmented and granular, there were many fat cells, and the connective tissue was increased. Two years later the same author reported another case, and published an elaborate article on peripheral paralysis, in which he said: "My own observations have convinced me firmly that many paralyses of obscure origin are caused by true spontaneous neuritis" ("Gaz. hebdom. de méd. et de chir.," 1866, No. 4).

Ten years elapsed before another case of similar nature, accompanied by a record of a post-mortem examination, was published by Eichhorst, of Berlin. In this case the spinal cord was absolutely normal, but several of the nerve trunks showed macroscopic and microscopic evidences of interstitial inflammatory changes (Eichhorst, Virchow's "Archiv," lxi, 1876, p. 265). This was the first case, the lecturer thought, in which the microscopic appearances were described with sufficient detail to be satisfactory. The clinical history and post mortem of a case published by Joffroy three years later ("Arch. de physiol. norm. et path.," 1879, p. 172) were then cited. This case differed from Eichhorst's in not presenting any marked interstitial changes in the nerves. The affection was a true parenchymatous inflammation, with degeneration of the myelin sheath and the axis cylinder. In Leyden's two cases ("Zeitschr. f. klin. Med.," 1880) the lesion corresponded quite closely with that found in Eichhorst's case. Leyden now undertook a review of atrophic paralyses, and made the following grouping: 1. Poliomyelitis anterior, acute and chronic, occurring in children and in adults. 2. Progressive muscular atrophy, with its corresponding tubular affection, glosso-labio-laryngeal paralysis. 3. Pseudo-hypertrophic paralysis. 4. Multiple neuritis. In this article Leyden established the status of multiple neuritis as a distinct disease. During the following two or three years a number of cases of multiple neuritis were published. A case of alcoholic paralysis, by Lancereaux ("Gaz. hebdom. de méd. et de chir.," 1881, p. 120), and one of multiple neuritis, by Grainger Stewart ("Edinb. Med. Jour.," April, 1881), were then cited to complete the clinical picture of the affection.

Before discussing the changes occurring in inflammations of the nerves, the lecturer reviewed the normal anatomy of nerves somewhat as follows: A nerve consists of (1) the axis cylinder; (2) the myelin sheath; and (3) the sheath of Schwann, a connective-tissue membrane surrounding the myelin sheath. Individual fibers are associated in bundles held together by fine connective-tissue cells, the nuclei of which can be seen in a carmine- or fuchsin-stained preparation, lying always adjacent to, but outside, the sheath of Schwann. This has been called the endoneurium, while the connective tissue surrounding the entire bundle is named the perineurium or neurilemma. Capillary vessels, with free anastomoses, run within the nerve, their walls lying adjacent to the individual fibers, thus providing perfect nutri-

tion. Lymph spaces have also been demonstrated within the nerve sheath, but not among the fibers.

PATHOLOGY.—There has been much controversy on this subject, and experimental pathological research has differed widely in its results. The reasons for this are that probably the rapidity and even the character of the changes differ in different animals, that various methods of investigation have been pursued by different observers, and that it is uncertain whether a uniform pathological process goes on after experimental lesions. After a lesion of a nerve trunk, a process of degeneration sets in at the point of injury, and involves a small portion of the central end and the entire peripheral part of the nerve, from the seat of injury onward. This process may be more or less complete, and may or may not be followed by a second process of regeneration in the diseased nerve.

The Process of Degeneration.—When a nerve is compressed with a ligature or with a forceps, but not with force enough to rupture the sheath of Schwann, the myelin is driven away from the point of pressure in both directions, and the axis cylinder is disintegrated and mingled with it. The entire fiber on either side of the compressed spot is bulged out for some little distance, and the sheath of Schwann between the distended portions is left empty or containing only a little granular *débris*. In a short time changes of a degenerative character are observed on both sides. Those on the central side are limited to the immediate neighborhood of the injured spot, and, according to Ranvier, do not affect the nerve for a distance greater than a centimetre from the point of compression. On the peripheral side the degeneration is extensive, involving the entire nerve down to its finest terminations. The first change noticed is a breaking up of the myelin sheath into segments, and then into smaller pieces and drops, which finally undergo further degeneration, either fatty or albuminoid or by a process of saponification, until a finely granular mass alone remains. The granular mass may be gradually absorbed, leaving the sheath of Schwann collapsed and empty or containing only granules of *débris*. As the myelin undergoes these changes, the axis cylinder usually becomes involved. All authors, however, are not agreed upon this point, some holding that it remains intact and is capable of resuming its function at any time when regeneration of the myelin sheath has taken place. The sheath of Schwann also takes part in the process of degeneration. Numerous nuclei are seen lining this sheath in each interannular segment. The origin or source of these nuclei is a disputed point. Ranvier holds that they come from a segmentation of the original nucleus of the segment; Neumann and Mayer that they are a free formation originating in the granular or protoplasmic mass; Lizzoni that they are emigrated corpuscles; and Rosenheim that they come from the connective-tissue cells along the sheath, which divide and multiply, and show the power of emigration as soon as the process of degeneration begins. When the granular mass is absorbed, the nuclei remain scattered along the sheath of Schwann, and it has been suggested that they form the new axis cylinder when regeneration occurs. If no regeneration takes place, they disappear gradually, and then the only relic of the former nerve fiber

is the empty, collapsed sheath of Schwann, which remains as a connective-tissue strand.

The increase of nuclei and connective-tissue fibrils in the endoneurium and perineurium, which accompanies the process of degeneration, aids in the transformation of the nerve into a band of connective tissue. The process of degeneration is continued to the terminal plates upon the muscle, and these are changed into a mass of granules and finally absorbed, a connective-tissue plate being left. (Gessler, "Die motorische Endplatte und ihre Bedeutung für die Peripherielähmung.") Whether any changes occur in the sensory terminal organs, such as the tactile corpuscles and the terminal bulbs, has never been ascertained. The same results follow division of a nerve as take place after its compression, with the difference that at the point of section the myelin runs out of the sheath of Schwann, and the cut ends become swollen into bulbous extremities by a growth of connective tissue. Whether a true union of the divided ends ever occurs is still a matter of uncertainty.

The Process of Regeneration.—Two widely divergent views obtain regarding the method of this process. Ranvier and his followers maintain that the new nerve is wholly a product of the central end of the injured nerve, growing out from it and making its way along the tract of the peripheral end, which takes no active part in the process. Neumann and Mayer, on the contrary, believe that regeneration goes on in the peripheral end of the cut nerve, segment by segment being formed successively, beginning at the point of injury and proceeding outward, the entire nerve being built up by the union of each distal segment with the one lying centrally to it, until this process has reached the end.

The process of degeneration in the nerves consequent upon the destruction of the ganglion cells from which they arise (the so-called Wallerian degeneration) differs in no respect from that ensuing upon compression or division, excepting that in the latter case only the distal part of the divided nerve undergoes the pathological change, while in the former it is the entire nerve that is affected. In the changes described in multiple neuritis, the same progress of events, the same varieties of termination, are observed. Multiple neuritis, from a pathological standpoint, presents several varieties. In the greatest number of cases there is a parenchymatous inflammation in the nerve fiber visible only with the microscope. At the outset the myelin sheath is slightly swollen, and is less translucent; it then splits up into segments of different lengths and forms, and between the segments there is to be seen a finely granular protoplasm in which new nuclei are found. In some fibers the axis cylinder may still be preserved; in others it is broken at the same place as the myelin. At the next stage of the process the myelin is reduced to a series of small globules, surrounded everywhere by granular protoplasm, and in this protoplasm the nuclei are now very numerous. The axis cylinder can not be distinguished in the mass, as a rule, but occasionally a fine line is seen passing through the mass, which may be a remaining cylinder. In the succeeding stage the size of the nerve, which had before remained about normal and uniform, is seen to vary; the nerve fiber

becomes narrow in places, the mass having disappeared, and there is left a collapsed sheath, or a sheath containing only nuclei here and there. Rarely in these nerve fibers does an axis cylinder seem to be lying directly within the sheath of Schwann, and occasionally separated from it at various places by nuclei. As a rule, no trace of the axis cylinder is to be distinguished. In the terminal stage the caliber is uniform again, but is now everywhere reduced. The sheath of Schwann is empty or contains only a little granular substance; the nuclei are now less numerous than before. There is, in fact, only an atrophic tube with none of its original contents. These tubes, lying side by side, are folded and undulating, and appear like a strand of connective tissue. These various stages of parenchymatous inflammation are to be seen in different fibers in the same specimen, and are identical in appearance with the changes observed in degeneration of a nerve after compression, or after destruction of the spinal ganglion cells.

A second class of cases presents a different appearance. The changes are appreciable to the naked eye; the nerve is either congested, swollen, and lacking in luster, or it is yellow and irregularly swollen by the accumulation of fat, or it is evidently reduced to a mere connective-tissue strand. On teasing the nerve, it is at once clear, from its brittleness, that individual fibers are lacking in continuity and are changed in structure; and, if it is examined with the microscope, the exudation of serum and of lymphoid bodies, the great increase in the number of connective-tissue nuclei, and the distended condition of the vessels, as well as the various appearances characteristic of nerve degeneration, are clearly seen. Here the inflammation is either originally an interstitial inflammation or, more probably, a diffuse one. In both of the foregoing forms the pathological changes are more intense in, and are occasionally limited to, the peripheral terminations of the nerves.

Gombault ("Arch. de physiol.," 1873, p. 592) has described the so-called segmental circum-axillary neuritis. This form he found in toxic neuritis from lead poisoning; it is characterized by the alternation of normal with degenerated segments. The changes in the affected segments differ in no respect from that already described. Pitres and Vaillard ("De la névrite segmentaire," "Arch. de neurol.," xi, p. 337) have noticed a somewhat similar condition in the neuritis occurring after diphtheria, although in their case the axis cylinder as well as the myelin sheath was totally destroyed in many segments. The process of regeneration is usually a slow one; in the great majority of cases on record it took over four months, and in not a few cases from ten to sixteen months.

With the close of the year 1883 we may consider the third stage of pathological discovery in the history of multiple neuritis as terminating. Since that time about a hundred cases of varying degrees of severity have been observed.

The lecturer then referred to one or two forms of peripheral neuroses which he thought should be relegated to peripheral neuritis, one of which was the affection termed "numb fingers," first described by Dr. J. J. Putnam, of Boston. It is a disease chiefly seen in women between the

ages of forty and sixty, usually associated with dyspeptic symptoms, but entirely independent of them. It is characterized by tingling in the fingers, felt first at night, and then both day and night, which may extend to the hands; and by numbness of the fingers, rendering all the finer acts impossible. Anæsthesia and analgesia may obtain, but often the disturbance of sensation is purely subjective. There is rarely any inco-ordination, and paresis is usually wanting. It may develop in the feet as well as in the hands. The affection is of indefinite duration; often it subsides quickly under treatment, but sometimes it baffles all attempts to arrest it.

Intermittent paralyses form the second class of peripheral neuroses which may be referred to peripheral neuritis. Cases of sudden paraplegia, lasting a few hours and passing off as rapidly as they appeared, have been observed too frequently to admit of any doubt. Westphal has described such a case, in which no cause could be found. Gibney has reported some cases, presumably due to malaria. Lastly, there are numerous cases of indefinite nervous symptoms—pain of various kinds, formication, odd sensations known as flashes of cold and heat, slight spasms or tremor, functional weakness with a sense of fatigue not reaching the grade of paresis, and many equally obscure manifestations of disturbed function in various parts of the body—which receive their best explanation on the theory of multiple neuritis.

The lecturer closed his remarks by referring to the various ætiological factors that produce closely allied pathological changes—such as some of the mineral poisons, infectious diseases, etc. A review of these, together with an analysis of the symptoms of peripheral neuritis, he said, would form the subject of the next lecture.

Original Communications.

A PLEA FOR INTRA-UTERINE MEDICATION.

BY PAUL F. MUNDE, M. D.,

NEW YORK.

UNTIL quite recently the introduction of medicinal substances into the non-puerperal uterine cavity for therapeutic purposes was universally practiced and unreservedly accepted as the proper means of treating certain diseases of the uterus. The various methods, in all their details, by which medicines can be most easily, safely, and efficiently applied to the endometrium, the indications for such treatment, and the dangers occasionally arising therefrom, are abundantly described in all our gynecological text books, and are familiar to all physicians interested in our specialty. It is not, therefore, my intention either to dwell on the methods employed or to discuss the efficiency of the various agents recommended by different authors. The object of this brief communication is to call attention to a growing tendency among some of our most prominent gynecolo-

gists to abandon intra-uterine medication, so far as its employment *above* the internal os is concerned, and to condemn it as inefficient, unnecessary, and dangerous. *I wish it distinctly understood that my remarks here do not apply to the treatment of the cervical cavity, diseases of which all authorities still agree are practically incurable except by local measures.* Among those who have withdrawn their allegiance from intra-uterine medication are two of our countrymen whose names have for a quarter of a century been identified with many details of the treatment which they now substantially abandon. It is true, they object chiefly to the "routine" conventional employment of intra-uterine applications in every case of diseased endometrium; and herein, no doubt, their objection will be sustained. But when one of them (Thomas) says, "I find myself very rarely resorting at present to applications above the os internum uteri,"* and I see it reported that the other (Emmet) no longer makes intra-uterine applications, I can but feel that they are going too far, and that, unless they can offer us therapeutical substitutes for the discarded method which will accomplish, to say the least, more than the topical treatment, we can not afford to give up the latter in many cases where without it we should be powerless.

The most recent expression of Dr. Emmet's views on this subject I find in the proceedings of the last meeting of the British Medical Association at Brighton, as reported in the "Medical Record," September 11, 1886. There he is made to say as follows: "Endometritis and endocervicitis are rare, except in theory; the real trouble consists of a surrounding pelvic peritonitis. Once this latter is checked, and the circulation thus restored, all uterine discharges will cease. As regards the application of iodine to the interior of the womb, he rarely employs that treatment; as a matter of fact, he had reached a point in practice at which he seldom introduced an instrument into the uterus. His uterine sound had been broken for eighteen months, and he had never missed it. All that a sound taught might be made out with the fingers. The uterine mucous membrane would so readily absorb all substances presented to it that it was advisable to do all that was possible by way of the vaginal mucous membrane; moreover, the latter had the advantage of presenting a more extensive surface. By giving up applications to the interior of the uterus, and by largely discarding pessaries, Dr. Emmet had increased his success in treatment," etc.

Two striking facts will be conveyed to the majority of those who have followed Dr. Emmet's teachings for a number of years: 1. That he who ten years or more ago was an ardent advocate of intra-uterine medication, and whose skill in adapting pessaries to the different displacements was proverbial, has seen fit to renounce what appeared to be the settled convictions of a lifetime; and, 2, that to a more or less recognizable inflamed condition of the pelvic cellular tissue or peritoneum are now attributed by him the majority of disorders which we formerly were taught originated in the diseased organs themselves.

I do not think we are all, as yet, prepared to accept

this latter view without reservation, however ready we may be to admit that the "routine" use of the uterine sound is reprehensible, and that bimanual palpation suffices, in the majority of cases, to diagnosticate the position of the uterus. As for the absorbent powers of the vaginal mucous membrane, they are known to be greatly inferior to those of the endometrium.

Of course, both Dr. Emmet and Dr. Thomas must have been led to thus radically change their views by what they deemed sufficient practical reasons. Still, I think that most of us will feel that the revulsion has been too great, too sweeping, and that to substantially give up the use of the sound and intra-uterine applications, and to deny the existence of chronic uterine catarrh except as a dependence of pelvic peritonitis or cellulitis, is scarcely prudent or in accordance with facts.

It seems to me that a mucous membrane remains the same in character wherever it is situated, and that we might as well attempt to cure chronic catarrh or hyperæmia of the mucous lining of the nares, throat, eyes, male urethra, or rectum, by general remedies alone, as to expect such a result in the endometrium. I need but ask what the laryngologists, otologists, and ophthalmologists could do without topical applications to their respective mucous membranes, and how a gleet could be cured without dilatation and cauterization of the urethra; and I fail to see why the same rule does not apply to the mucous membrane lining the uterine cavity.

I hope in this paper to demonstrate that there are certain cases in which intra-uterine medication is not only necessary, but indispensable to a permanent cure, and that it can be rendered as safe as any of the minor local measures. If I repeat to you familiar matters, I beg you will pardon me; I will endeavor to be as brief as possible. But it has seemed to me that the influence of high example might lead us to the opposite extreme, which must result in our discarding a system of treatment which has long stood the test of time, and has more good than bad points.

Now, as regards the first objection to intra-uterine medication—that it is inefficient—let us see at a glance whether it is well founded. The methods which have become popular are: Applications by cotton-wrapped applicators dipped in the fluid to be introduced; gelatin bougies containing the agent; solid sticks of the medicament, left to melt in the uterus, or probes coated with the agent, if it is a salt; ointments squeezed and powders blown into the uterus; finally, injections into the uterus.

Of these methods, the solid caustics and the injections are probably the most efficient, but also, especially the injections, the most dangerous. The insufflation of powders is not always feasible, as the tube easily becomes clogged, and besides is dangerous, as but few undilated uteri can bear the distension of their cavities by a sudden current of air. Ointments do not seem for catarrhal affections to be so efficient as dry or fluid applications. Thus there remain to us only the two methods first mentioned—the gelatin bougies and the cotton-wrapped applicators. The bougies are open to the same objection as the ointments; they act chiefly by absorption, not as caustics, and are therefore useful

* "Diseases of Women," fifth ed., 1880, p. 298.

mainly in conditions calling for alterative and sorbefacient remedies, as in subinvolution and hyperplasia. Besides, if they are not particularly well prepared and become hard before use, they do not dissolve *in utero*, and produce severe uterine colic, or worse. Recently, I should say, I have procured most excellent gelatin bougies, containing five grains each of alum and iodoform, which remain soft and soluble for an indefinite period, from Mr. Robert E. Fleisch-er, apothecary, of Avenue C and Sixth Street, who makes a specialty of these gelatin preparations. With these I have had very good results in chronic endometritis, especially when attended with hæmorrhagic oozing.

There remain to us, thus, only the cotton-wrapped applicators dipped in fluid, which may be said to be fairly safe, unless the fluid used is a powerful escharotic, such as nitric or chromic acid, or strong chloride-of-zinc solution. But these moist applications are, again, open to the objection that a large part of the fluid is rubbed off, and the surface of the moist cotton becomes coated with an albuminate before reaching the cavity of the uterus beyond the internal os; and undoubtedly this objection is valid. It would thus seem that all methods of application which are safe are inefficient, and those which will actually cure are dangerous. But this is only apparently the case, as I will presently show.

As regards the second objection to intra-uterine medication—its danger—there are too many instances of death after intra-uterine injections, too many cases of peritonitis and cellulitis after the introduction of solid caustics, not to omit a few similar cases after the use of applicators, to deny this assertion. Hence I, for my part, have long since entirely discarded injections into the non-puerperal, or certainly undilated, uterine cavity. After the use of cotton-wrapped applicators, I can remember but one instance of inflammatory reaction, and that was after the use of the sharp curette and nitric acid.

In the hands of some gynecologists intra-uterine injections, however, seem devoid of danger. Thus, at the meeting of the American Gynecological Society, held in Baltimore in 1879, Dr. William Goodell stated that he had seen no bad results from injecting four to eight drops of pure carbolic acid or iodized phenol, with a small amount of hydrate of chloral, into the uterus, and had found this treatment much more efficient than the usual applications, merely using the precaution to have the canal patulous. During the past summer I saw Martin in Berlin repeatedly scrape out the uterine cavity with Récamier's curette, and immediately inject a whole Braun's syringeful of pure liquor ferri sub-sulph., followed by copious irrigation with tepid water. The patients were under an anæsthetic. This practice was evidently a matter of routine, and no evil consequences were expected, or indeed ensued. In no case was it thought necessary to dilate the canal beyond the width found when the patient came under treatment. The injections were made in the dorsal position, the cervix being exposed by Simon's specula, which position I consider safer than the semiprone posture, as less likely to favor entrance of fluid into the Fallopian tubes.

To make the introduction of fluids into the uterus more

efficient, without at the same time increasing the danger, I have for a number of years employed two methods, neither of which is original with me:

1. The applicator syringe, the fine nozzle of which is wrapped with cotton which is saturated with the medicinal fluid contained in the barrel after the nozzle has been passed into the uterine cavity. If the piston is pushed forward slowly, the cotton becomes gradually saturated and no free fluid escapes into the cavity, while as thorough an effect is achieved as if the fluid had been injected. I have done this many times, but must confess that I have seen several instances of shock and uterine colic after it, even requiring a hypodermic of morphine, the fluid used being, in one instance, nitric acid; in one, solution of nitrate of silver, 3 j to ʒ j; in one, impure carbolic acid; in two, pure tincture of iodine; and in one, sol. ferri persulph. and glycerin, equal parts. In all these cases the ordinary cotton-wrapped applicators had previously been used without reaction. In consequence of these six warnings, I have now reduced the use of the applicator syringe to cases where acquaintance with the tolerance of the uterus renders such treatment reasonably safe, and where the uterine canal is widely patulous. In the latter condition I decidedly prefer, when I wish a very positive effect, the other method, namely—

2. To slip the thoroughly soaked cotton from the applicator and leave it in the uterine cavity for twenty-four or forty-eight hours. The cotton in this way acts as a very efficient tampon and hæmostatic if required, and the medicinal application is most decided and prolonged. From this method I have seen but good, and no bad, results. Both the uterine and vaginal tampons can be removed by the patient herself, on the next day, by means of strings attached to each. In no case has uterine colic followed this treatment.

In a recent quite original work, entitled "Practical Elements of Gynecology," by Dr. A. Rheinstædter, of Cologne (Hirschwald, Berlin, 1886), the author, who is not a professor, but merely a general practitioner who during a twenty-five years' practice has gradually become a specialist, states that, by the weekly application on a cotton-wrapped aluminium applicator of a fifty-per-cent. solution of chloride of zinc, he has never failed to cure within from two to three months every case of uterine catarrh depending on chronic endometritis, without the use of any other treatment, and that never has contraction of the canal ensued. The applications are always made at the patient's residence, and she is kept in bed until the next day, and, of course, all ordinary reasonable precautions are observed. Only once, in a dispensary patient, who took a two-hours' walk home after the treatment, has he witnessed a slight attack of cellulitis.

I do not desire to weary you with an enumeration of the views and peculiar methods of different authors. I merely wish to emphasize the fact that there are various precautions which render the intra-uterine application of certain agents reasonably safe, while not destroying their efficiency. Thus, applications of iodine, carbolic acid, nitric acid, or solution of chloride of zinc, may be made without special risk if the uterine canal is well dilated, and, in the

case of the stronger agents, the patient is kept in bed for one or two days. If these conditions are observed, the cotton-wrapped applicator or straight stick, the applicator syringe, or the medicated uterine tampon, may be used with equal impunity. Only I would except the use of nitric acid or chloride of zinc by the latter method, for fear of producing too deep an effect.

While thus admitting the inefficiency of some of the methods of intra-uterine medication and the danger of others, let us see whether the opponents of this treatment have compensatory substitutes to offer. Starting from the idea that a uterine catarrh or hemorrhage is but symptomatic, and depends on some pathological condition of the general system or of the pelvic organs not inherent to the mucous membrane of the uterus itself, they very properly advise the cure of that condition—the cause of the intra-uterine disease. Such conditions are: a vitiated state of the general health, displacement, subinvolution, or hyperplasia of the uterus, laceration of the cervix, fungous degeneration of the uterine mucous membrane, general pelvic hyperamia, etc. Undoubtedly, the proper plan of treatment in such cases is to remove the cause of the endometritis, build up the general health, overcome constipation by exercise, diet, and proper laxatives, rectify the displacement, stimulate the uterus to involution and absorption of its adventitious elements, sew up the laceration, scrape off the vegetations, etc. But, granted that all this has been done and the catarrh is cured in the cases in which it is really caused by the conditions mentioned, I maintain that there still remain numerous cases of chronic endometritis—due to cold, to exposure during menstruation, to sexual abuse, to venereal infection, to subinvolution chiefly after abortion, to the extension upward of a cervical catarrh, etc.—in which the removal of the original exciting cause fails to cure the disease; and, further, I fail to see how we can benefit or cure the numerous cases of chronic subinvolution and hyperplasia which resist every general and local remedy, unless we resort to methodical and prolonged intra-uterine medication.

Dr. Thomas says (*op. cit.*, p. 307) that, if the removal of the causes mentioned fails to effect improvement, the application of the dull-wire curette over the whole surface will produce “an altered state in the entire endometrial membrane, break distended blood-vessels, and often accomplish a great deal for the relief of the disease.”

Fritsch* does not approve of this treatment, for he says most pointedly: “In cases of simple supersecretion the therapeutic measures mentioned” (applications of tincture of iodine after removing the mucus) “achieve much better results than the recently recommended heroic plan of deep cauterization and curetting of the uterus. The uterus should not be considered a fistulous track, slow to heal, and covered with fine granulations. A partial destruction of the diseased mucosa merely has the therapeutic value of a local depletion of blood. If the action of the mucous membrane is to be altered, or its secretion modified, it is useless to scrape away particles of it. It is much more important to remove the secretion, and then to paint the whole endome-

trium with an alterative agent.” I do not agree with Fritsch in these remarks, for I firmly believe that the curette often does what Dr. Thomas alleges for it, and I have many times employed it for this purpose when I failed to find vegetations. But, if the repeated application of the curette does not cure the endometritis, what then? Or if, after removal of vegetations, the menorrhagia still continues, or if there were no vegetations to account for the profuse menstruation which still persists? That such cases are not uncommon will be admitted. And my object is precisely to insist upon the necessity of continuing intra-uterine medication, with proper precautions, in the cases where the very proper and rational removal of the presumable causes of the uterine disease has failed to achieve a cure. From my experience I should recommend intra-uterine medication in the following conditions:

1. *Chronic Endometritis in Nullipara.*—I have grown to believe this so much of a local disease that I do not believe it curable by other than topical applications. Of course, I except the existence of one of the causes already mentioned. The most intractable cases have been those of virgins, and young, obese women, in whom I have found the severe applications—such as solution of chloride of zinc, $\mathfrak{z}\text{ j}$ to $\mathfrak{z}\text{ ij}$ to $\mathfrak{z}\text{ j}$; or of nitrate of silver, same strength—the most efficient. Nitric acid I have never employed above the os internum in a nullipara, and chromic acid I believe equally unsafe, although I think the latter remedy most excellent in chronic cervical catarrh. I recollect one case of a young married lady, sterile after four years of married life, in whom I could find no cause for the sterility but a chronic endometritis; after three applications of impure carbolic acid by the cotton-wrapped probe, I went into the country on my vacation. On my return, two months later, she told me that she had missed a period, and pregnancy was soon ascertained to have taken place, which went to a normal conclusion. I think the cleansing of the uterine canal of mucus and pus had more to do with the conception in this case than the mild cauterization.

2. *Villous Endometritis, to effect a Permanent Cure after Removal of the Vegetations by the Curette.*—After scraping out the uterus for menorrhagia caused by villous degeneration, I invariably plug the uterus at once with cotton soaked in pure tincture of iodine or in iodized phenol, and continue the applications of tincture of iodine, generally with the applicator, twice weekly for several months, then once a week, once in two weeks, and, finally, only once a month a few days before a period, until the menstrual flow is and remains perfectly normal in amount. I know that I have thus secured a permanent cure, which I feel sure I should have failed to do in many of the cases if I had omitted this after-treatment. I have thus cured patients who had been curetted by other gynecologists at home and abroad, without any or sufficient after-treatment, and had consequently continued to flow until systematic prolonged intra-uterine medication was resorted to.

3. *Chronic Subinvolution and Hyperplasia of the Uterus.*—I know that the prolonged use of ergot and hot douches will often result in restoring a subinvolted uterus in the earlier stages of the disease to its normal condition, espe-

* “Diseases of Women,” 1884, p. 200.

cially if the faradaic or the interrupted galvanic current is also used. But I have never been able to convince myself that a uterus in a state of chronic subinvolution or of actual hyperplasia was much benefited by any measures, local or general, not applied directly to its interior. I certainly have seen more benefit follow frequent and prolonged intra-uterine applications of tincture of iodine and iodized phenol than any other measure. And in these cases the use of the ordinary cotton-wrapped applicator has answered as well as other methods, the mere irritation of the passage of the applicator seeming to play some part in stimulating the organ.

4. *Metrorrhagia from a Flabby or Subinvolved Uterus.*

—In many such cases, after the usual local and general hæmostatics failed, I have succeeded in checking the hæmorrhage, when its persistence had become alarming, by plugging the uterine cavity with cotton saturated with compound tincture of iodine or with sol. ferri persulph. and glycerin, equal parts. In one case of hæmorrhage after suspected early miscarriage, where the patient could scarcely have borne a repetition of the flow, I was obliged thus to plug the uterus daily for over a week before it contracted permanently.

I am aware that this example does not exactly belong under the head of "routine" applications, but I think it worth while to refer to it.

In conclusion, I must again offer as an excuse for this communication, which may appear entirely uncalled for to those practitioners who believe in and habitually use intra-uterine medication, my apprehension lest by the force of distinguished teaching we go from one extreme to the other, and, from undoubtedly exaggerating the value of intra-uterine medication, abandon it entirely. I am sure it has its decided value, and, in well-selected cases and with reasonable precautions, will prove both efficient and safe. I trust that this paper may elicit the views of the members of the profession, both as to the value of the treatment in general and as to the respective worth and safety of the various agents, in order that we may see whether any decided changes of opinion have recently taken place. My own purpose has been merely to lead up to the subject, not in any way to exhaust either its past or present history or its future possibilities.

A CASE OF OPTIC NEURITIS, WITH BRAIN SYMPTOMS.

RECOVERY; WITH REMARKS.

By A. FRIEDENWALD, M. D.,

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Miss S. M., aged fourteen years, well developed, having menstruated regularly since she was eleven years old, and having enjoyed undisturbed health, first consulted me in October, 1884, for impaired vision of her right eye, the vision of the left having remained intact. On examination, I found the impairment of vision of her right eye to be very great, viz., $\frac{2}{30}$; field of vision good. The ophthalmoscope revealed a typical choked disc. The papilla was swollen, looked woolly, the retinal arteries were somewhat smaller than normal, the retinal veins were dilated and tortuous. In the left eye, although the

vision remained good, the fundus was hyperæmic, and the papilla could hardly be distinguished from the surrounding fundus, its outlines having been lost, while the retinal veins were also decidedly dilated and tortuous.

Finding this condition, I was at once disposed to regard it with considerable alarm, from the fact that in these cases we have generally not only a formidable eye trouble to treat, but also because these conditions are so often due to intra-cranial disease. The apprehension entertained on this account seemed to have been especially well grounded when, on further inquiry, it was found that the patient had suffered from quite violent headaches and occasional vertigo. There was no history of syphilis, either hereditary or acquired. Both parents are in the enjoyment of good health; they have eight other children, who are all in good health.

The most frequent cause in the ætiology of optic neuritis of the form just described experience has shown to be cerebral tumors. It has been estimated that fully 80 per cent. of all cases of optic neuritis are due to intra-cranial diseases, and of these, cerebral tumors are by far the most frequent. Among other intra-cranial diseases which may give rise to this form of eye affection may be mentioned hydatid disease, softening following vascular obstruction, meningitis, and abscess. Taking these into consideration, it is not to be wondered at that I watched the future course of my case with very great concern, and gave a rather gloomy prognosis at the outset.

It is true that syphilis contributes a share in inducing this form of disease, and that the prognosis in such cases is much more favorable than in those due to other intra-cranial affections; but, although the idea of such an origin in the case under consideration, with the quite respectable social position of the patient, would have been horrifying, in view of the very sad outlook, such a discovery, at least to a degree, would have been welcome.

Leber* speaks of the general disturbances accompanying the climacteric period as occasionally being complicated with optic neuritis, and adds that, when that is the case, we can look upon the eye affection rather hopefully. There was no comfort to be drawn from this lesson so far as my patient was concerned.

According to Juler,† "optic neuritis is occasionally met with in young girls of from fifteen to twenty, and the cause usually assigned is some irregularity of the menstrual function. Often, however, careful inquiry fails to elicit any history of this. The neuritis is generally preceded by severe headaches, and the prognosis as regards sight is extremely unfavorable." Our patient, by her age and from the possibility that she might have been suffering from irregularity of the menstrual function, of which, on careful inquiry, I failed to elicit the history, was entitled to be considered among this class, from which fact, however, I could not gain any encouragement for her.

Having said sufficient in regard to the prognosis in assuming the care of this case, I shall now proceed to relate its further progress.

* Graefe and Saemisch, "Handbuch der gesamten Augenheilkunde," pp. 818, 820, vol. v.

† "Hand-book of Ophthalmic Science and Practice," p. 197, Am. ed.

I prescribed the iodide of potassium in ten-grain doses three times daily, and, in addition thereto, directed that a teaspoonful of the fluid extract of jaborandi be taken every other night. During the first week not only was there no improvement, but the little sight she had had in the affected eye on my first examination she had also been deprived of. During the second and third weeks there was no observable change in any of her previous symptoms. After this time a gradual improvement was noticed. At first she could again count fingers; in a week more she could read some of the larger letters of Snellen's test-types, after which time a gradual improvement took place, so that, in about three months after the treatment was begun, she could read very fine print (Jaeger No. 1). Although the sight improved so satisfactorily, she occasionally had attacks of vertigo, and often suffered from headaches. These symptoms too, however, have, since March, 1885, entirely disappeared. I have seen the patient at long intervals up to the present time, and I have the satisfaction to report that her relief has been both complete and permanent.

In reporting the favorable issue of this case it is not my intention to make the impression of having cured a very grave form of brain disease—an intra-cranial tumor perhaps. On the contrary, I take this occasion, and bring my case in evidence, together with others to which I shall presently refer, to call into question the accuracy of the conclusion which has been arrived at in estimating the percentage of grave brain lesions to which optic neuritis is attributable. Before showing how, according to my opinion, the assumption that at least 80 per cent.* of all cases of optic neuritis are induced by the grave central lesions referred to rests upon an error, I will summon some additional evidence of the kind represented by the case just reported. I quote from Wells†:

"But we sometimes meet with cases of optic neuritis in which it is quite impossible to detect any cause or any impairment of health, except, perhaps, some derangement of the uterine functions, *e. g.*, insufficiency of the catamenia. I have seen several instances of this kind in young and delicate females who otherwise enjoyed perfect health. Such cases recover completely if they are seen at the outset of the disease, and are actively and efficiently treated."

I must, in passing, direct attention to the favorable prognosis in these cases given by Wells, as contrasted to that of Juler, quoted above, when he says: "As regards sight, it is extremely unfavorable." Every oculist must have met with cases presenting all the features of choked disc in women at the climacteric period in which full recovery has been the result.

Simi‡ reports a case of almost instantaneous blindness from choked disc in a person to whom a brisk cathartic had been administered. Slight improvement followed after a few days, and almost complete recovery of sight after three months, although a disturbance in the color perception persisted, attributed to reflex action due to abdominal irritation upon the sympathetic nerve.

Mooren* professes to have relieved a case of double op-

tic neuritis by means of a pessary which corrected the retroflexion of the uterus from which the patient was suffering. The relief followed from the moment the pessary was applied, and continued undisturbed for several years, when she began to suffer from headaches on one side of her head, and double-sided mydriasis. On examination, it was found that the retroflexion had returned.

Leber,* in recounting the various causes of optic neuritis, mentions rheumatism and sudden exposure to cold as capable of inducing this disease.

A very interesting case† is found in Brudenel Carter's work on the diseases of the eye, showing that typical choked discs may exist where there is no intra-cranial disease, and this fact is ascertained not by the process of guess-work arrived at from the patient's recovery, but by the much more conclusive method of an autopsy, which was made possible by the death of the patient from intercurrent cause. A little boy in St. George's Hospital in 1872 had choked discs of the most typical character. Dr. Hughlings Jackson, Dr. Noyes, of New York, and several members of the International Ophthalmological Congress, which was then assembled in London, saw the patient, and entertained no doubt that he was the subject of some form of brain disease. The boy died of pleurisy supervening upon kidney disease, and no trace of mischief in his brain could be discovered by the most careful examination.

There can be no doubt that of the cases of optic neuritis that end fatally, a very large number are due to intra-cranial diseases, and that, among these, tumors are of the most frequent occurrence. But it must be obvious that any deduction as to the percentage of optic neuritis complicated with and due to intra-cranial disease, as based upon such autopsies, must necessarily be inaccurate; for, probably, from the cases referred to above, quite a number, whether or not ending unfavorably as regards the sight, do not necessarily affect the general health of the patient, and these have not been taken into account. I am impressed that the number of cases of optic neuritis uncomplicated with brain disease is much too large to be ignored in these calculations. I direct attention especially to this point, for, while a case of double choked disc is to be regarded with grave concern, it need not necessarily be viewed as hopeless, either as regards the restoration of sight or as to the life of the patient. Of course, there are other symptoms which accompany these cases which make it somewhat certain that the neuritis depends upon grave intra-cranial alterations—viz., persistent vomiting, paralysis, and convulsions. But it must be borne in mind that these more serious and rather unmistakable symptoms do not always manifest themselves at the outset of the disease, or at the period when the optic-nerve trouble may already have been well developed.

This point is well illustrated in a case reported by Nieden‡ of fibro-sarcoma of the right cerebral hemisphere. In this case the ophthalmoscope revealed well-marked choked disc in the right eye, less marked in the left, in the

* Mauthner, quoted by Juler.

† "Treatise on the Diseases of the Eye," p. 506, 4th Am. edition.

‡ "Boll. d. ocul.," Sept. 1, 1884; "Rec. d'ophthal.," Oct., 1884, p. 603.

* Mooren, "Disturbances of Vision and Uterine Diseases," "Arch. of Ophth.," vol. xi, p. 298.

* Graefe and Saemisch, "Handbuch der gesamten Augenheilkunde," vol. v, p. 814.

† Carter, "Practical Treatise on Diseases of the Eye," p. 367.

‡ "Archives of Ophthalmology," vol. xii, p. 366.

early part of March, 1878, although the cerebral symptoms were restricted to periodic headaches (some accompanied by vomiting), limited to the occipital region, recurring every two or three weeks, the patient feeling well during the intervals. He had been subject to these attacks since November, 1877. It was not till the latter part of April, when total amaurosis was established, that the periodic headaches, as just described, were accompanied by cloudiness of mind and impeded articulation, which, however, only continued during these attacks. Epileptoid attacks first set in in January, 1879. But even when grave cerebral symptoms accompany the neuritis we can not be absolutely certain that these symptoms depend upon coarse brain affections, although the prognosis, should the brain be free from demonstrable disease under these circumstances, is almost equally hopeless. Mauthner* gives prominence to this fact by quoting the cases of Hughlings Jackson, 1876, and Noyes, 1874. Jackson's case was that of a woman, thirty-four years old, who had suffered from headaches through her whole life. There followed an attack of vertigo, accompanied with a loss of consciousness, increased headache, vomiting, and double neuritis. There were no paralytic symptoms. Death was caused by asphyxia. In this case no cerebral tumor nor any observable change in the brain, save that of a recent congestion, could be found. Even with the strong conviction of cerebral disease in this case, the cause was sought for in this direction in vain.

Noyes's case was even more remarkable in this respect. The symptoms characterizing this case were a double optic neuritis ending in atrophy, violent headaches, paralysis of the various cerebral nerves, and unsteady gait, and still, with all this, the autopsy furnished a completely negative result.

When we contemplate the variety of conditions under which the choked disc makes its appearance, a true conception of its pathogeny becomes extremely difficult. For, while the presence of a tumor and the optic-nerve sheath distended with subarachnoidal fluid will testify strongly for the mechanical theory of Manz, and also for the modifications of that theory formulated by Schmidt, Leber, and others, in which the fluid is followed from the sheath space into the lymphatics of the papilla, and there charged with causing pressure and inflammation on the one hand, and with being the carrier of septic material on the other, yet we know that the typical choked disc may exist when neither of these explanations is available, and where we have to fall back on the theory of a reflex influence on the vaso-motor nerves. The question then presents itself to us, since we can explain the choked disc fully on the reflex theory, whether or not, in addition to distension of the optic-nerve sheath, the reflex influence is also at work, or whether the choked disc is a condition which can be induced by the several influences acting independently; or, finally, whether, in ascribing an optic neuritis—in the absence of brain disease that may affect the nerve either through the subarachnoidal fluid or by means of an inflammation reaching it through a meningitis—to reflex vaso-motor disturbances, we

are not grouping together, under one convenient name, a number of influences of which we are entirely ignorant.

It was not the object of this paper, however, to enter upon a discussion of the pathogeny of optic neuritis, and I will therefore conclude with a summary of the points which I have sought to present in this paper:

1. The generally accepted percentage of cases of optic neuritis due to intra-cranial disease is much too large, owing to conclusions arrived at from autopsies which have excluded almost entirely the cases which have their origin in other causes, and which terminate in recovery.

2. Optic neuritis being in many cases due to remediable constitutional disturbances, the prognosis, although worthy of grave concern, need not necessarily be hopeless, and indeed, when we can be certain as to the absence of brain disease, it may be regarded as relatively favorable.

3. There is no means by which we can ascertain with absolute certainty in any special case, in the absence of brain symptoms, whether the brain is really free from disease, for, while the neuritis may be already fully established, these symptoms may yet be dormant, and may make their appearance at a later stage.

4. Moderate brain symptoms may even accompany cases which will terminate favorably in every respect.

5. Exceptionally, optic neuritis occurs in cases attended by brain symptoms of the most outspoken character in which the brain has remained free from any observable change.

CLINICAL OBSERVATIONS OF AN ENDEMIC OF BERI-BERI AMONG CHINESE COOLIES AT THE SANDWICH ISLANDS.*

By H. N. VINEBERG, M. D.,

ASSISTANT PHYSICIAN TO THE NEW YORK HOSPITAL (OUT DOOR DEPARTMENT);
CLASS, DISEASES OF WOMEN.

GENTLEMEN: Your chairman, hearing of my having seen a number of cases of beri-beri while residing for a year (in 1881) at the Sandwich Islands, of account of delicate health, has courteously invited me to present a report of my observations on that disease before this section of the Academy of Medicine. Owing to the unfavorable conditions in which I was placed for the scientific study of disease, I fear that my observations will seem crude and indefinite. Several thousands of miles from a medical center or medical library, with only monthly communication with the outside world, and without a microscope or other apparatus for scientific investigation, I was confronted with what to me was an entirely novel disease. My means of communication with my patients was through a Chinese cook, who acted as interpreter and who spoke and understood English but imperfectly. Moreover, the managers of the plantations did not encourage what they considered as "doctors' experiments" on their employees. Notwithstanding all this, I studied the strange affection as closely as I could, and watched its progress with interest and attention.

I shall confine my remarks to-night chiefly to the more

* "Gehirn und Auge," p. 570.

* Read before the Section in Theory and Practice of Medicine at the New York Academy of Medicine, January 1, 1887.

prominent features of the endemic I witnessed, leaving myself free to write more extensively on the subject later.

For our purpose to-night we will name the three sugar plantations of which I had medical charge plantations No. 1, No. 2, and No. 3.

The first case of what I afterward knew to be beri-beri came under my notice at plantation No. 2, in a Chinaman who had been there only a short time. He complained of weakness and vague pains in both legs, and said he was unable to work. There were no objective signs present. The muscles did not appear atrophied, and tactile sensibility was unimpaired. When the muscles of the legs were firmly grasped by the hand, the man cried out with pain, but the muscles felt firm and normal to the touch.

A physical examination of the organs did not reveal anything, and the functions of the economy seemed to be carried on normally. I hesitated whether to pronounce him a malingerer or the subject of chronic myalgia. Tonics, rest, and good food failed to effect any change in his condition.

My next experience with the disease was on plantation No. 1, where several Chinamen one day while at labor suddenly dropped down in the field, saying they had lost power in the legs. The onset was unattended with vomiting, chills, or other phenomena. Within a week fully fifteen out of the sixty Chinese coolies on the plantation were stricken down with the malady.

As typical of these cases, I do not think I can do better than quote from a short description that I sent at the time to the editor of the "Canada Medical and Surgical Journal," of Montreal, which was published in the issue of that journal for November, 1881:

"The plantation overseer notices a Chinaman suddenly drop in the field, and, looking upon him as a 'shirker,' tells him to go to work, enforcing his command with a kick. The coolie points to his lower extremities, and by gestures endeavors to make his taskmaster understand that it is they who are at fault. A medical examination, I am bound to confess, does not throw much more light on the subject, and, from the nature of the circumstances, is very unsatisfactory.

"The patient walks with his legs wide apart, and not unlike a tabetic when paralysis is beginning to become manifest. The muscles feel firm to the touch, they do not appear atrophied, and, on being tightly grasped by the hand, the patient calls out with pain. Tactile sensibility is not impaired, and the reflexes are normal. Pain is referred at first to the region of the knees, and afterward vaguely to the thighs and legs, but not infrequently to the calves only. The patient endeavors to indicate some sensation he experiences by digging the limbs with the index-fingers partially closed, and which I interpret as pricking. No pain whatever is referred to the spine, and hard knocks with the knuckles over the spines of the vertebræ elicit no cry of pain. Power over the sphincters of the rectum and bladder is retained, and is lost only in fatal cases, a few days before death. The bowels are usually costive, the appetite is good, and the tongue may be clean or slightly furred. The pulse is frequent (90-110 in the minute) and is rather small and compressible. The urine is of normal color, free of sediment, and contains no albumin or sugar. A physical examination of the heart, lungs, and liver is negative. My stock of clinical thermometers are either broken or unreliable, but, judging by the feel of the hand, there does not appear to be any elevation of bodily heat excepting in a few fatal cases a short time before the lethal termination."

Muttering delirium occurred in some of the cases a few days preceding death; apart from this there were no mental disturbances in any of the cases excepting in the one first described. This patient became the victim of "paranæa" and was subject to delusions of persecution, so that he had to be transferred to an insane asylum.

The following are some of the variations that I observed from the foregoing description: The disease did not always set in so suddenly. In many cases it was preceded by prodromal pains in the legs, and slight gastric disturbances for one or two days. In not a few cases the paralysis of the lower extremities was complete at the beginning. These patients by no means presented the gloomiest outlook, for many of them were among the first to recover. Edema of the legs was present in not more than five per cent. of the cases, and I can not recall one case in which the œdema became general. In all the cases attended with œdema a valvular affection—aortic or mitral—obtained, but it seemed to me to have had an existence prior to the paralysis. Hæmorrhages, swollen gums, or other symptoms of scurvy I did not observe in a single instance.

During the first two months following the appearance of the disease, about ten more Chinese coolies on the plantation became its victims. Some weeks after the outbreak on plantation No. 1, about one third of the number of the Chinamen employed on plantation No. 2 were stricken down in a similar manner. It was not until some months afterward that any cases were observed on plantation No. 3, where the endemic, when it came on, exhibited similar features to those of the two other plantations. Of the 350 Chinese coolies employed on the three plantations, fully 100 were attacked.

The cases ran three different courses. Fully fifty per cent. ended in recovery, about thirty per cent. proved fatal, and the remainder passed into a chronic state. Recovery took place at a variable period, but most often in from three to four weeks, and was liable to be interrupted by several relapses of from three to four days' duration. In the fatal cases death occurred in from three to four weeks after the onset of the disease, and seemed to be due to a rather rapid extension of the paralysis, which finally involved the muscles of respiration, the patient dying asphyxiated. The duration of the chronic cases I am unable to state from personal observation, as the patients appeared to be in about the same state when I left the district, five months after the appearance of the endemic. These patients ate and slept well, the muscles did not appear to have undergone any atrophy, and, beyond a weakness in the inferior extremities, they exhibited no evidences of ill-health.

In order to make clear the position I take in reference to the causation of the endemic of beri-beri that came under my notice, it may be well to state a few geographical and other features of the district in which the endemic occurred. The district extended about thirty miles in length, and was situated on the windward side of the island of Hawaii, which lies in latitude 20° north and longitude 162° west. The trade-winds extend as far north as this latitude for nine months of the year. During the remaining three months, which are the winter months, hot and oppressive

winds, continuing for two or three weeks at a time, are prevalent. Attacks of influenza are common at this season of the year; otherwise the climate is healthy. The thermometer seldom registers below 60° or above 85° F. the whole year round. It was during the summer months that the endemic made its appearance.

The plantations comprised the fertile areas in the district; they were about eight to ten miles apart and lay from five hundred to twelve hundred feet above the sea-level. The soil was sandy for the most part, with a mixture of finely broken up volcanic rock. Marshes or low wet grounds on the plantations or in their vicinity were unknown.

The Chinese coolies on the plantations were in the prime of life, ranging from twenty to forty years of age, and came from different cantons. The disease seemed to show no predilection for the natives of any particular canton. There were only ten women among them; they followed the same occupation as the men, and only one of them became the subject of the disease. In my opinion, this endemic of kak-ke or beri-beri was due to the effect of improper food upon a constitution deteriorated by overcrowding, masturbation, and other perverted sexual habits. Opium-smoking could not have played any important rôle in the causation, as the laws of the islands imposed a heavy fine on the act, and only a few dare-devils ran the risk of the penalty. The overcrowding, of course, has reference to the sleeping apartments only, which consisted of frame barracks eighty feet long and fourteen feet wide, with two rows of shelves running the whole length of the building on either side. Upon these shelves fifty or more Chinamen stretched out their limbs in repose for the night. During the day they labored in the sugar-cane fields, and were, of course, in the open air.

Time and the province of this paper will not permit of my going fully into the strong chain of evidence upon which I have based my theory of causation. Suffice it here to say that the improper food referred to consisted principally of pea-nut oil, tainted fish, sausages, and pork in an advanced stage of decomposition. The reason why the disease did not appear earlier on plantation No. 3 was, in my mind, the circumstance that the men were fed with rice and fresh meat, and with vegetables occasionally. It was only after the system had been instituted of giving the men the value of their rations in money and allowing them to buy and eat what they chose, that the disease made its appearance.

Apropos of this question, allow me to make a few quotations from recent researches on foods and the compounds they form in the body. Landner Brunton compares the lassitude and feeling of heaviness coming on after a full meal in dyspeptics to the symptoms produced by curare. ("Disorders of Digestion," p. 43.)

Boeci extracted an alkaloid from human urine possessing exactly the same action as curare. ("Arch. pour la science méd.," vol. vi, No. 22, 1883.)

The alkaloid obtained by Brieger in the product of digestion of fibrin with gastric juice, to which he has given the name of peptotoxin, though not identical with the alkaloid obtained by Boeci chemically, yet appears to be identi-

cal with it in action, both acting like curare in paralyzing the peripheral terminations of the motor nerves.

I will briefly state my reasons for excluding contagion and malarial poison as ætiological factors. There were over six hundred other laborers besides the Chinese coolies on the plantations. These consisted of natives, Mexicans, Portuguese, and, I may say, persons of almost every nationality under the sun. They were almost in constant contact with the affected coolies, especially the natives, and not a single case of beri-beri was observed among them.

During my whole term of a year I did not meet with a single case of intermittent fever, or of any affection which is recognized to be due to paludism. Other fevers, such as typhoid or yellow, were equally unknown. The treatment that seemed most efficacious consisted of rest, good nourishing food into which fresh meat and vegetables entered, and more commodious and comfortable sleeping apartments.

At the Honolulu Hospital, where, in addition to the foregoing, galvanic and faradaic electricity was applied, a larger percentage of successful cases, or cases of recovery, occurred than stated in my report. One of the physicians in attendance afterward told me that they had not had one fatal case in the hospital, doubtless due to the fact that the more acute and severe cases could not be transferred to the hospital, which almost always necessitated a sea voyage of one or two days. There were several Chinese physicians in the district, and their abominable mixtures and free acupuncture of the sites of pain did not seem to be any more successful, if as much so, as my plan of treatment based on general principles.

GUMMATOUS INFILTRATION OF THE TONGUE.*

By URBAN G. HITCHCOCK, M. D.

A DISEASE having its precise seat in the areolar tissue, and presumably likely to occur wherever such tissue is found, gummy infiltration is particularly prone to attack certain organs, as the brain, the nerves, the muscular tissue, the tongue, "which is as hard, to use a common expression, as if stuffed with peach-stones";† and, according to other authority,‡ peculiar liability to the deposit under consideration is shown by the skin, iris, pharynx, soft palate, and tongue, the vascularity and constant activity of the latter being held accountable in this regard.

Of all these regions, the nerves and the tongue have, in the writer's experience, been those the most rarely affected. However, four cases of this disease in the tongue having recently come under observation, they were considered of sufficient importance to form the subject of a report, illustrating, as they do very aptly, the variation in symptoms dependent upon the particular part of the tongue occupied by the growth, and showing, moreover, the marked amenability to treatment which characterizes this affection.

The well-recognized tendency of this form of infiltration to undergo still further degeneration, and by its break-

* Read before the American Laryngological Association at its eighth annual congress.

† Cullerier and Bumstead.

‡ W. F. Clarke.

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TABETIC JOINT DISEASE.

EVER since Charcot, in 1868, drew attention to the occasional occurrence of a peculiar joint affection in tabetic patients, to which he gave the name of *arthropathie des ataxiques*, joint diseases occurring in the course of tabes dorsalis have received close study from neurologists and pathologists. The subject was recently under discussion before the Berlin Medical Society. Rotter opened the debate, and said that the nucleus of the subject lay in the following questions: 1. Whether the joint affections in tabetics had any special features different from those of other joint affections. 2. Whether they had a mere outward or indirect relationship with tabes, or were connected with it by a consensus of internal causes. These questions would have to be decided, the speaker very properly added, by clinical study, pathological investigation, and experiment. Thus far, experiment has been fruitless; as the result of clinical observation, it is pretty generally accepted that the arthropathies of tabes differ clinically from all other joint affections, and that they present the following characteristics: Without any premonitory symptoms or appreciable cause, a particular joint suddenly becomes swollen, always to a considerable and sometimes to an enormous extent. The swelling is not attended with pain, fever, or redness, but the tissues surrounding the joint become œdematous and doughy. In a week or two the swelling disappears, and it is then noticed that serious injury has resulted to the joint, destruction of the cartilages and ligaments having occurred, so that the ends of the bones are in contact with each other. A creaking sound is heard on moving the joint, and luxations may readily take place. The destructive process does not expend itself on the cartilages, but extends to the ends of the bones, which become atrophied and eroded. There is very little tendency to exostosis, but the bones become fragile, and fractures may occur on the slightest injury, what is known as "spontaneous fracture" being also met with. The process may be limited to one articulation, or it may involve several joints. The order of frequency with which the different joints are affected is usually the following: the knee, the shoulder, the hip, the elbow, and the wrist.

The pathology of these affections is a vexed question. In his first cases Charcot found destruction of the ganglion cells in the anterior horns of the spinal cord, and to that he attributed the articular trouble; but other observers, and subsequently Charcot himself, failed to find any change in the anterior horns. Then the rarity of joint affections in the spinal paralysis of children militated decidedly against this theory. At the Berlin meeting referred to, Virchow remarked that there was virtually no difference between the *arthropathies des*

ataxiques and arthritis deformans, although the former were characterized by a much more rapid development, a nervous influence doubtless bringing about lowered nutrition, and the poorly nourished bones falling ready victims. But, inasmuch as a general trophic influence, like that occurring in tabes, would necessarily act on all the joints alike, there must always be a local exciting cause to set up the disease in a particular joint. The nature of this local cause might not be evident, but, taking into account the close connection between syphilis and tabes, the idea might be entertained that the joint affection belonged rather to syphilis than to tabes.

Mention seems not to have been made of the recent researches of French investigators as to the condition of the peripheral nerves in tabes. Déjerine, Pierret, and more recently Pitres and Vaillard have drawn attention to the occurrence of inflammation of the peripheral nerves in the course of this disease. The latter observers attribute the arthropathies of tabes to a non-traumatic inflammation of the peripheral terminations of the nerves supplying the affected joint. A case lately reported by Strumpell, an abstract of which was given in this journal, seems to favor this view, as it goes far to show that the peripheral neuritis may occur as a forerunner of tabes dorsalis or in its initial stage—the stage in which the joint affections make their appearance. Observers are not wanting, however, who look upon the neuritis as secondary to the joint affection, which, they say, has its starting-point in a traumatism that, owing to the anæsthesia of the deep structures, may not have been perceived, or may have been overlooked. It is evident that the decision of the question will require further research and experiment. Let the result be what it may, it is of the utmost importance to practitioners to know that a painless articular affection, unaccompanied by fever, may occur as an early or premonitory symptom of tabes dorsalis, and that it too frequently ends in irreparable injury to the joint.

VASCULAR THERAPEUTICS.

THE possibilities of scientific therapeutics are nowhere more clearly apparent than in the treatment of the diseases and functional disturbances of the circulatory system. A critical study of our resources will show that we have at command the means of combating almost all the deviations from normal circulatory function, provided they are not due to too profound a toxic or other cause. We can increase or diminish the force and frequency of the heart's contractions, control the contractility of the arteries, affect the action of some of the local mechanisms, and modify the deleterious or other effects of the central nervous system. That is to say, the circulation of the blood, both local and general, can, within certain limits, be controlled by an intelligent use of the remedies included in our materia medica.

This has been ably illustrated by M. Éloy, in a recent article in the "*Gazette hebdomadaire de médecine et de chirurgie*," who calls particular attention to the brilliant results that have been obtained in the treatment of spastic and degenerative arterial disease. He speaks with enthusiasm of what has been

and what may yet be done with the nitrites and the iodine compounds. That the picture drawn by the French writer is not illusory will be attested by everybody who has tried the efficacy of these agents. That aneurysm may frequently be diminished and occasionally cured by the free but judicious use of potassium iodide is now generally admitted. That the arterial contraction of nephritic disease is held in check by these agents has become a matter of common experience, and the brilliant effects of the nitrites in cases of angiospastic angina pectoris have brought the flush of pride to the face of many a physician and the warmth of gratitude to the heart of many a patient.

M. Éloy does not allude to the more complex vegetable remedies, such as *Veratrum viride*, aconite, and their congeners, nor does he speak of the old and trustworthy tartarized antimony. His paper is devoted more to the chronic and degenerative forms of disease, which are undoubtedly best treated with the iodides and the nitrites. But we should not forget that in acute disturbances we have equally valuable agents, especially those just named. In order, however, to secure the effects aimed at, the physician should at the start make a thorough diagnosis, regarding not only the prominent vascular lesion or disturbance, but also the condition of other organs, for these may require regulation before the drug selected will have its proper effect. For example, a distended condition of the alimentary canal may interfere with the action of the iodides, or even preclude their administration; some irritative state of the central nervous system may counteract the relaxing effect of any arterial depressant that may be given; or errors of diet, of sleep, or of occupation, as well as a score of causes apt to escape the notice of an unobservant practitioner, may thwart his efforts and bring defeat where victory might have been expected. To these collateral points M. Éloy does not allude, but they are equally important with the central idea, and to call attention to them is one of the reasons for the present writing.

MINOR PARAGRAPHS.

A SEMI-PUBLIC MEDICAL SOCIETY.

THE New York Obstetrical Society has lately made a number of efforts to increase its usefulness. The most notable of them was made at the last meeting, when a new set of by-laws and regulations was adopted that practically reorganizes the society. The meetings are to be held at some place to be designated by the Executive Committee, instead of at the members' houses as heretofore; but there is nothing to prevent the committee from directing any particular meeting to be held at the house of a member who may chance to desire it. In the debate, one of the speakers used the term "semi-public" as expressing the character which the organization would now assume, and he founded this designation on the fact that the meetings, while they will not be open to the profession at large, may be attended by those who are invited by members, with the provisions that no member can take more than one person with him to a meeting, and that no invited guest can attend more than two meetings in any one year. It is expected that the society will now show less hesitation than before in admitting new members, and that gentlemen will seek admission who have heretofore been deterred from doing so by the expensive character of the entertainment which they may have felt it incum-

bent on them to provide. It is quite natural that the older members should regret the abandonment of the hospitable element; but it is to be hoped that no such feeling will stand in the way of their doing their part to make the society successful and attractive under the new order of things. The change is certainly to be looked upon as experimental, and we can only trust that it will prove satisfactory.

THE LATERAL CLOSURE OF WOUNDS OF LARGE VEINS.

IN a recent number of the "Deutsche Medicinal-Zeitung," Dr. Schmid describes certain experiments on rabbits in closing wounds of veins by means of small clamps left in position for twenty-four hours under antiseptic dressings. The jugular or the femoral vein was exposed, and slit or nicked with scissors; the opening thus made in the vessel was then carefully closed with from six to twelve *serres fines*, and covered with protective. The vein was not dissected from its bed, but two catgut ligatures were passed under it to hold it in position. At the end of twenty-four hours the clamps were removed under antiseptic precautions, and the external wound was closed with sutures. In from six to fourteen days the vein was again exposed and dissected out. In no case was there any hemorrhage, and in most instances the lumen was perfect and there was no thrombosis. In the majority of the animals the places that had been occupied by the clamps were marked only by fine whitish points or were indistinguishable, but in two of them the vessel was found transformed into a connective-tissue mass. Schmid thinks that this method of treatment may find a wide range of application to the human subject in the closure of wounds of large veins, and result in the abandonment of the practice of ligation above and below the wound.

PROFESSIONAL SECRECY.

THE subject of the confidential nature of the information given to physicians by patients has been much discussed of late, especially by our French brethren. One aspect of the matter has been called to our attention by an esteemed correspondent, and that is the insertion of patients' names in clinical reports read before medical meetings or published in the journals. All this is generally quite unnecessary to a perfect understanding of the features of the case from a scientific point of view, and in some instances it would doubtless be construed as a violation of the legal obligation of secrecy imposed upon physicians. It is not alone the publication of patients' names that is objectionable, but that of other particulars that might easily lead to a recognition of their identity. We quite agree with our correspondent when he says: "While some people may be indifferent as to their private affairs becoming known to the world, I beg leave to suggest that particulars which open the way to recognition of personality be omitted from reports of disease made by physicians."

THE HARVARD MEDICAL SCHOOL.

LAST week, quoting from a Boston publication, we published a paragraph in which President Eliot was reported to have said: "A plan for abridging the four years' course of study in certain cases is now under consideration." An esteemed correspondent now informs us that what President Eliot really said was the following: "The subject of the abridgment of the college [academic] course by those students who go directly from the college into one of the professional schools of the university is now under discussion by the Council, to the end that the average age at which graduates are prepared to begin the practice of their profession may be reduced." In the medical school

the course of study recommended by the faculty covers four years, and our correspondent says—and we may add that we quite agree with him: “I am sure that the only modification of this course will be in the way of enlargement and improvement as opportunity and resources may permit.”

STRICTURE OF THE URETHRA IN WOMEN.

At a recent meeting of the Obstetrical Society of London, the proceedings of which we find reported in the “Lancet,” Dr. Herman mentioned six cases of urethral stricture in women under his own care, and gave the conclusions at which he had arrived from the study of these cases and twenty-three others that he had found recorded. While gonorrhœa, he said, was the ordinary cause of stricture in either sex, young persons alone being considered, aged men suffered chiefly from stricture of prostatic origin, and old women were found to be affected with stricture due to general fibrous thickening and induration of the urethra, the origin of which, he suggested, might reside in the urethro-vaginal cellular tissue, which was the homologue of the prostate. As to treatment, he had found rapid dilatation preferable to any other method.

THE HOSPITAL SATURDAY AND SUNDAY COLLECTION.

It is announced that the Board of Managers of St. Luke's Hospital, by whose action, nine years ago, the New York collection was initiated, has taken the exceedingly wise and creditable step of passing resolutions favoring the apportionment of the entire collection among the associated hospitals, on the basis of the amount of work done by them severally during the preceding year, and discouraging the designation of preferences by donors. It seems to us that this would be the best course under any circumstances, and it is particularly gratifying that the proposal should have come from an institution which, while in need of all the money it can obtain for the prosecution of its work, would probably benefit as much as any of the other hospitals by a continued deference to the wishes of contributors.

ITEMS, ETC.

The University of Michigan.—At a recent meeting of the Michigan State Board of Health, resolutions were adopted asking the regents of the university to establish a laboratory of hygiene. The secretary of the board, Dr. Baker, was among those who spoke while the resolutions were under discussion, and he very properly remarked that such a laboratory would not be an untried experiment, but the amplification of a laboratory that had already made contributions of incalculable value, mentioning, with justifiable pride, Professor Vaughan's researches.

St. John's Riverside Hospital at Yonkers is reported to have recently received a gift of \$500 from Mr. Cornelius Vanderbilt.

Russian Medical Items.—We learn from the “St. Petersburg medicinische Wochenschrift” that Dr. Rudolph Kobert, extraordinary professor of pharmacology, dietetics, and the history of medicine at Dorpat, has been nominated ordinary professor; that Dr. Schtschekow, professor of physiology at Charkow, has been made emeritus professor; and that Professor Billroth, of Vienna, was lately called to Kischinew, to operate for cancer of the breast, for which he received a fee of 5,000 roubles.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Depart-*

ment, United States Army, from January 23, 1887, to January 29, 1887:

MORRIS, EDWARD R., First Lieutenant and Assistant Surgeon. Granted leave of absence for one month, to take effect about March 10, 1887, with permission to apply for an extension of twenty days. S. O. 6, Division of the Pacific, January 19, 1887.

Marine-Hospital Service.—*Official List of Changes of Stations and Duties of Medical Officers of the United States Marine-Hospital Service for the six weeks ended January 29, 1887:*

WYMAN, WALTER, Surgeon. Granted leave of absence for three days. January 14, 1887.

WHEELER, W. A., Passed Assistant Surgeon. To proceed to Erie, Pa., as inspector. January 12, 1887.

Society Meetings for the Coming Week:

MONDAY, *February 7th*: New York Academy of Sciences (Section in Biology); Medico-chirurgical Society of German Physicians; Morrisania Medical Society (private); Utica, N. Y., Medical Library Association; Boston Society for Medical Observation; St. Alban's, Vt., Medical Association; Providence, R. I., Medical Association; Hartford, Conn., City Medical Association; Chicago Medical Society.

TUESDAY, *February 8th*: New York Medical Union (private); Medical Society of the County of Rensselaer, N. Y.; Newark (private) and Trenton (private), N. J., Medical Associations.

WEDNESDAY, *February 9th*: New York Surgical Society; New York Pathological Society; American Microscopical Society of the City of New York; Medico-legal Society; Medical Societies of the Counties of Albany and Cayuga, N. Y.; Franklin, Mass., District Medical Society (quarterly—Greenfield); Pittsfield, Mass., Medical Association (private); Philadelphia County Medical Society (conversational).

THURSDAY, *February 10th*: New York Laryngological Society; Society of Medical Jurisprudence and State Medicine; Brooklyn Pathological Society; South Boston, Mass., Medical Club (private); Pathological Society of Philadelphia.

FRIDAY, *February 11th*: New York Academy of Medicine (Section in Neurology); Yorkville Medical Association (private); Medical Society of the Town of Saugerties, N. Y.

SATURDAY, *February 12th*: Obstetrical Society of Boston (private).

OBITUARY NOTES.

Silas E. Stone, M. D., of Walpole, Mass., died on Saturday, January 29th, at the age of forty-eight. He was graduated from the Harvard Medical School in 1860, and at the beginning of the civil war he entered the Twenty-third Massachusetts regiment as assistant surgeon, but was eventually compelled to resign on account of sickness. He was a member of the Massachusetts Medical Society and of the Norfolk, Mass., District Medical Society.

William S. Robertson, M. D., president of the Iowa State Board of Health, died at Muscatine on Thursday, January 20th, in the fifty-sixth year of his age. He was born in Lancaster, Pa., received his literary education at Knox College, Galesborough, Ill., and was graduated from Jefferson Medical College in 1856. After practicing his profession for several years in Columbus City, Iowa, he settled in Muscatine in 1869. He was professor of the theory and practice of medicine and clinical medicine in the Medical Department of the State University of Iowa, a member of the American Medical Association, of the Iowa State Medical Society, of which he was president in

1873-'74, of the Eastern Iowa District Medical Society, of which he was president in 1876-'77, of the Louisa County Medical Society, of which he was president in 1860-'61, and of the Muscatine County Medical Society, of which he was president at the time of his death. He was the originator, and president in 1876, of the Board of Trustees of the Asylum for Feeble-minded Children at Glenwood, Iowa, and during the civil war was major in an Iowa regiment of infantry.

James A. Hopson, M.D., of Piermont, N. Y., died on Thursday, January 27th, at the age of seventy-eight. Dr. Hopson took his medical degree at Fairfield in 1830. He was a member of the Medical Society of the County of Rockland, and ten years ago he was its president.

Letters to the Editor.

SURGICAL INFECTION.

BROOKLYN, January 18, 1887.

To the Editor of the *New York Medical Journal*:

SIR: Apropos of the communication of Dr. Leuf, in your issue of January 15th, entitled "Surgical Infection; a Reply," which is a criticism of Dr. George R. Fowler's paper on "Surgical Infection; is it a Chimera?" allow me to state that, although Dr. Fowler's valuable paper does not need my indorsement, yet it is but justice to the members of the Brooklyn Pathological Society who participated in the discussion of Dr. Leuf's original paper that their remarks should appear in print. I hope you will do me the honor to publish mine, which were forwarded to you with the proceedings of the meeting nearly a year ago. It will be seen that both Dr. Fowler and I considered Dr. Leuf's paper, when it was read, as a direct and unmistakable arraignment of the anti-septic method, although Dr. Leuf certainly seems to desire to modify that view in his article of January 15th. At the close of the discussion of his paper, Dr. Leuf did not offer to refute a single objection raised, and it is hardly in good taste for him to do so at this late day. Surgical science has advanced ten months since February of last year, and I sincerely hope that Dr. Leuf has kept pace with that progress.

Very respectfully yours,

CHARLES N. DIXON JONES.

* * Our correspondent has been made aware of the reason which prevented our publishing Dr. Leuf's original paper. As we did not publish the paper, it would have been absurd for us to publish the discussion. If, however, our correspondent will arrange what he said at that time in the form of a paper, we shall be happy to give it our early consideration.

Proceedings of Societies.

MEDICAL SOCIETY OF THE STATE OF NEW YORK

Eighty-first Annual Meeting, held in Albany, Tuesday, Wednesday, and Thursday, February 1, 2, and 3, 1887.

The President, Dr. WILLIAM S. ELY, of Rochester, in the Chair.

Tuesday's Proceedings.

The PRESIDENT called the meeting to order at 10.30 A.M. Prayer was offered by the Rev. Mr. FOSTER.

The President's Address.—In his address the president recommended that hereafter the president be given discretion-

ary power, when the amount of scientific material would justify it, to arrange for the formation of two or more sections, for which he might appoint a chairman and a secretary. It was also recommended that the Committee on Legislation report at the next annual meeting such changes as might seem desirable in the laws affecting State and county medical societies; and that the Committee on Hygiene report any desirable changes in the laws affecting boards of health, additional to and in pursuance with those on page 6 of the appendix to the volume of "Transactions" for 1886.

Separation and Displacement of the Upper Epiphysis of the Os Brachii in a Child Two Weeks Old, caused by Violence.—Dr. W. C. WEY related the history of a case which, he said, illustrated a rare accident and how perfect a cure nature would effect.

The Adaptation of Corning's Method of producing Local Anæsthesia to Operations on the Eyelids.—Dr. DAVID WEBSTER, of New York, described the method, and said that he had found it advantageous.

Medication of the Nerves of the Spinal Cord.—Dr. J. L. CORNING, of New York, read a portion of a paper in which he described the method of applying cocaine. He said that in sciatica he preferred to use a large quantity of a one-per-cent solution rather than a smaller quantity of a stronger solution.

Dr. A. M. PHELPS, of Chateaugay, thought that danger attended the free use of cocaine, and that as little as possible should be used.

Dr. D. B. ST. JOHN ROOSA, of New York, advocated the use of cocaine, but thought that the quantity should be as small as possible.

Is the Danger of Post-partum Hæmorrhage increased by the Use of Anæsthetics during Parturition?—Dr. FORDYCE BARKER, of New York, read a paper with this title, in which he expressed the opinion that no woman should die of post-partum hæmorrhage due solely to uterine inertia. He said that the real question was, Did anæsthetics, properly administered to relieve pain, increase the danger of post-partum hæmorrhage? He had used chloroform almost exclusively since 1850, and he preferred it to ether because it was less irritating to the respiratory tract; the odor was more agreeable, a smaller quantity was required, its action was more rapid than ether, and it could be used intermittently. Chloroform oftener accelerated than retarded labor. Patients who had been sent to him because of their disposition to post-partum hæmorrhage in former labors without anæsthetics had done better under chloroform. The presence of heart disease did not contra-indicate its use. He agreed with Dr. Reeve that close scrutiny failed to show that the judicious use of chloroform exerted an injurious influence on either the mother or the child. The only deaths from its use in obstetrics by competent practitioners had occurred in patients who had had convulsions. The speaker had had but one fatal case of post-partum hæmorrhage, and in that case chloroform had not been used.

Dr. E. L. PARTRIDGE, of New York, gave as an additional objection to the use of ether the danger attending its use in small rooms. He said that protracted labor should be obviated because of the injurious effects that were left on the nervous system of the patient. He thought that anæsthesia could be employed to advantage in most cases of labor. He agreed with Dr. Barker that uterine exhaustion was frequently called uterine inertia.

Dr. B. F. SHERMAN, of Ogdensburg, said that he had given chloroform for many years, and that where it had prolonged labor once it had shortened it ninety-nine times.

The Correction of the Deformity termed Pug-nose by a

Simple Operation.—Dr. J. O. ROE, of Rochester, read a paper on this subject, in which he said that making the outline of a pug-nose regular by taking away a portion caused the nose to look larger, because it rendered it symmetrical. In describing the operation he said that the end of the nose was turned back, sufficient tissue removed to correct the deformity, and the integument again returned. Malformation due to deformity of the cartilage was corrected by dividing the cartilage and making the patient wear a suitable splint. He had operated in five cases and the result had been good in all.

The Committee on the President's Address.—Dr. H. G. PIFFARD, Dr. B. F. SHERMAN, and Dr. J. N. KENDALL were appointed, and reported in favor of the recommendations contained in the address except those relating to changes in the organization of State and county societies. The report was adopted.

The Committee on Legislation.—The action of the PRESIDENT in appointing Dr. Bendell chairman of the committee in place of Dr. Roosa was decided by the Committee on By-Laws not to be in accordance with the By-Laws, but they recommended that the society approve the action of the president without establishing a precedent. The recommendation was adopted.

The Report of the Committee on Legislation was read and the following resolution adopted: That, while the society approves of the report recommending the codifying of the present laws regarding medical matters, it does not relinquish the conviction that it is necessary for the people and the profession that the law creating a board of medical examiners be passed.

The Influence of Small Doses of Salts of Calcium and Potassium on Muscle, Cardiac and Skeletal.—A paper with this title, by Dr. SYDNEY RINGER, of London (an honorary member), was read by Dr. E. V. Stoddard, of Rochester. The author said that saline solutions, when circulated through muscle in such a way as to come in contact rapidly with muscular protoplasm, induced speedy lessening or loss of contractility. They acted alike on cardiac and skeletal muscles. Lime and potassium salts, when brought into similar intimate relation to muscle protoplasm, excited muscular contractility. Lime salts speedily restored muscular contraction when stopped by saline solutions.

The Results of Multiple Paracentesis of the Drum Membrane on Hearing in Chronic Aural Catarrh.—Dr. O. D. POMEROY, of New York, read a paper with this title. [It will be published hereafter.]

The Nominating Committee was announced as follows: First senatorial district, Dr. T. R. POOLEY; second, Dr. A. M. CAMPBELL; third, Dr. B. A. MYNDERSE; fourth, Dr. A. W. SUTTER; fifth, Dr. W. E. FORD; sixth, Dr. H. C. MAY; seventh, Dr. J. N. KENDALL; eighth, Dr. D. LITTLE; member at large, Dr. HARVEY JEWETT.

Is Modern Midwifery Meddlesome?—Dr. DAVID LITTLE, of Rochester, read a paper on this subject in which he characterized certain teachings as contradictory, referred to the importance of supporting the perineum, Credé's method of placental expression, the immediate operation for laceration of the perineum, antiseptic injections, etc. He said that his strictures on prevailing practices were meant to apply only to cases of normal labor. He believed in letting well enough alone.

Dr. BARKER, of New York, expressed himself as opposed to an immediate operation for lacerated perineum, to antiseptic injections in normal labor, and to the view that rise of temperature was always due to septicæmia. He spoke in support of Credé's method.

A Case of Dislocation of the Head of the Left Femur

under the Pubic Arch.—Dr. J. S. WIGHT, of Brooklyn, read the history of a case.

A Plea for the more Careful Investigation of the Urine in Infants and Young Children.—Dr. L. E. HOLT, of New York, read a paper on this subject, in which he said that medical literature contained but little on kidney disease in infants, except as occurring in infectious diseases. The speaker had recently seen six cases, and a friend of his had met with two, of primary disease in the kidneys. Five of the patients had died. He laid much stress on the necessity for examining the urine in all cases of disease in infants.

Some Important Points in the Management of Deep Urethral Stricture.—Dr. F. N. OTIS, of New York, read a paper on this subject. [It will be published hereafter.]

State and Preventive Medicine.—In a paper on this subject, Dr. ALFRED MERCER, of Syracuse, recommended the formation of a sanitary organization which should have representatives among all interested classes throughout the State.

A Substitute for the Dinner Pad.—Dr. LITTLE, of Rochester, showed a Barnes's dilator and suggested its use as a dinner pad when applying the plaster-of-Paris jacket.

The Intoxicant Habit.—In a paper on this subject, Dr. H. R. HOPKINS, of Buffalo, said that the medical profession was in a great degree responsible for the existence of this habit in all of its varieties.

The paper was discussed by Dr. W. C. WEY, of Elmira, who opposed high license as unlawful, and approved of inebriate asylums.

Remarks on Intra-uterine Medication.—Dr. T. ADDIS EMMET, of New York, read a paper on this subject, in which he gave his experience with intra-uterine medication. He stated that he now seldom introduced anything into the uterine canal except in the treatment of some special lesion, such as polypi.

The Necessity for the Complete Removal of the Uterine Appendages whenever Operation is called for.—Dr. A. VANDER VEER, of Albany, related the histories of six cases bearing upon this subject, and stated that he was deeply impressed that many so-called nervous patients subjected to operation could be relieved by medication.

The discussion was opened by a paper by Mr. LAWSON TAIT, of Birmingham, England (an honorary member), entitled, "Of the Results of Unilateral Removal of the Uterine Appendages," and read by Dr. WARD, of Albany. Twenty-seven of Mr. Tait's first thousand cases of abdominal section, prior to 1884, related to the subject of Dr. Vander Veer's paper. The conclusion drawn from the histories of a number of cases was that, if a woman's sufferings were sufficient to justify abdominal section for chronic inflammatory disease of the uterine appendages, and only one side was found to be affected, the operation, to be of lasting benefit to the patient, should be bilateral.

Dr. T. ADDIS EMMET deprecated the too great frequency of the operation, as did also Dr. W. GILL WYLLIE, of New York.

Wednesday's Proceedings.

County Societies.—A resolution was offered by Dr. PARKER instructing the Committee on Legislation to report at the next annual meeting the action that ought to be taken when the majority of a county society disbanded the society and transferred its property to a rival organization. Adopted.

The Report of the Committee on Hygiene was read by Dr. STODDARD, of Rochester. It showed an improvement in the sanitary condition of institutions throughout the State, but there was still room for further improvement, especially by individual physicians.

The Details of Antiseptic Treatment in Emergencies and Private Practice, with Practical Demonstrations of

Methods, were given in a paper by Dr. A. G. GERSTER, of New York.

The Management of Certain Forms of Varo-equinus was demonstrated by Dr. A. M. PHELPS, of Chateaugay, who read a paper on the subject.

The Comparative Value of Antiseptics.—Dr. LUCIEN HOWE, of Buffalo, read a paper on this subject, and demonstrated methods of making tests for antiseptics, and what strength of a solution was necessary to stop the growth of bacteria.

The Radical Cure of Reducible and Irreducible Herniæ.—In a paper with this title Dr. R. F. WEIR, of New York, mentioned improvements in the details of Ileaton's operation, and gave statistics of cases operated on by himself and two other physicians.

In the discussion that followed, Dr. W. GILL WYLIE referred to the danger of the occurrence of hernia after laparotomy, and Dr. A. VANDER VEER stated that Mr. Tait observed no hernia following his laparotomies.

Tobacco Amblyopia.—In a paper on this subject Dr. BENDELL, of Albany, stated his belief that amblyopia from tobacco was more common than was generally supposed. The prognosis was usually unfavorable.

Dr. ROOSA had never seen a case of amblyopia positively traceable to tobacco.

Paroxysmal Cardiac Dyspnoea.—Dr. A. L. LOOMIS, of New York, read a paper on this subject, in which he said that the essential cause of this form of dyspnoea was arrest of blood in the heart or pulmonary arteries, and that the condition must be paroxysmal or end fatally. In the majority of instances the arrest took place in the right heart, shutting off the blood from the lungs while other internal organs were congested. If the arrest occurred in the left heart, the lungs were found congested and other organs anæmic. There was little hope of long life after the paroxysms had once developed. The speaker said that persistence of endocardial murmurs was not inconsistent with long life and the enjoyment of a fair degree of health.

A Demonstration of the Method of Intubation of the Larynx was made by Dr. J. O'DWYER, of New York.

Measures for Increasing the Society's Membership.—Dr. WEX, of the special committee appointed last year to consider means for increasing the membership of the society, reported in favor of delegates serving three instead of four years, and their eligibility to permanent membership after attending to annual meetings. He also reported in favor of receiving delegates from special societies, naming the New York Post-graduate Medical School and Hospital and the New York Polyclinic. The first recommendation was adopted and the second was referred to the Committee on By-laws.

On the Mammary Gland.—A paper on this subject was read by Dr. E. F. BRUSH, of Mount Vernon.

The Merritt H. Cash Prize Essay.—Dr. G. F. SHRADY, of New York, reported for the Committee on Prize Essays that the prize had been awarded to Dr. A. N. Bell for an essay entitled "The Physiological Conditions and Sanitary Requirements of School Life and School Houses."

Observations on Reflex Nervous Disturbances.—Dr. W. E. FORD, of Utica, said in a paper on this subject that physiological facts did not warrant a diagnosis of reflex nervous disturbances except in cases of sudden explosions of nervous energy. Many conditions that were commonly ascribed to reflex action were really due to a lesion of the spinal cord.

Surgery of the Lungs.—Dr. ROSWELL PARK, of Buffalo, read a paper classifying cases under three heads: Pneumectomy, pneumotomy, and thoracoplasty. Pneumotomy was indicated in bronchitic abscess, tubercular abscess, gangrene, hy-

datid cysts, and cases of foreign body. Pneumotomy was indicated in hæmorrhage from a lung wound, traumatic hernia, neoplasms, and tubercle. He looked forward to the time when pneumectomy would be the treatment for tubercle of the apex. Thoracoplasty was employed in empyema resisting other treatment.

The Relation of Laryngeal to Pulmonary Phthisis; Importance of Local Treatment.—Dr. C. C. RICE, of New York, in a paper on this subject, expressed the opinion that laryngeal disease in connection with pulmonary tuberculosis was not always tubercular. In about 65 per cent. of cases there was characteristic tubercular deposit. In the remaining cases the process was slow, commencing with subacute catarrh, becoming chronic, and finally ulcerative. The disease being often not tubercular, the term tubercular laryngitis was unfortunate.

Some Points of Medico-legal and Scientific Interest in the Case of the People versus Druse were given in a paper by Dr. A. W. SUTTER, of Herkimer.

Laryngeal Intubation by O'Dwyer's Method.—Dr. E. L. PARTRIDGE, of New York, called attention to some points in the procedure which he said were not new. Let us, he said, try intubation fairly, not expecting marvelous results.

Dr. A. JACOBI, of New York, had thirty years ago spoken of Bouchut's method as ridiculous. Two years ago he had expressed doubts as to the success of O'Dwyer's method. He was now convinced of its usefulness.

Some Considerations concerning Cancer of the Uterus, especially as to Palliative Treatment in later Stages.—Dr. A. F. CURRIER, of New York, after general remarks on cancer, spoke of treatment adopted at the Skin and Cancer Hospital. While the radical operation had prolonged life not longer than two years on the average, yet in suitable cases he advised it.

Nasal, Pharyngeal, and Laryngeal Instruments were presented by SAMUEL SHERWELL, of Brooklyn.

The Duty of the Medical Profession in Promoting Cremation.—Sir SPENCER WELLS, of London, an honorary member, contributed a paper which was read by Dr. A. Jacobi. He considered cremation the safest and best mode of disposal of the dead.

Dr. JACOBI then stated the other side of the question, the opposition to cremation offered by different writers.

Embolism of the Radial Artery Complicated by Endocarditis.—A paper on this subject was read by Dr. MARTINDALE.

Practical Observations on Abdominal Surgery.—Dr. W. GILL WYLIE gave a brief summary of his work in abdominal surgery since 1882.

The President's Annual Address, on the achievements in science and letters of men who had been connected with the medical profession, was read at 8 P. M. in the Assembly rooms.

Thursday's Proceedings.

The Cause and Prevention of Blindness.—Dr. HOWE, of Buffalo, moved that a committee of three be appointed to inquire into the cause and prevention of the great increase of blindness throughout the United States, which he attributed to the increase of contagious ophthalmia. The motion was carried.

The Prize Essay.—The motion to print and distribute among municipal and school authorities in the State fifteen hundred copies of Dr. Bell's essay was carried.

Syphilis in connection with other Diseases of the Skin was the subject of a paper by Dr. L. D. BULKLEY, of New York.

The Report of the Committee on Nominations was presented as follows: For President, Dr. A. L. Loomis, of New

York; for vice-president, Dr. A. M. Phelps, of Chateaugay; for secretary, Dr. W. M. Smith, of Syracuse; for treasurer, Dr. C. H. Porter, of Albany. For censors, *Southern District*, Dr. J. S. Warren, of New York County; Dr. W. B. Chase, of Kings County; Dr. W. H. Helm, of Westchester County; *Eastern District*, Dr. J. Lewi, of Albany County; Dr. T. Burton, of Montgomery County; Dr. H. McLean, of Rensselaer County; *Middle District*, Dr. J. G. Orton, of Broome County; Dr. R. Frazier, of Oneida County; Dr. J. N. Goff, of Madison County; *Western District*, Dr. T. Dimon, of Cayuga County; Dr. D. Little, of Monroe County. *Medical Department of Syracuse University*, Dr. H. Jewett, of Ontario County. Committee of Arrangements, Dr. S. B. Ward, of Albany; Dr. E. L. Partridge, of New York; Dr. F. C. Curtis, of Albany. Committee on By-Laws, Dr. W. C. Wey, of Elmira; Dr. H. G. Piffard, of New York; Dr. W. M. Smith, of Syracuse. Committee on Hygiene, Dr. E. V. Stoddard, Dr. F. C. Curtis, Dr. A. N. Bell, Dr. J. P. Creveling, Dr. E. Hutchinson, Dr. W. H. Bailey, Dr. E. F. Brush. Committee on Legislation, Dr. Lawrence Johnson, Dr. F. R. S. Drake, Dr. H. Bendell. Committee on Ethics, Dr. A. Jacobi, Dr. A. Matthewson, Dr. J. W. Whitbeck. Committee on Prize Essay, Dr. G. F. Shradly, Dr. F. P. Foster, Dr. W. M. Carpenter. Committee on Publication, Dr. W. M. Smith, Dr. A. Mercer, Dr. C. H. Porter, Dr. W. M. Carpenter. Honorary Members, Dr. E. Landolt, of Paris; Dr. James Grant Bey, of Cairo, Egypt; Dr. A. D. Grinnell, of Burlington, Vt.; Dr. —, of New Orleans. Eligible to Honorary Membership, Dr. W. H. I. Allchin, of London; Dr. D. N. Wilcox, of Lee, Mass. Delegates to the Massachusetts Medical Society, Dr. D. Lewis, Dr. C. H. G. Spencer; to the New Jersey Medical Society, Dr. P. A. Morrow; to the Pennsylvania Medical Society, Dr. F. W. Hinkel; to the Connecticut Medical Society, Dr. N. C. Husted; to the Vermont Medical Society, Dr. M. H. Burton, Dr. W. O. Moore, Dr. A. M. Phelps; to the New Hampshire Medical Society, Dr. H. Jewett, Dr. O. B. Douglass; to the Canada Medical Association, Dr. L. Howe.

The report was adopted.

Resignations.—A resolution was passed empowering the president to accept the resignations of members of the society; also to accept resignations and fill vacancies, *ad interim*, on committees.

After the reading of several papers by title, and passing a vote of thanks to the retiring president, the meeting adjourned.

OBSTETRICAL SOCIETY OF PHILADELPHIA.

Meeting of January 6, 1887.

The President, Dr. B. F. BAER, in the Chair;

Dr. W. H. H. GITHENS, Secretary.

A Report of Six Hundred and Sixteen Cases of Labor in Private Practice, by Dr. H. H. WHITCOMB, of Norristown, was read by the secretary:

Up to March 31, 1886, the writer had attended six hundred and sixteen cases of obstetrics. There had been no death of a mother and only two cases of still-born children; one of these was destroyed by craniotomy. The forceps had been used in two cases only. He had had no case of twins. He had had one case of elbow, one shoulder, one hand and face, and three breech presentations; all the others were by the vertex. Placenta previa was present in two cases at full term and in two miscarriages, one at seven and one at five months. Puerperal convulsions occurred in two patients. A series of thirty-two cases of puerperal fever, but fortunately without a single death, occurred in the winter and spring of 1882. The first case occurred after he had been in attendance on a case of scarlet fever, and was followed by three other cases; the next two or three obstetric patients escaped, when he was

called to attend a woman who was confined while convalescent from erysipelas. The fever developed in her, and then every lying-in patient he attended that winter and spring suffered from it. Consultation confirmed the diagnosis in all the cases. One instance was after a miscarriage at seven months following pneumonia. The patient had a tedious convalescence, but had since had a child weighing thirteen pounds and a half. He tried to stop attendance on this class of patients, but could not get rid of them. The epidemic ceased as suddenly as it commenced, and he had not had a case since. The smallest child born at full term weighed three pounds and lived only three days. Three deaths of infants had occurred from trismus, and four deaths, in children a few days old, for which he was unable to assign a cause. They simply moaned until they died, while they appeared to be in good condition. He had had one case of hour-glass contraction and four of severe post-partum hæmorrhage at term. His success he ascribed to patient waiting and conservatism. He did as little meddling as possible and did not use antiseptic injections. He was very positive that the frequent use of the forceps was abuse. He had had a number of cases, possibly twelve, of ruptured perinæum; they were immediately stitched with a perfect result in all cases. He had never had a case of vesico-vaginal fistula.

Dr. H. A. KELLY said that an observer must be careful not to impose the rules and statistics of an average Philadelphia practice upon the Norristown people. While it was true that ailing delicate women lived and required obstetrical services in Norristown as elsewhere, yet it was a fact that in Philadelphia the uptown mill population, from all over the civilized world, and the downtown population of pampered society women and alley offscourings, presented very different problems to the accoucheur.

With notable exceptions, labor in the country was easier. Differences of the same kind in greater degree existed between the native and the foreign population. The speaker was much struck with this fact last summer when he went to the Anatomical Institute in Leipsic, to Herr Dornfelder, to buy a normal female pelvis. He was going to Berlin, to return in a month, and instructed him to find a pelvis as near a normal specimen in the museum as he could in the large amount of material passing weekly through the institute. On his return he was given a specimen he then had in his office, which was the nearest to the normal that Herr Dornfelder was able to find; and he had been assured that a normal pelvis was rare. This dried pelvis, with artificial ligaments, measured: Sp. I., 25½ cm.; Cr. I., 29½ cm.; Cr., 9 cm.; Pt., 13 cm. The argument as to different necessities in different localities held with regard to the use of antiseptics.

A Year's Work in Ovariectomy.—Dr. WILLIAM GOODELL read a paper with this title. In it he stated that he had had during the past year fifty-nine laparotomies, but that, lest his paper should be too long, he should limit himself to the consideration of his ovariectomy cases. Of these he had had thirty-nine cases with three deaths.

Of these deaths, one had occurred on the table from the difficulties of the operation. It had been a dreadful case of intra-ligamentous cyst with adhesions on all sides, from which it had been shelled out without a pedicle. The ureter had to be dissected out for twelve inches, and the entire colon, womb, bladder, and small intestines had been attached to the cyst. It had been a very forlorn case from the start, and he had operated merely from a sense of duty. He stated that in the removal of intra-ligamentous cysts the ureter was in great danger, and he believed that it had been repeatedly torn across without the knowledge of the surgeon. The speaker stated that before the death of this patient he had had in succession twenty-two successful cases, and afterward a series of eight cases before the next death took place—viz., thirty-one cases with one death. The second death had been due to obstruction of the bowels in a case of large fibroid of the womb and ovarian cyst weighing sixteen

pounds. On account of the fibroid, both ovaries had been removed. He had had his share of cases of obstruction, but this had been the first fatal one in his recollection. The remedies that he had used had been calomel and belladonna by the mouth, and turpentine by the rectum. The obstruction was due to the adhesion of a knuckle of intestine either to the stump of the pedicle, to the abdominal wound, or to some denuded surface. As soon as symptoms of obstruction presented themselves, he always aimed at once to open the bowels. The third death had occurred in a case of malignant cystic disease of both ovaries in which the operation had been incomplete. Malignancy had been suspected, but the operation had been forced on him on account of the excessive pain from which the woman had suffered. Yet he argued, from his own experience and from that of Schroeder and Martin, that, other things being equal, it was always wise to remove ovarian cysts even when malignant, for patients' lives would be greatly prolonged by the operation. The right ovarian cyst had no pedicle, but had ended in a brittle cancerous mass as large as his fist. This with very great difficulty had been ligated *en masse*, and then bleeding vessels had been secured separately. The left ovarian cyst had been so fastened to the womb, the pelvis, and the broad ligament by masses of cancerous excrescences that he had not attempted to remove it. He would have abandoned the case after he had discovered the nature of the complications; but he had gone too far to recede, for his hand had been inside of the right cyst to break up its septa, and blood had been flowing profusely from it. The lady died twenty-six hours later from shock and hæmorrhage.

He stated that some ovariologists did not report their incomplete operations or their exploratory incisions, but that he thought it fairer to do so. If his memory served him no trick, this was the only incomplete operation for ovarian cyst that he had ever had. None of his cases had been selected, and he had refused to operate in one case only, and that one on account of epithelial cancer of the cervix; so that he had no exploratory incisions to report. He had had twenty-one cases with adhesions, a very large proportion of which he had attributed to the tendency women in this country had to postpone the day of operation. He had also had twenty cases of double ovariectomy; but this large number had been due to his rule of removing the second ovary in all malignant or suspicious cases, in all patients who had passed the climacteric, in all cases of incipient disease, and always when asked by the patient to do so. He further stated that he still adhered to Listerism, and that he used Keith's dressing of one part carbolic acid to seven of glycerin.

Dr. PARISH cited a few instances of evil results following abdominal tapping for purposes of diagnosis or for relief from distension. In his first ovariectomy case, with the view of clinching the diagnosis, he had aspirated and withdrawn a few drachms of somewhat cloudy ovarian fluid. The patient presented some symptoms which in a few days became grave—pain in the tumor, rigors, rapid and feeble pulse, and high temperature. He operated during the existence of these symptoms, and found suppuration of the interior of the cyst and extensive anterior adhesions; both conditions doubtless dependent upon the aspiration. The patient recovered.

A few years ago a well-known medical gentleman of this city had aspirated a tumor supposed to be a multilocular ovarian cyst. Though the fluid had been stated to verify the diagnosis, the patient had miscarried in one or two days of twins at about the fifth month, and the tumor had proved to be simply a uterus enlarged by reason of a multiple pregnancy. He had recently seen in the Philadelphia Hospital a shocking case of labor, in which active labor-pains had begun one week previous to the patient's admission to the hospital. No urine had been

voided for several days. Pregnancy had been denied by the patient and her friends, and had not been recognized by two physicians. The woman was small and deformed, and there had been in the abdomen two fluctuating tumors—one a distended bladder, the other the uterus. Aspiration of both tumors was resorted to, a procedure that was not only unnecessary for diagnostic purposes in this case, but would probably have been highly detrimental to the patient had not the neglected and protracted labor already determined a rapidly fatal result. Though tapping for relief, and especially for diagnosis, was less frequently resorted to than had been the case a few years ago, yet even now it was too frequently done.

In reference to the development of cancer or sarcoma after the removal of seemingly benign ovarian tumors, the speaker had seen recently an example in a patient operated on by Dr. Hickman and himself. A large cyst of one ovary and a small one of the other, both free from the appearance of malignancy, were removed and the patient made a tardy recovery. In about a year sarcomatous growths developed in the neck and axilla, and a large one in the abdominal wall of the left lumbar region. The patient died a few weeks ago and the autopsy was made by Dr. Morris Longstreth, and, though the sarcomas referred to were present, there was no intra-pelvic disease. An interesting feature was the total disappearance of the ligature of iron-dyed silk with which the pedicles and several vessels had been secured about eighteen months previously.

Dr. KELLY stated that, while simple tapping often was in no way injurious, it was also often productive of grave injury, and one of his own cases illustrated this point very well. The patient, having a cyst weighing a hundred pounds, had been tapped in the left iliac region by a homœopathic surgeon. She had previously suffered from pressure symptoms. From that time she had suffered from severe inflammatory pains around the puncture, and at the operation the extensive dense adhesions at this point constituted the chief difficulty. She was now well, more than a year since the operation. It was, he said, a cause for mutual congratulations for American operators that their results were becoming so good. The whole credit of this was in the thorough use of antiseptic agents and the rendering the field of operation completely *aseptic*. He believed, too, that our cases at home were more difficult than those abroad. The tumors we operated upon were older, and with the increasing duration of an ovarian tumor occurred many changes detrimental to the patient—depression of vitality from pressure symptoms, diversion of so much albumin from the system at large, surcharge of the emunctories, as well as adhesions and unfavorable changes within the tumor itself. Keith's dressing of a strong carbolized glycerin had rendered excellent results in his hands in at least twenty cases.

Dr. GOODELL, in answer to a question by Dr. Baer, said that he operated during menstruation merely from pressure of time on the part of the patient, and little or no effect was produced on the discharge by the operation.

Dr. JOSEPH PRICE, commenting upon some points alluded to in Dr. Goodell's paper as to the contaminated atmosphere of a general hospital, cited the statistics of two hospitals: the special department of the Birmingham General Hospital, and the Birmingham Hospital for Women, covering a period from January, 1878, to September, 1885.

Dr. MONTGOMERY considered Dr. Goodell's success gratifying, especially after tapping. A patient had come to him one month after tapping. She had a high pulse, septicæmia, large adhesions to the viscera, putrid clots in the tumor, etc., and died on the fifth day, with a temperature of 105°. He did not approve of tapping broad-ligament cysts. One patient with such a tumor had been tapped seven times. The tumor was sub-

sequently removed, and he did not have a single vessel to tie. In this case the peritonæum had been pushed up by the tumor, and was not opened until late in the operation.

Dr. R. P. HARRIS had been requested by Dr. Parish to report the present condition of the patient from whom he had removed the ovarian tumor exhibited by him before the society at its meeting on March 4, 1886, the day after the operation, as he had seen her much more recently than Dr. Parish had. Dr. Harris stated that, notwithstanding the fact that the tumor had been largely solid, that it had grown rapidly, that the solid portion had an appearance of malignancy, and that there had been a small morbid growth projecting upward from the fundus uteri, the lady was to all appearance a well woman. He saw her on December 26th, when she professed to have perfectly recovered her health and strength after a very prolonged convalescence. Her appearance and activity certainly indicated that her statement was correct. The uterine nodule must have been a fibroid, as, had it been cancerous, it must have materially developed in nine months. The future of this case would be of much interest.

Three Successful Tait Operations were reported by Dr. CHARLES MEIGS WILSON, who said that these cases were the first of a series performed without the use of carbolic-acid solutions for instruments and without the spray. Hydrant-water, boiled for six hours, was used for the instruments and sponges in the first and second cases, and a solution of mercuric chloride, 1 to 6,000, for like purposes in the third. The wounds in all three were dressed after the manner of Keith. The incisions were less than two inches in length. More than three months had elapsed since the operation in each case before it had been reported. It had seemed best to publish the cases in this manner, because the vast majority of all patients recovered without accident from the operation, and hence mere statistics of the healing of the wound amounted to little but evidence of individual skill. Statistics of the real relief afforded by the operation were what the profession needed, in order to give the operation its just place in modern surgical procedures.

CASE I. Myo-fibroma of the Uterus.—The patient first came under observation in July, 1886. She gave her history as follows: Miss McM., aged thirty-two; nullipara; for the last sixteen months she had had a rapidly growing tumor of the abdomen; menses profuse; catamenial intervals, ten to fifteen days; for the past four months she had been rarely free from bloody vaginal discharge. She was emaciated and anæmic. She was very nervous and alarmed about the constant bloody discharge. She had reflex pains, but no ovarian tenderness or pain. She was obstinately constipated, owing to the pressure of the tumor upon the rectum. She was found to have a large fibroid tumor of the fundus and anterior wall of the uterus. The enlarged uterus was incarcerated in the cavity of the pelvis, and was very immobile. The sound entered the uterus seven inches and a quarter. Abdominal section was performed, September 20, 1886, with the assistance of Dr. E. Wilson, Dr. C. P. Noble, and Dr. E. Longaker. The tubes were as thick as the finger, they had thin walls, and were distended with blood. The ovaries were over size, and the right one was cystic. The ligature slipped from the uterine end of the left tube, and, before it could be secured, there was free hemorrhage. The operation lasted forty minutes. Convalescence was retarded by abscess of one of the suture tracts. The patient made an excellent recovery. She had lost no blood since the second day after the operation, her appetite was good, and she was able to resume her occupation of seamstress. She frequently walked two miles to her work. All pain had disappeared. She had gained twenty-two pounds since the operation. December 20, 1886, the sound entered the uterus three inches and a quarter; the tumor was greatly reduced in size.

CASE II. Hystero-epilepsy.—Mrs. C., aged thirty, primipara. Had always enjoyed good health until after the birth of her child six years ago. She had been delivered with forceps, and the cervix and peri-

næum had been badly torn. She had been in bed nine weeks after the confinement. No clear history of her puerperal trouble could be obtained. She had had profuse catamenial discharges since. About six months after the birth of her child she had first commenced to have attacks of loss of consciousness, followed by epileptoid seizures at her menstrual periods. These had gradually become so violent as to place her life in seeming jeopardy during their occurrence, and left her utterly prostrated. She had been in bed about twenty days out of every month for four years. Her epileptic seizures had occurred only at her monthly periods. Everything that her medical attendant could think of had been done for her, and her family were about to place her in an insane asylum. The ovaries and tubes were removed October 3, 1886. The operation was an easy and simple one. The patient made a speedy recovery without any untoward symptoms. She was now able to earn her living as a yarn-picker, working full time; had had no discharge of blood, little or no pain, and not one seizure since the day of operation.

CASE III. Tubercular Pyosalpinx.—Miss E. R., aged nineteen, nullipara. This patient was also operated upon on October 3, 1886. Since menstruation began, at fifteen years of age, she had had constant dull aching pain, deep-seated in the pelvis. At her menstrual epochs her agony had been unbearable. The menses had always been slight in quantity and regular as to time. She presented a badly nourished appearance. Physical examination showed marked evidence of general tuberculosis. In spite of this fact and in view of her intense menstrual pain, oophorectomy was deemed justifiable and was accordingly done. Both tubes were as large as large bologna sausages, and both ovaries were cystic. Tubes and ovaries were matted in a mass of adhesions which rendered the operation very tedious—it lasted an hour and ten minutes. Microscopic examination of sections of the tubes showed colonies of the *Bacillus tuberculosis*. Both tubes were filled with a greenish pus which was very offensive. The recovery was complicated by an arthritis, the symptoms of which were so obscure as to render it difficult to say whether it was septic, rheumatoid, or hysterical. She eventually made a good recovery. Her physician, Dr. Walter E. Bibby, of Kensington, Phila., reported: "She is entirely free from pain, able to walk about, and to attend to light household duties. Under the use of cod-liver oil and malt and alcohol, her tubercular trouble seems to be making little or no progress." As her peritonæum showed evidence of tuberculosis, as an experiment, bichloride solution, 1 to 8,000, was used to wash out the abdominal cavity.

In Cases II and III the operations were done before Dr. A. W. Biddle, Dr. W. E. Bibby, Dr. W. C. Goodell, Dr. E. Wilson, Dr. Longaker, and Dr. C. P. Noble. All were done at the Philadelphia Lying-in Hospital. In each case the abdominal cavity was thoroughly flooded with boiled water before it was closed. The drainage-tube was not used. Uncarbolized Chinese silk ligatures and silk-worm-gut sutures were used. No anodyne was given after the operation, and no food for thirty-six hours after the operation.

Dr. KELLY was particularly interested in the tuberculous tubes, and regretted that an examination of the uterine discharges had not been made, as it would almost certainly have established the diagnosis. As to the propriety of operating upon a patient having a cavity in the lung, no general rule could be laid down; every such case stood by itself, and much must be left to the judgment of the operator.

The PRESIDENT would hesitate for some time before operating in a case of general tuberculosis with a pulmonary cavity. He did not think tubercle could cause pyosalpingitis.

Dr. KELLY remarked that at least two cases had been observed here and many more abroad, and it had been recently included by Hegar among the tubal diseases which might require operation.

Dr. PARISH thought that the general condition of the patient would decide the question. Severe pain should be relieved unless the patient had a very short time to live.

Hydrosalpinx.—Dr. KELLY exhibited the tubes of a patient

who had suffered from metrorrhagia over thirteen years. She had been in five large hospitals in Philadelphia without relief, and had faithfully tried every plan of treatment, systemic and *per vaginam*. The diagnosis of enlarged tubes was made before operation, and, on removal with their respective ovaries, the tubes were found, one as large as a bologna sausage and the other as large as a small sausage, with a limpid fluid. She had lost no blood since the metrostaxis following the operation, about six weeks ago.

Dr. KELLY also exhibited fresh large cystic ovaries and tubes of a large fibro-cystic tumor upon which he had operated that morning. The ovaries were sessile, surrounded by a congeries of great dilated vessels. The operation was one of extreme difficulty. (*Note five days after operation*: "The patient's condition is perfect.")

The patient, whose history was read at the preceding meeting, who had ovaries and tubes removed for chronic subinvolution and endometritis, was presented to the meeting. She had lost all pain and felt perfectly well for the first time in years. The uterus was normal.

Dr. PARISH reported a Porro-Müller operation.

CLINICAL SOCIETY OF THE NEW YORK POST-GRADUATE MEDICAL SCHOOL AND HOSPITAL.

Meeting of December 17, 1886.

Dr. ANDREW H. SMITH, Chairman.

(From notes furnished by Dr. S. E. Post.)

Artificial Alimentation.—A paper on this subject was read by Dr. G. D. HAYS. [See page 121.]

Dr. R. W. WILCOX called attention to one method of artificial feeding: Super-alimentation by means of the stomach-tube. During 1882 he had abundant opportunity to observe the results of this treatment in cases of wasting disease, notably pulmonary consumption, at the St.-Antoine, in the clinic of Dr. Dujardin-Beaumetz. The results obtained were so striking that he procured a supply of tubes before leaving Paris, and as opportunity presented he had made use of them. He had also noted the literature of the subject, especially the observations of Debove, Dujardin-Beaumetz, Peiper, Broca, Farrand, Vortoff, Schreiber, Wins, Pennel, Amanieux, Robin, Mesnet, Kurloff, and the few articles that had appeared in American literature.

To carry out this method, a tube similar to the one shown, a pitcher holding two quarts, a common eight-ounce funnel, a bottle of glycerin, and a receptacle for waste water, were all the necessary articles. The tube was coiled in the pitcher, which should be nearly filled with water at a temperature of 100° F. for a few moments until it was warmed; it was then coated with glycerin over its proximal half by passing the tube rapidly against the inclined glycerin-bottle. To introduce the tube, the physician, standing in front of his seated patient, placed his left index-finger in the mouth as a guide; the tube was inserted and carried backward until the posterior wall of the pharynx was reached, when a slight rotation with advancement carried it into the œsophagus and stomach. The funnel was then inserted into the distal end of the tube, this end raised a little above the patient's head, and the water poured rapidly in until the stomach was fully distended. Then, the tube being pinched with the left thumb and forefinger, which had been keeping the tube in place in the same way that a Eustachian catheter was retained, the funnel was lowered until the return current began to flow into the receptacle and the stomach was

entirely emptied. In treating stomach catarrhs, dyspepsias, and vomiting, it was well next to rinse out the stomach with Vichy, using an artificial Vichy, or, as had been the speaker's practice during the last two years, with a solution of bicarbonate of sodium, seventy-five grains to the quart. Lavage was here mentioned, because in so many instances it was a necessary preliminary to successful gavage or super-alimentation by the stomach-tube. The earlier workers had found much difficulty in obtaining a suitably concentrated food that would flow readily through the tube. Debove, however, had remedied this, and to-day the method was perfect. The meat powder of Debove was prepared as follows: The muscular fiber, freed from fat, tendon, and blood-vessels, was finely minced, then thoroughly desiccated upon plates in an oven kept at a temperature of 220° to 230° F; next it was triturated in a mortar until it could be passed through a very fine sieve; thus prepared, it would mix readily with water, milk, or eggs. Six pounds of the best steak would yield but one pound of this powder. It was simply beef minus the water, and bore favorable contrast with the extracts, juices, and teas, which contained only the soluble salts and extractives. Unlike all raw preparations, there was no danger of producing tœnias; sometimes, when water was used as a vehicle, it was well to add to each ounce five drops of the strong hydrochloric acid.

At the outset of this treatment an ounce of meat powder with a pint of milk was sufficient. This should be rapidly increased until a daily dose of ten to twenty ounces of meat powder—the latter quantity representing five pounds of beef, two to three quarts of milk, and five or six eggs—was reached. No matter what pathological theories one might hold concerning pulmonary consumption, it was known that bacilli did not thrive nor tissues break down if the patient could be sufficiently nourished.

The advantages of this method were that there existed an independence of the patient's appetite or caprices, of laryngeal tuberculosis, of dyspepsia, and of vomiting, even when produced by cough. The results were cessation of night-sweating, diminution of cough and expectoration, and gain in strength and weight. Fever was a contra-indication, but did not preclude the use of the tube.

This method caused much trouble in the preparation of the meat powder, as it could not always be purchased, and even then it was expensive, but with care it could be prepared in the house. The most striking published results were those of Peiper, who had treated fourteen patients with phthisis, twelve of whom had gained from five to twenty-two pounds in weight; in three cases the sweating had ceased, in five it had been relieved, in all cough and expectoration had diminished. Unfortunately, the observations had not been continued so long as could have been desired. Although the speaker had carried this treatment out in but few cases, yet he was prepared to indorse even the enthusiasm of Peiper, and he felt sure that any member of the society would achieve brilliant results if he would faithfully carry out this method.

The other conditions in which gavage had been successfully employed had been convalescence from hæmorrhages and severe illnesses, chlorosis, vomiting of pregnancy, chronic diarrhœas, debilitating nervous diseases, and hysteria, even when marked by gastralgia and vomiting. In the last instance he had obtained brilliant moral and physical results.

In diseases of the stomach, aside from the opportunity for local treatment, the general malnutrition had been improved by lavage and gavage.

Dr. ABBOTT asked why the vomiting from coughing did not occur after feeding with the tube, as well as when food was taken naturally.

Dr. WILCOX did not know why this was so, but the fact had been established.

Dr. KEARNEY stated that he had understood Dr. Wilcox to say that in no case had vomiting occurred after feeding with the tube.

Dr. WILCOX replied that in his experience this was true.

Dr. KEARNEY inquired in regard to the effect that this method of feeding had upon the vomiting from phthisis, which usually occurred about an hour or two after meals.

Dr. WILCOX could furnish no information on this point.

Dr. ABBOTT asked whether the introduction of the tube did not cause retching.

Dr. WILCOX replied that, as a rule, the first attempt always made the patient vomit, but that he had never failed in introducing it from this cause. The tube struck the posterior wall of the pharynx and incited the patient to vomit, but by this effort the larynx was elevated so as to facilitate the introduction of the tube. By a slight rotatory movement it passed easily downward and into the stomach before the patient knew what was being done. Sometimes the patient vomited up the tube, but usually upon the third or fourth occasion he was able to introduce it himself. A patient suffering from chronic catarrh was thus able to irrigate his own stomach when required. The siphon contrasted favorably with any pump in its action, and the speaker had seen a number of different varieties used.

Dr. ABBOTT thought that there was, as a rule, some difficulty connected with the first introduction, but that, if it was persisted in, this difficulty would finally be overcome.

Dr. WILCOX stated that he always took the precaution of making the first introduction of the tube at the patient's house.

Dr. CROOK asked whether any of the gentlemen had had experience with the method of continuous rectal alimentation. He had found it mentioned in a medical paper a few days before.

The CHAIRMAN asked Dr. CROOK what was meant by "continuous rectal alimentation."

Dr. CROOK replied that the food was placed in a vessel at a proper height above the patient, and was introduced gradually into the rectum through a tube as fast as it became absorbed. One pint of milk had in this way been introduced and absorbed in three hours. The method seemed worthy of trial.

Dr. ABBOTT stated that when nutritive enemata were not retained, it was the custom, at the Nursery and Child's Hospital, to introduce a catheter well up into the rectum, when it was found that the injection could be made and retained without difficulty. For a stomach-tube for infants, an ordinary soft catheter and an ear-syringe were used.

Dr. WILCOX reminded the previous speaker that there was a tube made expressly for the purpose he had mentioned. It was not so soft as the soft catheter, nor so stiff as the hard catheter. One could often succeed in having a rectal injection retained by using this tube when the syringe had proved to be useless.

Dr. WILLIAM H. PORTER had had no experience with continuous rectal alimentation. He had nourished a patient by rectal alimentation with the ordinary syringe for five months, and had kept him in a fair condition by injecting milk and beef-tea at regular intervals. The patient had died from gangrene of the lungs. The speaker thought Dr. Dana's experiments interesting in this connection. By a reversed peristalsis the food introduced by rectal injection was carried into the small intestine, and, in the case of a dog, even into the stomach. With a little care, the ordinary syringe was sufficient. In the case referred to, a post-mortem examination of the rectum had shown nothing abnormal; no ulceration nor other disease such

as had been said to follow long-continued rectal feeding. As this was a case of cancerous stricture of the œsophagus, the patient, suffering part of the time from acute cystitis, and finally dying from gangrene of the lung, would have been as likely as other persons to show this change. On the contrary, his rectum was normal, and he was in a fairly well nourished condition when he died.

The CHAIRMAN asked what form of food was used.

Dr. PORTER replied that he had used simply milk and beef-tea.

Dr. KEARNEY had had a case of cancer of the pylorus in 1876 in which he had kept the patient alive for three months on beef-tea and milk, with the addition of brandy or whisky and water, administered by the rectum. He had not examined the rectum for any change, but he was inclined to think that no change had been present. There had been no complaints about the injections, and no tenesmus had followed them. The speaker desired to ask Dr. Wilcox whether he had ever introduced medicines through the tube.

Dr. WILCOX had first used the artificial Vichy for injection, but had subsequently used simply a solution of bicarbonate of sodium for washing the stomach out. In giving the food he sometimes omitted the milk, and added five drops of strong hydrochloric acid to a pint of the preparation. He had seen all sorts of substances used, but had found only those he had named to be necessary.

Dr. NILSEN had used for a rectal injection milk and eggs, with pepsin, a few drops of laudanum, and dilute hydrochloric acid. His method of preparation was to add to a cup of milk the yolk of one egg. His syringe had a capacity of two ounces. He added to this amount ten grains of pepsin and ten drops of dilute muriatic acid. He first drew the fluid into the syringe, then put the acid and the pepsin into a cup, and subsequently emptied the syringe into the cup, rapidly filling and emptying it three or four times before using it. The results had been satisfactory. He had nourished one patient in this manner for two months and a half. At the expiration of this time the stomach resumed its normal function.

Dr. HAYS asked whether starches should be given in fevers, and whether the artificial digestive ferments had much value, and also whether feeding was required in febrile states. Recently a physician had ordered his own treatment during typhoid fever, and had abstained from food until his appetite had returned. He had ascribed his recovery to this fact.

Dr. C. H. BROWN inquired particularly in regard to bovine. This was a preparation of defibrinated blood, to which a small quantity of egg albumin was added to take the place of the fibrin which had been removed.

Dr. NILSEN had used bovine in a number of cases. It was difficult to get patients to take it; they would become disgusted with it in the course of a few days. He thought that they lost ground when using it. It was very disagreeable to take.

Dr. PORTER considered bovine one of the best artificial foods in the market—the only one which completely filled the indications. It consisted only of ordinary blood with sufficient whisky added to it to keep it from spoiling. It was soluble and easily digested. The principal trouble he had had with it had been connected with its color. When added to milk, it was taken very well. The starches and sugars were simply heat and energy producers. They should be excluded from the dietary in fever. The speaker had used skimmed milk quite extensively in fever for the albumin which it contained. Starch and sugar were assimilated in the liver, and, as they were transformed more easily than albumin, the liver acted upon them first, and the albumin consequently was not affected until the

cells had become tired out, and hence they were but partially metabolized, and much effete matter was the result. The speaker used albumin, and albumin only, in cases of fever. He thought that patients thus affected were more often overfed than underfed. By overfeeding, fuel was added to the fire, and poison to the system.

Dr. ABBOTT stated that at the Nursery and Child's Hospital they had used cod-liver oil hypodermically. He inquired whether Dr. Hays had had any experience with this method of treatment.

Dr. HAYS had tried the method, but without result. Inunctions of fats, as pointed out by Dr. Leaming, would lower the temperature the same as baths would. The butter of cocoa was most commonly used. Probably some of it was absorbed.

Dr. CROOK asked what the previous speaker's objection was to giving cod-liver oil immediately after meals in the usual way; why he gave it between meals?

Dr. HAYS replied that he did it for the reason that the oil was digested in the small intestine. After a meal the albuminoids remained in the stomach until they were changed to peptones, and the fat floated around on top of them, was decomposed and caused eructations, thus augmenting the patient's dislike for it. On the contrary, when given after the stomach was emptied, the fat passed immediately into the small intestine. Copaiba and cubebs were for the same reason given two hours after meals.

Dr. BROWN returned to the subject of bovine. He had tried it shortly after its introduction, and had had no trouble except in sensitive women, who could not overcome their repugnance to its color and flat taste. Lately he had used it in two cases of typhoid fever. These patients were given scarcely any other food, and they had passed through the disease with less disturbance from fermentation than was usually the case. He thought a simple albuminous diet preferable in fever cases. He asked the opinion of the society in regard to blood itself in the forced alimentation of phthisical subjects. He had given it to a number of patients. One patient had for three months gone to the slaughter-house and taken three fourths of a gobletful of blood each morning. During the three months she had gained twenty-five pounds. Either the walk or the blood had evidently benefited her. All of the patients had been more or less benefited, but they would get tired of going and would give it up. The speaker thought that bovine, next to blood, was most useful in the treatment of phthisis.

The CHAIRMAN thought that the tendency was to push feeding more than was necessary and burden the system to get rid of this superfluous material. He preferred animal food because it was the nearest in composition to the tissues of which it was to become a part. He preferred to leave the work of assimilation as much as possible to the chicken, or the ox, or the sheep; and to take the food as they had prepared it. The absence of vomiting after feeding with the tube in phthisis might be due to improved digestion in these cases. The cough which came on one or two hours after eating in phthisis was probably reflex and excited by difficulty in digesting the food previously taken. The cough irritated the fauces and vomiting resulted.

One point had not been brought out, and that was that, in improving the stomach digestion, work was required of the stomach without giving it material to work upon. The stomach must manufacture nutriment, not only for the rest of the body, but for its own activity also. Figuratively speaking, the patient must lift himself over the fence by the straps of his boots. The speaker thought that rectal feeding could not be too highly recommended in such cases. By improving the quality of the blood and giving the stomach a little rest, it enabled it to recuperate and subsequently to return to work. The speaker con-

sidered defibrinated blood to be the best substance for rectal injection. It required but little change in order to become part of the human blood. Not only the liquor sanguinis, but also the corpuscles were speedily taken up. The speaker did not mean that they were absorbed as corpuscles, but that they disappeared. If three ounces were given at night, not a trace of the injected blood could be found in the morning, when the patient would have a healthy yellow or brown stool. He thought that the injected material was carried a considerable distance up the bowel. In a case of sudden death three hours after a rectal injection he had found the whole length of the colon coated with the injected material; and it was not uncommon after such an injection to hear a gurgle when the patient was conscious that something was passing upward. The speaker had experienced this sensation in his own person.

After a good deal of experience in using the tube, he thought that there was no insurmountable difficulty about its introduction. The patients rarely made any objection after the first one or two times.

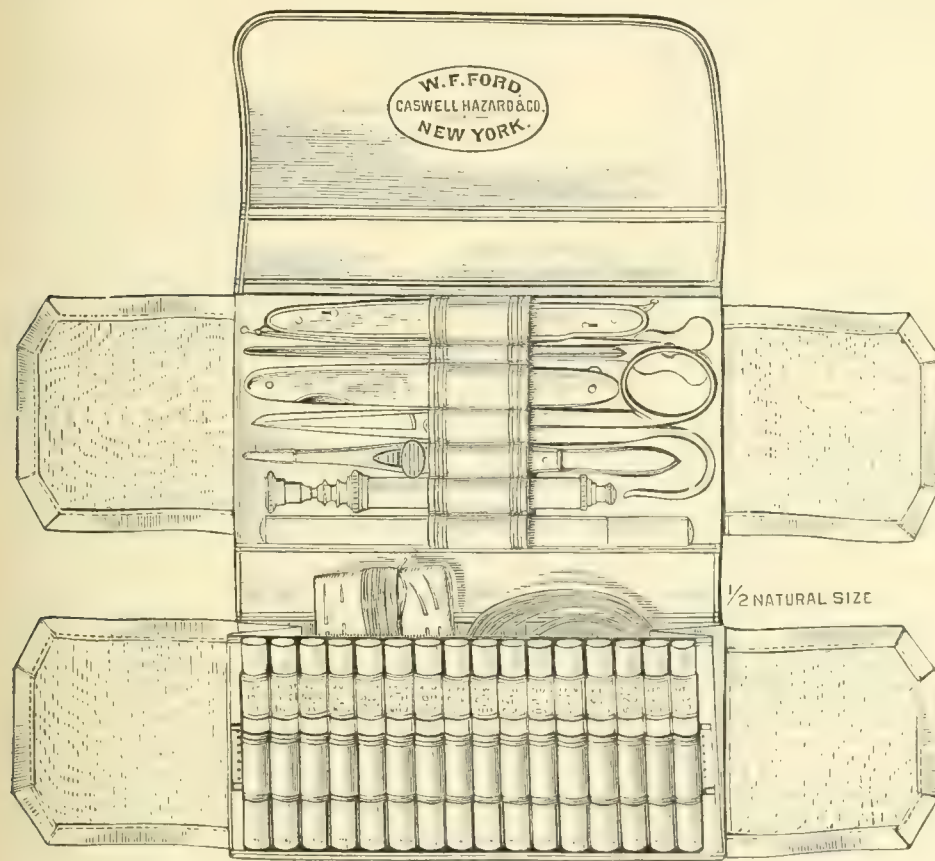
Dr. HAYS had not intended to speak of any particular foods, and hence had not mentioned bovine; but, since the subject had been brought up, he would say that in his opinion Valentine's beef extract was the most valuable preparation of beef which we had; but, as two bottles a day were required, and it was sold at \$1 a bottle, the expense put it out of the reach of many patients. He had taken bovine himself for two days, during which time he had fasted from other food. He had experienced complete satisfaction from its use, although engaged in hard labor during the period. It was not obnoxious in taste. It had no taste, or, as Dr. Brown said, the taste of blood. As to the objection that uncooked foods favored the introduction of parasites into the system, a European commission had decided that from beef this danger was almost *nil*. It had been stated that, in order to rest the stomach, rectal alimentation must be employed. If food was properly peptonized, so that absorption only was necessary, just as desirable a rest would be obtained. With lavage he had had three years' experience. He thought it particularly successful with hysterical subjects. In the case of a girl with gastro-intestinal catarrh and hæmatemesis, after the first washing food had been retained. In a case of carcinoma ventriculi, thus diagnosed by Professor Loomis, he had used the tube. He had had no difficulty in its insertion without using the finger; but in this case a large quantity of matter had been vomited, not through the tube, but outside of the tube. This had occurred a number of times. Now, however, the return only occurred through the tube. The speaker, however, never had seen mucus brought out by the tube.

Dr. WILCOX thought that if the previous speaker had had his finger between the patient's teeth, he would have found a reason why the fluid was vomited outside of the tube.

An Irrigating Curette.—Dr. ABBOTT presented a curette combined with an irrigating apparatus. It was manufactured by Tiemann & Co. He used a pitcher and a Davidson syringe for the inlet tube, while the exit-tube was carried down to the floor. This gave a certain amount of a siphon-power which made the flow continuous. Ordinarily it had been necessary to remove the curette in order to introduce the irrigating-tube. The operation was thus prolonged, while the disinfection was not so perfect as where everything was carried immediately away.

The Practitioner's Pocket Case.—Dr. WILCOX exhibited a pocket-case which he had arranged. As the result of nearly four years' experience in its use, it was believed that the articles were all that were essential for completeness, and at the same time were as few in number as was consistent with the needs of daily practice. Although it comprised the necessary imple-

ments of the ordinary pocket surgical-case, the hypodermic syringe, with phials of tablets, and the thermometer, it occupied no more space than the usual two-fold case, besides presenting the additional advantages that all the articles were in one case, thus avoiding the liability of omissions and as well obtaining immunity against breakage. The soft-rubber catheter was purposely omitted because it would tarnish the instruments if carried in the same case.



The case and the hypodermic tablets, which had been found to be always reliable as to strength and solubility, were manufactured by Messrs. Caswell, Hazard, & Co., from whom they might be procured. Every effort had been made that this case should be exactly what its name signified.

Book Notices.

Rome in Winter, and the Tuscan Hills in Summer. A Contribution to the Climate of Italy. By DAVID YOUNG, M. C., M. B., M. D., etc. London: H. K. Lewis, 1886. Pp. xv-288.

This is a most interesting work. The body of the book is devoted to a study of the sanitary conditions, past and present, in the city of Rome and the Campagna, which have given the city hitherto an unenviable reputation for health and even personal safety. The so-called Roman fever is fully described. It is essentially typhoid, with possibly a virulent malarial element superadded. It is compared in symptoms and lesions to the fever prevalent in the early period of our civil war, and described by the late Dr. Woodward. Professor Bucelli, of Rome,

has designated it a sub-continued fever. As to its prevalence and fatality, Dr. Young shows by statistics that there are not more deaths by this Roman typhoid fever in Rome, in proportion to population, than in Paris, Berlin, or other continental capitals. But the large number of distinguished visitors to Rome renders the individual cases conspicuous. Dr. Young ascribes this fever chiefly to impure or polluted drinking-water and the foul waters of the Tiber. Purification of the water-supply and the removal of the sewage far out of and beyond the city limits by new conduits in embankments, similar to those of London, give promise of an uncontaminated Tiber and the best sanitation.

The malarial fever of the Campagna is next considered. The author states that the Romans drive and walk in the Campagna with the freedom and pleasure which we derive from our Central Park, despite Hawthorne's assertion that "fever walks arm in arm with us, and death awaits us at the end of our walk" without the Roman gates. Rome has a population of 310,000; the Campagna is inhabited annually by 42,000 peasants who come down from the interior hills to tend their herds on the fertile plain. Of these herdsmen, the majority live in abject squalor, and an average of 10 per cent. die. The herds do not suffer from malaria, and the planting of the eucalyptus around many of the colonies of shepherds has already modified their liability to pernicious malarial disease. Of over 800 deaths from malarial fever in the great hospitals of Rome, more than half were contributed

by the peasants of the Campagna, with its population of about one eighth that of the city. The average temperature of Rome for a number of years has been 45.3 F.; average summer heat, 74.5 F.; the highest in summer, 98.2 F.; the lowest in winter, 21.2 F. The brief closing chapters on the Tuscan Hills and the various summer resorts of the coast and interior of Italy are of little relative or scientific value, although the author's beauty of diction and fondness for classical and historic reminiscence make the reading most enjoyable. Dr. Young speaks of the "intensity of all vital processes" in Italy. Acute diseases prevail rather than chronic—a statement of interest at least to hospital physicians in our own and other eastern cities, who must have noticed the unusual frequency of acute miliary tuberculosis, pulmonary, cerebral, and abdominal, in our Italian population.

Dr. Young has been a careful student of the general subject of climatology, especially as relating to phthisis pulmonalis. He regards the coldness and dryness of the air of great altitudes as more destructive to bacilli or other microbes than any antiseptic influence of chlorine and bromine in the air of the sea-coast. Bacilli are absent, as shown in the tables of M. Miguel, in air above a level of 2,000 metres, whereas in the city abodes, as in different parts of Paris, they were present in variable number, from 600 to 35,000 to the cubic metre of atmosphere.

El Cólera en Valencia en 1885. Memoria acerca de los trabajos realizados durante la epidemia. Presentada por la Alcaldía al Excmo. Ayuntamiento en nombre de la Junta Municipal de Sanidad. Valencia: Manuel Aluize, 1886. Pp. 8-11 to 180.

THIS elaborate report contains much matter of interest to the epidemiologist, giving careful consideration to all the circumstances attending an epidemic of cholera which during the summer of 1885 caused 4,919 deaths in an estimated population of 170,000. The observations recorded cover almost the entire range of atmospheric and telluric phenomena, including even the variations of atmospheric electricity and microscopic examinations of the air. Few of these, however, seemed to bear a definite relation to the spread of the disease. Thermometric changes were apparently without influence, except as regarded the temperature of the soil, taken at four decimetres below the surface: when this was low, the malady did not show much virulence, but with its ascent toward 33° C. the epidemic period began. A farther elevation of ten degrees was on several occasions accompanied by a temporary abatement of the epidemic. The amount of ozone was least on the days of greatest mortality. The most notable coincidence was between the lowering of the level of the ground-water and the increase of the algid form of the disorder.

A chapter is devoted to Ferrán's inoculations, which, in the light of impartially stated evidence, make a decidedly unfavorable impression. Out of probably about 5,000 persons of the well-to-do class who had undergone inoculation, 54 deaths from cholera are recorded—a ratio not less than that among the uninoculated of the same class. Furthermore, some physicians noticed that, while the disease in the poorer portion of the population could be traced to transmission from pre-existent cases, new cases, not thus explicable, arose among those of higher social position who had been inoculated. A striking instance recited is that of an inoculated man and his wife who went to a place in Burgos in which no cholera had occurred. After ten days the wife was attacked with cholera, which ended fatally. No other cases happened in the neighborhood then or subsequently. The conclusion drawn from the attainable facts is that, although in many instances the fluid injected by the "Ferránists" simply induces putrid infection, in others there is a survival of a sufficient number of specific germs to multiply and resume their virulence in the "vaccinated" system.

A detailed description is given of the hospital provisions adopted, and of the measures for isolation, disinfection, and medical inspection, with full statistical tables and graphic charts.

The Surgical Diseases of Children. By EDMUND OWEN, M. B., F. R. C. S., Surgeon to the Hospital for Sick Children, Great Ormond Street, London, etc. Illustrated with Four Chromolithographs and Eighty-five Engravings. Philadelphia: Lea Brothers & Co., 1886. Pp. x-518. [Price, \$2.]

THE position so long held by Mr. Owen as surgeon to the Hospital for Sick Children, and his well-known abilities as a writer, would seem to fit him in a special manner to write a work on the surgical diseases of children. The volume is divided into thirty-five chapters, and is illustrated with four chromo-lithographs and eighty-five wood-engravings.

The author has not, we are sorry to say, produced a very satisfactory work. The size of the volume is altogether too small to treat in a thorough manner the many subjects crowded into its pages. Better to have omitted much and to have treated fully what remained, than to have written a book like the one we are considering. A few of the chapters are clear and full, while the

remainder are sketchy, and convey to the reader but little information that can not be obtained in any good work on surgery. We find some statements that, to say the least, are rather sweeping. Thus, in speaking of syphilis in children, the author states that an eczema extending up on the abdomen, above the diaper, is specific. Deviations of the nasal septum are alluded to, with the statement that "slight redundancy of the cartilage may be treated by an instrument like a leather-punch." This is certainly bad surgery, and will accomplish no good.

The article upon caries of the spine is good, although rather brief. The author speaks well of opening spinal abscesses in the lumbar region, and mentions one case in which several sequestra were found in the cavity of the abscess.

The chapters on disease of bones, including joint troubles, are the best in the volume. In regard to excision of the hip joint, it is stated that "each case must be treated upon its merits, and no array of figures as to the results of excision should influence the question," a statement with which we entirely agree. In regard to disease of the tarsal bones, he advocates the expectant treatment. This, it seems to us, is a mistake. Excision of these bones, when diseased, gives excellent results, and should be performed early.

Space does not permit of a more thorough notice of this volume. The objection to the book is, that the author has been compelled to condense his work into so small a compass that he has treated most of the diseases of children in a too sketchy manner. We hope that at some early day he will write a more comprehensive work on this subject, and not put it in the form of a so-called "manual."

A Manual of Surgery. In Treatises by Various Authors. In three volumes, edited by FREDERICK TREVES, F. R. C. S., Surgeon to and Lecturer on Anatomy at the London Hospital. Vol. I, General Surgical Affections, The Blood-vessels, The Nerves, The Skin. Vol. II, The Thorax, The Organs of Digestion, The Genito-urinary Organs. Vol. III, The Organs of Locomotion and of Special Sense, The Respiratory Passages, The Head, The Spine. Duodecimo, 1866 pages, 213 engravings. Philadelphia: Lea Brothers & Co., 1886. [Price, cloth, \$2 a volume.]

THE volumes of which this manual is composed are edited by one of the best-known writers on modern surgery, and form one of a series of manuals. Among its compilers are found the names of the leading surgeons of England, and their contributions relate to those subjects on which they are peculiarly competent to speak from their study and experience. The plan of the work resembles that of the systems of medicine and surgery which have been issued within the last ten years.

The editor in his preface states "that it is hoped that this work will present to the student and practitioner a concise account of the leading facts and principles of modern surgery; that the volumes of which it is composed are concerned, namely, with the clinical, diagnostic, and therapeutical aspects of surgery. . . . The general principles of surgery are dealt with, but the technical details of the various procedures are omitted, with the exception of such as concern what may be termed special operations."

From the very nature of the book the various chapters are not equal. Some of them are excellent, while in others the omissions, due to the necessity of condensation, are so many as to detract much from their value. It is a serious question whether it is possible to condense into such a small space so much ground as has been attempted in this work without sacrificing too much. There is much of useful and very valuable information, but one can not but feel disappointed that the different writers were not

allowed more space, so that some specific details in regard to special treatment might have been added. Thus, special instructions are given only for tracheotomy, gastrotomy, nephrectomy, and ovariectomy, but plastic operations, ligature of arteries, and excisions are not specially described. The general practitioner will find, we fear, too little information. We trust that another edition of this work will be called for, and that these omissions will be supplied; it will then form an excellent and useful manual, and one worthy of the editor and those who have co-operated with him.

BOOKS AND PAMPHLETS RECEIVED.

The National Dispensary, containing the Natural History, Chemistry, Pharmacy, Actions, and Uses of Medicines, including those recognized in the Pharmacopœias of the United States, Great Britain, and Germany, with Numerous References to the French Codex. By Alfred Stillé, M. D., LL. D., Professor Emeritus of the Theory and Practice of Medicine and of Clinical Medicine in the University of Pennsylvania, and John M. Maisch, Phar. D., Professor of Materia Medica and Botany in the Philadelphia College of Pharmacy. Fourth Edition, revised and improved, with Three Hundred and Eleven Illustrations. Philadelphia: Henry C. Lea's Son & Co., 1886. Pp. xiv+1781.

The Principles and Practice of Operative Surgery. By Stephen Smith, A. M., M. D., Professor of Clinical Surgery in the University of the City of New York; Surgeon to the Bellevue and St. Vincent's Hospitals, New York, etc. New and thoroughly revised edition. Illustrated with One Thousand and Five Wood-cuts. Philadelphia: Lea Brothers & Co., 1887. Pp. xxxii+17 to 877.

Clinical Manual for the Study of Medical Cases. Edited by James Finlayson, M. D., Physician and Lecturer on Clinical Medicine in the Glasgow Western Infirmary, etc. Second Edition, revised and enlarged. With One Hundred and Fifty-eight Illustrations. Philadelphia: Lea Brothers & Co., 1886. Pp. xii+13 to 683.

Miscellany.

The New York Academy of Medicine.—At the next meeting of the Section in Neurology, Friday evening, the 11th inst., Dr. J. West Roosevelt will present a case of "Peculiar Stab-Wound of the Spinal Cord," and Dr. Samuel Ketch will read a paper entitled "Neuromimesis of Deformities."

At the meeting of the Section in Surgery, Monday evening, the 14th inst., Dr. Joseph D. Bryant will read a paper entitled "Modern Dilatation of a Urethral Stricture followed by Abscesses of the Trunk and Limbs."

At the meeting of the Section in Theory and Practice of Medicine, Tuesday evening, the 15th inst., Dr. W. H. Porter will read a paper on "Syphilis in relation to Visceral Lesions as a Causative Agent, but especially in relation to Phthisis."

Dr. N. S. Davis.—A contributor to the "Journal of the American Medical Association" thus alludes to the recent commemoration of Dr. Davis's completion of the period of fifty years as a physician:

"On Thursday, January 20th, the fiftieth anniversary of the entrance of Dr. N. S. Davis into the medical profession, he was presented by the students of the Chicago Medical College with a magnificent arm-chair, and a valuable and beautiful revolving set of reference shelves. The presentation was made by Professor W. W. Jaggard, in behalf of the students, and Dr. Davis responded in a most graceful manner. It has been but a few weeks since Dr. Davis's seventieth birthday was celebrated at his house by a large number of his friends.

"It is peculiarly fitting that the students of the college of which Dr. Davis is practically the founder, the college which represents the principles of higher medical education for which he did so much before its foundation, and has done so much since, should have taken some

note of his fiftieth birthday into the profession. Indeed, the American Medical Association is the outgrowth of Dr. Davis's earnest endeavor to raise the standard of medical education in this country."

Laryngology at the College of Physicians and Surgeons.—Dr. Lefferts's next lecture, on Tuesday, the 8th inst., at 2 p. m., will be on nervo-muscular and sensory affections of the larynx and neuroses of motion.

The Abuse of Medical Charity.—It is stated that, a few days since, a woman dressed in rags applied at the Boston City Hospital for surgical treatment for a scalp wound. The customary search of her person revealed several bank-books, representing \$7,100 in Boston banks, \$1,000 in bonds, and about \$300 in cash—all hidden among her clothing.

Health Reports from Abroad.—By direction of the Secretary of the Treasury, Dr. John B. Hamilton, Surgeon-General of the Marine-Hospital Service, has issued the following abstract of sanitary reports received from foreign countries during the week ending January 27th:

England and Wales.—The deaths registered in twenty-eight great towns of England and Wales during the week ending January 8, 1887, correspond to an annual death rate of 26.5 in a thousand of aggregate population. The lowest death rate was recorded at Sunderland, 15.7 in a thousand, and the highest in Manchester, 36 in a thousand.

Scotland.—The death rate in eight principal towns during the week ending January 8th was 23.9 in a thousand of estimated population. The lowest mortality was recorded in Leith, viz., 18.7 in a thousand, and the highest in Paisley, viz., 40.2 in a thousand.

London.—There were 2,127 deaths registered in London during the week ending January 8th, including 104 from measles, 11 from scarlet fever, 9 from diphtheria, 17 from whooping-cough, 15 from enteric fever, 2 from ill-defined forms of continued fever, and 10 from diarrhoea and dysentery.

Calcutta.—There were 328 deaths registered during the week ending December 11th, including 94 from cholera, 84 from fevers, 33 from bowel complaints, 23 from tetanus, 14 from phthisis, 8 from asthma, and 6 from spleen diseases.

Buenos Ayres.—The United States minister, under date of December 3, 1886, dispatches that the situation is not alarming at present, but says:

"There is no room for doubt as to the existence of Asiatic cholera here. It made its first appearance about five weeks ago, and was imported by the Italian ship Perseo, plying between Genoa and Buenos Ayres. Dr. Antonio del Veso, envoy extraordinary and minister plenipotentiary of the Argentine Government in Italy, was a passenger on the ship, and the anxiety to secure him an immediate landing on the part of the ship's commander seems to have so far overcome his sense of duty that, by concealed or garbled reports, he managed to turn loose, on Argentine soil, first here, then at Rosario, a great many persons from an infected ship. The testimony of passengers shows conclusively there was nearly a score of burials at sea of those who died of cholera on the voyage. The Argentine Government instituted prompt investigation of the matter, but, wasting no time with the infliction of empty penalties which can not affect the disease, turned its entire care to its arrest and confinement within its present limits. Dr. Wilds, the Minister of the Interior, and as such Prime Minister of the Government, from whose department the National Board of Health derives all its powers and efficiency, is himself a physician of much distinction, and has labored with heroic devotion in the employment of every agency tending to the rapid and complete accomplishment of his sanitary measures. He has at his disposal money, physicians, and police powers almost without limit, and is employing them all with great spirit and ability. The exercise of sanitary measures has been so prompt and efficient, and the use of disinfectants and enforced cleanliness so well spread and rational, we venture to hope the disease will disappear before assuming an epidemic character. The people generally fully sympathize with the good intentions of the Government, and, instead of interposing hindrances in the way of its sanitary plans, help them on in every possible way. For the month of November just closed the official reports of the cholera hospital in Buenos Ayres show there were 200 patients entered—93 deaths, 34 cured, with 76 still under treat-

ment. Remembering the population of Buenos Ayres is fully 400,000, you will agree the showing thus far is not discouraging. And with the exercise of a little scrutiny even the exhibit may be much relieved of alarm, for of the 200 patients above enumerated, 130 were from the male and female lunatic asylum and 12 from the prisons, where people are greatly huddled together and hygienic conditions anything but favorable. This, then, leaves but 58 cases outside for an entire month. The greater part of the cases have originated in the 'boea' where the infected ship *Perseo* landed, which is a scooped-out place, so deep and below the level of the river Platte that ships may enter and discharge. It is, therefore, necessarily a vast receptacle of filth, and there being no current to carry out its accumulations into the river beyond the sluggish action of the tide, it remains there a perpetual cesspool charged with disease and death. The Government, however, is already busy at work there with an immense force, devising means to sweeten its baleful waters by the use of powerful pumps and dredges. The disease is most fatal at Rosario, a city of commercial importance on the Pasaka River, two hundred miles away, where the most of the *Perseo's* passengers and cargo were discharged. The reports from that locality are truly distressing. In a population of about 50,000 souls they are now having from 35 to 50 deaths per day. In their cholera hospital alone there were over 200 patients in November, of which more than one half died; but there the disease has invaded the homes of the best and most prudent families of the city. Cordoba and other inland cities are also becoming infected. The result of all this is, we are nearly cut out entirely from the commercial world. Uruguay, Brazil, Paraguay, and most of the European ports are quarantined against us, which fact has greatly disturbed the movements of the mails, and almost entirely suspended business. We have recently had some very cold weather, which has been favorable to us. Nineteen years ago yesterday the first case of the great cholera epidemic of 1867-'68 was reported. Then the plague was mainly confined to city and neighboring country of Buenos Ayres. It was very destructive, and did not die out until near the close of March, on the advent of winter. Of course, we are still in a state of anxious suspense, for if the hygienic expedients now in a rapid course of development do not eradicate the dreaded microbes of the plague, the hot season already upon us, and to endure it yet so long, may plunge us into very serious distress. Business is virtually suspended in Buenos Ayres, and vast numbers of people have gone out into the country."

The United States consul at Buenos Ayres, under date of December 10th, states that "while a few cases of cholera are still reported in each day's bulletin, the disease appears to have pretty much run its course at this port. On yesterday, up to ten o'clock, only one new case had occurred in the city proper, and 2 cases on board a steamer at Boca port. In the interior of the country, however, the disease has made its appearance, and in some places with a marked type. On the 4th instant there were 13 deaths at Rosario and 14 new cases, and at Cordoba 2 deaths and 5 new cases. Isolated cases are reported at various other interior towns. The alarm, however, which was produced among the people when the disease first appeared at this port has in great part subsided, and the authorities feel assured that the prompt and rigid measures taken to stamp it out will prevent it from becoming epidemic. In all bills of health now issued by me I note the fact that cholera exists in this port, but apparently not in epidemic form."

Guayaquil, Ecuador.—During the three weeks ending January 6th there were 159 deaths from all causes, including 32 from yellow fever, 12 from small-pox, and 21 from enteric fever. There were 58 deaths registered during the week ending January 6th, including 16 from yellow fever and 3 from small-pox.

Havana.—During the week ending January 13th there were 103 deaths from all causes, including 1 from yellow fever.

Warsaw.—There were 243 deaths registered during the week ending January 1st, including 6 from small-pox.

Paris.—There were 1,116 deaths registered during the week ending January 8th, including 51 from measles, 12 from whooping-cough, 23 from enteric fever, 5 from scarlet fever, and 44 from diphtheria.

Rome.—There were 127 deaths registered during the week ending November 27, 1886, including 9 from small-pox, 2 from enteric fever, and 5 from diphtheria.

Genoa.—There were 124 deaths registered during the week ending January 28th, including 2 from small-pox and 1 from enteric fever.

Leghorn.—There were 51 deaths registered during the week ending January 9th, including 1 from small-pox.

Palermo.—There were 93 deaths registered during the week ending January 8th, including 2 from enteric fever, 3 from scarlet fever, and 3 from diphtheria. Pulmonary diseases prevailed.

Bremen.—There were 38 deaths registered during the week ending January 1st, including 1 from diphtheria, 1 from whooping-cough, 4 from pneumonia, and 1 suicide.

Barmen.—There were 59 deaths registered during the week ending January 8th, including 6 from measles, 1 from diphtheria, and 1 suicide.

Stuttgart.—There were 34 deaths registered during the week ending January 8th, including 1 from diphtheria.

Leipsic.—There were 90 deaths registered during the week ending January 8th, including 2 from measles, 1 from scarlet fever, 9 from diphtheria, and 1 suicide.

Bristol.—There were 97 deaths registered during the week ending January 1st, including 3 from scarlet fever and 1 from diphtheria.

Leith.—There were 25 deaths registered during the week ending January 1st, including 1 from enteric fever and 1 from diphtheria.

Vera Cruz.—There were 21 deaths registered during the week ending January 13th, including 11 from diphtheria.

Toronto.—There were 26 deaths registered during the week ending January 22d, including 3 from diphtheria.

Belfast.—There were 136 deaths registered during the week ending January 1st, including 2 from enteric fever and 4 from scarlet fever.

Rheims.—There were 58 deaths registered during the week ending January 8th, including 1 from enteric fever and 1 from diphtheria.

Nice.—During the two weeks ending December 31st there were 131 deaths from all causes, including 6 from small-pox.

Amsterdam.—During the week ending January 1st there were 173 deaths from all causes, including 1 from enteric fever, 2 from scarlet fever, and 2 from diphtheria.

Glasgow.—During the week ending January 1st there were 330 deaths from all causes, including 3 from enteric fever and 5 from scarlet fever.

Netherlands.—The United States Minister at the Hague, under date of January 20, 1887, states that the Netherlands Government has issued an order closing its ports to commerce from the Argentine Republic on account of cholera.

MORTALITY TABLE, FOREIGN CITIES.

CITIES.	Estimated population.	Week ending—	Total deaths from all causes.	Annual rate of mortality in 1,000.
Calcutta.....	433,219	December 11.	328	39.4
Warsaw.....	431,572	January 1.	243	29.3
Havana.....	208,000	January 13.	103	25.8
Guayaquil.....	25,000	January 6.	58	120.9
Paris.....	2,260,045	January 8.	1,116	25.7
Rome.....	355,026	November 27.	127	18.6
Genoa.....	179,567	January 8.	124	36.0
Leghorn.....	101,044	January 9.	51	26.3
Palermo.....	250,000	January 8.	93	19.3
Mayence.....	*65,701	December 31.	15	13.2
Bremen.....	119,000	January 1.	38	16.6
Mannheim.....	65,000	December 25.	21	16.8
Barmen.....	108,000	January 8.	59	28.4
Stuttgart.....	125,510	January 8.	34	14.1
Leipsic.....	170,000	January 8.	90	27.6
Bristol.....	220,915	January 1.	97	22.8
Leith.....	70,329	January 1.	25	18.5
Pernambuco.....	111,000	December 29.	51	23.9
Zurich.....	87,689	January 1.	19	11.2
Vera Cruz.....	23,800	January 13.	21	46.0
Rio Janeiro.....	350,000	December 18.	227	33.8
St. Thomas.....	15,000	January 7.	14	48.6
Iquique.....	16,000	December 18.	15	48.8
Toronto.....	120,000	January 22.	26	11.2
Belfast.....	221,822	January 1.	136	31.9
Rheims.....	98,083	January 8.	58	30.8
Glasgow.....	545,678	January 1.	330	31.5

* Including 6,582 soldiers, not embraced in sanitary report.

Lectures and Addresses.

AN ABSTRACT OF THE MIDDLETON GOLDSMITH LECTURES ON MULTIPLE NEURITIS AND ITS RELATIONS TO CERTAIN PERIPHERAL NEUROSES.

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Lecture II.

[THE lecturer made an ætiological classification of cases of multiple neuritis as follows: 1. Toxic cases, due to poisoning by alcohol, arsenic, lead, or bisulphide of carbon. 2. Infectious cases, due to the direct action upon the nervous system of the infectious agents, producing diphtheria, variola, typhoid and typhus fevers, severe malarial fever, and tuberculosis, to which must be added the agent causing the epidemic form of neuritis known as kakke or beri-beri. 3. Spontaneous cases, due to uncertain causes, among which cold, exposure to dampness, and overexertion may find a place.]

TOXIC CASES. (a) *Multiple Neuritis due to Poisoning by Alcohol.*—The pathology of alcoholic paralysis has only recently been brought to light. It is to Mosli, of Berlin, and Dreschfeld, of Manchester, England, that we owe the most important recent contributions to our knowledge of this form of neuritis, though the work of Henry Hun, of Albany, and that of Berkhardt, of Berlin, can not be passed over without recognition.

Lancereaux was the first to demonstrate the pathological basis of alcoholic paralysis. His observations were overlooked by physicians outside of France, and in England, where the disease is well known, it was ascribed, as lately as in 1883, to a spinal lesion. (Wilks, "Diseases of the Nervous System," p. 272.) Dreschfeld combated this theory, and called attention to the true pathology.

The disease is especially frequent among females. Males are not, of course, exempt from alcoholic paralysis, but in them the poison seems more prone to manifest itself by acute cerebral symptoms than by those of disease of the peripheral nerves. It is especially frequent among those persons in the higher classes whose nervous organism is highly developed, and who lead a comparatively inactive life. All alcoholic drinks are not equally prone to produce paralysis. It is the spirituous liquors, brandy, whisky, gin, and rum, and the liqueurs, absinthe, vermouth, etc., which are dangerous. And these liquors cause neuritis only when consumed in large amounts for a considerable length of time. Its onset, though often apparently very sudden, is usually gradual. For months the patient has suffered from chronic gastritis, insomnia, general neuralgic pains, or severe pains in the joints or limbs, and from tremor, and a certain feebleness in movement, when all at once the legs give way beneath her, and after the sudden fall she finds herself unable to rise. The paralysis soon becomes complete in the feet and legs below the knees, and may advance up the thighs. It next attacks the hands and forearms, and,

while it is often greater in the extensors than in the flexors, in some cases both groups of muscles become entirely helpless. The paralyzed muscles are flabby, and soon become atrophied; they have no excitability on mechanical irritation, and the tendon reflexes are lost. The reaction of degeneration is present. [Here the lecturer described the phenomena of this reaction.] The paralysis may advance rapidly in severe cases, involving the motor cranial nerves, the muscles of the trunk, and, lastly, the diaphragm, thus causing death. More frequently, however, it is arrested when only the distal parts of the extremities are involved, and then it gradually subsides until recovery is complete. The position of the paralyzed limbs may be considered characteristic. There is dropped wrist, and also dropped foot, as seen in lead-palsy. If there is entire paraplegia, the legs and thighs may both be extremely flexed, so that the heels touch the buttocks, but this is exceptional. The paralysis may be limited to single muscles and to muscles supplied by single nerves. Thus, Lilienfeld describes a weakness of the extensors of the thumb and the fourth and fifth fingers, and Lendet mentions a paralysis of the ulnar nerve. Hun and Lilienfeld have seen cases of facial paralysis and of double abducens paralysis, but such cases are rare. In addition to the motor symptoms, there are œdema, occasional lividity, profuse sweating, a glossy skin, and disturbances of sensation. The pains are so severe at times as to prevent the patient from sleeping. There is hyperæsthesia, which is usually quite extensive in the legs, though in cases of poisoning by absinthe it has been limited to the soles of the feet. There is tenderness of the muscles and skin, and along the course of the nerves. Charcot says that muscular sensitiveness associated with flaccid paralysis is pathognomic of alcoholism. Paræsthesiæ are complained of; numbness, tingling, and formication are frequent; and abolition of the tactile sense, and to some degree of the muscular sense, is the rule after the paralysis is developed. The temperature sense and the ability to feel pain are never wholly lost, but the transmission may be delayed. The anæsthesia may be limited to irregular areas, and may affect only the cutaneous distribution of one nerve, but it is usually found over the distal parts of the paralyzed limb. Commonly the cutaneous reflexes are preserved. The loss of muscular sense is so marked in some cases that Dreschfeld terms them ataxic rather than paralytic. These cases may be mistaken for locomotor ataxia, and the French writers have named them *pseudo-tubes alcooliques* (Déjerine, "Arch. de physiol.," 1884). Ataxia, however, may exist in some degree in cases of paralysis, and the cases of ataxia, on the other hand, are not free from paralysis. Charcot and Westphal have observed points of difference between the gait of a true ataxic patient and that of an alcoholic ataxic patient. The former throws the foot forward with undue violence, the toe lifted high in the air, and brings down forcibly first the heel and then the entire foot. The latter, however, has some weakness in the muscles of extension, and can not raise the toe. He therefore lifts the foot high, in order to step over the hanging toe and not to trip on it; but the motion is made without undue force.

He then throws the foot forward, in order to throw the toes up and get them out of the way as he brings the foot down to the floor. The motion is awkward, and the person has the appearance of one stepping over high obstacles. It is a voluntary attempt to remedy a deficient power—not the involuntary awkwardness of a man unable to manage strong muscles. There may be in both patients some tottering and swaying, when standing with the eyes closed.

The Argyle Robertson pupil has not been seen in alcoholic cases, while it is an early symptom of tabes. Alcoholic paralysis is almost always attended with cerebral symptoms. There is at first excitement rising to the degree of active delirium, with illusions and hallucinations of the various senses; there is insomnia, which soon exhausts the patient if not remedied; there is loss of memory, especially of recent occurrences, with a lack of power of attention or concentration which prevents intelligent conversation. Incontinence may occur, not from paralysis of the sphincter but from mental hebetude. The patient's own statements about his history and condition are worthless, being unintelligible or unreliable. Strümpell ("Arch. f. Psych.," 1883) was the first to draw attention to a peculiar delusion to which these patients are subject. They will relate, with much elaboration of detail, occurrences as having happened recently, when, as a fact, the story is entirely a product of their imagination.

The course of alcoholic neuritis is quite uniform. After a sudden onset the symptoms rapidly advance to a high degree, which is reached in a week or two from the beginning of the paralysis or ataxia. Then they may increase further, and cause death by respiratory paralysis. Usually they remain stationary for a time and then gradually subside, the entire duration being from two months to a year. During recovery, the tingling and numbness in the hands and feet may be severe. In a few cases the muscles become contracted, and permanent deformities develop.

(b) *Multiple Neuritis due to Poisoning by Arsenic.*—Though it has been known for years that arsenical poisoning might produce paralysis, it is only within the past four years that the pathology of the paralysis has been determined to be an affection of the peripheral nerves. Investigation of alcoholic paralysis, which arsenical paralysis much resembles, has materially assisted in placing the pathology on a correct basis. The nervous symptoms produced by arsenic have been thought to vary somewhat, according as the ingestion of the poison has been sudden or gradual. Brissaud states that, if there is slow poisoning, as, for example, by the long-continued use of Fowler's solution, paralysis is rather the exception, and is not severe—it is diffuse and transient, while other symptoms, such as gastroenteritis, trembling, delirium, and aphasia, attract the chief notice. If there is acute poisoning, the paralysis comes on either at once or in a short time. These observations do not coincide with those of other observers. In Dana's two cases, one of acute and the other of chronic poisoning, very similar symptoms of paralysis and ataxia developed. The symptoms resemble those of alcoholic paralysis, and the same description might do for both. In a case of Dana's there was loss of muscular sense. The duration of arsenical

paralysis is somewhat greater than that of ataxia. Either condition may last several months, but occasionally the recovery is complete in a few weeks. Tingling and numbness may continue for months after the motor power has returned. According to Gerhardt (cited by Dana), 97 per cent. recover wholly.

(c) *Multiple Neuritis due to Poisoning by Lead.*—The lecturer did not wish to enter upon a description of the various forms of lead palsy, nor discuss the various theories regarding the pathology of the disease. He drew attention to the fact that there were now on record a number of autopsies in cases of lead paralysis in which the lesion had been found in the peripheral nerves. Still, he said, there are numerous cases of this disease in which decided spinal lesions have been found, and some observers ascribe the disease always to destruction of certain groups of cells in the anterior cornua of the cord. It must be admitted, therefore, that lead is a poison which under certain circumstances affects the spinal cord, and under other circumstances produces neuritis. The limitation of the neuritis in lead palsy to the motor nerves makes the clinical picture in some cases closely resemble that of an affection of spinal origin. But in a certain proportion of the cases of lead palsy there are marked sensory disturbances, consisting of severe pains, anæsthesia, and numbness. In these it is possible, especially if tenderness along the nerves and in the muscles is present, to make the diagnosis of multiple neuritis. A case of this kind observed by the lecturer was narrated in full.

(d) *Multiple Neuritis from Poisoning by Sulphide of Carbon and by Illuminating Gas* has been suspected, and the similarity of the symptoms in such cases to those already described is quite remarkable. But, as there are no autopsies to substantiate this theory, this cause is merely mentioned.

MULTIPLE NEURITIS CONSEQUENT UPON INFECTIOUS DISEASES.—Diphtheria, variola, typhoid, typhus, and scarlet fever, malarial fever, and tuberculosis, are all especially apt to be followed by the development of nervous symptoms. These usually appear shortly after the period of convalescence in the acute fevers. The disease may consist of a simple paralysis of the muscles in the region of distribution of a single nerve. It may, however, affect several nerves on both sides of the body symmetrically. It may even paralyze two or more limbs. It occasionally produces sensory as well as motor symptoms in a single nerve-trunk. It may even cause a general sensory and motor paralysis of as widespread and complex a kind as that produced by chronic alcoholism. These cases were formerly referred to a central lesion, but recent investigators (Pitres and Vaillard, "Rev. de méd.," 1885) have shown that the peripheral nerves are often implicated.

(a) *Diphtheritic paralysis* is more common than any other of these forms of neuritis. Bernhardt (Virchow's "Archiv," 1885, Bd. xcix, p. 393) has found that in the large majority of cases of this kind there is a loss of the patella-tendon reflex; but whether this indicates any general affection of the peripheral nerves he does not venture to state.

(b) *Neuritis following variola* is a rare complication, and

there is only one case ("Ctbl. f. d. med. Wissensch.," 1885, p. 693) on record in which an autopsy revealed the seat of the lesion.

(c) It is still somewhat a matter of conjecture whether cases of *paralysis following typhoid, typhus, and malarial fevers* are due to an affection of the peripheral nerves or of the spinal cord. The researches of Pitres and Vaillard ("Rev. de méd.," 1884, p. 980) have shown that extensive degeneration of peripheral nerves is to be found in the bodies of patients who have died of typhoid fever, and they have also demonstrated that these fevers are often followed by local neuritis as a sequel. Cases of multiple neuritis with autopsies have not as yet been reported after typhoid or typhus, but Buzzard ("Paralysis from Peripheral Neuritis," p. 104) has recently recorded two cases following malarial fever, in which all the symptoms pointed to an affection of the peripheral nerves. Gibney has reported similar cases. The lecturer cited a case coming under his own observation, which, he thought, was of the same nature. He expressed the opinion that the various transient nerve-affections of malarial origin, many visceral neuroses, and a host of symptoms of local character attributed to neurasthenia, were due to a peripheral neuritis.

(d) *Multiple Neuritis in Tubercular Patients or in those who have had Syphilis.*—In the cases of multiple neuritis cited a large percentage died of phthisis. Oppenheim ("Zeitschr. f. klin. Med.," 1886, p. 230) has reported cases of multiple neuritis in tuberculous patients which went on to recovery. Further facts are necessary to establish the existence of multiple neuritis in syphilis.

(e) *The Epidemic Form of Multiple Neuritis, Beri-beri or Kakke.*—This disease has been known for a long time among the Chinese. In 1882 Professor Scheube ("Dtsch. Arch. f. klin. Med.," xxxi, xxxii), of Tokio, Japan, called the attention of European physicians to the affection. It is considered by him a miasmatic infectious disease, although some authorities think it due in some way to the diet of rice. The disease is not confined to Japan, but has been observed in the islands of the Pacific Ocean, in India, in Ceylon, on the west coast of the Red Sea, in Borneo, in New Guinea, in Brazil, in Cuba, and in the Dutch possessions in the China Sea. It is endemic in these regions, but occasionally occurs as an epidemic. A commission appointed by the Dutch Government to investigate the nature of beri-beri has stated that the disease is caused by a micro-organism resembling the bacillus of splenic fever. These bacilli are found in the blood, lungs, heart, brain, cord, and nerves, and can be cultivated outside of the body. The germs infest wooden buildings chiefly; they may be conveyed by articles of clothing, and they probably enter the body by the lungs. Direct contagion has not been observed.

Beri-beri, according to its severity, is divided into two general classes: There are, first, slight cases, in which the onset is gradual, being preceded by a little fever, coryza, and conjunctivitis. At first there is a weak and heavy feeling in the legs, with numbness and slight oedematous swelling. Other symptoms are palpitation, anorexia, paresis, loss of the tendon reflexes, tenderness in the muscles, diminished

electrical excitability, and irregular patches of anæsthesia. These cases usually end in recovery in a few days, or, at most, a month, although a few become chronic, and require several months before the cure is complete. There are, secondly, severe cases, of which there may be three different types. There is the atrophic or dry type, in which paralysis sets in rapidly, attended with atrophy and with the reaction of degeneration. The paralysis may spread to the arms, and involve also the muscles of the trunk, causing death by paralyzing the muscles of respiration. There are great sensory disturbances, and there may be a glossy state of the skin, but there are no gastric symptoms nor œdema.

There is also the hydropic or wet type. In these, heart-failure appears early, and is associated with marked decrease of arterial tension, and decided œdema of the entire body, with effusion into the cavities. The atrophy is masked by the œdema.

There is, next, the acute pernicious type. In this, all the symptoms of the two former types appear in rapid succession, and, in addition, gastro-intestinal symptoms and a suppression of urine combine to make the condition an alarming one. Effusions into the pericardium and pleura appear early. The pulse becomes weak and irregular, and cyanosis indicates the heart-failure which precedes death. This form may prove fatal in two weeks. The mortality ranges from 2 to 60 per cent., according to the severity of the endemic. The pathology of the disease is, primarily, a multiple neuritis, with, secondarily, numerous organic changes in various organs, none of which are, however, essential to the disease. As to treatment, quinine has not been found of any service in influencing the course of the disease. The pain must be allayed with anodynes, and sleep procured with hypnotics. Change of climate is often attended with recovery. In the stage of recovery, electricity and massage are useful.

MULTIPLE NEURITIS WITHOUT ANY APPARENT CAUSE.—Great fatigue, hard labor, and exposure have been cited as causes in some of these cases. In others the disease seems to have developed spontaneously. A few cases of this kind were mentioned.

SYMPTOMS OF MULTIPLE NEURITIS.—The sensory symptoms are the first to appear and the first to disappear. They consist of numbness, tingling, formication, paresthesia, anæsthesia, etc. There may be hyperæsthesia to the touch and to electricity. The sensory symptoms are usually limited to the forearms and hands, and to the legs and feet. In a few cases they involve the entire extremities and even the trunk, and one case of facial tingling with anæsthesia has been recorded. The cutaneous reflexes are usually preserved. The special senses are rarely affected, but, in a few cases, hearing as well as sight has been impaired.

The *motor symptoms* consist of paralysis, which usually begins as a weakness in the legs. The development of the paralysis is usually rapid, and in two weeks it may be complete. The paralysis may be limited to the muscles supplied by a single nerve or to one extremity, or it may involve the whole body, and then it closely resembles Landry's paralysis. In some cases the cranial nerves may become implicated, and, in fatal cases, deglutition has been affected.

The paralyzed muscles are relaxed, flabby, and atrophied, the mechanical irritability may or may not be lost, and the tendon reflexes are abolished. The electric excitability undergoes a change, and, in marked cases, there is the reaction of degeneration. There is dropped foot, also dropped wrist; and other deformities may obtain as accompaniments of the paralysis. Vaso-motor and trophic symptoms are not so constant as the foregoing. Œdema occurs in some cases as an early symptom, but is usually only temporary; cyanosis and coldness of the affected parts are not very marked; profuse perspiration may occur. Other forms of trophic disturbance are rarely met with in multiple neuritis. An important negative symptom is absence of loss of control over the sphincters. The duration of the disease varies considerably, and may be said to be from two to sixteen months. The disease is more common in men than in women, except the form produced by alcoholism. All ages are liable, but, apart from the form produced by diphtheria, the cases recorded do not include those of any children, unless the four cases described by Dr. H. Chapin were true cases of multiple neuritis.

DIAGNOSIS.—Multiple neuritis may be confounded with anterior poliomyelitis, tabes dorsalis, and diffuse myelitis. It differs from anterior poliomyelitis in its more gradual onset, and in the existence of tenderness of the muscles and along the course of the nerves. It differs from tabes by a more rapid onset, by the prominence of numbness and anæsthesia, by the tenderness of the muscles and nerves, by the usual occurrence of some degree of paresis with atrophy and the reaction of degeneration, and by the absence of vesical and sexual symptoms. Diffuse myelitis is very rare, and is marked by disturbance of the functions of micturition and defecation, girdle sensations, bed-sores, and cystitis. The advance of the paralysis differs from that of multiple neuritis, being from the legs and thighs to the trunk and then to the arms, while in multiple neuritis the paralysis extends from the inferior to the superior extremities and afterward to the trunk. In many cases, however, there is a combination of a central lesion with a lesion of the peripheral nerves. Some points were stated which would indicate whether a given case was complicated or not with a central lesion. It must also be remembered that tabes may be complicated by a peripheral neuritis, and some authors attribute all the accidental symptoms of tabes to this complication.

PROGNOSIS.—The prognosis is good, provided the exciting cause can be removed, which is difficult in cases produced by alcoholism.

TREATMENT.—In the stage of invasion the free use of salicin, salicylic acid, or salicylate of sodium is beneficial. These remedies should be given in large doses until noticeable effects are produced. They should be combined with a bromide. Pain must be relieved with morphine, and hot or cold applications to the part. Gentle friction with cocoa-butter gives comfort. Of course, cases due to malaria or syphilis are to be treated with antiperiodics and anti-syphilitics. In cases of lead or arsenic poisoning, in addition to other treatment, the use of potassium iodide is beneficial. Cases due to alcoholism require to be treated on general

principles, and the total withdrawal of alcohol should be accomplished, if the heart is not too weak. In the chronic stage strychnine and arsenic are the most useful drugs. It is well to combine them with phosphoric acid and iron. Baths and douches are to be recommended. Electricity forms a very important part in the treatment of multiple neuritis, and the form of current must be chosen with reference to the object desired. The constant galvanic current should be employed to favor regeneration of the diseased nerve. Faradization should be employed to re-establish the conduction of impulses in the regenerated nerve. The strength of the current used should be just sufficient to be felt distinctly through the palms of the operator's hands. The nutrition and function of the muscles should be maintained by exercising them, and thus preserving their normal irritability. The galvanic current must first be employed, until the muscles have sufficiently recovered to respond to the faradaic current. The current should be interrupted so as to cause contraction. The pole which produces a contraction with the weakest current possible is the one to be applied to the muscle. This is, in cases of the reaction of degeneration, the positive, in normal conditions the negative, pole. Each muscle should be exercised for three or four minutes every other day. The treatment must be kept up in the chronic stage until recovery is complete. If contractions have occurred in the paralyzed limbs, persistent massage may overcome them. If it does not, they are to be treated on general surgical principles.

Original Communications.

THE TREATMENT OF FRACTURED PATELLA.*

By J. D. RUSHMORE, M. D.,
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THE lack of certainty in the results of treatment in cases of fracture of the patella, and the different values that are put by writers on the subject upon the various methods of securing the fulfillment of the general indications in the management of this injury, with a desire to learn what experience has taught the members of this society in the matter, are the reasons for submitting to the society this evening for discussion a short paper on the treatment of fracture of the patella, in order that the conclusions drawn from cases that have been under my care may be either confirmed or corrected.

That the discussion may be as practical as possible, and at the same time confined within reasonable limits, I submit the question, What is the best treatment in recent cases of simple transverse fracture of the patella? An answer to this question would doubtless be, in the main, the same by each of us, yet we should differ as to the relative importance of the obstacles to be overcome and the methods available for the purpose.

It is important to remember, in the first place, that the

* Read before the New York Surgical Society, January 12, 1887.

patella lies loosely in the tendon when the limb is lying in a horizontal position with the muscle relaxed, that the bone can be moved by passive motion freely and easily in a lateral and a downward direction, and not only so, but can be moved upward at will a distance of at least a third of an inch, showing that the ligamentum patellæ is not on the stretch normally; and so free is this motion of the bone that the leg can be flexed on the thigh to an angle of about 130° before the patella becomes fixed and immovable. And I have never been able to satisfy myself that this motion was any freer in my own limb with the body and thigh approximated, as they necessarily are in the sitting position, than in the limb of another person lying on a bed in a horizontal position, although theoretically it ought to be so.

The quadriceps muscle also has insertion into the capsular ligament, as well as into the tubercle of the tibia, through the ligamentum patellæ. A considerable part of the vasti muscles converges, it is true, to be inserted into the patella; but there is, after all, a certain part of the tendinous tissue directly continuous with the thin but strong capsular ligament. A very little dissection will demonstrate this to the eye; and the power to render the ligament tense is shown by traction on the vasti muscles in the dead subject, and a still better evidence of the force exerted by the vasti muscles in extension of the leg in the living subject is manifested by placing a finger on each side of the ligamentum patellæ and making the effort necessary in extending the leg, when the ligament will not only be found to become tense, but will perceptibly broaden under this effort.

This free motion of the patella is as marked, however, when the limb is horizontal as when it is elevated with the idea of approximating the origin and insertion of the muscle. It seems to me that these points are of value in deciding on what measures we shall use in diminishing the amount of separation that exists when the bone is fractured. The production of a few cases of fracture of the patella in the dead subject has thrown some light on the conditions essential for separation to take place in the fragments. I have been struck, in the first place, by the difficulty of producing a fracture of this bone by direct violence even with the leg flexed; and when the bone is sawn partly through from within outward, it is still difficult, by any force applied on its external surface, to complete the solution of continuity. When the partial section is made in the opposite direction, from without inward, a slighter force will complete it. When the bone is fractured alone, without any injury to the ligamentous and aponeurotic tissues adjacent, the amount of separation of the fragments is practically nothing; the moderately thin handle of an ordinary scalpel in a post-mortem case can with difficulty be inserted flatwise between the fragments. This amount of separation, as we all know, can be increased by cutting the soft tissues at the side of the bone; but, even when the capsule is cut to the extent of three inches laterally on each side from the edge of the patella, the fragments could not be separated more than three inches and a half, and this required some pressure to be made on the lower fragment. Additional separation could be obtained only by further lateral cuts and by vertical incisions upward.

The few attempts that I have made to produce separation of the fragments of fractured patellæ by injections into the joint have been almost entirely failures, whether employing air or fluids, for, in order to allow of the separation taking place at all, the aponeurotic tissues of the joint must necessarily be cut more or less, and, although the nozzle of the syringe can be tied in securely, the air or fluid injected, with even slight pressure, finds its way into the areolar tissue outside of the joint cavity, and distends its meshes very rapidly. It seemed to me, however, that there was a slight separation produced by the fluid that remained in the joint; but of this I can not be sure. Of course, where the bone is broken in the living subject, and inflammatory changes obliterate, in part at least, the areolar spaces in the immediate neighborhood of the lacerated capsule, and the fluid accumulates slowly, the problem is somewhat different, and, under these circumstances, the fluid might act in a way that it would be impossible for it to do in the dead body. I have an impression also, but nothing more, that, when the limb was elevated, the upper fragment sank a little downward by the weight of the water that remained in the upper part of the synovial sac. I should be unwilling, therefore, to draw any conclusions from my attempts to separate the fragments of broken patellæ by intra-articular injections.

I desire also, in connection with this subject, to describe the post-mortem appearances in two cases of fractured patella in the Brooklyn Hospital, where death resulted from other causes, but within a few days of the production of the fracture. These appearances are, of course, familiar to all of us, but an ocular demonstration of them adds interest to the matter under discussion, and these are the only opportunities that I have had to examine such cases. I can save time and space by speaking of them together.

They were middle-aged men. The fracture was in the right patella; recent in each (within three or four days of death); one known to have been produced by muscular action, and the other probably so, for the patient was intoxicated at the time of injury, and knew nothing of the method of production, but there were no marks of bruising in the soft parts over the joint except a discoloration near the biceps tendon; the skin was somewhat less movable over the fractured than over the sound patella; there was a separation of the fragments of about an inch and a half; the circumference of the knee was an inch in the first, and an inch and a quarter in the second case, greater than in the other knee; the lower fragment sagged down to a very slight extent. The fracture was a little below the middle of the bone, and transverse, and the edges felt sharp and well defined. On cutting into the joint, a small subcutaneous clot was found in the first case, and a clot as large and as thick as the palm of the hand in the second case, over the biceps tendon. The areolar tissue over the fragments was stained with blood, and, to some extent, matted to the tendinous covering of the upper fragment; the joint had been directly opened into by a rather lacerated wound on each side of the patella, in each case about two inches or two inches and a half in length, and, in addition, in the second case there was a vertical rent, partly through the vastus externus and through the synovial membrane, about three inches in length; there was a moderate amount of bloody serum in each joint, and in the second case there were a few small clots; the upper fragment in the second case was more movable up-

ward than in the first case. Much to my surprise, the fractured edges were not sharp and clean-cut, as I had supposed from my examination before the joint was opened, but the rent in the periosteum in front was at a lower level than in the bone itself, and quite irregularly lacerated, so that it dropped down like an apron in front of the free edge of the upper fragment, partially covering the broken surface. This was true of both cases, and in the first case there were a few particles of bone adherent to the lower side of this periosteal flap. The edges of the fracture were covered and concealed by a firm clot that required considerable pressure with the thumb-nail to remove it, and this, with the periosteal flap already spoken of, was undoubtedly the explanation of my inability to obtain crepitus, although the fragments could be brought into contact with each other.

I take this peculiarity in the fracture to be unusual, not finding it described; but it is none the less singular that it should have been found in the only cases that I have had an opportunity to examine after death. To consider briefly the conditions that obtain in the living subject, we may start with the statement that the amount of separation of the fragments depends on the amount of laceration of the ligamentous and tendinous tissues in the neighborhood of the patella; not that in every case of extensive laceration there must necessarily be a wide gap, but that in every case of wide separation there must be extensive laceration as an essential condition. The presence of a considerable separation on superficial examination is proof of a considerable laceration, and we can satisfy ourselves of the presence or absence of laceration in cases where the fragments are close together by gentle flexion of the leg on the thigh, when the quadriceps will be excited to contract and tend to draw up the upper fragment, while the lower fragment will be displaced downward in cases where there is any laceration. If there is little or no separation under these circumstances, we may know that there is little or no laceration. I have occasionally, with the same object in view, made gentle pressure upward and downward on the fragments, but it has been accompanied by rather more pain than by flexion.

If we come now to consider the causes of separation of the fragments, while we admit that the clot interferes temporarily with the close approximation of the fragments, and the periosteal flap may in some cases prove a permanent obstacle to bony union, we must recognize that the real causes of separation are either muscular action or fluid accumulation in the joint; and it seems to me that facts do not warrant us in excluding either one of these causes. It does not seem to me that there is any natural tendency for the muscle to draw the upper fragment upward, inasmuch as the bone is so movable in its tendon; but when fracture takes place, the quadriceps is no exception to the contraction that takes place in all voluntary muscles after fracture, produced probably either by direct or reflex irritation—contraction that, unless overcome by proper methods, causes a very considerable amount of permanent shortening. There are also frequent contractions of the muscle taking place whenever the patients attempt to sit up, or even to turn over or to raise the hips, etc.; for, while the muscle is comparatively inactive after fracture, I do not think that it is paralyzed, for, with slight stimulus, the upper fragment is perceptibly drawn upward by it. Free from any tendency, therefore,

to draw the unbroken bone upward, it seems to me, when fracture has taken place, that spasmodic action and the usual contraction that takes place after any fracture are causes at work in the production of the gap in fractured patella. And these two kinds of action take place quite as readily with an elevated as with a horizontal limb. It is true also that in the few cases of separation of the ligamentum patellæ that I have seen the bone has been drawn upward, producing a perceptible depression at the point of rupture, even though the joint was not injured and the amount of fluid in the synovial sac did not seem adequate to account for the displacement.

That the fluid in the joint, however, is a potent element in the production of separation, is to my mind quite clear. I saw it very forcibly illustrated in a case of fracture in the Brooklyn Hospital, while interne in that institution:

An officer, in helping to transfer an injured patient from a carriage to the hospital entrance, slipped and fell, producing a fracture of the patella. I saw him within five minutes of the receipt of the injury and found no separation. The fluid accumulated in the joint, and the separation increased as the fluid increased.

One would expect that if there were tension of the muscle normally present, the separation would have taken place immediately; and it might be said that the usual behavior of muscles after fracture would account for the gap as well as the fluid in the joint; but, as the fluid was absorbed, the gap diminished, as is not infrequent, and this I think could have been due only to the diminished pressure on the fragments by the fluid in the joint. Important, therefore, as the fluid in the sac is as a cause of separation of the fragments in fractured patella, it seems to me a less potent cause than the unusual action of the muscle. For what I saw in a case a few weeks since is generally true in cases that I have observed: that while the fluid had increased the circumference of the knee by two inches beyond the normal measurement, and aspiration had been suggested, by careful and slow traction on the fragments, crepitus could be obtained, although the fragments were quite two inches apart. It must be remembered that the normal capacity of the joint is increased by the rent in the soft tissues and the opening up, to some extent, of the areolar spaces in the neighborhood. Of course, it goes without saying that the inflammatory trouble in the joint enters as a somewhat important element in the treatment of the fracture.

The indications for treatment are plain enough with regard to the coaptation of the fragments. The other indications usually mentioned are the treatment of the inflammation of the joint and its resulting effusion, and the prevention of ankylosis.

The first is by all means the most important, and the variety of devices used for the purpose shows, in the main, their inefficiency. It seems to me, in the first place, that elevation of the limb is unnecessary and undesirable, for the reasons already given. All those methods for approximating the fragments that make traction on the skin alone and indirectly only on the bone are very inefficient in bringing the edges of the fragments together. They have the advantage of early application, of not pressing downward or tilting the

fragments and thus avoiding the formation of adhesions; but, being attached only to the movable skin, they must fulfill very imperfectly this first indication.

Those appliances that are used where traction is made obliquely backward and downward and upward on the fragments, while more powerful and efficient than the former method, have some objections. They can not be applied until the inflammatory trouble subsides and the fluid is in part at least absorbed, or, if applied earlier, they produce so much pain that the necessary force can not be used to approximate the fragments, and while pressing on the fragments they at the same time press on the fluid, and in both ways tilt the fragments up; and even when applied late, they press the fragments against the condyles of the femur and favor the development of adhesions. Nor have they a very good control over the upper fragment, for the least involuntary effort at contraction obliterates the depressions above the patella and the bone slides up underneath the dressings. I think the objection made to them by Manning has force also, that the constriction of the dressings presses on the nutrient arteries and so interferes with repair. The most efficient way of approximating the fragments and keeping them in contact is by traction directly on the bone, and it seems to me that Malgaigne's hooks accomplish this end satisfactorily. They can be applied very easily; the traction is made directly on the bone fragments, and is in the long axis of the limb, thus avoiding both tilting and adhesions to the condyles of the femur, the fluid in the joint assisting in lifting the fragments up away from the condyles; the control of the motion—or the effects of motion—in the quadriceps is complete; the fluid does not interfere with their application; they therefore give the best chance for bony or very short ligamentous union. The objections, it seems to me, are not at all sufficient to deter us from using them, in view of the advantages they possess. I have used them in five cases with success, getting as an immediate result a shorter bond of union than by any other method, though never union by bone thus far. The pain was not great, the location of the introduction of the points not being a specially sensitive part, and the wounds behaving kindly by constant care and cleanliness. The pain of introduction could be diminished by the use of cocaine subcutaneously. The danger of necrosis, of erysipelas, suppuration, etc., is undoubtedly to be taken into account, but must be of very rare occurrence. The objection that if their use is not followed by bony union the patient is worse off than if he had a moderately short ligamentous union, on account of the greater liability of refracture, it seems to me is not a fair one, for the cases of refracture or rupture under these circumstances seem to have occurred soon after the discharge of the patient, while the bond of union was still weak; and we have all seen the same thing take place in cases where the separation was half an inch or more in extent, the firmness of the ligamentous band being dependent rather on its age than its length. The objection that they are "infernal" and "barbarous" is not sufficiently exact to be answered.

The second indication—the treatment of inflammation and the fluid accumulation—has been fulfilled in my cases by the ordinary rest, evaporating lotions, etc. I never have

found it necessary to aspirate the joint, and it must be very seldom necessary to resort to this measure, as the broken fragments can be very easily approximated with the joint quite distended with fluid; besides, the operation is not entirely free from the dangers of suppuration in the knee joint. It seems to me unwise to resort to any active measures in fulfilling the third indication, the prevention of ankylosis, by flexion ever so gentle before the eighth week at the earliest; and to do this by the third week, as is recommended, is dangerous to the integrity of the ligamentous union if sufficient force is used to affect the adhesions at all.

I should expect, and have obtained, the best results in the treatment of single transverse fracture of the patella by applying a posterior splint with the limb horizontal and lying in a natural position, but not fully extended, by using Malgaigne's hooks introduced on the first or second day after the receipt of the fracture, by keeping this dressing on for four weeks, then removing the hooks, but not the splint, which has been kept on for four weeks more, the patient being in bed; then the patient allowed to be out of bed with the knee immovable for four weeks longer; by the use of the ordinary remedies for the relief of the inflammatory joint symptoms in the early stage, but without resort to aspiration; and by avoiding any effort to disturb adhesions until after the end of the third month, and then only by the patient's ordinary use of the joint in walking, etc.

I have purposely omitted saying anything about unusual forms of fracture of the patella, because they are outside the scope of the present inquiry, and have also said nothing of the treatment of old cases with weak knee by wiring, because I have no personal experience to relate.

CASES EXHIBITING THE RESULTS OF MULTIPLE PARACENTESIS OF THE DRUM MEMBRANE ON THE HEARING IN CHRONIC AURAL CATARRH, WITH REMARKS.*

By OREN D. POMEROY, M. D.

PARACENTESIS of the drum membranes in very chronic cases of aural catarrh, where there is not only no increase in the secretion but an almost total absence of even the normal amount, has been done for some years. The object so far has been to relieve deafness and tinnitus aurium. It has heretofore accomplished very little for the hearing and less for the tinnitus.

In the "Transactions of the American Otological Society" for 1873 I published some cases in which a single puncture of the drum membrane had been made, with only very moderate effect on the hearing and somewhat less on the tinnitus. I have employed the operation occasionally since that time with varying results.

Within the year one of my assistants, Dr. Bates, hearing the explanation I gave of the cause of relief to the sunk-en membrane—that is, the diminution of the superficial area of the membrane consequent on cicatricial contraction at the site of the punctures, thus exerting a degree of out-

* Read before the Medical Society of the State of New York at its eighty-first annual meeting.

ward traction on the more or less impacted stapes in the oval window—suggested that several punctures at a sitting would be likely to increase this effect. I replied that it would, and gave my consent to have the matter tested on some of my patients at the Manhattan Eye and Ear Hospital. The result was sufficiently satisfactory to lead us to continue the operation. At about this time Dr. Bates reported four cases in the "Medical Record" for January 23, 1886, operated on in a similar manner to what had been suggested, and calling it a new method, etc., for curing deafness. No acknowledgment was made of what I myself had done in the matter. The method recommended by the doctor, however, extended to numerous incisions of the membrane, after the manner of Gruber and Politzer, resulting in an amount of traumatism which I could not approve of, and in at least one of the doctor's cases considerable inflammatory reaction resulted, which is not likely to occur in the method by paracentesis.

On an average, about four punctures of the membrane were made, generally in the postero-superior portion, although some were made in front of the manubrium. Where any part of the membrane was in apposition with the inner wall of the tympanum, some other portion for puncturing was sought out, for the sufficient reason that little or no aperture was likely to be made in the former location. The puncture of the membrane opposite to a less sunken part would of course allow the knife to penetrate deeper and make a larger opening. It has been insisted upon that a tolerably distinct perforation whistle should be produced after the punctures by inflation.

In a considerable number of cases it was found that the membranes were sunken so as to rest upon the promontory. In these instances, in order to make a proper puncture of the membrane, many points needed to be sought out to find where the membrane inclosed a cavity—that is, if a puncture were attempted opposite a totally collapsed portion, naturally no aperture was likely to be made, or, if so, it would be too minute for any useful purpose.

In carrying out this procedure it became necessary in some cases to make from five to eight essays before a sufficient number of actual punctures could be made. In not more than two or three cases was it impossible to produce the perforation whistle. The duration of time between the punctures at a given sitting was from three days to three weeks. It was not considered proper to repeat punctures as long as there was any considerable hyperæmia or tenderness in the membrana. Where there was great collapse of the membrane the performance of inflation aided in some cases in the operation. The pain of the operation was ordinarily trifling, but when the patient seemed sensitive a few drops of a four- to eight-per-cent. solution of cocaine, placed upon the membrane by means of a dropping tube, sufficed to make the operation tolerable to the patient, or even in some cases absolutely painless. It has been urged by some that repeated punctures of the membrane were likely to lead to adhesions to the promontory. This may be the case where active adhesive processes are at work in the tympanum, but I infer that in all the cases operated upon nothing of this kind existed, the patients being in a too ad-

vanced stage of inflammation for this to occur. Certain it is that nothing of the kind has resulted, but, on the contrary, the membrana in several instances has been drawn outward sufficiently to demonstrate by the touch of a probe that the membrane no longer rested upon the promontory as at first. This in the hands of one at all experienced in the manipulation is not difficult. In not a single instance has a considerable amount of inflammation of the membrana or drum cavity resulted, and the hearing has not been lowered. I could not at first credit the assertion made that the hearing was so much improved in some of the cases, but, on a careful examination myself, I was compelled to admit the truth of the observation.

Nothing is more difficult than to make a perfectly reliable test of the hearing; the patient is in a hopeful state of mind, and is ready to say he hears better when the facts do not always warrant the assertion. Usually the hearing was lowered for from two to four days after the operation, although, as has been observed before often enough, the hearing may be better *immediately* after the punctures, the thickened membrane offering obstruction to sound waves, and the puncture at first removing this obstruction. In all these cases a Graefe's very narrow cataract knife was used. The reason for this was, first, a straight instrument may be used with the infliction of less violence than one with the handle placed at an angle with the blade; and, second, the Graefe knife punctures with the infliction of less violence perhaps than any other instrument. It was not the object of the operation to make any large punctures or considerable incisions, for fear the membrane might be deformed or caused to adhere to the promontory; another point was carefully kept in mind—not to excite inflammation by unnecessary traumatism. It is not necessary to discuss the question as to whether the punctures were likely to remain open, for this rarely occurs, the tendency of the membrane to repair almost immediately being well known. In some instances the punctures allowed air to be forced through for only a few hours, while in others several weeks elapsed before no air could be forced through the membrane.

One effect of multiple puncture of the membrana tympani I hope will be found to be the *permanent* improvement to the hearing resulting from inflation. As is well known, many patients come to us with the hearing much lowered, but susceptible of great improvement by inflation. The tubes seem pervious enough—nay, in many instances, too pervious. The hearing seems not to be at its best unless there is a sufficient amount of intra-tympanic air-pressure to push the membrane outward and in a measure draw the base of the stirrup from its impaction in the oval window. The membrane, being elastic, presses against this condensed air, and the moment the Eustachian tube opens from any cause whatever, the excess of air in the tympanum is, so to speak, pressed out of the middle ear into the throat by the elasticity of the membrana tympani (and also by its own elasticity), and the stapes returns to its former position of impaction. Many devices have been employed to correct this faulty position of the membrana tympani, such as exhaustion of the air in the meatus, hermetically closing the meatus (Poltzer), painting the membrane with collodion, division

of the tendon of the tensor tympani, division of the posterior fold, etc., and all with only a measure of success. Some of our cases, notably Case II, seem to show that the numerous punctures have caused a real diminution in the superficial area of the membrana tympani, where the disappearance of the excessive movement (bleb-like) of the membrana tympani during inflation occurred. In those reported cases where the membrana tympani rested on the promontory previous to the punctures, and subsequently to the operations remained some distance from it, as determined by the touch of a probe and Siegle's otoscope, further evidence seems to accumulate confirmatory of this proposition. Is the improvement to the hearing permanent? Some of these cases have been under observation two years, and there seems little or no tendency toward relapse unless we reject the recurring cases of catarrhal otitis, which would not invalidate this proposition.

CASE I.—J. S., aged forty, otitis media chronica. Membranes so much sunken that during inflation their movements were so considerable as to cause a loud clicking sound easily audible at some distance. H. D. R. n. $\frac{1''}{60''}$ (the clicking of the finger-nails together may be heard at about sixty feet), L. the same. After inflation, H. D. R. w. $\frac{p.}{40''}$ L. n. $\frac{3''}{60''}$, but this was momentary. On September 24th two punctures were made in the R. and three in the L. Four days afterward, H. D. R. n. $\frac{3''}{60''}$ L. $\frac{2''}{60''}$, two punctures were made in each drum-membrane. October 4th, made five punctures in the R. and three in L.

October 10th.—H. D. R. n. $\frac{10''}{60''}$ L. $\frac{6''}{60''}$. Three punctures made in the R. and four in the L.

20th.—H. D. R. n. $\frac{14''}{60''}$ L. n. $\frac{12''}{60''}$. This makes a gain in R. of 14'' against 1'', and in L. about the same.

CASE II.—Dr. W., aged thirty, has had an otitis media chronica in R. for many years. The membrana tympani has a cicatricial look as though there had been an old suppurative inflammation. The history confirms this. The H. D. is w. 2'', after inflation 36''. The Eustachian tube is too pervious, and interchange of air between the middle ear and tympanum too frequent, and it is also too readily forced by Valsalva's operation. The act of deglutition immediately lowered the hearing to two inches. On November 11th four or five punctures were made in the membrane. Three days after this the hearing was lowered, and was not improved by inflation. Before the punctures were made the membrane moved outward excessively during inflation, presenting a bleb-like bulging.

On November 15th, H. D. w. 4'', after inflation 20''. Membrana tympani did not move outward during inflation except very slightly. Deglutition with the nostrils closed did not lower the hearing as at first. No bulging of the membrana tympani has been noticed since the punctures were made. On the 24th of November the H. D. was w. 8'' to 9'', not improved by inflation nor lowered after swallowing. November 27th, H. D. w. 6'' to 7'', after inflation 14'' to 16''; here was a permanent gain from watch 2'' to watch 6 to 7''. The constant voice-hearing was also greatly improved.

CASE III.—Mary F., aged thirty-three, otitis media chronica for several years. On admission, January 4, 1886, H. D. R. w. $\frac{14''}{30''}$ Left $\frac{14''}{30''}$, not improved by inflation.

January 8th.—Punctured both membranes four times each, two in front and two behind the malleus handle. The left membrana tympani touched the promontory, and the right was so sunken that no air escaped after the punctures.

15th.—Both membranes punctured and perforation whistles elicited; membranes not so much sunken. On January 17th, H. D. R. w. $\frac{5''}{30''}$ L. $\frac{1\frac{1}{2}''}{30''}$; a considerable gain in right and none in left.

CASE IV.—Ellen B., aged thirty-five, otitis media chronica of long duration. Applied December 16, 1885. H. D. R. w. $\frac{3''}{30''}$ L. w. $\frac{1\frac{1}{2}''}{30''}$. On December 28th four punctures were made in each membrane, two in front and two behind mal. handles. Cocaine was used, which produced some anæsthesia. Hearing lowered by the operation.

January 4th.—H. D. R. w. $\frac{2''}{30''}$ L. w. $\frac{4''}{30''}$. January 6th, four punctures made in each as before; caused some pain. January 11th, H. D. R. w. $\frac{8''}{30''}$ L. w. $\frac{3''}{30''}$. On same date did four punctures as before. Cocaine was used, which relieved any pain which might otherwise have resulted from the operation. This showed a gain of six inches and a half in the right and two inches and a half in the left.

CASE V.—Peter McE., aged forty-six, otitis media chronica. Applied for treatment November 18, 1885. H. D. R. w. contact, L. n. $\frac{2''}{60''}$. Paracentesis of right membrana tympani as done in previous instances. On December 6th, left done in the same manner. On the 16th of December the left membrana tympani somewhat reddened. On same date both membranes again were punctured, four times in each; tinnitus somewhat diminished. On December 18th, H. D. R. w. $\frac{5''}{30''}$ L. n. $\frac{4''}{60''}$. On 23d, H. D. R. w. $\frac{5''}{30''}$ L. n. $\frac{6''}{60''}$. On this date repeated the punctures in each. In this instance the right gained five inches and the left two inches.

CASE VI.—Edith H., aged thirty-five, otitis media chronica and desquamative inflammation of meatus externus. Was treated in the usual way until December 4th, when each membrane was punctured. Previous to this the H. D. was R. w. $\frac{4''}{30''}$ after inflation $\frac{4\frac{1}{2}''}{30''}$; L. w. $\frac{4''}{30''}$ after inflation $\frac{4\frac{1}{2}''}{30''}$. On December 14th H. D. R. w. $\frac{8''}{30''}$; after inflation, w. the same. L. w. $\frac{6''}{30''}$ after inflation $\frac{8''}{30''}$. By January 27th both membranes had been punctured three times, and the hearing had risen to 6'' 8'' in each ear, and was unaffected by inflation.

February 5th.—Both membranes punctured; no change in hearing.

March 17th.—Recorded that the tinnitus had been relieved.

April 28th. H. D. R. w. $\frac{12''}{30''}$ L. $\frac{11''}{30''}$; neither improved by inflation.

May 21st.—R. and L. hear the watch about $\frac{15''}{30''}$, not perceptibly modified by inflation. Here was a gain from $\frac{1}{2}$ in each, increased to $\frac{1}{2}$ after inflation, to $\frac{15''}{30''}$ in each, not improved by inflation. The treatment was continued five months. At first there was great difficulty in making her hear ordinary spoken words, but at the termination of the treatment ordinary conversation could be heard with great comfort. In this instance the maintenance of the improved hearing by

inflation was accomplished, and considerable hearing added to this.

CASE VII.—Mr. G., aged fifty-eight, a porter, has had chronic middle-ear disease for several years, although he has never noticed that the right ear was affected. Right hears w. in contact, left not at all; not improved by inflation. Has had tinnitus in the left for three months, which came on suddenly from having caught cold. Bone-conduction weakened in left. The tinnitus was not relieved, though potassium bromide, hydrobromic acid, and paracentesis were employed. The left membrane was punctured on three different sittings at intervals of from four to six days, four punctures being made each time. No cocaine was used; the operation was scarcely painful at all, and no inflammation or soreness resulted from the operations. The improvement was from w. 0 with poor voice-hearing to w. contact and comparatively good voice-hearing. Eustachian tubes at all times pervious, and could be inflated by Valsalva's operation more easily than in normal cases.

CASE VIII.—Miss K. L. F., aged twenty-six. Otitis media catarrhalis chronica in both for the space of three years. Tinnitus constant in left ear; never any in right. Signs of excessive sinking of drum membranes.

Hearing, right w. $\frac{2}{48}$; left, not hear watch at all. Little or no improvement on inflation.

On March 17, 1886, did double multiple paracentesis. Two weeks after, repeated the operation on the left. This was repeated, at intervals of ten days, four times, making six operations in all. At each sitting five punctures were made. Cocaine was used, which diminished the pain of the operations, but did not render the patient insensible to them. After the third series of punctures on the left ear, the hearing rose to watch in contact, with voice-hearing very much improved. The voice was readily heard at two feet. The noise is still constant, but does not trouble as much as formerly. At first she could not sleep in consequence of it, but now there is no difficulty in sleeping. Bromides and hydrobromic acid had no effect on the tinnitus. Pharyngeal catarrh has been treated, more, however, for the benefit of the right ear. Hearing fluctuates in both ears with atmospheric changes, less so in the left than the right.

CASE IX.—J. Van D., aged thirty, otitis med. chron.; tinnit. in both. R. hears finger-nails at 2", and L. at 20". R. membrana tympani touched the promontory.

Four punctures made in each membrana tympani on January 11, 1886, and January 29th, H. D. R. n. 30", L. n. 30".

CASE X.—Henry V., aged twenty-eight, applied June 3, 1885, with otitis med. chron. for five or six years. Tinnitus in both. Had syphilis five years ago. Hearing, R. and L. n. $1\frac{1}{2}$ ". Paracentesis was done on each membrana tympani (four to six punctures each) on November 25th, November 30th, December 4th, and December 16th. No special reaction from the punctures, and as a result the tinnitus was diminished and the hearing somewhat improved.

CASE XI.—Bridget R., aged fifteen, applied for treatment June 26, 1885, with chronic middle-ear catarrh since early childhood. H. D. R. n. 4", after inflation 10"; L. n. 1", after inflation 8". Ordinary treatment not succeeding in accomplishing anything, paracentesis of both membranæ was done on October 4th. This was repeated on October 7th on the R., and on the L. on October 9th. On October 12th paracent. of R. Paracentesis was done three times on each membrana tympani between this date and October 30th, when H. D. R. was n. 5", after inflation 8"; L. n. 1", after inflation 4". The result here was altogether *nil*, and, in spite of the large number of paracenteses in each (nearly forty), the hearing was not lowered nor was there any considerable reaction.

CASE XII.—Jane L., aged twenty-five, has chronic middle-ear disease in both, with tinnitus in R. Commenced treatment on January 4, 1886. H. D. R. w. c. not improved by inflation; L. w. 3", and not improved by inflation. On January 6th paracent. on R., and on January 11th paracent. on L. On February 5, 1886, H. D. R. w. c., after inflat. w. 1"; L. unchanged. Patient says hears voice better in R. There evidently was no improvement in L. Did not return for further treatment.

CASE XIII.—Mary B. Van H., aged sixty-eight, has chronic middle-ear disease in both, with tinnitus; the latter seems to cause headache. Malleus-handles almost horizontal, with other signs of sinking of membrana tympani. Applied for treatment January 8, 1886. H. D. R. and L. n. contact. On January 15th paracentesis in both. January 22d, H. D. R. and L. n. 1". Noises much less, and do not cause headache as before. The gain to the hearing in this case is almost too slight to record.

CASE XIV.—August K., aged twenty-seven, otit. med. cat. chron. January 4, 1886, H. D. R. w. pressed, after inflat. $\frac{1}{2}$ "; L. n. 2", after inflat. 4". January 15th, paracent. of R., and on 20th both were punctured. On January 25th both membranæ again punctured; R. membrana tympani resting on promontory. Punctured again on February 5th. On February 8th H. D. R. w. $\frac{1}{2}$ ", slightly improved by inflation. L. w. contact, increased to w. $\frac{1}{3}$ ", which was at first n. 2", increased to 4" by inflation. There was a decided increase in L. In this ear bone conduction was reported to be somewhat weak.

CASE XV.—J. J. F., aged thirty-five, otitis med. cat. chron. January 18, 1886, H. D. R. n. $1\frac{1}{2}$ ", after inflat. 2"; L. n. 4", after inflat. 20". January 20th paracent. done on both. This operation was repeated on January 25th, February 14th, and February 28th. Cocaine, a four-per-cent. solution, used without relieving the pain from the operation. The H. D. in this case was unaffected by the punctures.

CASE XVI.—Henry Van D., aged twenty-eight. January 3, 1885, applied on account of a chronic otitis med. with labyrinthine complications. Hears neither watch nor nails in each ear, but the tuning-fork may be heard six seconds in each by aerial conduction. Bone-conduction absent in R. and just perceptible in L. Suspected syphilis. October 10th, both membranæ punctured. October 19th, punct. R. Again punctured R. on October 21st. October 24th, both were punctured. On February 8, 1886, H. D. R. n. 1", after inflat. $1\frac{1}{2}$ "; L. n. $1\frac{1}{2}$ ", after inflat. $1\frac{1}{2}$ ". On December 18th the record places the H. D. R. n. 10", after inflat. 9"; and of the L. n. 20", after inflat. 30". I conclude that this patient might have been still further improved had treatment been continued. The signs of labyrinthine disease in this case seemed to indicate that it was secondary to middle-ear disease, and possibly connected with a syphilitic condition.

The following cases are from the practice of Dr. Neil J. Hepburn, assistant surgeon to the Manhattan Eye and Ear Hospital, who has kindly placed them at my disposal:

CASE XVII.—J. F., a lawyer, aged thirty-five, has a chronic otitis media, presenting the usual appearances on examination.

H. D. R. w. $\frac{2}{40}$ " L. w. $\frac{15}{40}$ "; after inflation, R. w. $\frac{3}{40}$ " L. w. $\frac{20}{40}$ ". Two minutes after the last observation the hearing dropped to the first statement. Treatment of the Eustachian tubes failing to maintain the improvement gained by inflation, paracentesis of the membranæ was tried on September 20th, when five punctures were made in each membrane with the temporary effect of lowering the hearing, but one week afterward there was improvement. On October 25th four punctures were made. On November 1st the H. D. R. was w. $\frac{24}{40}$ " L. w. $\frac{22}{40}$ ".

After two months the patient again reported with H. D. R. w. $\frac{20''}{40''}$ L. $\frac{26''}{46''}$. Mt. much less retracted in right, not attached to the promontory, fewer signs of sunken membrana tympani; other in similar condition.

CASE XVIII.—C. S., tobacco-wrapper, aged twenty-one, was first seen September 15, 1886. Both membranes much retracted, but under inflation moved outward promptly with a click-like sound. R. heard the snapping of finger-nails at $\frac{1''}{60''}$,

after inflat. heard the w. pressed on auricle; L. nails $\frac{3''}{60''}$.

Punctured membranes on September 24, 1885, September 28th, October 4th, October 10th, and October 20th. On December

13th the hearing was R. w. $\frac{20''}{40''}$ L. w. $\frac{14''}{40''}$. (This improvement

seems to me almost unaccountable, and, as will be seen, is far above the average.—O. D. P.)

CASE XIX.—W. H. G., aged twenty, has otitis med. chron. of three years' duration, mostly of the right ear. The left soon rose to perfect hearing by other treatment, so it is not recorded. The right membrana tympani much sunken in front and behind the malleus handle, so that the latter appeared as a ridge dividing the membrana tympani into two unequal portions. There was a light reflex in front and another behind the manubrium.

Hearing, w. $\frac{1''}{40''}$, not improved by inflation. On October 10th

made three punctures in the membrana tympani. It was found adherent to the promontory (or in contact with?), there being no movement under inflation, and the touch of the knife showed no yielding of the membrana tympani. October 17th,

hearing of the R. w. $\frac{8''}{40''}$; four punctures made in the posterior

portion. October 24th, hearing w. $\frac{20''}{40''}$. Membrana tympani no

longer resting on promontory, but may be freely indented on pressure with a probe. November 21st hears the watch at 25'', and is so satisfied with the result as to discontinue further treatment.

CASE XX.—E. F., a domestic servant, applied November 11, 1885, with chronic middle-ear disease dating back to childhood. Treatment by ordinary means failed to improve, so she had to leave her place. R. hears w. $\frac{1''}{40''}$ L. nails $\frac{14''}{60''}$. No special im-

provement on inflation. November 25th, five punctures of left

membrana tympani; one week later heard a watch at $\frac{5''}{40''}$.

Subsequent to this two punctures were made in the right and three in the left. December 12th, R. heard the watch $\frac{10''}{40''}$.

L. w. $\frac{12''}{40''}$. Some tinnitus in left. She returned to service with

sufficient improvement of hearing to retain her place, but was unable to continue treatment. Bone-conduction was at first better in the ear with the better aërial hearing, but I do not conclude that the examination was complete enough to prove that the worse ear had labyrinthine complication.

CASE XXI.—Mrs. M., aged forty-eight, chron. otitis media for several years, for which she has been treated without benefit. R. hears the watch $\frac{4''}{40''}$, L. $\frac{6''}{40''}$. Inflation does not im-

prove, and the membranæ move only slightly. December 7th made three punctures in each membrane, which lowered the hearing. By December 18th the hearing had increased to R. 14'', L. 20'', when two punctures were made in each membrane.

Ten days subsequent the hearing of the R. was w. 24'', L. 30''. Was ordered to return if hearing lowered.

CASE XXII.—Miss G., with chronic middle-ear disease of R. Left normal. Commenced treatment December 8, 1885.

Hearing w. $\frac{1\frac{1}{2}''}{40''}$. After inflation, $\frac{3''}{40''}$. No further improve-

ment could be gained by ordinary treatment, so on December 15th two punctures were made. On the 19th hearing

was w. $\frac{8''}{40''}$; three more punctures were made. On the 22d

the hearing rose to 18'', when two more punctures were made. On December 29th heard a watch at 21'', and was not improved

by inflation. Reported on January 17th, with H. D. w. $\frac{23''}{40''}$

but was rendered lower by inflation. Dismissed.

CASE XXIII.—Mrs. M., aged thirty-one, applied September 20, 1886, for a tinnitus, vertigo, and hardness of hearing in the left ear; right nearly normal. The symptoms of vertigo have worried her very much, she fearing brain trouble. The membrana tympani is much retracted, and adherent to the promontory.

Hears a watch at $1\frac{1}{2}''$, increased to $2\frac{1}{2}''$ after inflation. Two punctures were made in the membrana tympani with little effect on the hearing, but by October 5th the vertigo was much lessened.

October 18th.—Again punctured, and by November 1st the hearing was w. $5\frac{1}{2}''$, and there was no vertigo.

December 14th.—About as on last note. Patient refuses further treatment, as she thinks she hears well enough, and has no unpleasant symptoms; moreover, the pain of the operation seems to have intimidated her. She has the impression that the hearing is constantly improving. Result, permanent improvement, from watch $1\frac{1}{2}''$ to $5''$, the latter not affected by inflation, and the vertigo completely relieved.

CASE XXIV.—H. McG., aged thirty, applied October 17, 1886. Right ear suppurating; left, chronic middle-ear disease for a long time; hears w. $3''$, increased to $7''$ by inflation, but, on swallowing, the hearing returned to former distance. Mt. sunken, but movable during inflation. Five punctures were made; these were two in front and three behind malleus-handle.

October 24th.—Hears a watch $5''$ before and $9''$ after inflation. On October 31st, H. D. w. $10''$, increased to $14''$ by inflation. Two punctures made.

November 14th.—H. D. w. $15''$; not improved by inflation.

Subsequent punctures were made, but no further improvement was gained.

The patient did not return. Here was a permanent gain of from w. $3''$ to w. $15''$, and no loss of hearing on emptying the tympanum of air by the act of deglutition, as at first.

This series of cases seems to me exceptionally good, but it will be observed that none of them belong to the order of somewhat desperate cases for which the operation is thought to be more applicable.

Summary.—There were in all twenty-four cases, of which eleven showed decided improvement to the hearing in both ears, namely, Cases I, IV, V, VI, IX, XVI, XVII, XVIII, XIX, XX, XXI.

There was considerable gain in the hearing of one ear in Cases III, XII, XIV, but no improvement in the other. In Case II there was great improvement to the hearing in one ear by inflation, but it was not maintained until after the punctures, when the hearing permanently rose from $2''$ to $15''$ (this was the case where the bulging of the mem-

brana tympani during inflation ceased after the punctures of a single sitting). In Cases V and XIII the tinnitus was somewhat diminished.

Case VI showed most extraordinary improvement to hearing, which was maintained without the necessity of inflation. The observation was made in this case with great care, and is undoubtedly reliable.

Case VII showed decided improvement in the hearing of the one operated on, but the tinnitus was unaffected.

Case VIII showed considerable improvement to the hearing, and some diminution of the tinnitus.

Case X showed some improvement to the hearing in each ear, and the tinnitus was diminished.

In Case XI there was no improvement whatever; but no diminution of hearing followed, although more than forty punctures were made.

Case XIII showed little or no improvement, and Case XV was not improved at all. In Cases XVII and XIX, where the membranes were in apposition with the promontory, the operations resulted in removing them from contact with the inner tympanic wall.

In Case XXII, where one membrane only was operated on, the hearing rose from watch 3" to watch 23". Similar observations for Case XXIV.

In Case XXIII the one ear operated on was much improved in the hearing, and a very unpleasant vertigo was relieved.

Gruber and Politzer, who have written more on the subject of similar operations on the drum membrane than perhaps any other, seem to exhibit some confusion in stating conditions—one insisting that the membrane is relaxed, while the other speaks of it as in a state of tension. I believe both are right, under certain limitations. When the membrane is at first sunken from closure of the tube, there is great pressure on its outer surface, and naturally it is put upon the stretch—is in a state of tension. Subsequently, when the tube becomes pervious, as in most of my cases, there certainly is no more *tension* of the membrane, although it undoubtedly is stretched and increased in its superficial area; there is, then, at this stage *relaxation*. During the stage of active collapse of the membrane the stapes must be driven more or less into the oval window, and, if this continues long, impaction results. After restoration of the intra-tympanic air-pressure from restored perviousness of the tube, the stapes may still be driven into the oval window, requiring a certain amount of tractile force to draw it sufficiently outward; this the membrane no longer can accomplish, as it is stretched and unable to fall into a normal position, which would practically result in drawing the stapes from its impaction in the oval window. This seems clear enough from the condition of many of my patients where the hearing was good so long as air was forced into the tympanum; but, on opening the tube by the act of deglutition, the air would escape, and collapse of the membrane result, with the previous deafness. The improved position of the membrane, with augmented hearing, seems to almost prove that the drum membrane had been shrunken up to a degree, consequent on cicatricial contraction, the result of the punctures.

I have followed Politzer and Gruber somewhat in these operations, but they are not quite identical; neither is the explanation thereof. I believe this operation is a justifiable one, and entirely free from danger. I am indebted to Dr. J. L. Barnes, of the Manhattan Eye and Ear Hospital, for carefully prepared notes of many of these cases.

PARALYSIS OF THE LATERAL ADDUCTOR MUSCLE OF THE LARYNX, WITH UNIQUE CASE.*

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PARALYSIS of the adductor muscles of the larynx, as is well known, is most infrequent; it is the *abductor* muscle or nerve which is affected in the vast majority of cases. Semon says in this connection: "Not only have I never seen such a case, but in the whole range of laryngeal literature which is known to me I have been unable to find a *single case* in which primary organic † disease of the brain or nerve trunks was proved by clinical observation or the result of post-mortem examination to have been the cause of isolated paralysis of the adductors." Morell Mackenzie gives five cases in all of paralysis of one lateral adductor; in one case only was there a post-mortem made, and in this, though the muscle itself was atrophied, there was no disease of the nerve trunk. He has met with this form of paralysis after small-pox and from syphilis. Cohen says it may result from organic cerebral disease, from phthisis, from metallic poisoning, from injury to or pressure upon the nerve, etc.

However this may be, the affection is very rare, and, although in the following case I have no positive proof of disease of the brain or nerve trunks, I am satisfied that the lesion was a paralysis of the *left lateral adductor*. Owing to the importance of the observation, I asked my friends Dr. H. Clinton McSherry and Dr. Samuel Johnston to examine the case. They did so upon separate occasions, and both confirmed my diagnosis. Briefly the case is as follows:

E. M., a farmer, aged fifty-three, consulted me in August, 1886, for partial loss of voice, which had come on somewhat suddenly eight months before, and which had become gradually worse. He was and had always been a strong, healthy man, accustomed to an out-door life. He had never been ill in his life. There was absolutely no history of either rheumatism or syphilis. Some months before I saw him he had suffered, however, with a very severe pain located behind the right ear, following which came considerable deafness in the left ear, with loss of voice. On laryngoscopic examination, the left cord was seen in extreme abduction, immobile during respiration and upon phonation; and, although the right cord was well adducted beyond the middle line, there was still a considerable aperture between the vocal bands. The arytenoids were healthy, and this fact was specially noted, for it is well known

* Read before the Clinical Society of Baltimore, January 16, 1887.

† The word organic is used because it is well known that the functional neuroses show a strange predilection for affecting the adductor muscles.

that symptoms of a paralytic character are produced by destruction or impairment of one of the crico-arytenoid joints from ossification or other morbid change; and in these cases there is generally some abnormal appearance, such as enlargement or swelling about the base of the arytenoid cartilage. My experience, too, has been that in the latter class of cases there is gradually more or less movement of the cord on the affected side. In the case in question there was absolutely no movement. Again, ankylosis of the arytenoid results from a perichondritis following typhoid fever, syphilis, rheumatism, or gout, and there was no such history in this patient. Finally, the attack of severe pain behind the ear, with the deafness and loss of voice which followed, pointed to a brain lesion as the cause of the trouble.

Treatment was of no avail, and at last accounts there had been no change in the patient's condition.

The uniqueness of this case naturally suggests the question, Why in both central (brain) and in peripheral (nerve trunk) lesion are the *abductors* almost invariably affected? Or, to put it more broadly, why, in such cases, do we find the cord fixed in the middle line (in the phonatory position)? There are several explanations of this fact:

1. Semon holds that there is a natural "*proclivity*" of the abductor fibers to disease, and he looks on all cases where the cord remains fixed in the middle line as examples of true paralysis of the posterior crico-arytenoid muscle.

2. Krause, on the other hand, maintains that, "in analogy with neurotic manifestations in other portions of the body, organic irritation of the recurrent laryngeal nerve produces spasm of all the muscles supplied by its fibers, both those which preside over the patency of the glottis for the respiratory purposes, and those which preside over the approximation of its edges for purposes of phonation, cough, or expulsion of foreign material; but that, inasmuch as the number and mass of muscles and nerve fibers predominate in the domain for closure, the equilibrium maintained by the respiratory center under normal conditions is overpowered, and the spasm therefore manifests itself in the closing phase only, despite the co-existent spasm of the dilator muscle. The opinion held, then, is that the phenomenon of permanent fixation is due to the overpowering contracture or final spasm of the contracting muscles of the larynx, and not to a paralysis of the dilating one. The atrophy of the dilating muscle is attributed to its mechanical, not to its paralytic immobility."

Such are the two chief theories with regard to this question of laryngeal paralysis. I do not propose in this paper to give a list of authorities who agree with the one or the other, but desire here to define my own position in the matter, and to offer an explanation of the phenomena of this so-called abductor paralysis. In a paper read before the American Laryngological Association in 1886, I stated that my experiments gave no confirmation of Semon's assertion. On further consideration, I find this statement too broad. Whereas I was at first inclined to deny Semon's statement (on scientific grounds), I now go almost as far as he does—*i. e.*, I am fully convinced that *the abductor fibers are much more irritable and have much less power of resistance than the adductor fibers, and that they die sooner*; though I can not say that I have as yet any experimental

(histological) proof that they degenerate more rapidly, after chemical, mechanical, or electrical stimulation, than the adductor fibers.

In the experiments related in that paper I also found that the abductor muscles responded to a much weaker stimulus than the adductors did, and that this result invariably followed—whether the dog was slightly, deeply, or thoroughly narcotized, whether the animal was eupnœic or apnœic—when the medulla had been destroyed and after local death had taken place. This important fact (that the adductor muscle does respond to a slighter stimulus) has been confirmed by Semon and Horsley. In a paper "On an Apparently Peripheral and Differential Action of Ether upon the Laryngeal Muscles," in the "British Medical Journal" for August 28, 1886, page 405, they say: "With weak stimuli, other things being equal, *abduction* of the vocal bands generally occurs, as has been recently shown by F. Donaldson, Jr. We have repeated in a few instances Dr. Donaldson's experiments, and have, on the whole, obtained similar results." My observation has, I understand, also been confirmed by a distinguished American physiologist, *provided the animal is slightly under ether*.

Again, I found (and this, too, has been confirmed by Semon and Horsley) that, when after death the recurrent laryngeal nerve was stimulated, *abduction* disappeared long before *adduction*, which would certainly show that the *abductors die* or become exhausted first.

In view of the foregoing facts, I am forced to agree with Semon that those cases where the vocal band is found fixed in phonatory position are true paralysis of the *abductor* muscle, and not spasm of the *adductor* muscles. Moreover, the constant implication of the abductor muscle may be explained on the ground of the greater irritability of the abductor muscle or nerve fibers. *For in cases of unilateral or bilateral lesion of the cords from an aneurysm or tumor the constant pressure exerted by either upon the nerve acts as a mechanical stimulus to it, and the more irritable abductors are, therefore, the first to show the result of this constant stimulation in their loss of function.*

Another factor in the fixation of the vocal band in the phonatory position in the majority of cases (as shown by Dr. Gowers) may be the mechanical advantage at which the chief adductor acts, as compared with the chief abductor, which gives greater power to the former, since it passes nearly at right angles (while the abductor passes at a very acute angle) to their identical insertion into the muscular process at the outer angle at the base of the arytenoid cartilage. Any loss of power would, therefore, affect the abductor muscle most.

Finally, it is but right to confess that my experiments tend to confirm Semon's conclusion.

I hope in a later paper to develop further this theory of a greater irritability of the abductor muscle, which I think goes a great way toward explaining its so frequent paralysis.

"The Medical Register" is to be the title of a new weekly medical journal that will be published in Philadelphia, under the editorial management of Dr. John V. Shoemaker and Dr. William C. Wile. The first number was to have been issued on the 8th instant.

CHYLURIA.*

By H. G. V. DE HART, M.D.,
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WHEN this diseased condition first attracted my attention, current literature was not very rich in its description, and even to-day much remains for medical science to unravel or reveal respecting its peculiarities or behavior. My notebook shall first furnish material as to history, treatment, and results.

E. H., female, unmarried, aged eighteen, native, medium height, family history good; menstruation began at thirteen years of age, and has always been attended with irregularity, distress, and hysterical manifestations. The bowels have always been constipated, frequently remaining quiet for ten days, until operated upon by powerful cathartics. As a possible factor in the development of the disorder under consideration, I have thought well to refer to an incident which occurred *prior* to the recognition of any abnormal conditions in my patient. On the morning of March 23, 1878, she was informed of the sudden death of an only brother by an accident. She, immediately on the reception of this sad news, became hysterically convulsed. Only by the prolonged anæsthetic influence of chloroform was she controlled. A few days' treatment by antispasmodics and tonics resulted in her apparent restoration to usual health. I heard nothing more from her until the afternoon of November 5, 1878, when I was called and informed by the mother of the following facts: During the past three months (at least), and possibly longer, a peculiar coloring of the contents of the urinals used by the patient and other members of the family had been noticed, and to solve the cause or causes of it was the occasion of my visit. As explained by the mother, the urine looked like milk and was very offensive. No effort had been made prior to my visit to fix the source or cause of this anomalous urine, and I at once suggested that each member of the family make use of separate vessels, and I would call the next day to ascertain the result. This I did (November 6, 1878), and was enabled to recognize the same fluid as had been noticed by the mother in the vessel used by my patient. This fluid was an opaque, milky liquid, specific gravity 1.026, absolutely devoid of urinous odor, and slightly albuminous. Having now beyond doubt established the origin of this (to me) strange excretion, I made inquiry of my patient respecting her health for the past three or four months. She gave the following history: Ever since her hysterical seizure there had been a constant, dull, aching pain at the base of the brain, dragging pains across the loins, insomnia, and very marked constipation. She professed ignorance of this change in the urine, averring even that she knew nothing of it until confronted with it at this time. Catheterization only confirmed the fact. I was nonplussed. Here was a study in pathology and practice entirely foreign to anything I had ever seen or even read about. I was at a loss what to do. If I confessed ignorance I might lose control of the case. I therefore determined to treat her on general principles—as by tonics, diuretics, and laxatives—until such time as I could acquire from literature or otherwise such information as would enable me to treat her intelligently. My own book-shelves afforded me no literature bearing on this disorder. I therefore visited the libraries of several medical friends, only to learn that Bennet-Jones, in von Ziemssen's "Cyclopædia," vol. vi, recommended in the way of treatment gallic acid. I at once decided to give the drug a trial (at least),

as none of my *confrères* or friends could give me any advice as to diagnosis, prognosis, or treatment.

In passing, allow me to remind you that from the date of fixing the source of this disorder (November 6, 1878) to date of beginning gallic-acid treatment, the daily average flow of chylous urine was only three ounces.

On January 27, 1879, I gave the first dose of gallic acid, in twenty-grain doses, three times daily, and no other treatment excepting exercise, rubbings over the pelvic region, and nourishing diet. In a few days there was a manifest change in my patient's symptoms; the offensiveness of the urine had disappeared; the opacity began to give way to a pinkish tint; a urinous odor began to be developed; quantity was increased; sleep became more natural; appetite and other functions became progressively normal, and in less than thirty days (February 22, 1879) the urine was almost natural in quantity and quality. Convalescence, if such it can be called, was rapid, and in a few weeks my patient was discharged cured.

It is interesting to state that I have treated her frequently for other troubles in the past seven years, but never since the winter of 1879 has there been any exhibition of chylous urine or any of its attendant symptoms. She has married in the last year, and is, to all appearances, in perfect health. I am compelled to regret that, by reason of the rarity of chyluria (in this climate) and my consequent ignorance of the desirableness of microscopic and other examinations of the blood, etc., these were not made early enough in the disorder to disclose anything which would serve to throw light on the causes operative in producing this sporadic case. There was no variation in the flow of chylous urine respecting its nocturnal changes, as will be referred to later on. It is also noteworthy that my patient was never farther south than New York city prior to the development of this disorder. Wherefrom or in what manner it acquired its causation I am unable to say. Had her convulsive movements anything to do with rendering it possible for the chyle to enter the kidneys and then be excreted? I am positive of the chylous nature of the urine, and also know that she has not voided any in the past eight years.

I shall now attempt to present the literature of this disorder as gathered from many channels. Its synonyms are "chyluria, chylous urine, diabetes lacteus, galacturia, lymphorrhagia." It is thus described by Bartels, in von Ziemssen's "Cyclopædia":

"Chyluria is a peculiar form of albuminuria, in which the kidneys do not seem to be affected. Its exact nature is obscure. It is very common in tropical regions, especially Brazil and the southern tier of States in North America, but seldom met with in Europe. Cases which have fallen into the hands of European (or American) practitioners have been those who had either been born or who had lived the better part of their lives in the tropics. The urine in this disorder presents, on exceptional occasions, at long and rare intervals of time, an aspect which can easily be mistaken for milk: this appearance depends upon a quantity of *fatty* matter, stirred up into a fine emulsion and mixed with a secretion from the kidneys; in fact, the fat is so abundant as to form a thick cream upon the surface of the fluid. The *fat* furnished by urine of this kind conducts itself exactly like the fat of chyle, and hence the term chylous urine

* Read before the Medical Society of the County of Westchester, November 16, 1886.

(chyluria), which has been employed to distinguish the disease. This chylous urine invariably contains a considerable quantity of albumin, and so large an amount of spontaneously coagulated albuminous clots in the fluid as to make the whole mass (on standing) to set into a soft milk-white jelly, which, from the presence of a few red blood-corpuscles entangled in it, may assume a rose-pink color. This coagulation of albumin may even take place in the bladder and offer some obstacle to micturition very similar to that caused by cantharides poisoning. As invariably present, as the fat and albumin are, in this chylous urine, we find red and white blood-cells, the characteristic formed elements of chyle. Renal casts are invariably found. Both aspect and character of this disease (or disorder) vary from time to time. For months the urine may be clear and transparent, and then all at once chylous urine is excreted. Thus the functions of the disease prolong its course over a series of years before the final termination is reached by exhaustion."

Pathologists do not know why the chyle should enter temporarily at one time and so persistently at another into the secretion of the kidneys. We shall have to content ourselves with the following hypothesis: that chyluria is due to some abnormal communication between the lymph- and chyle-vessels on the one side, and the kidneys on the other. It is easy to suppose that either in the kidney itself or in the renal passages there may exist some dilatation of the lymphatics, and that, by rupture of the walls of these, their contents may pass directly into the urinary passages. Positive proof, however, has not thus far been presented in a single case. In the mean time there are observations enough of the escape of chyle, as in consequence of dilatation of the lymphatics in other organs—for example, the penis, scrotum, etc. Chyluria, according to Copland, is rare. He says:

"If it occur in hysterical females, be careful lest they deceive you by mixing milk, blood, fat, or what not, in their urine after they have passed it."

Under date of January 15, 1880, my friend, Dr. Robert Abbe, wrote me:

"I find no filariæ in either the blood or urine you sent me. The latter was undoubtedly chylous."

Again, in October, 1886, Dr. Abbe writes me:

"The subject of chyluria has not been ventilated, as far as I know, in any of our journals or societies since my paper published in 'N. Y. Med. Jour.,' 1880, vol. xxxi, p. 129. The subject has been investigated abroad, however, and published in the English journals London 'Lancet' and 'Brit. Med. Jour.'—as follows in 'Lancet': Case of girl with scleroderma of upper half of the body, and filariæ in blood."—Bancroft, February 28, 1885.

Further on he writes:

"The man whose case I reported in 'N. Y. Med. Journal' subsequently came under observation at the N. Y. Hospital in 1883, where he was closely watched and studied again, until he died, when an autopsy revealed dilated lymphatics in the kidneys, but no parent filariæ. He had lymphatic tumors in the groin, which were also dissected out and examined, but no parent worm found. The nocturnal appearance of the filariæ, and their variation with the habits of the patient, were also verified."

In Bristowe's "Theory and Practice of Medicine," 1879, p. 793, I find:

"Chyluria, first recognized by Dr. Prout, is characterized by the occasional or continuous discharge of urine which is milky when passed, coagulates on standing into a tremulous mass resembling blanc mange, and then, becoming liquefied, furnishes a creamy scum and a pinkish or brownish sediment, exactly those conditions which would result from mixing normal urine and normal chyle. This fluid contains fibrin, albumin, fat, in a molecular form, like chyle; occasionally a small proportion of red corpuscles and leucocytes. No casts have ever been detected in it, or other evidence that the chylous material comes from the kidney. Cases of chyluria appear to be much more common in tropical than in temperate climates, more frequent in females than males, adults than children. This affection manifests itself for the most part suddenly, is liable to intermissions, and often, after lasting some time, disappears for years, or even for life. It presents no special symptoms except such as would result from a continuous drain of nutrient fluid."

I have also gathered from H. von Ziemssen, vol. vi, 1876, pp. 538-543, the following:

"In connection with lymphorrhagia, I have now to speak of chyluria, inasmuch as it most probably is nothing else than an escape of chyle into the urinary passages." This may be brought about "by perforation of the lacteals, by an animalcule discovered by T. R. Lewis quite recently, which he has named *Filaria sanguinis hominis*."

I also find in the "Med. Record," 1885, vol. xxvii, No. 22, p. 606, the following:

"At the Fourteenth Congress of the German Surgical Society, held in Berlin, April, 1885, Herr Grimm, of Berlin, presented the following on chyluria: 'He had, in conjunction with Herr J. Monk, instituted a number of experiments upon a patient suffering from chyluria, and found that the fats excreted in the urine corresponded exactly to those introduced into the intestines, and they concluded, therefore, that the fluid was chyle and not lymph.'"

Pathology.—Dr. Prout (in Bristowe, above quoted) attributes the disorder to two circumstances:

"One, a defect of assimilation which permitted the chyle to mingle with the blood without being converted into blood; the other, some renal default, in consequence of which the unchanged chyle was permitted to transude through the kidneys." But the blood has been examined in cases of chyluria, without the detection of anything abnormal in it. Bristowe has also the following:

"Dr. W. Roberts, basing his views partly on a case recorded by himself and partly on one published by Dr. Vandyke Carter, suggests the following explanation, which will probably prove to be correct for at least many cases—viz: That in both cases there was enlargement of lymphatic vessels of pelvic origin, which, when ruptured, yielded abundance of lymph, or chyle."

In von Ziemssen, vol. vi, pp. 538-543, I find:

"Up to quite lately we were all in the dark as to the cause of *chyluria*, which is so rare with us. Post-mortem gives only negative results. Most probable explanation seems to be a lymphorrhagia into the urinary passages. Anatomical proofs of such a cause are certainly wanting. But a perfectly new light is thrown upon this disorder by the discovery, by T. R. Lewis, of the embryo of a round worm, which he called '*Filaria sanguinis hominis*.' This worm is 0.35 mm. long and 0.0075 mm. broad, is contractile, finely striated transversely, transparent, and with a flat, ribbon-like appendix at each end."

These animals are sexually immature. He estimates their number in the blood of a chylous patient as from one to thirty in a drop of blood, and at 140,000 in the general circulation."

In the New Sydenham Society's "Lexicon of Medicine and the Allied Sciences," part x, vol. ii, 1884, the following on filariæ is not uninteresting:

"The sexually mature form has only been observed a few times, and of these only once has a male been discovered. It is conclusively proved that the embryo filariæ are only to be found during the night, or time of sleeping; no further development of the embryo occurs in the human family." But it has been ascertained by Manson "that the intermediate host is the female of a mosquito of the genus *Culex*. This mosquito, perforating the skin (of a filarious patient) with her proboscis (male unable to do this), sucks in the filariæ with the blood. Many of these perish in the body of the mosquito, but some survive and undergo development to a certain extent, and, at the death of the mosquito, further development takes place; but from this stage to the presence of the fully developed worm in the lymphatic vessels nothing is known; probably they are taken into the alimentary canal of man in drinking-water, and bore their way into a lymphatic vessel, and are thence carried to their field of operations."

Treatment.—Bristowe says:

"Nothing appears to have been really efficacious except, perhaps, rest and astringents. Tonics may be needed to combat the anæmia." Dr. Bouym, of Demerara, cures it (chyluria) by a decoction of the mangrove-bark (*Rhizophora racemosa*). Astringents are the *only* remedies which seem to excite any influence over the disease, and of these gallic acid is the best." According to von Ziemssen, gallic acid may be given, ʒj to ʒij per diem, with quinine and iron. Raya gave tincture cantharides, gtt. vj to x, in twenty-four hours. Harley gave potassium iodide internally, and an injection of gr. xv of the same to ʒij of water, into the bladder, to kill the worms.

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THE THERAPEUTICS OF ASTHMA.

WITHIN the past few years the interest of medical men in the subject of the treatment of asthma has received a fresh impetus from the birth of a new theory of the pathology of the affection. As is well known, Hack and a number of other observers have drawn attention to abnormal changes in the turbinated bones, and in the mucous membrane of the nose and the pharynx, as the chief factors in the causation of a large percentage of the cases of asthma. Hack laid particular stress on swelling and hypertrophy of the inferior turbinated bones, and recorded several cures brought about by cauterizing or removing the hyperplastic tissue. Since the publication of his article, specialists and general practitioners have, with the aid of highly magnifying reflectors, seen hypertrophied turbinated bones in many an asthmatic patient, which there was a great temptation to reduce, either with some ingenious instrument, with the galvanic cautery, or with a powerful escharotic. Although the results have not been so gratifying as Hack's, they have gone far toward affording an apparent verification of his theory; for, if the so-called hypertrophied turbinated bones could be detected at first only with the aid of magnifying reflectors, it was not long before they were sufficiently hypertrophied to be distinct even to the naked eye.

The pendulum, however, is beginning to swing back, as is evident from a recent lively and protracted discussion at several consecutive meetings of the Berlin Medical Society. A number of speakers took part in the discussion, and there seemed to be a consensus of opinion that cases in which asthma was benefited by cauterizing the nasal mucous membrane or the turbinated bones were extremely rare. Such treatment, it was said, should not be employed until a careful examination had been made with a sound, the parts having been made anæsthetic with cocaine, and an area discovered a touch upon which would call forth an attack. Schadewald broached a novel method of treatment, based on his no less novel theory of the pathology of the disease. He maintained that bronchial, or true, asthma was due to a neurosis of the trigeminal nerves, and should be treated by faradization of those nerves, the applications being made during an attack, as, if made in the intervals, they would call forth a paroxysm. Lubinski emphasized his previous remarks as to the benefit to be derived from inhalations of pyridine, but the drug must be used with caution, as disagreeable and alarming symptoms may follow its injudicious use. Amyl nitrite, nitro-glycerin, and sodium nitrite act in the same way as pyridine, but all these remedies find their more appropriate application in cardiac asthma.

If any drug deserves the title of a specific in this affection,

it is potassium iodide. The remedy was first recommended in asthma by Trousseau, but this use of it fell into oblivion for a number of years, to be only recently restored by the publications of Leyden and Germain Sée, the latter of whom recommends its administration with lactucarium. Potassium iodide is of great service also in the purulent bronchitis which occurs as a sequel to asthma. In many cases of this condition the various balsams are efficacious, and Lubinski has observed excellent results from the use of Peruvian balsam combined with myrrh, the former in doses of from a grain and a half to three grains three or four times a day. If there is really a nasal affection, it should be treated according to its character, and not on any far-fetched theory of its ætiological importance. But, in the treatment of asthma, it is of the greatest moment to distinguish true, or primary, asthma—by no means a common affection—from that which is secondary to disease of the heart or lungs. We need scarcely say that we have had only the former in view in this writing.

THE TRANSMISSION OF NEUROTIC PHENOMENA FROM ONE PERSON TO ANOTHER.

IN a recent number of "Progrès médical," Babinski presents a collection of strange as well as interesting observations that he has made on hysterical patients, under the direction of Professor Charcot. Years ago, the curious observation was made in France that, under the influence of a metal—or, still better, a magnet—various manifestations of hysteria, such as anæsthesia, paralysis, contracture, etc., could be made to pass from one side of the body to the other, leaving the side previously affected normal. The transmission would recur spontaneously a certain number of times after a single application of the magnet, and to these recurrences Charcot gave the name of *oscillations consécitives*.

Babinski's observations have reference to the transmission, under the same conditions, of similar nervous phenomena from one patient to another. The patients are placed back to back, and not necessarily in contact, although the transfer takes place more rapidly when they touch each other than when they are sitting a short distance apart. The author divides his observations into two series. The first relates to two girls who were subject to hemianæsthesia and to attacks of hystero-epilepsy, passing at their climax into what Charcot has termed "grand hypnotism." The patients were placed in the position before mentioned, and a magnet was applied to the side of one of them. In a few moments it was noticed that one of the patients became anæsthetic in both sides of the body, while the other regained sensibility in the anæsthetic side, the unaffected side remaining normal. On removing the magnet or changing it from one side to the other, the girl that had had general anæsthesia regained sensibility in all parts of the body, and the other one presented a condition of general anæsthesia. The various forms of hysterical paralysis were induced in these patients by hypnotism and "suggestion," and the transmission of these induced phenomena recurred in the same way. So it was also with coxalgia and aphonia. But similar experiments

were made on patients who were not hypnotized, and hypnotism itself was transmitted from one to the other.

The second series relates to hysterical subjects, who had never been hypnotized, and in whom no manifestations of hysteria were induced by "suggestion." When they had been placed in the position mentioned, one of them was hypnotized, and a magnet was applied to the side. The hypnotized patient presented the same symptoms as were present on the same side in the other, but the transmission was not so well marked as in the subjects of the first series.

Babinski expresses the belief that these singular phenomena may be turned to practical account in the treatment of hysterical disorders, and he mentions one case of hysterical contracture of the upper extremity that was notably improved by the use of the method. Still, for the present, he is willing to wait for the developments which further researches may bring forth—and so are we.

MINOR PARAGRAPHS.

DR. GRANVILLE BANTOCK ON LISTERISM.

ON the 26th of January the new president of the British Gynæcological Society, Dr. George Granville Bantock, delivered his inaugural address, entitled "Listerism; its Past, its Present, and its Future." We have received a manuscript copy of the address, for which we presume we are indebted to the author. Dr. Bantock is well known as a successful laparotomist and as a professed opponent of Listerism. In this address he argues in support of a statement made in one of the London newspapers, that the practice is "founded on a theory which has not been proved, and is probably not true." We have no doubt that the argument will be considered very cogent by those who dissent from the general faith in the Listerian theory, but it seems to be underlain by a few fallacies, some of which perhaps are more apparent than real. For example, too much importance seems to be given to the spray, which long ago ceased to be considered an essential part of the Listerian appliances. Far more delusive, however, are the inferences that rest on an assumed contrast between antisepticism and "cleanliness." The opponents of Listerism are never tired of parading their great regard for cleanliness, but they have thus far failed to tell us how cleanliness can be of any avail save as it is identical with freedom from germs. There appears to be a tinge of disingenuousness about the use made of the word cleanliness, suggesting a subterfuge that deserves to be looked upon as in reality a substantial argument in favor of Listerism; for Listerism is a principle, and not a code of procedure, although it may legitimately give rise to the latter. A frank recognition of the principle may lead one surgeon to adopt certain methods in practice, and an unwilling consciousness of it may impel another to certain others; and, yet, both may really be carrying out devices having no other discernible foundation than Listerism.

THE ILLINOIS STATE BOARD OF HEALTH.

THE appearance of the board's Eighth Annual Report, for the year 1885, is a fresh reminder of the zeal and efficiency with which the duties of that body are performed. It is in many respects distinctly in advance of the previous volumes of the series, and will bear comparison with any similar publications issued in this country. A fair proportion of the volume is taken up with reports of sanitary surveys of individual towns.

The data thus furnished are of great value, not only to sanitarians, but also to those of the general public who have a personal interest in the localities reported on. The board is to be particularly commended for its persistent endeavors to perfect the vital statistics of the State, and we trust that it will continue to meet with hearty co-operation on the part of the profession, and that its hands may be strengthened, if necessary, by additional legislation.

SMALL VENTRAL HERNIAS AS A CAUSE OF GASTRIC SYMPTOMS.

In a recent number of the "Centralblatt für Chirurgie," Lucke, of Strassburg, reports two cases in which, acting on Kussmaul's statement, made several years ago, that obstinate and distressing gastric symptoms were sometimes occasioned by hernial protrusions of small fatty masses in the neighborhood of the umbilicus, he cut down upon the lobule of fat, tied it off from the omentum, and closed the abdominal wall with sutures. In both instances the result was satisfactory. König, one of the editors of the "Centralblatt," adds a note to the effect that for several years past he has operated on such hernias on account of their association with gastralgic and hypochondriacal symptoms, and with satisfactory results.

THE NEW YORK ORTHOPEDIC DISPENSARY AND HOSPITAL.

We learn by the Nineteenth Annual Report of this excellent institution, for the year ending September 30, 1886, that fewer patients were treated during the period to which it relates than during the preceding year. It is added, however, that there were more applicants than ever before, but that, in consequence of the depleted state of the treasury, many of them could not be received. Such being the case, we may well credit the supervisors' statement that "the great necessity for the hospital is an endowment fund." It seems that all the beds but two have now been endowed, and the further needs of the hospital and dispensary ought certainly to be met promptly by those who have it in their power to help on so good a work.

THE "FOREIGN MEDICAL PRESS."

This is the title of a new weekly journal published in New York, the first number of which, dated February 1st, is made up of fourteen octavo pages of reading matter, consisting of abstracts from foreign publications. The editor is Mr. J. L. Stern. It is announced that the number of pages will be increased from time to time as "growing support warrants it," and that "a liberal support by the profession will insure a reduction in the price" (now \$20 a year).

ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Fourth Division of the Health Department for the following statement of cases and deaths reported during the two weeks ending February 8, 1887:

DISEASES.	Week ending Feb. 1.		Week ending Feb. 8.	
	Cases.	Deaths.	Cases.	Deaths.
Typhus.....	0	0	1	0
Typhoid fever.....	12	3	7	5
Scarlet fever.....	40	10	36	2
Cerebro-spinal meningitis.....	3	3	4	3
Measles.....	484	61	406	58
Diphtheria.....	89	40	116	38
Small-pox.....	18	7	6	2

The Massachusetts Medical Society.—At the meeting of the Section for Clinical Medicine, Pathology, and Hygiene, of the Suffolk District branch, held on Wednesday, the 9th inst., Dr. H. C. Haven read a paper on "Infant Feeding," on which the discussion was opened by Dr. E. M. Buckingham. A case of "Thrombosis of the Left Vertebral Artery, with Autopsy," was reported by Dr. F. W. Stuart, and the discussion opened by Dr. W. N. Bullard. Dr. J. W. Farlow presented a series of five cases of large visible pulsating artery on the posterior wall of the pharynx.

The Philadelphia Clinical Society.—At a meeting held January 28th the following officers were elected for the ensuing year: Dr. James B. Walker, president; Dr. Mary E. Allen, first vice-president; Dr. Susan P. Stackhouse, second vice-president; Dr. L. Bremer Hall, treasurer; Dr. I. G. Heilman, recording secretary; Dr. Emma Musson, corresponding secretary; Dr. Mary Willits, reporting secretary; Dr. Edward R. Stone, Dr. Edward E. Montgomery, Dr. Amy S. Barton, Dr. A. Victoria Scott, and Dr. Hannah T. Croasdale, councillors.

The late Dr. John Van Vorst, Jr., of Jersey City.—At a meeting of the physicians of Hudson County, held at Franklin Hall last Saturday, a committee of three was appointed to draft resolutions of respect and sympathy for the family of Dr. John Van Vorst, Jr., who recently died of pneumonia. The committee presented the following, which were adopted:

Whereas, The sudden and unexpected demise of Dr. John Van Vorst, Jr., in the prime of life and in the full flush of professional success, has afflicted with sorrow not only his bereaved family but a vast host of friends to whom he had become endeared, it becomes us to express in this manner the sentiments of regard and attachment we have always entertained for him, and our appreciation of his moral worth, manly character, and professional qualifications:

Resolved, That in all our intercourse we found him social and unassuming in his disposition, prompt to duty, intelligent, and prudent in business transactions.

Resolved, That, appreciating their great personal loss, we hereby tender to his father and mother our sincere sympathy and condolence in their bereavement, and commend them to Him who doeth all things well, and whose mercy endureth for ever.

Resolved, That we attend his funeral in a body, and that these resolutions be published in the daily papers, and in the "Medical Record" and the "New York Medical Journal."

G. K. DICKINSON,
T. F. MORRIS,
WALTER RAE.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from January 30, 1887, to February 5, 1887:*

BRECHEMIN, LOUIS, Captain and Assistant Surgeon. Granted leave of absence for four months, with permission to go beyond the sea, to take effect when his services can be spared by his department commander. S. O. 28, A. G. O., February 3, 1887.

POWELL, JUNIUS L., Captain and Assistant Surgeon. Granted leave of absence for two months, to take effect when his services can be spared by his department commander. S. O. 24, A. G. O., January 29, 1887.

BARROWS, C. C., First Lieutenant and Assistant Surgeon. Ordered for temporary duty as post surgeon at Fort Barrancas, Florida, to take effect upon the expiration of his present leave of absence. S. O. 24, Division of the Atlantic, February 3, 1887.

CLENDENIN, PAUL, First Lieutenant and Assistant Surgeon. Ordered for duty as post surgeon at Camp Pina Colorado, Texas. S. O. 14, Department of Texas, January 26, 1887.

Society Meetings for the Coming Week:

MONDAY, February 14th: New York Academy of Medicine (Section in Surgery); New York Ophthalmological Society (private); New York Medico-historical Society (private—anniversary); Lenox Medical and Surgical Society (private); New York Academy of Sciences (Section in Chemistry and Technology); Boston Society for Medical Improvement; Gynecological Society of Boston; Burlington, Vt., Medical and Surgical Club; Norwalk, Conn., Medical Society (private).

TUESDAY, February 15th: New York Academy of Medicine (Section in Theory and Practice of Medicine); New York Obstetrical Society (private); Medical Societies of the Counties of Kings and Westchester (White Plains), N. Y.; Ogdensburg, N. Y., Medical Association.

WEDNESDAY, February 16th: Harlem Medical Association of the City of New York; Northwestern Medical and Surgical Society of New York (private); New Jersey Academy of Medicine (Newark); Philadelphia County Medical Society (Clinico-pathological).

THURSDAY, February 17th: New York Academy of Medicine; New Bedford, Mass., Society for Medical Improvement (private).

FRIDAY, February 18th: Chicago Gynecological Society.

SATURDAY, February 19th: Clinical Society of the New York Post-graduate Medical School and Hospital; Roman Medical Society (private).

OBITUARY NOTES.

William Thorndike, M. D., of Milwaukee, died on Saturday, January 29th, in the fifty-second year of his age. He was born in Beverly, Mass., and was graduated from the Harvard Medical School in 1857. He began practice in his native town. In 1862 he was appointed assistant surgeon in the Thirty-fourth Massachusetts regiment, and was subsequently made surgeon of the Thirty-ninth regiment, in which capacity he served until the close of the war. He had lived in Milwaukee since 1865, and was a member of the Wisconsin State Medical Society.

Joseph T. O. West, M. D., of Princeton, Mass., died on Friday, January 28th, at the age of sixty-nine. He was graduated from the Harvard Medical School in 1848, and for twenty-five years was the only physician in Princeton. He was a member of the Massachusetts Medical Society and of the Worcester, Mass., District Medical Society, of which he was one of the Councilors.

John Van Vorst, Jr., M. D., of Jersey City, died on Friday, the 4th inst., in the thirty-seventh year of his age. The deceased was a graduate of Bellevue Hospital Medical College, of the class of 1874, and was held in high esteem by his colleagues.

Proceedings of Societies.**NEW YORK PATHOLOGICAL SOCIETY.**

Meeting of December 22, 1886.

The President, Dr. JOHN A. WYETH, in the Chair.

Syphilitic Lesions of the Lungs.—Dr. W. H. PORTER presented a lung, removed the day before, which showed at the apex small nodules which he believed to be syphilitic gummata. They were sharply defined, and had a distinct fibrous capsule

and a cheesy center. He had found these small gummata in different tissues, and had sought for tubercle bacilli, but had not succeeded in discovering any. He believed that in a good many cases the destructive process in the lung was of syphilitic origin, true tubercle and the tubercle bacillus being absent. He showed a pair of lungs which had undergone extensive lesions like those in the one first shown, and also a picture of another in which the pulmonary symptoms had begun a year after the initial lesion of syphilis, and terminated fatally a year later. Clinically, these cases were distinguished from tubercular cases by the complete or almost complete absence of pyrexia. This he would explain on the basis that in tubercular disease the tubercles broke down when they had reached a certain size and burst into the circumvascular spaces, so that morbid material was drawn into the lymph-vessels and produced septicæmia with its attending fever; whereas in syphilitic cases there was thickening of the alveolar walls throughout the lung, constituting a dense layer of fibrous connective tissue between the blood-vessels and the air-sacs, which prevented the entrance of the broken-down gummatous tissue into the lymph-vessels, it entered the bronchial tubes, and gave rise to abundant expectoration.

Castration for Suppurating Orchitis Six Months after Syphilitic Infection.—Dr. SCHIFF presented a testicle removed from a man who, about six months previously, had had gonorrhœa and two attacks of epididymitis on the same side. About a month after the exposure an initial lesion of syphilis was observed; and two months later the patient had alopecia, syphilitic patches in the mouth, and condylomata about the anus. There was also difficulty in the passage of urine. Three days ago (about six months after the exposure) the enlarged testicle was removed, and eight ounces of pus were let out. The diagnosis of syphilitic orchitis was based upon the history of the case.

Pyosalpinx.—Dr. H. J. BOLDT presented an ovary and tube illustrating pyosalpinx occurring on the side opposite to that in which the patient had complained of pain. He also presented another tube and ovary removed for pyosalpinx. Both patients had recovered.

Urethral Calculus.—Dr. BOLDT also presented a calculus, of about the size of a pea, removed from near the meat usuriarius in a boy fourteen years of age, who, in 1875, had begun to urinate in drops, and to have much tenesmus. In 1877 he began to have convulsions, according to the father's description, epileptic in character. The difficulty of urination had continued. The speaker removed the stone a few days ago, since which time the patient had had no trouble. No stones could be felt in the bladder. He was disposed to think that, owing to the small size of the stone, it had remained in the urethra during all those years, gradually increasing in size, and causing difficulty in micturition. It was too small to interfere with the flow had it been in the bladder.

The PRESIDENT thought it probable that the stone had been in the urethra; that it had gradually worked its way forward, and had been overlooked because of its small size. He had once removed several stones from the urethra of a man in whom they had given rise to no symptoms but a diminution of the size of the stream.

Cancer of the Vertebra.—Dr. AMIDON presented the lumbar and last dorsal vertebra of a man, aged forty years, whom he had seen in consultation a year ago. In years past he had had several attacks of what was called lumbago, attributed to lifting heavy boxes. In March last he was seized with severe pain in the right side and leg, and afterward the left side was affected, and he also complained of some pain in the chest and abdomen. For the past few weeks he had been confined to bed, with constant pains in the legs and tenderness over the spine.

most marked over the last dorsal vertebra. The speaker thought the liver felt hard and rough, suggesting cancer, and he had also diagnosed cancer of the spine. The lymphatics were enlarged. The autopsy revealed small nodules in the liver, and cancerous infiltration and disintegration of the lumbar vertebrae, with almost complete destruction of the last dorsal vertebra and of the sacrum. There was also cancerous infiltration of the lung at one point, where signs of its presence had been recognized. Dr. Amidon also related the histories of two other cases of carcinoma of the spine. In one of them the diagnosis had been confirmed post mortem, and in the other the patient was now in a moribund state. He attributed the pain in these cases to the pressure of the neoplasm upon the spinal nerves as they passed through the inter-vertebral foramina. He was disposed to think that the carcinoma of the vertebrae was primary. Tenderness over the spine was generally considered to be an indication of functional rather than of organic disease, especially in patients of a hysterical tendency. But in all of these cases there had been marked tenderness over the spine, particularly on deep pressure, and he had observed the same fact in a child who, he thought, had a tubercular deposit at the seat of the pain. In this case, also, the autopsy verified the diagnosis.

Dr. MENDELSON related the history of a case of carcinoma of the vertebrae which was interesting from the conflicting diagnoses. There had been no deformity, and but little pain on pressure.

Dr. PRUDDEN thought the primary seat of the cancer in Dr. Amidon's case might have been the liver. Neither the small size of the nodules in the liver nor the great infiltration of the vertebrae was evidence of the disease having begun in the vertebrae. Primary cancer of bones was considered to be very rare, if, indeed, it ever existed. The development of carcinoma in the first place in bones and in the omentum had been regarded as evidence against the epithelial origin of cancer, but it had been shown that the peritonæum was simply an outgrowth from the alimentary canal; and as to the few cases reported as primary cancer of the bones, he thought it probable that sufficient search had not been made for the disease in other tissues.

Dr. PORTER had seen several cases of what he had supposed to be cancer of the vertebrae, but the amount of infiltration had raised suspicions of sarcoma, which closer examination had confirmed.

NEW YORK SURGICAL SOCIETY.

Meeting of January 12, 1887.

The President, Dr. CHARLES MCBURNEY, in the Chair.

Inguinal Colotomy.—Dr. LANGE presented two patients showing the result of the operation, which he described as follows: "It is a well-known fact that in the operation of colotomy, inguinal as well as lumbar, in which merely a lateral opening in the gut has been made, the contents of the latter will, as a rule, escape to some extent into the intestine below the wound, and, being forced upward by antiperistaltic action, will prolong and render difficult the process of defecation. I must confess that in nearly all of my cases of colotomy which were performed according to this method the result in regard to this point had been unsatisfactory until I adopted Hadelung's plan of cutting across the entire gut, closing the end of the lower portion, and stitching the upper end into the abdominal wound. The result was perfect, so far as concerned defecation; the patient passed feces once or twice a day in a short period of time, and was free from all annoyance during the rest of the day. From reading a discussion that took place at the

Paris *Société de chirurgie*, my attention was called to the possibility of danger eventually arising from retention in the closed portion of gut above the point of stricture, and I therefore adopted in my last three cases Verneuil's plan of forming a spur, and thus securing the complete evacuation of the feces through the artificial anus, while at the same time the interior of the lower portion of the gut remained accessible. The technique of the inguinal operation is as follows: Under strict antiseptic precautions, an incision is made parallel with Poupart's ligament and about three centimetres above its outer third. The peritonæum is opened to the extent of not more than three or four centimetres, a loop of the colon, in the region of the sigmoid flexure, is brought into the wound, and a needle, armed with a coarse catgut ligature, is passed under the gut at the point of attachment of the mesentery; the ligature is not tied, but serves merely as a handle. A spur is then formed by passing through a part of the intestinal wall on both sides of the mesentery a fine needle threaded with iodoform catgut, the line of stitches being about equal to the thickness of the abdominal wall, or perhaps a little larger. Then by similar sutures the opposed parietal and visceral peritoneal surfaces are brought in contact, so that the peritoneal cavity is entirely shut off from the wound, and the loop of intestine, so far as its peritoneal surfaces had been approximated by stitches, is secured above the level of the parietal peritonæum. The gut is then opened by an incision extending in a transverse direction toward the attachment of the mesentery, the edges being united to the integument by a few sutures of silk-worm gut. Some iodoform gauze is introduced into the peritoneal space at each angle of the wound; this promotes good drainage during the first twenty-four hours. The wound is dressed with vaseline and iodoform-powder. I have performed this operation three times, the three operations occurring at the German Hospital within a period of fourteen days. Two of the patients had inoperable cancer of the rectum, the third an extensive syphilitic stricture. Recovery followed rapidly in each instance, without any unfavorable symptoms, and the final result is so satisfactory that I feel justified in recommending this method.

"I now present two of the patients to the society. In one of them you observe that there is a slight prolapse of the mucous membrane, which the patient attributes to the fact that to-day she did not properly adjust the elastic belt which retains a pad of cotton against the opening. These patients, as well as the third, who could not be present, discharge their feces through the artificial anus. Defecation occurs once or twice daily, and occupies only a few minutes. The lower portion of the gut can easily be washed out by introducing a thick rubber tube into the rectum, seating the patient upon a chamber, and injecting fluid through the artificial anus. This procedure is an important one, especially in the case of syphilitic stricture. The history of this patient I shall mention briefly. She is a married lady, about thirty-six years of age, who contracted syphilis from her first husband. I treated her for about six years for stricture of the rectum, accompanied with extensive and obstinate ulceration; colotomy was proposed long ago, but she would not consent to it. In October, 1886, a severe pelvic peritonitis developed, apparently due to extension of the ulceration to the intestine above the seat of stricture; there was considerable exudation, and an abscess formed that was evacuated through an incision made on the right side above Poupart's ligament. It was necessary to separate adherent coils of intestine in order to reach a large collection of extremely foetid pus, which filled the entire true pelvis. A counter-opening was made in the vaginal fornix. Within a few weeks the patient rallied sufficiently to admit of the performance of inguinal colotomy. In spite of her miserable condition, recovery was

perfect, and her strength and state of nutrition have been greatly improved. There is still a discharge of pus and blood from the rectum, but there is much less than before.*

Dr. SANDS remarked that three days before he had been summoned to the country to perform colotomy upon a gentleman suffering with cancer of the rectum. He made the usual lumbar incision, and had no difficulty in recognizing the various layers of tissue until the peritonæum was reached. Thinking that he had identified the latter, he proceeded to puncture it cautiously, when a clear, serous fluid escaped. Seizing what he supposed was the colon, he proceeded to stitch it into the wound, intending to leave it for twenty-four hours before incising it, in order that the parietal and visceral serous surfaces might become adherent. The needle that he employed made such a large puncture that he judged it expedient to open the gut at once, which was accomplished successfully. This case was the only one in which he had failed to open the colon behind the peritonæum; the failure was undoubtedly due to the complete investment of the colon by the serous membrane. The late Dr. Mason encountered two similar cases, and wrote a paper in which he called attention to the fact that the colon sometimes took an abnormal course. In one instance the operation of colotomy was being performed at Charity Hospital, and a portion of gut was exposed which, in the opinion of several surgeons who were present, was large intestine. At the autopsy it was found that a loop of small intestine had been fastened in the wound. It was better, the speaker thought, to seize and secure the small intestine if it appeared in the wound, rather than to spend too much time in searching for the colon; danger would be best avoided by suturing the gut to the wound and waiting for adhesion to take place before opening it.*

Dr. GERSTER said that, after witnessing one of Dr. Lange's operations, he had been so much pleased with the idea that he adopted it in the case of two patients upon whom he performed inguinal colotomy the same afternoon. He preferred the inguinal to the lumbar incision, not only because it was easier to reach the intestine by the former method, but because the patients found it much easier to cleanse themselves when the artificial anus was in front. There was no doubt that it was often a difficult matter to find the colon in lumbar colotomy, especially when it was not blown up, so that the surgeon was often obliged to content himself with the next best thing—a loop of small intestine; moreover, it was necessary to divide a number of thick strata before reaching the cavity. In the inguinal operation, on the contrary, the abdominal wall was much thinner, it was easier to recognize the gut, and the subsequent introduction of sutures was less difficult. In one of the speaker's cases faeces escaped into the lower portion of the bowel for two or three months, because the spur that had been formed was made too short. By the subsequent contraction of the parts, however, this was corrected. The suture was very much facilitated by seizing the parietal peritonæum on each side with an artery-forceps, and drawing it well out, when it was quite easy to unite the two serous membranes in extensive contact.

Dr. SANDS remarked that a German writer had laid much stress upon the importance of uniting the parietal and visceral peritonæum before opening the gut; he first stitched the parietal peritonæum to the skin, and then the former to the serous covering of the intestine, thereby securing perfect adhesion of the latter to the edges of the wound. Dr. Sands's experience had been different from that of Dr. Gerster; one of the three patients upon whom he had performed lumbar colotomy, and who was under observation for six months, had been much annoyed by the es-

cape of faeces from the opening. They seemed to be retained better after lumbar colotomy.

Dr. GERSTER said that he had been misunderstood; he only referred to the greater ease with which the patient could cleanse himself when the artificial anus was situated anteriorly. The escape of faeces could often be prevented by making the incision in the abdominal wall only as long as was absolutely necessary. If it was too long, prolapse was apt to occur. In one of his cases, where the intestine was small and its wall thin and the abdominal incision too ample, there was afterward some prolapse; in the other a small incision was made, and there was no prolapse, a perfect funnel-shaped opening resulting. The final result of the operation, regarding the shape of the artificial anus, depended, to a great extent, on the local peculiarities of the abdominal walls and of the gut of different individuals.

Dr. LANGE said that in his cases the contents of the bowel had, as a rule, been discharged only once or twice after the operation. When the intestine was merely opened by a lateral incision, the faecal matter was apt to pass by the opening into the lower portion of the colon, and to be regurgitated in consequence of the antiperistaltic action, thus causing the patient great annoyance.

A New Radical Operation for Hæmorrhoids.—Dr. LANGE prefaced his description of the operation by stating that, in mild cases, he had obtained good results by injecting equal parts of glycerin and pure carbolic acid. In severe cases, complicated with prolapse of the mucous membrane, he had adopted a method of operation that was to be commended not only on account of its facility and the completeness of the cure, but because of the fact that it was not followed by suppuration and necrosis of the tissues. It consisted in excising the entire affected portion of the mucous membrane, and in suturing the edge of the remaining part to the integument. The essential advantages were the perfectly aseptic character of the process, and the small loss of blood. Dr. Lange described the operation briefly as follows: "After the patient has been duly prepared by proper attention to diet and the thorough evacuation of the bowels, a sponge pushed high up into the rectum, and the lower part of the gut thoroughly irrigated with a weak solution of corrosive sublimate, followed by one of boro-salicylic acid, the patient is thoroughly anæsthetized, so as to avoid straining and consequent venous congestion. The field of operation is constantly irrigated with an ice-cold boro-salicylic solution. An incision is carried around the anal orifice at the line of junction between the skin and mucous membrane, the parts being put on the stretch by making traction with tenacula. If the skin is flabby and in excess, a portion of it may be included within the incision; the latter is carried downward until it reaches the fibers of the external sphincter, the distended hæmorrhoids being easily avoided. The mucous membrane is easily separated from the sphincter as far upward as may be deemed necessary. In this way the entire degenerated portion is isolated, and, as far as the arterial blood-supply is concerned, remains connected with the healthy tissue only by the vessels that supply it. So far but few bleeding points require to be secured. If now the entire diseased part were excised, there would undoubtedly be a considerable loss of blood, as occurred in my first case, the mucous membrane would retract as it was divided, and the operation would be long and embarrassing. I therefore insert a number of buried sutures of iodotorm-catgut close to each other between the base of the external flap and that of the separated mucous membrane; these do not include any of the fibers of the sphincter, neither do they penetrate into the rectum. I lay particular stress upon the avoidance of the sphincter, since I have observed in several cases that the patient suffers from severe tenesmus if the stitches penetrate the sphincter.

* The patient operated on by Dr. Sands made a prompt recovery, and was convalescent when heard from ten days afterward.

The sutures may be either continuous or interrupted; they secure nearly all the vessels supplying the hæmorrhoidal portion. The mucous membrane is excised in parts at a point from one half to one centimetre above this line of sutures, and the cut edges are approximated by sutures of silk-worm gut. In several instances I have passed deep stitches which included the entire sphincter, in order to diminish the tension; but I think that these can be dispensed with. From the beginning of the third day following the operation the patient is allowed to have a passage daily, and is kept on liquid diet for a week, at the end of which time the sutures may be removed. A few days later he may be allowed to get up, and at the beginning of the third week he will, in my experience, be able to attend to his business. Much of the success of this operation depends upon the technique. I can testify, from my experience in about a dozen cases, that the rapidity and completeness of the healing process, the comfort of the patient, and, in short, the neatness of the entire procedure, have induced me to prefer it in suitable cases to other methods (Allingham's, Langenbeck's, etc.). Strict antiseptis and the avoidance of hæmorrhage, in the manner described, I regard as indispensable to success." [A patient was presented upon whom the operation had been performed three weeks before.]

Complete Excision of Fistula in Ano.—Dr. LANGE presented a patient upon whom he had performed the operation, and made the following remarks: "Year before last I suggested, at a meeting of this society, the advisability of treating fistula by excision of the entire fistulous tract, the raw surfaces being brought together with sutures, with the view of securing healing by first intention. I described a certain method, but my experience at that time was derived from a few operations, the results of which were only partly successful, though encouraging. The first operation was performed two years ago upon a lady who had a deep-seated fistula, the internal opening of which was situated two or three inches above the sphincter. She was perfectly cured in two weeks. Since then I have had about a dozen cases, in which the extent of the lesion and the gravity of the operation varied, the results being as follows: In four cases primary union occurred without suppuration; in three a similar result was obtained with but slight suppuration; in four the wound healed by granulation, in a shorter time than it would have done after one of the old operations. In one instance I did not sew up the wound at all on account of inflammatory infiltration of the edges; in another, that of a gentleman whom I had treated during the acute stage of a very extensive gangrenous periproctitis, there was so much cicatricial tissue that I did not venture to excise it all, for fear of removing so much of the muscle that incontinence might result. This patient has still an internal fistula, which causes no inconvenience, except a slight discharge.

"My technique has been essentially the same as that described at a former meeting, viz., excision of the entire fistulous tract, together with all the lateral sinuses, such as not infrequently exist in the cellulo-adipose tissue above the sphincters, and union of the deep tissues by means of buried sutures of iodoform-catgut, as well as accurate adaptation of the edges of the mucous membrane. Several include the entire field of operation, in order to relieve the tension of the parts. The field of operation is constantly irrigated with boro-salicylic solution. The edges of the integument I prefer to unite by only a few sutures, in order to allow drainage of the first secretion. Opium is administered during the first two days; after the second day the bowels are moved easily with injections, a sitz-bath being used after defecation. I have performed this operation only once in a case of fistula of tuberculous origin, the result being perfect. There was a large shallow sinus, which did not com-

municate with the rectum—a condition which, in my experience, is not infrequent in tuberculous fistulæ. I am skeptical regarding the existence of so-called incomplete external fistula in any other cases, having always succeeded in finding the internal opening, except once in a dermoid fistula. Neither do I accept the general opinion that muscular contraction prevents a fistula in ano from healing; it is very probable that entrance of obnoxious matter into the sinus causes repeated attacks of inflammation and accounts for the chronic nature of the affection. In the last patient, upon whom I operated a few days ago, I did not find an internal opening, its former site being occupied by a slight elevation covered by a thin cicatricial tissue. This was probably only transient cicatrization. In the 'Medical Record' of June, 1886, Dr. Stephen Smith published a paper on this subject, in which he stated that in 1879 he conceived the idea of treating fistula in this manner after reading in Dr. Emmet's book a description of that gentleman's plastic operation upon the perinæum. At that time Dr. Smith excised the granulating surface of a fistula that had been operated upon unsuccessfully six months before; consequently, that operation was scarcely applied to a fistula proper. He does not state just when he adopted the method described by him, but if it was immediately after the operation above mentioned, he was probably the first surgeon to practice it. I take the liberty of claiming priority in my description of the details of the operation, and especially the use of antiseptic precautions, which differs in no essential feature from that given by him.

"The patient before you had a very extensive V-shaped sinus, one branch of which ran high up, parallel with the rectum, the external opening being situated about four inches to the right of the anus, while the internal was above the external sphincter. After the operation an enormous cavity was left, into which the fist might have been inserted. In this case the internal wound was only partially closed, and was drained with iodoform-gauze. The operation lasted several hours, and in fact could not be completed on account of the failing light. Recovery was interrupted by the occurrence of retention after transient apparent healing. She now has perfect control of her bowels, and does not suffer from diarrhœa. The sphincter in the last case is not perfectly sound."

Dr. HALL asked how soon the bowels were moved after the operation.

Dr. LANGE replied that at first he allowed them to remain constipated for from ten to fourteen days, but now he ordered an enema of oil the morning of the second day, and a laxative the same evening, so as to insure a soft stool on the third day.

Dr. SANDS did not see what advantages were alleged for the new operation for hæmorrhoids, but he presumed that its purpose was to avoid the hæmorrhage which was so much dreaded by the older surgeons. He thought that most of the members of the society were partial to the use of the ligature, especially in cases in which there was much prolapse; a certain amount of inflammation took place around the ligature, which favored adhesion of the intestine to the adjacent parts, thereby guarding against further protrusion. The old operation of Allingham was perfectly satisfactory, and the surgeon, after performing it, could leave his patient, feeling that there was no danger of hæmorrhage. The speaker did not attempt to strip off the mass at all, but simply incised the skin around the base of the pile sufficiently to allow the complete burying of the ligature, and, the mucous membrane being drawn down as far as possible, the risk of subsequent stricture was avoided. It would require a good deal of argument to induce him to abandon the old operation. He had practiced the method of complete excision of anal fistula in four cases, but only once successfully. Only small, straight fistulæ could be excised with the expectation of

their healing by first intention; in complicated fistulæ it would be necessary to remove a good deal of tissue, which in the vicinity of the anus was particularly undesirable, in view of the subsequent cicatricial contraction. The operation was certainly not adapted to all cases. Fistulæ could be cured by simply scraping out the tract.

Dr. LANGE admitted that the method was not applicable to every case, but it could be employed successfully even in cases of tortuous sinuses, extending high up the rectum; moreover, the result was equally good when the wound was not closed, but was allowed to heal by granulation. It was important, however, to bring the edges of the mucous membrane in apposition, as healing was retarded by contact with fecal matter.

Excision of the Ankle Joint.—The PRESIDENT presented a patient showing the results of excision, whose history was as follows: A girl, aged eighteen, colored, was admitted into St. Luke's Hospital, March 11, 1885. About a year before her admission she had sprained her ankle severely, and suppurative synovitis followed; the pus had been evacuated by incisions. Her family history was phthisical. On admission, her ankle was swollen and tender, and evidently contained fluid; a sinus behind the internal malleolus communicated with the interior of the joint. On the 31st of March the speaker excised the joint, making a curved incision behind each malleolus, and removing the lower end of the tibia and fibula by a horizontal section, as well as the entire upper surface of the astragalus by a parallel cut. The limb was put up in a permanent dressing, covered with plaster of Paris, and so retained till April 28th. The wound healed perfectly in eight weeks, since which time the patient had walked with ease, limping only slightly. Slight subcutaneous suppuration occurred recently, which healed at once after scraping. Motion was now quite free, and the joint was strong. The shortening amounted to seven eighths of an inch.

Case of Aneurysm of the Innominate Artery treated by Ligature of the Carotid and Subclavian.—The PRESIDENT also showed a patient with the following history: An Irishman, aged thirty-five, was admitted into St. Luke's Hospital, March 9, 1886. He was probably syphilitic. Two weeks previously he had noticed a tumor on the right side of the neck, just above the inner end of the clavicle; a week later he became hoarse, and at the time of his admission he could speak only in a whisper. The tumor was evidently of an aneurysmal character and was considered by the speaker and his colleagues to be an aneurysm of the innominate artery, involving probably the commencement of the carotid and subclavian arteries. Pulsation was very marked, and was readily felt to affect the upper end of the sternum, the inner end of the clavicle, and the first two intercostal spaces. On April 16th it was found that the tumor had grown decidedly, and then measured three inches and three quarters transversely and extended to a point a little above the cricoid cartilage, displacing the trachea to the left. The hoarseness was considered due to tension of the right recurrent laryngeal nerve. The patient was kept in bed and received ten grains of iodide of potassium three times a day until April 16th, during which interval the tumor became somewhat larger. On April 20th a catgut ligature was applied to the carotid in its upper portion, and another to the third part of the subclavian. Pulsation almost entirely ceased in the tumor. The wounds healed very rapidly. On May 26th the patient was put upon strict diet according to Tufnell's plan, and was kept in bed until July 28th, since which time he had been about the ward, and had taken the ordinary diet. The tumor had steadily diminished in size, and was now considerably less than one fourth of its original size, the wall of the sac being thick and firm. The voice was only slightly hoarse.

The Treatment of Fractured Patella.—A paper with this title was read by Dr. J. D. RUSHMORE, of Brooklyn. [See page 172.]

Dr. ABBE exhibited a specimen and related the case of a young lady who suffered an oblique fracture of the lower third of the patella, the fragments being widely separated. As she was very anxious to have a sound limb, and was willing to take the risk, he exposed the bone, under strict antiseptic precautions, and found a fracture with two inches separation, the fractured surface of each fragment being covered by a dense layer of torn white fibrous tissue. This was the normal prepatellar tissue, torn like two fringes and so disposed over the bone that osseous union would have been impossible, even if coaptation had been obtained. These fringes were cut away and were the specimen exhibited. The patella was wired with silver, the joint irrigated with sublimate (1 to 5,000), and drained laterally. Primary union, without joint disturbance, followed. Three months had elapsed; the patella was one solid bone. The patient was walking with a cane, and without splints. Fibrous ankylosis existed which bade fair to yield in the course of time and seemed largely extra-capsular, but at present allowed of flexion only of about ten degrees.

The speaker thought there was always some risk of ankylosis following this method, but that with improved technique this would be done away with. One step toward improvement would be in leaving a drainage-tube in the interior of the joint as short a time as possible, and perhaps doing away with it altogether. In the worst event he believed a partly ankylosed knee with a solid patella was better than a weak, unreliable knee with gaping fragments. If a joint suppurated, he believed it was always due to contamination from defective antiseptics.

Dr. LANGE said that he had heard with much interest the reference to the fibrous tissue that was found covering the ends of the fragments, since he had noticed the same appearance. He had performed the operation of wiring the patella in five cases, and believed that it was safe and reliable, provided the surgeon exercised proper care. He had so far operated on special indications only.

The first patient was a stewardess on board a steamer, who wished particularly to have a reliable limb in order to be able to go up and down the steep ship-staircases. Her living depended on that.

The second patient was a lady who many years before had had amputation of the thigh of the opposite side.

The third one had fractured both patellæ several years ago. There existed a very wide gap, but the limb was partially useful. On the side of the operation the fracture had been of more recent occurrence, and, though the distance between the fragments was considerable, the latter could, with some difficulty, be approximated.

In all of these cases, in two of which the operation was done within eight to ten days after the occurrence, complete recovery took place and the limbs had become very useful.

The fourth case was that of a vigorous man who, after a fracture near the attachment of the ligamentum patellæ, had lost all control over the extension of his leg and depended upon wearing an apparatus. There existed a pretty wide diastasis of the fragments, which could be brought in contact only after the quadriceps tendon had been partially cut across at several points, and finally entirely cut across at some distance higher up, between the muscular bellies of the vasti. The capsule had also to be incised freely. The fragments were forcibly drawn together by coarse silk ligatures. This man got a stiff but useful limb. The speaker could not tell whether a slight motion which existed at the beginning had improved or not. The shape of the patella and its lower surface were so irregular that the lat-

ter had to be smoothed. Probably a comminuted fracture had taken place originally.

The fifth case was not equally favorable. A strong man, about thirty years old, fond of athletics, had fractured his patella near the upper margin. There existed extensive extravasation and rupture of the capsule. The operation was done on the third day after the injury, the patient himself being anxious to secure the best result obtainable. Only a mild antiseptic (borosalicylic solution) was used during the operation. The patient did not behave so quietly as he ought to have done after the operation, and made very unwise movements with his limb. Suppuration set in and the limb became almost entirely stiff, the semilunar cartilages having been detached by necrosis. Probably it would have been wiser to delay the operation until absorption of the extensive extravasation had taken place.

In all of the cases, except one, strong silk-worm gut was used for the bone suture.

Dr. HALL stated that he had wired the fragments of the patella in two cases of recent fracture. In both instances he had found coagulated blood between the edges, the extravasation in one case being very extensive, and having ruptured into one of the prepatellar bursæ, so that the patella could with difficulty be felt. Aspiration was unsuccessful, as the blood was coagulated, and, fearing much stiffness on account of the hæmarthrosis, he resorted to suturing. Bony union was obtained in both instances. Silver wire of one sixteenth of an inch was used. The special interest of the cases lay in the fact that there was no interposition of fibrous tissue, the fragments being separated to the extent of half an inch by a firm blood-clot; particular attention was called to this, as the other condition had been described as invariable, and as being the cause of non-union. In a case of old fracture, recently seen, only the upper corner of the bone was broken off, with practically no separation and no interference with the insertion of the quadriceps femoris into the larger fragment, so that the patient had perfect use of the leg, although union did not occur.

Dr. SANDS asked concerning the amount of motion in the injured limbs.

Dr. HALL replied that one of the patients could flex the limb only about 15° when the dressings were removed, but three or four weeks later, when last seen, had motion almost to a right angle and was improving daily. No passive motion had been employed. In the other case flexion was limited to about 12°, but the range of motion would undoubtedly be greater in the course of three or four months.

Dr. PETERS asked how long the dressings were retained, to which Dr. HALL replied, for six or seven weeks.

Dr. LANGE remarked that he had obtained good results with sutures of coarse silk-worm gut.

Dr. SANDS thought that all surgeons had found the treatment of fractured patella unsatisfactory, it being impossible to maintain perfect apposition of the fragments. Treves had recently recommended anew the use of Malgaigne's hooks, piercing the joint and imbedding them firmly in the fragments, due antiseptic precautions being employed. The speaker rather liked this treatment. After all, it was not so important to obtain bony union, as the patients could get on very well without it. However, the best results would, doubtless, be obtained when surgeons were able to open the joint safely every time, and to wire the fragments. It should be remembered that this was yet a serious operation, which was sometimes followed by suppuration, ankylosis, or even by death. He had found that patients rarely wished to run any risk when the nature of the operation was frankly stated to them. Even when successful, the operation often left some stiffness of the joint, with diminished flexion, on account of the thickening which attended the

healing process. The speaker confessed that he at present occupied a decidedly conservative position with regard to the operation, and would be unwilling to have it performed upon himself. But he was confident that the dangers now attending it would be finally overcome.

Dr. WEIR explained that Mr. Treves's method of introducing the hooks was quite simple. He relied upon the maintenance of perfect cleanliness by means of water.

Dr. HALL thought that a Philadelphia surgeon had written a paper some years before in which he reported fifty cases of fractured patella, in the treatment of which Malgaigne's hooks had been used with good results.

The PRESIDENT thought that the radical operation should be more carefully studied before it was generally advised, since its remote consequences were not always satisfactory. He had observed a case in which bony union had been obtained by wiring the fragments; but three months after they separated on the application of slight force. In another instance suppuration occurred, and motion was subsequently limited to 15°. Another case of suppuration was reported at Bellevue Hospital.

Dr. POORE asked if it was not true that the joint was frequently stiff after the operation.

Dr. LANGE replied that this depended to a great extent upon the after-treatment. In three of his cases there was perfect mobility, while in the others motion was limited. The condition, doubtless, improved in time under the influence of massage and passive motion.

Book Notices.

A System of Practical Medicine. By American authors. Edited by WILLIAM PEPPER, M. D., LL. D., Provost and Professor of the Theory and Practice of Medicine and of Clinical Medicine in the University of Pennsylvania, assisted by LOUIS STARR, M. D., Clinical Professor of Diseases of Children in the Hospital of the University of Pennsylvania. Volume V. Diseases of the Nervous System. Philadelphia: Lea Brothers & Co., 1886. Pp. 10-19 to 1317.

To mention in detail the subjects treated in this volume and the names of their authors would be to enumerate most of our prominent specialists in the department of nervous diseases, and give a full list of the subjects that are included in that specialty. The volume comprises, in fact, a very complete series of monographs. Articles on Myalgia, Progressive Muscular Atrophy, and Pseudo hypertrophic Paralysis are to be found in the fourth volume, and these round out the list of nervous diseases, for few would cavil at the placing of such affections as hay-asthma, angina pectoris, and exophthalmic goitre under other headings.

This volume contains forty-four titles, and manifestly it will be impossible to do more than glance at a few of them in this notice. The first two are by Dr. E. C. Seguin—viz., on General Semeiology of Diseases of the Nervous System, Data of Diagnosis, and on the Localization of Lesions in the Nervous System. In the first he takes up in order the various groups of symptoms, defining them strictly, differentiating and illustrating them, and giving their relations and significance in a running commentary, the perusal of which leaves one with a gratified sense of scientific thoroughness. In the second article the style rather suffers from an excessive technicality, and the employment of specialized terms is so constant that the old rhyme involuntarily recurs to one's mind—

"All a rhetorician's rules

But teach him how to name his tools,"

though, truly, he who will master the language may here find substance enough for thought and study.

Dr. H. C. Wood deserves the thanks of the profession for his brief article on Neurasthenia. Though he uses the all-too-convenient word coined by the late Dr. George M. Beard, his sections on ætiology and symptoms restrict its application and vastly improve its standing, while the details given under the heading of Treatment will prove of great service in other diseased conditions as well as in this.

On the subject of Headache, including Migraine, Dr. Wharton Sinkler has little to tell us that is new, although his classification of the varieties of headache may prove serviceable. He is disposed to agree with Anstie in considering migraine as probably a neuralgia of the ophthalmic division of the fifth pair, and it will be observed that Dr. J. J. Putnam (Neuralgia, p. 1216 of this vol.) takes a similar view.

Treating of Vertigo, Dr. S. Weir Mitchell devotes the greater part of his space to the question of ætiology. He evidently leans toward an analogy between the phenomena of vertigo and those of epilepsy, and describes a "status vertiginosus," where the disorder ceases to owe its onsets to extra-central irritations, and becomes essential, precisely as happens in some epileptics.

The article on Alcoholism, by Dr. James C. Wilson, is one of the longest in the volume, but not longer than the interest and importance of the subject demand. It is written with the directness and confidence which spring from conviction and familiarity with the matter in hand, while the moderation of the views expressed, especially where the physiological action of alcohol upon the nervous system and upon nutrition is discussed, is in agreeable contrast with the overdrawn statements of popular temperance advocates.

The subject of Tumors of the Brain and its Envelopes receives scholarly and systematic treatment at the hands of Dr. Charles K. Mills and Dr. James Hendrie Lloyd. Two closely related points may be said to possess the most interest for the professional reader of to-day on this topic. The first is the degree of accuracy with which the modern study of the localization of cerebral lesions makes it possible to determine the seat of an intra-cranial tumor. The second stands in the position of a corollary to the first, and concerns the possibility of surgical interference in such cases. For the study and illustration of both of these points the table of one hundred cases appended to the article furnishes ample and most accessible material, while the text also covers both, and, in addition, carefully considered views on the limitations of diagnosis, as well as on the ætiology, pathology, etc.

It is to be feared that even the guarded expression of opinion by Dr. Mary Putnam Jacobi on the prognosis in infantile spinal paralysis would hardly be echoed by most New York practitioners who have seen much of this disease, in spite of the more favorable views quoted from Duchenne. Dr. Putnam Jacobi has introduced an interesting novelty by devoting a section to the prodromes, and the article throughout is a mine of references to the literature of the subject.

We must here bring to a close what we have to say on this volume and on the work which it completes. One word of regret rather than of criticism is that even a supervising editor can not secure perfect correspondence in the value assigned to certain subordinate causative conditions which may be incidentally treated of by the writers of different leading articles. For instance, when Dr. Weir Mitchell speaks, as he often does, of lithæmia and of hysteria, it rouses a curiosity which can not be gratified to know in more detail how closely he agrees with Dr. Bartholow and Dr. Mills, who treat of those conditions systematically. Taken altogether, however, it must be conceded

that in this undertaking a most happy mean has been reached between the text-book on medicine by one man, howsoever learned and brilliant he may be, and those encyclopædic systems the first volumes of which are superannuated long ere the last has issued from the press.

GENERAL LITERARY NOTES.

AMONG recent foreign publications we note the following:

BAILLIÈRE, TINDALL, & COX, London.—W. H. Day, "On Irritable Brain in Children." — A. Rabagliata, "Some Remarks on the Classification and Nomenclature of Diseases."

CASSELL & CO., London.—C. Dukes, "Health at School." New ed. J. & A. CHURCHILL, London.—C. N. Macnamara, "Diseases of Bones and Joints." 3d ed.

KEGAN PAUL, TRENCH, & CO., London.—F. Jordon, "Anatomy and Physiology in Character."

H. K. LEWIS, London.—A. Collie, "On Fevers."

MACMILLAN & CO., London.—H. E. Roscoe and C. Schorlemmer, "Treatise on Chemistry." Vol. iii.

SMITH, ELDER, & CO., London.—A. M. Marshall and C. H. Hurst, "A Junior Course of Practical Zoölogy."

WILLIAMS & NORGATE, London.—C. A. Gordon, "New Theory and Old Practice in relation to Medicine and Certain Industries."

F. ALCAN, Paris.—E. Demange, "Étude clinique et anatomo-pathologique sur la vieillesse." (4fr.)

J. B. BAILLIÈRE ET FILS, Paris.—A. de Störck, "Étude de thérapeutique expérimentale." Transl. by H. Piedvache. (6fr.)

A. DELAHAYE ET E. LECROSNIER, Paris.—C. Letourneau, "Bibliothèque anthropologique," vol. iii. (7fr. 50.) — Hovelacque and Hervé, "Bibliothèque anthropologique," vol. iv. (10fr.) — J. Lucas-Championnière, "Cure radicale des hernies." (3fr. 50.) — Gilis, "Prolifération de la cellule par karyokinèse." (3fr.) — Kahn, "Etude clinique sur le champ de fixation monoculaire." (2fr. 50.) — L. Dirieq, "De la coexistence de plusieurs délirés d'origine différente ou de plusieurs intoxications chez le même aliéné." (3fr.) — L. Hamon du Fresnay, "Considérations pratiques sur les positions occipito-postérieures." (2fr. 50.) — L. Hamon du Fresnay, "Considérations théoriques et cliniques sur les présentations du siège." (50c.) — S. Jacoud, "Leçons de clinique médicale," vol. iii. (14fr.)

F. SAVY, Paris.—C. Bouchard, "Leçons sur les auto-intoxications dans les maladies." (8fr.)

G. STEINHEIL, Paris.—H. Gaudichier, "De l'échéance des accidents cérébraux dans la syphilis et en particulier dans la syphilis cérébrale précoce."

A. ABEL, Leipsic.—R. Friorip, "Atlas anatomicus partium corporis humani," 7th ed. (10M.; colored, 24M.) — J. H. Haake, "Compendium der Geburtshülfe," 3d ed. (4M.)

J. F. BERGMANN, Wiesbaden.—H. Willbrand, "Die Seelenblindheit als Herderscheinung und ihre Beziehungen zur homonymen Hemianopsie, zur Alexie und Agraphie." (4M. 60.) — A. Nicolaier, "Beiträge zur Ätiologie des Wundstarrkrampfs." (0M. 80.)

W. BRAUMÜLLER, Vienna.—C. Braun v. Fernwald, "Ueber die Sanitätsverhältnisse an der Wiener 1. geburtshilflichen Klinik für Studierende in ihren Beziehungen zur Antisepsis während 29 Jahren." (1M.)

F. ESKE, Stuttgart.—O. Kustner, "Die Indicationen u. Methoden der Perineoplastik." (2M.)

J. A. FISSTERLIN, Munich.—Wolfsteiner, "Ueber Typhus und Cholera in ihrer Beziehung zu Grundwasser und Trinkwasser." (2M.)

G. FOCK, Leipsic.—H. Kung, "Atropa Belladonna u. Extractum Belladonnae," 2d ed. (1M.)

J. C. B. MOHR, Freiburg i. B.—H. Vierordt, "Abhandlungen über den multilokulären Echinokokkus." (5M. 60.)

G. NEFFENHAHN, Jena.—G. Lohrer, "Ein glücklich geheilter Fall von Extrauterinschwangerschaft." (0M. 75.)

STAGMEYER, Munich.—A. Damm, "Die gesundheitsschädliche Wirkung der Mittel zur Vermeidung der Conception." (1M. 20.)

STAEHL, Würzburg.—A. Lühbert, "Der Staphylococcus pyogenes aureus u. der Osteomyelitis-kokkus." (3M. 50.)

HEUSER, Neuwied.—Eichholz, "Zur Diagnose und Therapie der atypischen Uterusblutungen." (1.M.) — Vocke, "Die Zuckerkrankheit." (2.M.)

VANDENHOEF & RUPRECHT, Göttingen.—O. Behrens, "Ueber den Werth der künstl. Aufreibung des Dickdarms mit Gasen u. Flüssigkeiten." (1.M. 80.) — H. Grumme, "Zur Lehre von der progressiven amyotrophischen Bulbärparalyse mit Berücksichtigung ihres Verhältnisses zur progressiven Muskelatrophie und amyotrophischen Lateralsclerose." (1.M.) — L. Holbing, "Ueber die juvenile Form der progressiven Muskelatrophie." (O.M. 60.) — M. Jacob, "Ueber Bleikrankheiten im Oberharz u. deren Beziehungen zu Gicht u. Schrumpfniere." (O.M. 60.) — H. Lohans, "Die Resultate d. Hydrocelenbehandlung nach Punktion u. Jodinjektion an der chir. Klinik zu Göttingen." (1.M.) — A. Kahn, "Ueber Morbus Basedowii." (1.M. 20.) — F. Freund, "Ueber intermittirende Albuminurie." (O.M. 60.) — F. Fricke, "Untersuchungen über die fibrinöse Pleuropneumonie." (O.M. 80.)

BOOKS AND PAMPHLETS RECEIVED.

Diseases of the Joints. By Howard Marsh, F.R.C.S., Senior Assistant Surgeon to, and Lecturer on Anatomy at, St. Bartholomew's Hospital, etc. With Sixty-four Illustrations and a Colored Plate. Philadelphia: Lea Brothers & Co., 1886. Pp. x+461.

President's Address, Tenth Annual Meeting of the Detroit Medical and Library Association. By C. J. Lundy, A. M., M. D.

Tubercular Consumption; Introduction to a Discussion at the New York State Medical Association, November, 1886. By H. D. Didama, M. D., Syracuse, N. Y.

Some Medico-legal Cases under State and National Laws. By B. Joy Jeffries, A. M., M. D., of Boston. [Reprinted from the "Transactions of the American Ophthalmological Society."]

Ueber Wirkung, therapeutischen Werth und Gebrauch des neuen Karlsbader Quellsalzes, nebst dessen Beziehung zum Karlsbader Thermalwasser. Von Dr. W. Jaworski, Universitätsdozenten in Krakau. Klinisch-experimentelle Untersuchungen aus der mediz. Universitätsklinik der Prof. Korczynski in Krakau. [Separatabdruck aus Dr. Witelshöfer's "Wiener mediz. Wochenschrift."]

Experimenteller Beitrag zur Wirkung und therapeutischen Anwendung der Amara und der Galle. Von Dr. W. Jaworski. [Separatabdruck aus der "Zeitschrift für Therapie."]

A Clinical Manual of the Diseases of the Ear. By Laurence Turnbull, M. D., Ph. G., Aural Surgeon to the Jefferson Medical College Hospital, etc. With a Colored Lithographic Plate and Numerous Illustrations on Wood. Second revised Edition. Philadelphia: J. B. Lippincott Company, 1887. Pp. xxii+17 to 567. [Price, \$3.00.]

Nervous Diseases and their Diagnosis: a Treatise upon the Phenomena produced by Diseases of the Nervous System, with especial reference to the recognition of their Causes. By H. C. Wood, M. D., LL. D., Member of the National Academy of Sciences. Philadelphia: J. B. Lippincott Company, 1887. Pp. 11+17 to 501. [Price, \$4.00.]

Wear and Tear, or Hints for the Overworked. By S. Weir Mitchell, M. D., LL. D. Harv., Member of the National Academy of Sciences, President of the College of Physicians of Philadelphia, etc. Fifth Edition, thoroughly revised. Philadelphia: J. B. Lippincott Company, 1887. Pp. 4+5 to 76. [Price, \$1.00.]

Die Pathologie und Therapie der Gelenkentzündungen. Von Prof. D. Max Schuller in Berlin. Wien und Leipzig: Urban & Schwarzenberg, 1887. Pp. vi to 93.

Transactions of the Association of American Physicians. First Session. Washington, D. C., June 17 and 18, 1886.

Transactions of the American Ophthalmological Society. Twenty-second Annual Meeting, New London, Conn., 1886.

Pneumato-therapy. A Paper read before the Philadelphia County Medical Society, December 8, 1886. By Solomon Solis-Cohen, A. M., M. D., etc. [Reprinted from the "Therapeutic Gazette."]

Functional Disease. By Dr. Allchin. [Reprinted from Vol. II of the "Westminster Hospital Reports."]

On Antiseptic Surgery and its Application in Military Hospitals and in the Field. By Surgeon-Major John Martin, Army Medical Staff. London: J. & A. Churchill, 1886. Pp. 70.

Hysterorrhaphy. By Howard A. Kelley, M. D. Philadelphia, Pa. [Reprinted from the "American Journal of Obstetrics and Diseases of Women and Children."]

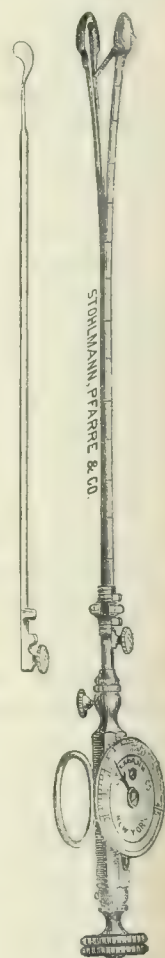
New Inventions, etc.

THE METRO-URETHROTOME.

By F. TILDEN BROWN, M. D.

By this name I presume to call the attention of those interested in urethral surgery to an instrument here shown. It was devised for cutting a stricture I could not reach with the instrument I was then using. Since then—two years ago—I have had two others made by the same firm (Messrs. Stohmann, Pfarre, & Co.), with certain modifications, the most important being a diminution in the size of the bulb, and a simpler adjustment of the blade. This drawing will at once suggest the urethrometer of Dr. Weir, with the blade of Dr. Otis's urethrotome. With slight alterations in each, the metro-urethrotome is practically a combination of the two. The arms spread perpendicularly instead of horizontally to the plane of the dial. The blade is introduced through a slot in the graduate screw-ring, just in front of which it is received by a groove, along which it runs to the upper semi-bulb, where it sheaths itself. To raise and hold the blade in position while cutting is effected by turning the graduate screw-ring which bears against a shoulder at the blade hilt, thus drawing up the blade, the back of which rides on an incline in the upper semi-bulb. Spreading or closing the bulb does not, of course, influence the elevation of the blade, except relatively to the lower semi-bulb. In this respect the instrument offers an opportunity for fine and accurate adjustment unattainable in any I know of. Here one complete turn of the screw-ring unsheaths the blade to a certain height; the dial records the bulb spread, and any resistance then felt in drawing the instrument forward is referable only to the limited area in apposition with the semi-bulbs, the depth of which is known by noting the inch- or half-inch mark on the staff at the meatus.

As can be seen, the instrument offers facilities for cutting the urethra up to any desired caliber without interfering with a meatus which admits only a 15 French. In this respect I believe it to be unique. With it I had hoped to satisfy myself upon the much-mooted question of the necessity of enlarging the meatus to the size of the urethra where cut at the strictured portion, but the want of a specially made dilating sound for subsequent treatment has thus far deterred me from making the test. Until we have some such form of small-necked dilating sound—one which will dilate, at the same time, about four inches and a half of the urethra symmetrically without stretching or affecting the meatus—until then, the necessity of this nearly uniform caliber is evident; for a meatus one or two sizes smaller than the urethra within renders ineffectual the presence of the largest sound permissible by such a meatus. As already stated, the instrument was devised for a special case, where a deep organic stricture of gonorrhoeal origin existed. I had previously cut two anterior strictures, and hoped the disappearance of this deeper one would prove its spasmodic origin. Disappointed, however, I attempted two weeks later to operate with Dr. Otis's straight urethrotome, but failed to reach it because of the subpubic curve preventing sufficient insertion. I thought of resorting to a Maisonneuve or a Civiale, but the size of blade in each and the location of the stricture deterred me. The Weir urethrometer was modified for



the purpose, and the stricture cut without annoying hæmorrhage or complication of any kind. Although this has been the only deep stricture of the sort I have met with in two years, I have still had occasion to use the instrument or its modifications in a large proportion of operations in the penile urethra.

In cases presenting an almost continuous two inches or more of dense stricture tissue, occupying any part of the anterior four inches of the urethra, and where the caliber will permit its use, the great advantages of Dr. Otis's instrument are too manifest to require comment. There are few instruments of surgical importance which so perfectly fulfill their mission. In lesser operations, however, where one or several, more or less distinct, annular strictures exist, whether deep or anterior, I believe the metro-urethrotome will be a safer and more accurate instrument. The economy of time in handling is also some advantage, for with it a single insertion may serve to diagnosticate and locate a stricture, to cut it, and to prove the satisfactory completion of the operation. An almost universal acquaintance with the urethrometers of Otis and Weir renders it needless to describe the handling of the metro-urethrotome as a diagnostic instrument. As to its management as a cutting agent a few words will suffice. Say at three inches a stricture is found permitting 27 French, the urethra anterior and posterior to it expanding to 32, representing the normal in this particular case. The closed instrument with sheathed blade is passed to the proximal side of the stricture—i. e., about three inches and a half. The semi-bulbs are spread to 27, and brought a little forward until they are at the verge of the contracted zone. Now, by two complete turns of the screw-ring, the blade is unsheathed to its fullest extent and presents against the center of the urethral roof. By moderate and guarded force the whole instrument is drawn forward. As the stricture is severed a characteristic sensation is conveyed to the hand. Sheath the blade, lessen the bulb spread, and sink to the starting point, enlarge to 32, and draw forward; perhaps at the point of stricture the spread must be relaxed to 31; if so, unsheath the blade slightly by a partial turn of the screw-ring and repeat as before. I think it better to go over the ground in this way, two or three times if necessary, rather than risk injury by undue cutting or stretching in attempting instant completion. Although it has been my practice to repeat the incision along the urethral roof, it may be found advantageous in some cases to sever the opposite face or the side wall of the stricture when a second section is found necessary. I have reason to believe that severing a stricture is much less painful than putting it on the stretch; for, in using this instrument without even cocaine anæsthesia, patients have assured me that the cutting was not nearly so annoying as the pain previously caused by passing a sound. The last changes in this instrument affect the lever which spreads the bulb; the point now impinges upon almost the apex of the upper semi-bulb, thus affording additional stiffness, and a long, narrow fenestra in the lever permits the blade to sheath through it and thus utilize the hollow space in the lower semi-bulb; in this way a reduction in the size of the bulb has been obtained. The drawing shows the blade partly unsheathed in the upper semi-bulb.

40 EAST THIRTY-FIRST STREET.

Miscellany.

The Operation of Shortening the Round Ligaments.—An excellent paper on this subject, read before the Baltimore Academy of Medicine, February 1st, by Dr. Thomas A. Ashby, professor of gynecology in the Baltimore Polyclinic and Post-graduate Medical School, ended with the following summary of conclusions:

1. The round ligaments are designed to hold the uterus in its axis in the pelvis, and to draw the fundus of the organ toward the symphysis pubis. They have little, if any, sustaining power in preventing procidentia, except in extreme degrees of descent, where the organ has escaped outside the vulva. Posterior displacement of the uterus can only take place when the round ligaments have been relaxed or stretched by prolonged tension. 2. Shortening the round ligaments is

a practical method by which the uterus may be lifted into its normal axis and be retained in position by a restoration of its normal supports. 3. This operation is admissible in all cases of posterior displacement where the uterus is not fixed by adhesions, but perfectly movable in the pelvis, and where other methods of support are not of service. 4. The operation can prove of little value in cases of procidentia, except when employed in conjunction with other methods instituted to overcome this form of displacement. 5. The operation can be easily performed by one who is familiar with the anatomy of the parts. It is almost devoid of danger if ordinary safeguards are employed. 6. In the class of cases to which it is limited, the benefits secured are striking and important.

The Health of Michigan.—According to the State Board of Health's returns for the four weeks ending January 29th, for a summary of which we are indebted to the secretary, Dr. Henry B. Baker, diphtheria was reported from fifty-six places, scarlet fever from thirty-six, typhoid fever from fourteen, and measles from twenty-one.

The New York Post-graduate Medical School and Hospital.—Dr. Clarence C. Rice has been elected professor of diseases of the nose and throat, in place of Dr. Clinton Wagner, resigned.

The Health of Boston.—During the week ending Saturday, February 5th, there were 170 deaths reported. The number of cases of and deaths from infectious diseases were: 25 cases of diphtheria and 8 deaths; 21 cases of scarlet fever and 1 death; 4 cases of typhoid fever and 3 deaths; and 43 cases of measles and 3 deaths. There were also 27 deaths from consumption, 17 from pneumonia, and 10 from heart disease.

The Periodicity of Small-pox Prevalence.—In a document entitled "Health in Michigan, January, 1887," the secretary of the State Board of Health, Dr. Henry B. Baker, says: "By the vital statistics in Michigan it is found that small-pox has been comparatively epidemic every five years. Thus, in 1872 there were 302 deaths reported in Michigan from small-pox, in 1877 there were 102, and in 1882 there were 100. This is the last year of one of these five-year periods, and, according to past experience, we may expect small-pox this year. Small-pox is present in New York, Ohio, and Wisconsin, and, if immigration this year is large, the danger from small-pox may be increased. This would seem to be a good year for vaccination against small-pox."

Health Reports from Abroad.—By direction of the Secretary of the Treasury, Dr. John B. Hamilton, Surgeon-General of the Marine-Hospital Service, has issued the following abstract of sanitary reports received from foreign countries during the week ending February 3d:

England and Wales.—The deaths registered in twenty-eight great towns of England and Wales during the week ending January 15, 1887, correspond to an annual rate of 24.1 in a thousand of the aggregate population. The lowest death rate was recorded in Portsmouth, viz., 17.4 in a thousand, and the highest in Manchester, viz., 31 in a thousand. There were 1,860 deaths registered in London during the week ending January 15th, including 97 from measles, 17 from scarlet fever, 18 from diphtheria, 32 from whooping-cough, 1 from typhus, 8 from enteric fever, 2 from ill-defined forms of continued fever, 13 from diarrhoea and dysentery, and 591 from diseases of the respiratory organs. The fatal cases of measles, which had been 114 and 104 in the two preceding weeks, further declined last week to 97. The 17 deaths from scarlet fever showed an increase of 6 upon the whole number in the previous week. Different forms of violence caused 60 deaths.

Ireland.—The average annual death rate represented by the deaths registered during the two weeks ending January 15, 1887, in the sixteen principal town districts of Ireland, was equal to 30.5 in a thousand of population. The lowest death rate was recorded during the week ending January 8th, in Dundalk, viz., 13.1 in a thousand, and the highest in Londonderry, viz., 41 in a thousand. During the week ending January 15th, the lowest death rate was recorded in Lashburne, 9, and the highest in Watertown, 48.6 in a thousand.

Scotland.—The death rate in eight principal towns during the week ending January 15th was 26.1 in a thousand of estimated population. The lowest mortality was recorded in Greenock, 16.1 in a thousand, and the highest in Paisley, 33.3 in a thousand.

Germany.—The deaths registered in fifty-two cities in Germany, having an aggregate population of 6,523,266, during the week ending January 1, 1887, correspond to an annual death rate of 22.6 in a thousand. The lowest death rate was recorded in Münster, viz., 11.8 in a thousand, and the highest in Bochum, viz., 40.8 in a thousand.

Para.—During the two weeks ending January 9th there were 87 deaths from all causes, including 9 from yellow fever.

Buenos Ayres.—The United States minister, in his dispatch dated December 16, 1886, states as follows: "Referring to my No. 58, under date of the 3d instant, I may add, the cholera is on a steady increase here, and that it has assumed more deadly features. Thirty-six new cases were reported to the Board of Public Assistance of Buenos Ayres yesterday, more than half of which proved fatal in a very few hours. The worst of all lies in the fact of its rapid spread throughout the outside provinces. This dreadful disease, 'which walketh at night and wasteth at noonday,' leaps the prudence of quarantine, and breaks down every line of military cordon. It is still raging fiercely at Rosario, and has recently broken out at Cordoba, Tucuman, Zarati, Bahia, Blanco, and Azul, and, worse than that, has gained a foothold on the island of Martin Garcia, where 5,000 terrified immigrants are detained in quarantine, without sufficient food or shelter. We have great fears of appalling results there. These fears are based on rumors, and now furnished the Department as such. I have watched every movement of the Government carefully, and, though there may have been mistakes, both by omission and commission, not above criticism, I can not discover any lacking on the part of the machinery of the Government to do actively and liberally all that seems best. The country, of course, is filled with terror, and at such a time very naturally the power of reason and the exercise of good judgment are not at their best."

Chili and Peru.—The United States minister at Lima, in his dispatch of the 29th December, 1886, states that "great precautions are being taken in both Chili and Peru against admission of the dread disease from the Argentine Republic. All ships touching at ports on the South Atlantic side are prohibited entrance to the ports of Chili and Peru. The mountain passes in the Cordilleras are being guarded to prevent all passing; and there is much concern felt here as well as in Chili. So much so, perhaps insufficient causes might at any time induce very inconvenient regulations in Peru against steamers from the south."

Marseilles.—The death rate in a thousand during the last six years was as follows: In 1880, 32.3; in 1881, 27.4; in 1882, 30.2; in 1883, 31.0; in 1884, 33.0; in 1885, 32.9; in 1886, 34.9.

The United States consul, in his dispatch, states that "it thus appears that not only is the death rate of this city steadily increasing, but the mortality and death rate of 1886 were greater than the death rate of the two preceding years, both of which were marked by epidemics of Asiatic cholera, while 1886 brought no visitation of that disease to Marseilles. This apparent paradox is readily explained by analysis of the death list of last year, under the several classes of fatal diseases." He incloses a table which shows that during the year 1886 there were 2,051 deaths from small-pox, 192 from measles, 390 from typhoid fever, 19 from scarlet fever, 582 from diphtheria, 1,458 from pulmonary consumption, 2,171 from diseases of the respiratory organs, 2,049 from diseases of the nervous system, 1,254 from diseases of the digestive organs, and 137 suicides, and from all other causes, 2,855—making a total of 13,158 deaths. He further states that, "while the cholera destroyed 1,781 lives in Marseilles during 1884, and 1,266 in 1885, the small-pox, which became epidemic toward the close of the latter part of 1885, and continued with extraordinary fatality through the first eight months of 1886, destroyed during the past twelve months 2,051 lives, or 270 more than the cholera death list of 1884, the most fatal year in the recent records of this city. The general death rate of France, which was 30 in a thousand inhabitants in 1800, has been gradually reduced by sanitary improvements to 22 in a thousand in 1885. The mean average death rate of the 48 largest cities and towns in France, inclusive of Marseilles, is 25.3 in a thousand inhabitants. The death rate of Marseilles for 1886 was, therefore, 38 per cent. higher than the average of other French cities. The mean average death rate of the 63 largest cities of Europe, outside of France, is 24.6 in a thousand, or 41.9 per cent. less than the death rate of Marseilles for 1886. Nor is this all.

Even the extraordinary figure of 34.9 in a thousand, which Marseilles attained last year, marks the average mortality of the city entire, and not that of its worst quarters. There are two large and populous arrondissements in this municipality, where the death rate exceeds 50 per annum for each thousand of their population. It is there that the small-pox, the diphtheria, and various types of zymotic fevers, have done, in recent years, their most fatal work. Both these precincts are remote from the sea, and nearly destitute of sewerage, except the surface drainage.

MORTALITY TABLE, FOREIGN CITIES.

CITIES.	Estimated population.	Week ending—	Total deaths from all causes.	Annual rate of mortality in 1,000.
Genoa.....	179,516	January 15.	159	46.1
Warsaw.....	431,572	January 8.	244	29.4
Glasgow.....	545,678	January 15.	311	29.7
Leipsic.....	170,000	January 15.	60	18.4
Rome.....	355,026	December 4.	145	21.2
Amsterdam.....	372,325	January 8.	172	24.0
Leghorn.....	101,044	January 16.	70	36.1
Trieste.....	150,157	January 8.	114	39.5
Paris.....	2,260,045	January 15.	1,105	25.4
Belfast.....	224,422	January 15.	130	30.2
Munich.....	262,000	January 8.	129	25.6
Barmen.....	108,000	January 15.	52	25.1
Bristol.....	223,695	January 15.	113	26.3
Gibraltar.....	23,731	January 9.	14	30.7
Rheims.....	98,083	January 15.	56	29.7
Caragoa.....	25,000	January 15.	7	14.6
Cape Haytien.....	10,000	January 15.	9	46.9
Cadiz.....	65,028	January 8.	62	49.7
Acapulco.....	4,200	January 17.	4	49.5
Laguayra.....	7,428	January 15.	4	28.0
Hiogo.....	61,363	December 12.	19	16.1
Stuttgart.....	125,510	January 15.	49	20.3
Frankfort.....	155,000	January 8.	51	17.1
Mannheim.....	65,000	January 1.	23	18.4

Genoa.—The 159 deaths registered during the week ending January 15th included 3 from small-pox, 2 from enteric fever, and 1 from diphtheria.

Warsaw.—The 224 deaths registered during the week ending January 15th included 9 from small-pox.

Glasgow.—The 311 deaths registered during the week ending January 15th included 1 from small-pox, 2 from typhus fever, 8 from scarlet fever, 4 from diphtheria, 99 from pulmonary diseases, 18 from whooping-cough, and 5 from diarrhoea.

Leipsic.—The 60 deaths registered during the week ending January 15th included 2 from scarlet fever, 1 from diphtheria, and 1 suicide.

Rome.—The 145 deaths registered during the week ending December 4, 1886, included 4 from small-pox and 2 from enteric fever.

Amsterdam.—The 172 deaths registered during the week ending January 8th included 1 from enteric fever, 1 from small-pox, and 1 from diphtheria.

Trieste.—The 114 deaths registered during the week ending January 8th included 3 from diphtheria.

Paris.—The 1,105 deaths registered during the week ending January 15th included 2 from diphtheria and 1 from small-pox.

Belfast.—The 130 deaths registered during the week ending January 15th included 2 from typhus fever, 2 from enteric fever, and 1 from scarlet fever.

Munich.—The 129 deaths registered during the week ending January 8th included 1 from enteric fever, 1 from scarlet fever, and 4 from diphtheria.

Barmen.—The 52 deaths registered during the week ending January 15th included 4 from measles, 1 from typhus fever, and 1 murder.

Bristol.—The 113 deaths registered during the week ending January 15th included 5 from enteric fever.

Gibraltar.—The 14 deaths registered during the week ending January 9th included 1 from diphtheria.

Rheims.—The 56 deaths registered during the week ending January 15th included 1 from whooping-cough and 1 from diphtheria.

Original Communications.

ON SOME IMPORTANT POINTS IN THE TREATMENT OF DEEP URETHRAL STRICTURE.*

By F. N. OTIS, M. D.,

CLINICAL PROFESSOR OF GENITO-URINARY DISEASES IN THE COLLEGE OF PHYSICIANS AND SURGEONS, NEW YORK.

IN regard to the locality of urethral strictures, it may be broadly stated that they are important in proportion to their distance from the external urethral orifice; and, again, that strictures at any point anterior to the bulbous region are, to a great extent, free from the chief difficulties and dangers which may attach to strictures located in the deeper portions of the urethra. It is fortunate, therefore, that we find by far the greater proportion of urethral strictures situated in the penile portion of the canal—a fact which is reasonably explained and corroborated by the well-known greater frequency, severity, and persistence of inflammations in this locality.

Careful examination by means of the urethrometer and the bulbous sound, in more than one thousand cases which I have examined critically, has shown that less than 10 per cent. were found at a point beyond four inches from the urethral orifice. Through similar examinations by means of the urethrometer and the bulbous sound in any case of strictures, their presence as well as their exact locality may be readily demonstrated, and thus the distinction between cases of much or little importance may be absolutely determined. Notwithstanding this, it is still a common practice to make the diagnosis of strictures through *symptoms* alone, and to treat them by dilatation—not infrequently by division, without any knowledge of their exact location. For instance, a man comes to the surgeon complaining of a persistent gleet: the presence of stricture at some point in the urethra is naturally inferred; a flexible bougie or steel sound of the size of the urethral orifice is introduced, and, if it can be made to traverse the entire canal and passed well into the bladder, the first step in the treatment of stricture by dilatation is successfully initiated, and then a course of dilatation is carried out, without the least practical reference to the exact locality of the stricture. The stricture for which this procedure is initiated may be, and often is, confined to the anterior urethral orifice or its near vicinity, and yet the dilating instrument is carried not only through the entire penile urethra, which is usually very tolerant of unnecessary interference, but through the membranous and prostatic portions of the canal, where alone the greatest dangers of gradual dilatation reside.

In cases practically identical with those above referred to, where the strictures were of large caliber and in the penile urethra alone, I have known the passage of the flexible bougie or sound to produce epididymitis in many instances, in two cases going on to orchitis and abscess, with complete loss of the testicle in each; in other cases urethral fever, in

several with suppression of urine; acute prostatitis often, with prostatic abscess in two cases, one of which was in a surgeon of some distinction, and where the stricture was within one inch of the external urethral orifice. In other cases acute cystitis has resulted. All the above-mentioned accidents would have been avoided had the exact locality of the stricture been determined previously to the inauguration of the treatment, and this confined to the immediate locality of the stricture.

Again, in cases where difficulty in urination constitutes the chief symptom of stricture, and only small flexible instruments can be passed, the same mode of procedure is not uncommonly practiced—the surgeon recognizing, perhaps, that the obstruction to the passage is in the deeper urethra, but overlooking entirely the presence of anterior contractions of greater or less caliber which are potent to produce spasmodic contractions of the membranous portion of the canal, which may perfectly simulate close organic stricture at this point.

It is especially true of strictures of small caliber in the deeper portion of the urethra—say at from a quarter to one and a half inches anterior to the bulbo-membranous junction—that, in using the small flexible bougie, the instrument, after passing the above-mentioned strictures, is again arrested at a deeper point, and yet is finally made to pass on into the bladder, though often closely hugged.

It is in just such cases as this, and they are not infrequent, that the surgeon, satisfied that there is a close, deep organic stricture *beyond the bulb*, resorts to the urethrotome of Maisonneuve, or possibly performs an external perineal urethrotomy, on a diagnosis based upon information afforded by the small flexible or filiform bougie alone. It is, however, of the greatest importance that the error should not be made of mistaking for an organic stricture of the deeper urethra a spasmodic stricture caused by an organic stricture in the bulbous urethra. It is in just such cases as that above described that the preliminary and careful use of the *bougie-à-boule*, or the bulbous sound, becomes imperative, as it will not infrequently put an entirely different aspect upon the difficulty by revealing the presence of one or more linear strictures immediately anterior to the bulbo-membranous junction, on the removal of which, a full-sized sound may be made with ease to pass into the bladder. Permit me to cite a case in illustration.

Mr. W., aged forty, came to my office in November last, suffering with a retention of urine of a few hours' duration. He had a history of gonorrhoea fifteen years previously, followed by gleet, and, for a period of some ten years, was treated by injections and by dilatation for supposed stricture from time to time, but never had complete relief from his discharge. Finally, becoming discouraged, he discarded the use of the sound entirely, and contented himself with the occasional use of a mild astringent injection. Being a man of regular and temperate habits, except from the slight gleet he experienced no trouble of consequence until some two years ago, when he had a retention of urine.

Prolonged and urgent attempts to pass a catheter failed, and he was finally relieved by the hot bath. Much blood was lost in the attempts at catheterization, and, as a metallic catheter

* Read before the Medical Society of the State of New York at its eighty-first annual meeting.

was passed down near to the bladder, it is probable that one or more false passages were made. Although he voided his urine habitually in a small and interrupted stream, he had no further retention for a year and a half, when he had a repetition of his former experience. Repeated attempts at catheterization again failed, and he was again relieved by hot-water applications. Again a period of comparative freedom from usual trouble, until the morning of his visit to me. He had accomplished his urination with no more than his usual difficulty on rising, but on attempting the act a few hours later he was unable to pass more than a few drops. No complaint of pain, only of anxiety lest his former experiences in catheterization should require repetition. On examination, I found a penis of three inches and a quarter in circumference; length of pendulous portion, four inches and a half. The urethrometer was introduced to five inches, where it was easily expanded to 32 F., demonstrating on its withdrawal two narrowings of four millimetres at three inches and two inches and a half, and a meatus of 27 F. No. 27 solid sound was arrested at five inches. I then began a systematic examination with the metallic bulbous sounds. After careful and patient trial with sizes diminishing by one millimetre each, No. 6, the bulb of which represented six millimetres in circumference, slipped through a narrow ring of stricture and passed on, hitching over two or three little folds within the next half inch, into a sort of pouch or dilatation. I then enlarged the linear stricture with successive bulbs easily up to 8 F., and attempted to pass a catheter of this size, and, failing also in this, smaller sizes were patiently tried, besides various filiforms, but all were resisted at about six inches. I then started the Croton faucet, with directions that the patient should make no effort to urinate unless he had the desire, and left him for half an hour, thinking, later, to try the introduction under ether, if necessary. On my return he had voided eight ounces of fairly clear urine, and remarked that he had not made so large a stream in the last five years. On the following day he called, and reported sustained improvement. I then passed No. 9 bulb easily just to the pocket beyond. He complained of severe smarting when urinating soon after; this, however, soon passed off, and as he left he remarked that he did not think he had ever passed a larger stream in his life. A few hours after he started for a neighboring city. He was obliged to stop *en route* during the night, on account of another attack of retention. Here catheterism was attempted and failed, and the bladder was aspirated, about eight ounces of urine only being withdrawn. On arriving at his destination, on the following morning, another retention occurred, accompanied by fever and great suffering. This time the surgeon who was called, on hearing the history of the case, declined to attempt catheterism, but passed a trocar at once into the bladder through the rectum, and drew off over a pint of urine. The cannula was retained *in situ* for four days, when, a few hours after its removal, he passed his urine *per viam naturalem* with great ease. He returned to New York the next day, accompanied by his surgeon, from whom, in conjunction with the patient, the foregoing account was received. The patient expressed himself as considerably enfeebled, but as performing his urinary functions better than for many years. The day following the patient was etherized.

The stricture at five inches was readily defined with Nos. 9 and 10 bulbs. No. 10 flexible bougie was resisted at the bulbo-membranous junction. The staff of a Maisonneuve was then introduced six inches, and a blade, cutting to 28 F., was passed to and not beyond five inches and a half. After division of the meatus to 32 F., my dilating urethrotome was introduced to six inches only, and turned up to 32, and the stricture at five inches to five inches and a half divided, also the contractions anterior,

alluded to in the first examination. A No. 32 steel sound was then passed easily and without force well into the bladder. There was no hæmorrhage, only the oozing of a few drachms of blood, during the night following the operation. There was no constitutional reaction. The urine was drawn for five days subsequently, in order to guard against the occurrence of urethral fever. The patient had been much debilitated by his retentions and the means used to relieve them; his recovery was on that account considerably delayed, but he was out on the tenth day. The only special treatment which he received, besides that above referred to, was the introduction of a 32 F. solid steel sound every other day, until the complete healing of the wounds of operation, when he left the city apparently well.

It has been in my experience to meet with several cases practically identical with the one just cited, where close organic stricture in the bulbous urethra presented all the characteristics of true stricture of the membranous portion, and where operative measures, rigidly confined to the urethra *anterior to the bulbo-membranous junction*, have sufficed to remove all evidences of stricture *beyond that point*. The cases of urethrisms, or chronic spasmodic stricture, previously reported by me during a discussion of that subject in the "Hospital Gazette," June 28, 1879, and subsequently, were shown to be due to the presence of strictures of *large caliber* in the *penile urethra*. Strictures which have been demonstrated by means of the bulbous instruments in the immediate vicinity of the bulb were formerly accepted by me as deep organic strictures, and operated on either by external urethrotomy, or by the use of the urethrotome of Maisonneuve, as I do not consider the amount of cutting sometimes necessary to completely divide the stricture by dilating urethrotomy justifiable in the deep urethra, or beyond a point where any resulting hæmorrhage can be readily controlled by external pressure. It is, however, possible that many cases which present the usual evidence of deep organic stricture may, through careful exploration with small bulbous instruments, be relegated to the much less important class of strictures anterior to the bulb.

It will sometimes occur that strictures may be traversed by filiform instruments, and can be located by very delicate bulbous instruments, but where the caliber of the stricture is too small to admit the smallest guide bougie of the urethrotome of Maisonneuve. In such cases, where immediate operation has become necessary, the only resource is an external urethrotomy. For aid under such conditions, I have had constructed, and have frequently used with much satisfaction, a miniature Maisonneuve, of scarcely more than half the size of the ordinary instrument, carrying a blade of not more than three or four millimetres' breadth. This, with due care, may readily pass a stricture where no other cutting instrument can, and subsequently the ordinary-sized urethrotome of Maisonneuve may be readily entered.

This little instrument in my hands has, in repeated instances, saved the patient an external urethrotomy, when without it such an operation would have been unavoidable. Some time since, a patient presented at my clinique at the College of Physicians and Surgeons, who was reported to be the subject of an impermeable stricture. On careful exploration, several strictures of large caliber were found in the penile urethra, and one at about five inches, which

was defined by No. 6 bulbous sound, two millimetres less in size than the shaft of the ordinary urethrotome of Maisonneuve. The miniature instrument was introduced, and the deep stricture divided so that the ordinary instrument was easily made to follow. With the latter, room sufficient for the introduction of my dilating urethrotome was secured, the deeper as well as the anterior strictures were fully divided, and, with no cutting beyond five inches and a half, a steel sound, thirty-two millimetres in circumference, was passed easily into the bladder.

I do not fail to appreciate the fact that such cases as I have recited are quite exceptional. I believe they would be found to be much less so, if the means of diagnosis which I have described and advised were more generally adopted.

Permanence of results after operations on deep strictures depends, as in the case of anterior strictures, upon completeness of division. Complete sundering at some point is essential to radical cure.

This I first publicly maintained in 1873, as the result of careful re-examinations, several at least a year after operation. In 1881 I was able to report over a hundred well-authenticated cases where the cure had remained perfect from two to twelve years after division, and the experience of the subsequent years has still further confirmed the proofs of the statement that complete division of urethral stricture, as a rule to which there are but few exceptions, means radical cure. Division of all *anterior* strictures is, has been proved to be, essential to the cure of deep strictures. Sir Henry Thompson, in his latest teaching on the treatment of stricture, students' edition of 1884, says: "I am convinced, therefore, of the necessity of *complete* division of *all* the obstructing tissue, not only in relation to future results, but to the present well-doing of the patient, and thus have an additional support for the value of my maxim, 'If you cut one, cut all.'" And again, on page 10, "If you cut at all, cut all"; that is, he further says, *all the points* in the urethra in which the presence of obstructing deposit is to be demonstrated.

"Such," says Sir H. Thompson, "is the unhesitating conviction which a very considerable experience of internal urethrotomy has forced upon me."

Again he says, page 12: "I have no hesitation now in advising internal urethrotomy whenever organic stricture, single or multiple, near or distant from the meatus, shows signs of not yielding readily to dilatation. No delay is, in these circumstances, of any value as regards the stricture itself. Division must be made sooner or later, if the organs behind it are to be preserved from injury; the sooner, therefore, other conditions being favorable, the urethra is rendered freely patent, the better it will be for the subject of it."

The reason why the results of division of deep strictures by perineal section are often but temporary, is because most commonly the anterior strictures are not also divided. Without this, the full size of the urethra in the perineal portion can not be kept up until the healing of the perineal incision; hence re-contraction sooner or later is inevitable.

HYDRASTIS CANADENSIS IN UTERINE HÆMORRHAGE.*

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I AM aware that I am occupying a somewhat unusual position, for hitherto the work of my pen and the studies of my public and private practice have, so far as concerns gynecology, been devoted to its surgical aspect. Nor is this to be wondered at when one has passed, as we all have, a certain period of his life in the Woman's Hospital—a hospital essentially surgical in its workings and teachings. So I began my private work with the enthusiasm born of residence in a hospital dedicated by the work of Sims in fistulae, and glorified by the labors of Emmet upon the cervix, urethra, and perinæum, and imbued with the idea that the surgical portion of gynecology covered nearly all its field. While I would not detract one iota from the fair fame of the hospital and its surgeons, nor erase the name of one victorious battle—a battle won by surgical science—from the pillar of fame, yet I would ask you to pause and consider with me if there be not another way even so sure, more pleasant if not so short, as the one we have so often traveled together. As there comes to every thinking man a time when he reviews the past, and inquires whether in the light of past experience better results might not have been obtained, or equally good results might not have been reached by better methods, so there came to me a time when I awoke from the dream of a hospital, and of all its facilities, and found myself face to face with disease, and single-handed to fight the battle against our common adversary. Then for the first time I realized the position of the general practitioner, and then I resolved to so conduct my studies that I might explore a territory in which he could, with profit, enter and work. About this time there came into my hands a *résumé* of an article by Schatz, of Rostock, upon *Hydrastis canadensis*, which attracted my attention because it was a contribution to medical gynecology from a man of acknowledged eminence as an operator. The results of my studies in the use of this drug in uterine hæmorrhage are based on the observance of its effect in about fifty cases, of forty-three of which I have made careful notes.

Hydrastis canadensis—golden seal, yellow root, yellow puccoon, orange root, Indian dye, Indian turmeric, hydrastis de Canada, or canadische Gelbwurzel—is found in Canada and the eastern portion of the United States. The rhizome and rootlets are the portions from which the alkaloids are extracted, and the fluid extract, tincture, and decoctions are made. It is no new drug, since Durand, as long ago as 1851, isolated hydrastine and a yellow coloring matter, which Mahla, in 1862, proved to be berberina, the hydrochloride of which had been called hydrastin by the eclectic practitioners. This hydrastin in turn was shown by Hall, in 1873, and Burt, in 1875, to be not quite pure, but mixed with a third alkaloid, which Lerchen, in 1878, proposed to call xanthopuccina. Like most indigenous plants, especially

* Read at the third meeting of the Alumni Association of the Woman's Hospital.

those having a bitter taste, this was supposed to be tonic, antiperiodic, aperient, alterative, and diuretic, as well as antiseptic. The list of conditions in which it had been used was equally incongruous—atonie dyspepsia, intermittent fever, constipation, hæmorrhoids, chronic diarrhœa, jaundice, ophthalmia, gonorrhœa, cystitis, leucorrhœa—and, in common with most other drugs of the pharmacopœia, it had at one time a reputation as curative of cancer. Recent investigations have shown that berberina, one of its alkaloids, is an agent of no mean value in the treatment of chronic intermittent fever, and as well that certain dyspepsias, recognized as uterine, are cured by the administration of hydrastis, as was observed in seven of my own cases. How far its action could be explained in other conditions by scientific research it is not pertinent to this paper to discuss.

In 1883, Schatz, in a scholarly paper read before the Gynecological Section of the Congress of German Naturalists and Physicians at Freiburg, brought this drug favorably to the notice of the scientific world as a remedy of the greatest value in uterine hæmorrhage. Stimulated by his report, in the following year Slavatski, in 1885 Fellner, and last year Mays made careful physiological studies, the results of which I will briefly give. Slavatski's experiments with hydrastin upon animals showed that in small doses the irritability of the motor nerves was increased, while that of the sensory nerves was diminished, large doses arresting the heart in diastole. Fellner's conclusions, after elaborate experimentation, were as follows: Large doses injected directly into the jugular vein, the blood-pressure at first was greatly lowered, pulse slowed, followed by a rise of pressure which ultimately disappeared. There came now a second fall of blood-pressure, with irregularity of cardiac action, cardiac failure, and death. Medium doses gave similar results, the blood-pressure rising higher, but falling less deeply at the end of the second stage, the terminal symptoms being wanting. Small doses subcutaneously produced a rise of the general blood-pressure. Large doses, by enema, by the mouth, and subcutaneously, acted similarly to small doses injected immediately into the vein. From experiments carried out after section of the splanchnic nerves, or of the cervical portion of the spinal cord, after compression of the abdominal aorta, or after section of the depressor nerve, or when the respiration was suspended, simultaneously with strychnine injections, it became evident that hydrastis had its principal effect upon the vaso-motor nerve centers, the pneumogastric also being influenced, as was shown by slowing of the pulse after its section. It also acts upon the nerves of the heart, as is shown by the arrhythmia. The part of Fellner's experiments which interests us more is this: with the rise of blood-pressure, the uterine muscle became anæmic, which condition persisted so long as the blood-pressure remained high. He made use of the fluid extract of *Hydrastis canadensis*, berberina, phosphate of berberina, and the hydrochloride of hydrastine. All produced also uterine contractions, but the alkaloids required to be given in much smaller doses to produce more energetic contractions. Mays used hydrastine only, and found with small doses increased blood-pressure, vaso-motor con-

traction, cardiac inhibition, and anæmia of the alimentary mucous membrane; with large doses, diminished blood-pressure, vaso-motor dilatation, and hyperæmia of the alimentary mucous membrane. He observed also uterine contraction even of the body and horns of the uterus, with increased irritability of the motor nerves and diminished irritability of the sensory nerves, and that the drug acted from central influence. Fellner's experiments upon animals were made with too large doses, and the uterine contractions were the result of anæmia and not directly due to the drug itself. Clinically, I never have observed expulsive pains or the throwing off of the uterine contents.

The experience of Schatz comprises fifty cases of uterine hæmorrhage, of which he records thirty cases from the following causes: bleeding myomata, congestive dysmenorrhœa, bleeding from virginal uterus, hæmorrhage caused by parametric cicatricial tissue, by subinvolution from endometritis and metritis, and at the climacteric. His success was remarkable and convincing, with such apparent candor are his cases reported. Mendes de Leon has used hydrastis in forty cases—of which he reports fourteen, classified under the following heads: uterine hæmorrhage, which in every case had markedly diminished by continued administration of the drug, catarrhal inflammation of the mucous membrane of the uterine canal, chronic inflammation of the pelvic connective-tissue, retroflexions and versions, climacteric bleeding—with excellent success, he having never observed the labor-like pains so characteristic of ergot. Shrivopiszew reports great satisfaction from the use of this drug in eight cases of metritis and endometritis, the flow ceasing in all cases. The patients who suffered from dyspepsia were all relieved. Woltering has used hydrastis in three cases of uterine fibro-myomata with the result of diminishing the length of the uterine canal and checking the flow. He alone administered the remedy in pill form, and unfortunately combined it with ergot. Akuloff reports a most successful case of uterine hæmorrhage treated for three months by this drug. The case was apparently one of subinvolution, and the patient had flowed profusely every two weeks for nine years, the menstruation becoming regular in time and lasting three days with moderate flow, the uterus also diminishing in size.

The recorded experience in the use of *Hydrastis canadensis*, then, covers more than one hundred cases. Before adding my own, I would state that metrorrhagia especially and menorrhagia have been the determining symptoms for the use of this drug. I would define menorrhagia as a condition of menstruation when the flow, previously normal, becomes profuse or has always been profuse when compared with that of women of the same station and time of life, and is evidently too great a loss for the patient to bear. Although nothing, so far as I know, will conceal its unpleasant taste, yet I have given only the fluid extract, in doses of twenty drops three or four times daily in a wineglass of water, in cases of fibro-myomata, subinvolution, and hæmorrhagic endometritis continuously, in other cases for ten days before and during the menstrual period. I have never used hydrastine or the other alkaloids, because of the great variations in their strength.

I have used *Hydrastis canadensis* in three cases of uterine fibro-myomata:

CASE I.—Mrs. E. L., thirty-nine years old, never pregnant, and always healthy, whose menstrual period, formerly of three days' duration, for the last two years has become seven days, with profuse flow. She had remarked a mass in the abdomen for nearly a year. The tumor was mostly in the anterior wall, and the uterine cavity measured six inches in depth. Treatment by ergotin for three months was without effect except the production of atrocious bearing-down pains, and ended in a flooding of three weeks' duration. In three months' use of hydrastis the uterine cavity became a trifle over four inches, the periods again became normal, and the size of the mass has diminished. The patient is upon a fair road to recovery.

CASE II.—Mrs. I. M., twenty-six years old, during a married life of seven years had borne three children and had suffered from one miscarriage; had been flowing profusely for four weeks. At her first labor she had puerperal fever; her last labor was a face presentation. During her married life the amount of blood lost at the menstrual period has become greater each year. She suffered from profuse leucorrhœa, vesical tenesmus, and frequent micturition. There was a laceration of both cervix and perineum, evidences of pelvic inflammation, and a submucous intra-uterine fibroid. The depth of the uterus was four inches, there being also a few fungosities. The patient was in a deplorable condition, fainting whenever raised to an upright position, exsanguinated. Clearing out the uterus with incision of the mucous membrane over the tumor, the tampon, alum douche, and ergot did not check the bleeding. Three days later I ordered hydrastis, which checked the flow, and in a week it had entirely ceased. A month later the uterine cavity had diminished half an inch. The periods became normal in time and quantity, and remained so for over a year under the continual administration of the drug. The pelvic inflammation gradually subsided and she regained her usual health.

CASE III.—Mrs. L. P., twenty-nine years old, the mother of five living children, had suffered from profuse periods, with a flow of eight days, for three years. A small fibroid was found in the anterior wall of the uterus. Under the continuous administration of hydrastis the flow again became normal and so remained.

My conclusions in these and the subsequently enumerated cases are supplemented by the results of treatment in the observations of the writers whom I have already mentioned. Hydrastis checks the bleeding from uterine fibro-myomata by the production of persistent anæmia, unaccompanied by the distressing cramps of ergot or the flooding from the alternate contractions and relaxations. So in the cases of small fibroids it is preferable where their expulsion would probably be attended by hæmorrhage or septicæmia. We all know that enucleation by the spoon-saw is frequently followed by death, that removal of the ovaries (castration), or removal of what has been termed, curiously enough, the uterine appendages, is generally unnecessary and contra-indicated, aside from the great danger to life, on both social and moral grounds. In face of the experience of the various observers above enumerated, every man, before resorting to abdominal section, should consider that he may needlessly sacrifice a human life.

Of hæmorrhagic endometritis I record seven cases, five being cases of endometritis fungosa:

CASE IV.—Mrs. S. R., forty years old, the mother of seven children, since the birth of the last, five years previously, has

suffered from menorrhagia, flowing for six to eight days. Ergot and tampons of alum and cotton checked a flow of ten days' duration, but the next period was even worse. Next I removed a large quantity of uterine fungosities with the curette without any effect upon the following period. *Hydrastis canadensis* during the last two years has kept the flow normal in time and quantity and of four days' duration. The uterus, formerly hyperplastic, now measures three inches.

CASE V.—Mrs. H. T., twenty-nine years old, has borne three children, the youngest seven years old. Has had constant flowing since a miscarriage three months ago. Has been repeatedly curetted without benefit. Now flows five days profusely, with much uterine tenesmus, anæmic headaches, dizziness, and dyspepsia. As I was unable just at that time to remove the fungosities with the curette, I administered hydrastis, which reduced the flow to two days and moderated it. This condition has remained for two years, together with great improvement in the general health.

CASE VI.—Mrs. M. M., twenty-three years old, since a miscarriage one year ago, has menstruated every two weeks, the flow lasting six days; uterus hyperplastic: the diagnosis of fungosities established by the curette. Hydrastis relieved the patient after two months, and she has since remained well.

CASE VII.—Mrs. A. S., twenty years old, has flowed just one half of the time since a miscarriage six months ago. The flow was checked by hydrastis, and disappeared for over one month. It was subsequently resumed and became normal.

CASE VIII.—Mrs. M. N., forty years old, has flowed eight days at a two weeks' interval for the last year. The diagnosis of fungosities was established by the curette. After the second month she began to flow every four weeks for three days. Then also the uterus was somewhat enlarged after the birth of her only child.

CASE IX.—Mrs. M. D., forty years old, after a marriage late in life began to flow profusely for eight days at regular intervals. The pain was severe and the uterine leucorrhœa profuse, the uterus bleeding freely upon a touch with the probe. Hydrastis has controlled the bleeding for eighteen months. For the last year the retroverted uterus has been retained in place by a pessary.

CASE X.—Mrs. A. C., thirty-two years old, the mother of two children, has suffered from profuse periods for five years. The uterus is enlarged, the cavity bleeds easily, no fungosities are found. The menstruation, formerly at intervals of three weeks and profuse, now has been for a year made regular in time and normal in quantity by hydrastis.

In hydrastis, then, we have a sovereign remedy, in endometritis fungosa even when curetting has failed to arrest the bleeding. I have seen a fatal result from the apparently simple operation of curetting. That there is danger is attested by the number of so-called antiseptic curettes to be found in the market. With the use of hydrastis no confinement to the bed is necessary.

Sixteen cases of subinvolution of the uterus have been treated by hydrastis:

CASE XI.—Mrs. H. B., thirty-seven years old, the mother of one child, has flowed six to eight days each month for the last six years. She has profuse leucorrhœa, poor appetite, pains in back and groins, and dyspareunia. She is emaciated, anæmic, and a thoroughly broken-down woman. Examination reveals vaginismus, a laceration of the cervix and perineum, and an anteverted subinvolved uterus, whose cavity measures three inches and a half. The cervix is hard and contains deep and tender cicatrices. *Hydrastis canadensis* was used for about six

months, with entire relief of the menorrhagia. Weir Mitchell's treatment was carried out for two months, frequent local applications of eucalyptus were made to the cervix, and the use of the Emmet douche was enjoined for three months. The patient at the end of a year is in excellent condition, both locally and generally.

CASE XII.—Mrs. K. M., thirty years old, has had four children in a married life of six years. Her menstruation recurs every three weeks and lasts nine days. She has a profuse uterine leucorrhœa, and is neurasthenic and dyspeptic. Three months' use of hydrastis has so improved her that she considers further treatment unnecessary.

CASE XIII.—Mrs. H. G., thirty-five years old, had suffered from menorrhagia since a still-birth eight years previous to her first visit. Her periods lasted eight days and recurred every three weeks. There were also a lacerated cervix, a lacerated perineum, and a retroverted, hyperplastic uterus. Three months of hydrastis relieved the menorrhagia, and the uterus became normal in size.

CASE XIV.—Mrs. M. S., thirty years old, had been pregnant four times and delivered of three living children. Every three weeks she flowed for six days. The cervix had been carelessly closed; two weeks' treatment checked a flow of ten days' duration; her next period was missed, although she became regular afterward.

CASE XV.—Mrs. M. H., twenty-five years old, had suffered for two years since the birth of her last child with profuse periods of ten days' duration, recurring every three weeks. At her second period the flow was checked. There was a deep laceration of the cervix, resulting in an enlarged uterus.

CASE XVI.—Mrs. E. P., thirty-four years old, had borne four children. Her periods recurred every four weeks, but there was a profuse flow of six days; this had persisted for two years. Here, again, a lacerated cervix was at fault. The result of treatment was satisfactory.

CASE XVII.—Mrs. I. Z., twenty-five years old, was cured of a menorrhagia, flow every three weeks, lasting seven days, of two years' standing, by four months' treatment, with a great improvement in her general condition.

CASE XVIII.—Mrs. L. I., thirty-nine years old, had received a deep laceration of the cervix and a slight tear in the perineum at the birth of her only child four years ago. Her menorrhagia, of a monthly period of six days, was relieved.

CASE XIX.—Mrs. E. F., twenty-nine years old, had flowed profusely at every monthly period since a miscarriage, six months before. The next period became normal, and so it remained during five months, when she passed from observation.

CASE XX.—Mrs. L. S., twenty-five years old, the mother of three children, was pallid and nervous from a menorrhagia of four months' standing; her periods recurred every two weeks. Hydrastis stopped the flow entirely for one month, and she subsequently became regular.

CASE XXI.—Mrs. S. W., twenty-five years old, twice pregnant, had suffered from menorrhagia since a miscarriage eight months previously. Had been troubled with dyspepsia, faintings, and vertigo. Relief followed the administration of hydrastis for two months.

CASE XXII.—Mrs. M. M., twenty-eight years old, the mother of two living children, had suffered from menorrhagia since the birth of her last child three years ago. This symptom, together with a profuse leucorrhœa, was relieved in four months.

CASE XXIII.—Mrs. M. H., thirty-six years old, the mother of two children, had suffered from indigestion, dysmenorrhœa, and menorrhagia; periods every three weeks, lasting six days, since the birth of her last child. Two months' treatment entirely relieved her.

CASE XXIV.—Mrs. A. G., forty years old, had suffered from indigestion and menorrhagia for two years. The uterus was diminished in size at the end of one month, and the flow was checked from the outset.

CASE XXV.—Mrs. M. F., twenty-five years old, had suffered from profuse periods for three years since the birth of her only child. Relief followed a month's treatment.

CASE XXVI.—Mrs. K. G., twenty-five years old, had borne two children within a year and a half. The menstruation recurred every three weeks and lasted six days. The profuse flow was checked at the first subsequent period, and entirely relieved at the second month.

All of these patients were examined, and in many instances the uterine cavity measured from time to time. The average duration of treatment was about that of preparation for the operation of closure of the cervix. Had these patients come under my observation a few years before, I should have undoubtedly operated upon the greater portion of them.

Hydrastis canadensis, then, by its faithful use, will often render Emmet's operation unnecessary. We see the uterus becoming smaller, the leucorrhœa diminishing, the erosions healing, the displacements becoming rectified. Apparently it is to this class of cases that Shrivertzenoff refers, although he does not apparently recognize a lacerated cervix.

I have treated successfully five cases of climacteric hæmorrhage with hydrastis:

CASE XXVII.—Mrs. M. F., forty-five years old, the mother of five children, had been irregular in her menstruation for eighteen months. She was troubled with dyspepsia, vertigo, hot flashes, constipation, and palpitation of the heart. Her periods were of six to ten days' duration, and recurred irregularly every two to three weeks. This patient was relieved and ceased to menstruate three months later.

CASE XXVIII.—Mrs. M. C., fifty-two years old, had borne four children. Her symptoms were an almost exact counterpart of those above mentioned. At the time she was seen she had been flowing two weeks. The flow stopped in less than a week, never to return.

CASE XXIX.—Mrs. C. M., forty-seven years old, had been in the "dodging time" for a year. Palpitation was especially complained of. Hot flashes, vertigo, and constipation rendered her life miserable. The menorrhagia was checked, with relief of the symptoms, but menstruation persisted for a year.

CASE XXX.—Mrs. A. K., thirty-seven years old, had borne four children. For the last year had been flooding profusely, with the usual climacteric symptoms, being hysterical, constipated, and neurasthenic. Here again hydrastis rendered the periods of four to five days' duration and moderate in amount.

CASE XXXI.—Mrs. M. H., fifty years old, a widow, had been much troubled with dyspepsia, hot flashes, and vertigo for four years. The interval of her periods was normal, but they were profuse. Hydrastis decreased the amount of flow, and the dyspepsia was relieved.

The results obtained in these cases I regard as admirable, and believe we have a valuable remedy in this class of cases, which oftentimes are very difficult to relieve. It is only fair to say that I have also used the bromides sparingly and arsenic somewhat vigorously, but I feel positive that, in removing one cause of general anæmia, hydrastis has been of great benefit.

Nine cases of pelvic inflammation have come under my

care which have been treated with hydrastis. The more accurate diagnosis will be given with each case :

CASE XXXII.—Mrs. M. W., thirty-six years old, had borne one dead and six living children. For the last two years she had suffered with pain in the back and sides, with profuse flow ; a double laceration of the cervix had been closed, with the result of metrorrhagia, for six months, when she came under my observation. There was a large exudation on the right side of the womb, very tender; the right ovary was not found, but the left was distinctly felt to be normal in both size and position. Hydrastis permanently checked the metrorrhagia in one week and kept the menorrhagia under control for six months, when she passed from observation.

CASE XXXIII.—Mrs. M. W. D., twenty-three years old, never pregnant, had suffered from menorrhagia for two years. There was a large exudation into the utero-sacral ligaments, with great tenderness and vesical irritability. The menorrhagia was relieved, and she even missed a period. Then her menstruation became regular, with great improvement in her general health.

CASE XXXIV.—Miss L. M., twenty-one years old, had suffered from too great loss of blood for two years. The monthly flow would often continue ten days. The uterus was somewhat enlarged and anteverted. She was under treatment three months, with ultimate relief.

CASE XXXV.—Miss M. H., twenty-two years old, had been complaining of profuse periods for four years; she also suffered much pain. The uterus was somewhat prolapsed, and there was much tenderness on the left side. Hydrastis relieved the menorrhagia in three periods, but the dysmenorrhœa persisted for two more.

CASE XXXVI.—Miss M. K., twenty-two years old, had flowed every three weeks and a half for six days during the last eight periods. There was no dysmenorrhœa. The uterus was retroverted, with some inclination of the body to the left. She was relieved after two months.

CASE XXXVII.—Miss A. C., sixteen years old, had suffered from atrocious dysmenorrhœa since the first six months of her menstrual life. She flowed five days at every period. Hydrastis relieved the excessive flow, but did not reach the pain. The uterus was retroverted, possibly retroflexed, but, as she did not remain but a month under my observation, I can not report the final result.

CASE XXXVIII.—Miss F. K., eighteen years old, during her menstrual life of four years had suffered severe pain, chiefly in the left side, during her flow, which lasts three days and is very profuse. There was a large exudation in the utero-sacral ligaments. The uterus was somewhat anteverted; both ovaries were normal in size and position. Hydrastis diminished the amount of flow, but not its duration.

CASE XXXIX.—Miss W. S., twenty-five years old, was sleepless and nervous, with fainting and dizzy attacks, and annoyed by horrible dreams. Her flow was regular in time, but lasted seven days, and was profuse. The womb was retroverted. Hydrastis diminished the time to four days, and the amount to a normal quantity. This result persisted one year.

CASE XL.—Miss B. C., twenty-three years old, had been under my care for several attacks of pelvic cellulitis and peritonitis; her uterus was markedly anteverted. She suffered from hypogastric pain, nausea, and frequent urination. Her general condition was bad. Hydrastis relieved the amount of flow, and reduced the time of her period from seven to five days. The final result, after three months, I am unable to report.

Since I have been using hydrastis in these cases I have abandoned the use of iodine, to some extent that of hot water,

and in a measure local treatment. I should even be inclined to use this remedy in pyosalpinx, because by it we can reduce the hyperæmia without producing contraction of the tubes. I have seen too many healthy tubes removed to operate before having exhausted medical therapeutics, and, further, I have found post mortem that even pyosalpinx can become quiescent, the pus becoming cretaceous, the whole process apparently never having given rise to any symptoms.

Three cases of congenital antelexion have been treated with such marked relief of symptoms that I report them here :

CASE XLI.—Miss M. A., nineteen years old, suffers from pain in the back during her flow; becomes hysterical; flows for seven to nine days every three or four weeks; has cramps; passes clots; has profuse leucorrhœa, frequent urination, and great pain on movement of the bowels. These symptoms have marked her menstrual life, and have become aggravated with each year. She has been under my observation for six months; her flow is now normal in time and quantity, and her nervous symptoms have almost entirely disappeared.

CASE XLII.—Miss M. M., twenty-nine years old, has a retroverted-antelexed uterus. She flows six to seven days, and profusely. During the year she has been under observation, not by any means treatment, her dysmenorrhœa has disappeared and the flow become normal. I first replaced the retroversion, which was the result of lifting, and retained the womb in position with a pessary.

CASE XLIII.—Mrs. A. B., twenty-five years old, never pregnant, suffers from great pain in the back during her profuse five days' flow. She has uterine leucorrhœa, hot flashes, headaches, and dyspareunia. She has an enlarged uterus, which is, however, movable. There is also great tenderness on all sides of the uterus, especially the left. There is no exudation; both ovaries are distinctly felt, not prolapsed, the left one very tender to the vaginal touch. Her menorrhagia was controlled by two months' use of hydrastis. She had omitted its use for three months, when she came again under my observation with acute inflammation of the left ovary. She suffered from great pain in the left side, uncontrollable nausea, no tympanites, but great headache and thirst. Her pulse ranged for a week from 100 to 110, and her temperature from 102 to 104 F. The left ovary was greatly enlarged and very tender, and vaginal examination always provoked vomiting. On the third day of my attendance she developed an inflammation of the left parotid gland, which went on to resolution. She made an excellent recovery, and has remained in good health. This is one of the few cases in which I have been able to make a diagnosis of acute oophoritis.

In this flexion of the uterus, producing what has been called obstructive dysmenorrhœa, although the worst cases as regards pain and intractability have been cases with a patent uterine canal, the artificial anaemia has not failed to relieve the cramps, the pains, and generally the nervous symptoms as well. This drug also obviates the necessity of having recourse to the operation of posterior section, which is ordinarily one of the most fatal of all the minor operations. In these cases, if hydrastis is employed, local treatment is entirely unnecessary. I would even go further and say that, in many cases, an examination can be dispensed with. The only interest that the patient has is that her symptoms shall be relieved; that is the only interest that the physician should have, and, if it can be accomplished without an examination, I regard an examination as entirely unnecessary. I

am prepared to say even more: that I would have it the established rule that no examination of an unmarried woman should be made unless with the unanimous decision of a consultation, one of the physicians, at least, to be a general practitioner.

In this paper I have aimed to show that results can now be satisfactorily attained by medical means which were formerly supposed to be reached only by surgery. I regard every step in this direction to be a decided advance, because it brings gynecology into the hands of the general practitioner to a greater and still greater extent. To do this is, I maintain, the first duty of the specialist. Before closing, I wish to remind you that disputed questions have never been settled by the specialist, and rightly so. They come for their final verdict before the jury composed of general practitioners. The gynecological question of to-day is this: Shall we lead the revolt against needless operations, dangerous mutilations, and unnecessary and debauching examinations, or shall we wait to be driven into line by the outraged sentiments of the profession at large?

REPORT ON A NINTH AND TENTH SERIES OF ONE HUNDRED CONSECUTIVE CASES OF CATARACT EXTRACTION, PERFORMED ACCORDING TO VON GRAEFE'S METHOD.*

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THE present series of two hundred cases follows, without interruption, upon the eight series, and comprises all the extractions that I have done according to von Graefe's method since November 18, 1882, up to the present time. I may say, however, that during these four years I have been absent from New York longer than a year, and that since June of 1886 I have practiced, as a rule, extraction without iridectomy. The following remarks are confined to what I think may be of interest to the general practitioner, who, though he may decline to extract cataracts himself, would not like to be ignorant of the methods and results of so important an operation.

The majority of the patients referring to the present series have been under observation a longer time, and any subsequent accident, inflammation, and impairment of sight, so far as they have come to my knowledge, have been carefully recorded.

The method of operating has remained substantially the same as in previous years. It consists in a section through the upper third of the transparent corneal margin, a smaller or larger excision of the iris, incision of the capsule at the periphery, along the corneal section, expulsion of the nucleus and cortex of the lens by external pressure, exsection or reduction into the anterior chamber of any portions of iris or capsule that may be caught between the lips of the wound, instillation of atropine immediately be-

fore and after the operation, bandaging of both eyes with absorbent cotton and a flannel roller, and keeping the patient in bed as quiet as possible for several days, in a room only moderately darkened.

Since October 17, 1884, all the operations have been done under local anæsthesia with cocaine.

The reactive processes following this method of operation are, so far as my experience and knowledge go, less numerous than in any other method, except, perhaps, when the iridectomy is done not simultaneously with the extraction, but weeks, months, or years before. The peripheric opening of the capsule reduces the cutting and the introduction of instruments into the eye to a minimum, renders the expulsion of the lens easy, and prevents the prolapse of wrinkled shreds of capsule. Plastic iritis, so common when the capsule is lacerated in the center, occurs only exceptionally in this mode of operating, for the irritating effect of the shreds of capsule and free remnants of cataract is obviated. The method renders necessary, however, a larger number of secondary operations, at least if we want to give our patients the benefit of the greatest acuteness of sight that is obtainable without danger. The remnants of cataract remain shut up in the capsule, innocent and inert, it is true, but they dim the pupil and cause an obstacle to sight which is still increased by the gradual wrinkling of the capsule. The remedy for this condition is to split the capsule with a knife-needle. This almost completely harmless operation can be done two weeks after the extraction, or at any later period, and, in general, renders the vision sharper than when the center of the capsule is ruptured during the operation. In the series of two hundred cases under consideration, I have made ninety-one dissections of the so-called secondary cataract, *i. e.*, incising the capsule with a knife-needle. None of them had a bad result, and the improvement of sight has been most gratifying. I may say that this improvement is not marred by subsequent wrinkling of the capsule—a condition which is quite frequent when the capsule is primarily ruptured in the center.

The visual results obtained are as follows:

Visual acuteness.	No. of cases.	Visual acuteness.	No. of cases.	Visual acuteness.	No. of cases.
20/20.....	8	15/200.....	3	1/1000.....	1
20/30.....	27	10/200.....	1	1/∞.....	4
20/40.....	22	5/200.....	1	0.....	3
20/50.....	45	7/200.....	1	Failure.....	8
20/70.....	34	5/200.....	1		
20/100.....	15	3/200.....	4		
20/200.....	30	Moderate....	11		
Good.....	181				

These results are compiled from the records of the latest examinations of the patients. If we express them in percentages, we obtain: Good results, 90.5 per cent.; moderate results, 5.5 per cent.; failure, 4.0 per cent.

The moderate results were, in most cases, owing to complications, such as old opacities of the cornea and vitreous, partial atrophy of the optic nerve, atrophic chorioiditis, and the like.

The cases of failure form the most important part of this, as of any, report, and demand an inquiry into their causes. Their histories are as follows:

* Read by title before the Medical Society of the State of New York at its eighty-first annual meeting.

The patient entered with $V. = \frac{1}{1000}$, on the day of discharge, the 26th after the operation, had a tremulous cataract, and the liquefied vitreous oozed out after the iridectomy. The wound closed, but hæmorrhage, from rubbing the eye in the night, ensued into the anterior chamber and the vitreous. Vitreous dull when the patient left. Patient not seen again. The operation had been done with antiseptic precautions.

Mrs. M. B., after a regular operation without antiseptics, had a primary and permanent union of the section, but after hæmorrhage in the pupil and vitreous. Then followed circumcorneal injection, nightly pain, and dullness of sight. Pupil all the time wide, and free from adhesions; iris congested; vitreous dull. This condition of congestion of the uveal tract, with diffuse opacity of the vitreous, lasted until the thirty-eighth day after the operation, when she was discharged with $V. = \frac{1.5}{200}$. Two months later her sight was reduced to quantitative perception of light ($\frac{1}{\infty}$).

There are four cases of *primary suppuration* of the wound, ending in destruction of the eye by panophthalmitis:

The first was that of a man, Mr. F., sixty-seven years of age, whose other eye was a stump, the result of an extraction done in Mobile. He looked well; the functional examination proved normal. The only abnormality noted was that he breathed through his mouth. Regular extraction, under cocaine, with antiseptic precautions (corrosive sublimate, 1 to 5,000). On the evening of the second day pain and secretion set in. The next day white infiltration of the wound; increased the following day. Cauterization of the infiltrated edge of the flap, with a platinum wire brought to a glow, did not prevent the progress of the suppuration.

The second was that of a fat lady, Mrs. S., operated on in the city on a very blustering April day (1884), without antiseptic precautions other than cleanliness. She was fidgety; the operation required a good deal of manipulation, especially in expelling remnants of the cortex, but its termination appeared very satisfactory; pupil clear, wound free, closure perfect, sight excellent. She was very restless the first night, and suppuration showed itself the next day at the edge of the wound. It remained partial, and left the eye healed with an indrawn scar, preserving perception of light, with very little hope of improvement from an after-operation.

The third patient, Mrs. H., was a woman suffering from *ozæna* and a lacrymal fistula discharging pus. She was operated on under the strictest antiseptic precautions. The whole field of the operation was carefully washed with a carbolic-acid solution, and the fistula syringed with corrosive sublimate. The operation passed off smoothly; the fistula was covered with isinglass-plaster, upon which, as well as on the eyelids, iodoform was strewed. Suppuration from the next day, leading to panophthalmitis.

The fourth patient, Mrs. K., aged sixty-four, of College Point, suffered from a chronic conjunctivitis, with no, or only little, mucous discharge. She had been exposed to cold the day before the operation. Cleansing of the eye, conjunctiva, instruments, and hands with corrosive sublimate, 1 to 5,000. Suppuration the next day, which, with the most careful after-treatment (irrigation of the wound and conjunctival sac), could not be arrested.

A case of secondary suppuration occurred in an old woman, McG., addicted to drink, suffering from *czæna* and chronic conjunctivitis. Antisepsis. Expulsion of the lens followed by prolapse of the vitreous from sudden pressure of patient. Healing undisturbed until the fourth day, when pain began, and lasted all night. The other eye had been removed after an operation

performed in another institution. There was offensive, somewhat greenish, discharge in its conjunctival sac. In the eye recently operated on the wound was closed, but from one of its corners a streak of pus descended into the anterior chamber, producing purulent hyalitis and phthisis bulbi.

The last case of loss is particularly sad and instructive. Peter McPoland, of Highland Falls, N. Y., had a complicated cataract, with chalky deposits. It was removed January, 1884, in its capsule by pressure with the fingers. Slight escape of vitreous. Carbolic-acid spray, washing, and bandage. The healing was slow, but good. There was a small prolapse of iris in the outer corner of the wound. He was discharged thirty days after the operation, with $V. = \frac{2}{3}$. Five months later he presented himself again. His eye was free from irritation, and his vision $\frac{2}{3}$, full sight. January 3, 1887, he came to see me, and said "that his sight had been beautiful for two years and a half; then he drove in the wind long and late; the eye inflamed, and festered out."

Had I compiled these statistics at an earlier date, this case would figure among the perfect results— $V. \frac{2}{3}$. The prolapse of iris was probably the starting-point of the suppuration, and, therefore, the loss of the eye has to be considered as a consequence of the operation, and entered among the failures, just as detachment of the retina, occurring sooner or later, after prolapse of vitreous, and after extraction of the lens in its capsule, with or without the introduction of instruments, is a consequence of the operative procedure.

Apart from this case there were five cases of suppuration (two and a half per cent.)—four primary and one secondary. With the exception of the lady, they all suffered from nasal, lacrymal, or conjunctival disease. The antiseptic precautions which I employed before, during, and after the operations (only the lady was operated on without them) did not avert the suppuration, though they did so in a much greater number of other cases included in the present series. Dacryocystoblennorrhœa and chronic conjunctivitis, with a swollen uneven mucous membrane, have been dreaded by all eye operators for many, many years. In some such cases I have obliterated the tear-sac with the lunar or actual cautery, and not operated before all secretion in the conjunctiva had ceased. The operations in these cases succeeded. This obliteration of the sac is evidently the safest plan. Lacrymal disease is, however, so frequent that radicalism in this respect would be not only very annoying but also superfluous in the majority of cases. Yet the cases of lacrymal trouble are almost the only ones in which our present means of aseptic operating fall short. They require most careful preliminary treatment. Bacteriological examinations of the secretion and superficial tissue of the conjunctival sac, both microscopically and by way of cultivations, will, I think, aid our judgment of the prognosis in a given case.

Half of the number of patients were operated on without antiseptic precautions. Among them is one failure by suppuration in a healthy eye. The patient was operated on when the atmosphere was very dusty. Two other factors can be alleged as favoring the development of purulent infection in this instance: a good deal of manipulation during the operation, and restlessness in the first night. Formerly I thought that germs were one of the causes of suppu-

ration; at present, on the strength of numerous experiments, I believe that they are its only cause.

In the conjunctiva the pyogenic fungi are not numerous; infection with the fingers of the operator does not occur, for the wound is not touched by them; the wounds are commonly small, the operations are soon over, and the eyelids afford an excellent protection. The eye surgeon, as regards wound-infection, is in a more favorable position than the general surgeon. His instruments are small, and easily kept germ-free. Air and water, if reasonably pure, are innocent, and the dressing material does not come in contact with the wound. Yet there are cases of primary and secondary infection of cataract wounds. Where do the germs come from? I think from the following three sources: 1, from the tear-sac; 2, from the conjunctiva, when both are in a state of acute or chronic purulent inflammation; and 3, from the edges of the eyelids. The eyelashes store up smaller or larger masses of secretion, albuminous substance, which in its decomposition will be a nutrient soil for putrefactive bacteria and their kin, the pyogenic microbes. Long before I had definite notions on the mode and effects of infection, I had noticed that chiefly those cases suppurated in which I had been very particular in clearing the pupil from remnants of cataract. This I did by pushing these remnants with the lower lid into the corneal wound and wiping them out with the edge of the upper lid; a procedure which, being done without instruments, seemed harmless, but now I consider it as very dangerous, for it is a direct inoculation of the wound, in every case in which the edge of the lid is not free from germs.

If germs are the only cause of suppuration, and if we find germs everywhere, it does not follow that they invariably produce suppuration when they get into a wound. To accomplish this, they must meet with conditions favorable for their development. When injected into the blood of a healthy organism, they perish if mechanical or chemical irritants do not prepare the soil for them; but if they find a sore spot, an irritated part, then they settle and multiply in it—a fact unambiguously proved by experiment.

I abstain from speaking of the great variety of germ-killing remedies which, especially in an organ so delicate as the eye, often do more harm than good; and, though I advocate and practice antisepsis, I lay no less stress now than before on the conditions which the surgeons before Lister recognized as essential for obtaining primary union, namely: the most delicate and accurate execution of every step of the operation, and perfect coaptation of the lips of the wound, which coaptation, when once attained, should not be broken again—that means, rest of patient and his diseased organ. Other conditions, nutrition, ventilation, etc., are self-evident.

Professor Virchow, who has long been one of the Berlin Liberal representatives in the Reichstag, is to be opposed at the coming election, according to the "British Medical Journal," by Count von Moltke.

Perils of Juvenile Parties.—It is stated that after a juvenile ball given by a well-known Spanish nobleman, seventeen of the children who had been present were found to be suffering from measles, one of the little guests having only just been convalescent from that affection.

—*Lancet*.

THE PROGNOSIS OF ACUTE LOBAR PNEUMONIA.

By W. D. SCHUYLER, M. D.

Considerations with regard to the Study of the Prognosis of the Limited Diseases.—Study of the Prognostic Conditions of Pneumonia.—Conclusions from the Study: Pneumonia is a Dynamic-functional Affection, and its Rational Treatment derives its Indications from Concurrent or previously Existing Conditions.

THE following study is made with a view to determine from a relative standpoint the nature or character of the action of acute lobar pneumonia, the causes of its varying results and fatality, and particularly for determining therefrom general and special therapeutic indications for its rational treatment.

We shall find that the prognostic data of that most important malady, carefully and judiciously considered, clearly support the theory originally put forth by me in a series of articles published in this Journal for August 4, 1883, *et seq.*, that pneumonia is a dynamic and functional affection simply, rather than, as generally held and taught, either an inflammatory disease or an essential, infectious fever.

The course of this study will pursue the following order: First, to interrogatively examine each prognostic condition of those usually given, and determine its true significance, if any, as a prognostic influence or factor of the disease, and whether such is found to accord with general teaching; and, second, to determine how and by what character of action such conditions as are proved to really influence it act to promote their several results: for the purpose, besides elucidating therefrom supporting evidence as to the essentially dynamic character of acute pneumonia, of setting forth more clearly the dangers of the disease and tracing their causes, and especially of developing rational indications therefrom, for the general treatment both of the malady and of its several and special complicating and dangerous conditions.

With regard to the study of prognostic facts in general, it may be premised that it may be pursued with either or both of two objects in view: one, being more strictly pathological, to determine the probable results of a disease, as such may occur from its essential action (local and constitutional combined) uninfluenced, except incidentally, by the patient's condition or environment, or by extraneous, concurring, or complicating conditions, and without especial reference to treatment; the other, being more particularly therapeutical, to determine correctly with regard to the character and essential action of each and all related and prognostic facts and conditions, for the purpose of determining therefrom accurate, specific, and especially preventive indications for such treatment as will more certainly or better secure the patient's safe progress through the various stages of his malady, and particularly so through its more dangerous passes.

As commonly given, we may conclude, in the usual absence of special indications for treatment being pointed out, that the object aimed at in prognosis is pathological; but, as our ostensible object as physicians is to cure disease rather than to study it *per se*, and, as in a certain class of diseases the therapeutic possibilities derive their indications

almost or quite wholly from prognostic and related facts and conditions, a therapeutic object should have precedence in such study.

The class of diseases just referred to as having its therapeutic possibilities in prognostic and related facts, is that known as the limited diseases. In them the more important therapeutic indications are not derived from the essential action (though such is not to be disregarded), but from its related, extraneous, concurring, or complicating conditions, or from causes idiopathic in the patient. The comparative unimportance of therapeutic indications arising from the essential action of a limited disease rests (*a*) upon the ground that, being limited, such action tends in itself to recovery without treatment; (*b*) that treatment does not affect the duration of such essential, limited action, and (*c*) that, as a rule, the essential action is not dangerous; while the great importance, on the other hand, of elucidating indications for treatment from its extraneous, concurrent, idiopathic, or complicating states or conditions, abundantly rests (*a*) upon the fact that these conditions may and do sometimes greatly prolong the period of sickness, and may even prove a cause of danger and great fatality; (*b*) upon the ground that by timely treatment their occurrence may sometimes be anticipated and prevented, or at least their results greatly mitigated; and (*c*) upon the ground that this is the only field for active treatment afforded by this class of maladies.

The comparatively greater dangers that may reside in the extraneous conditions and relations of a limited disease, rather than in its essential action, and, therefore, the greater necessity for developing correct therapeutical indications from the former, is well illustrated in the course, symptoms, and results of different epidemics of the same limited disease, either of the contagious diseases of childhood furnishing the example. In one epidemic the disease may occur in so mild a form as to call for little or no treatment, while in another its action may develop the gravest symptoms throughout, and result in the greatest fatality. It is evident that the severity and fatality in the latter depend upon non-essential, extraneous conditions, rather than upon the essential cause of the epidemic, which was equally an element of morbidity in both cases, this being shown by the equal protection afforded against subsequent attacks of the same malady in each instance. Again, it may be remarked that extraneous conditions affect the prognosis of the limited diseases mainly by promoting some form of danger, as, barring the occurrence of dangers in their course, all limited affections fall under the category of harmless diseases. Hence the great necessity—with reference to developing dangers in the limited diseases and of deriving indications for their preventive treatment—for a careful, accurate, and well-differentiated study of their extraneous and less favorable prognostic conditions in which dangers mainly reside.

An application of these facts and conclusions to a study of the prognosis of acute lobar pneumonia is particularly relevant, inasmuch as that disease is a limited affection of comparatively brief duration that, in its essential action and normally considered, is not a dangerous malady, but

tends to recovery, and hence can not be considered dangerous in itself; but that, when its course is influenced by extraneous, concurrent, idiopathic, or complicating conditions, tends (by reason of the very important site and the sudden formation and obstructive character of its local process, the vital importance of the functions involved by its development, and the character of the morbid action developed to overcome its presence) to the occurrence of grave but often therapeutically preventable dangers that render it a most fatal malady.

As we shall see by the statements of various authorities and by statistics, acute lobar pneumonia presents the seeming anomaly of being considered both a harmless disease, from which death is an exceptional result, and also a most dangerous affection, from which death results in a large percentage of all the cases.

It is worthy of observation here that these varying and, on the one hand, very grave results have not yet been rationally accounted for. And, in my opinion, it is not going too far to say they can not be explained upon any ground of theory for the disease yet entertained; neither upon the basis that it is an inflammatory disease which attacks the lungs, nor upon the more recently propounded theory that it is a constitutional, infectious, and essential fever, with a pulmonary lesion. Furthermore, that the more unfavorable results can not be attributed to a failure to employ certain remedial measures in treatment is evident from the fact that they have occurred with every treatment—least with the expectant—yet tried, and all measures of treatment have been fully tried.

I hold, however, that such varying results are clearly explicable upon the theory put forth by me—namely, that acute pneumonia is simply a functional and dynamic malady (from disturbance of circulatory equilibrium and its results)—and that they are the natural outcome of such a dynamic action occurring in the organs involved in subjects of the various asthenic—idiopathic, concurrent, or complicating—states in which the disease is most likely to occur, especially when its course is not directed and controlled by a properly indicated treatment; and, secondly, that a careful analysis of prognostic conditions will sustain such position.

The grave importance of acute lobar pneumonia as it occurs in this city, picking out here and there prominent victims in the midst of their greatest usefulness, and as it occurs universally in man and in some of the more valuable domestic animals, with its sudden and more frequently unheralded attack, many dangers, and, in the total, its great fatality on the one hand; and, as I hold, its susceptibility to a rational treatment with a diminished fatality on the other—fully justify the expenditure of any amount of time, study, and care given to its prognostic (and therapeutic) conditions.

As generally held, a more unfavorable prognosis of acute lobar pneumonia depends mainly upon the following conditions: A greater extent of the local process; an apex development; a greater intensity of fever; advanced age of the patient; the female sex; previous bad habits of life; a debilitated constitution, and, in an important sense, the occurrence of complications. While these are deemed the

more important of the unfavorable prognostic conditions, there are others which result from the action that denote the progress and character of its events, not of less, but of equal immediate significance, which will be enumerated later.

Taking up the study of those enumerated and in the order given, I shall first examine the extent of lung involved, and ask, Does a greater extent of local process, in harmony with general teaching, justify a worse prognosis? General teaching upon this point is represented in the following citations: Juergensen (von Ziemssen's "Cyclopædia," vol. v, p. 142) says: "The more extensive the localization of pneumonia; and the more protracted the constitutional affection, the greater, *cæteris paribus*, is the danger to life."

Von Niemeyer ("Practice of Medicine," vol. ii, p. 183) says: "The prognosis, first of all, must depend upon the extent of the disease." Watson attributes something to the extent of the local process. Loomis ("Practice of Medicine," p. 95) says: "The extent of lung involved influences prognosis; double pneumonia is rarely recovered from." Aitken, on the other hand ("Science and Practice of Medicine," vol. ii, p. 741), declares that "the degree and extent of the physical signs alone should not influence the prognosis."

A more extensive local process is, then, very generally held to indicate a worse prognosis. Contrary to such teaching, however, I hold that the evidence afforded does not show that the results of a pneumonic attack are necessarily less favorable when there develops a more extensive local process.

If we regard the local process as an inflammation, essentially speaking, of the pulmonary stroma, then I grant that it would follow as a natural inference and sequence that its greater extent should lead to more unfavorable and fatal results. But that the local process is essentially inflammatory I hold can not be maintained, and, therefore, an inference based on that theory is invalid. Inasmuch as a settlement of this question is of moment in its present bearing also upon the question of general treatment, and in relation to a determination of the main question at issue, as to the true nature and essential character of pneumonia, and also, inasmuch as my view is opposed to all other past and present teaching upon this point, I shall proceed to give the negative evidence, even at length, without apology, letting the importance of the question justify such action.

The evidence that the local process of acute lobar pneumonia is not an inflammation is as follows: As a process, on the whole, it is unlike any of the well-accepted inflammations—as to its causation, mode of development, rapidity of complete formation, anatomical characters, character of events, limitation, and negative morbid results. Its causation, it is generally conceded, is involved in doubt and obscurity, while the causes of inflammatory processes in general are readily traced. Its occurrence does not coincide temporarily or spatially with that of inflammations in general, and especially not with either of the undoubted inflammations to which it is most nearly allied anatomically, bronchitis or pleurisy, which affections occupy in part the same structures it involves. Acute pneumonia occurs less frequently than those affections do in the farther North, and more frequently than they do in tropical regions; and

while they occur more frequently throughout the year, it occurs most in the changing temperatures of midwinter and spring. It is unlike those diseases in its recurrence, which varies in different years, while they vary in this respect very little from year to year. Again, it is not set up by these inflammations, although, as stated, they implicate in part the same structures it involves, and it is especially unlike an inflammatory process in that it is not excited by extrinsic irritating agencies, is not set up by contiguous inflammations, and is not excited by a contiguous gangrene, emphysema, or pulmonary infarction, although a degree of peripheral inflammation may result from the latter cause, and, lastly, in not being developed from traumatism.

In its general anatomical events it is unlike an inflammatory process—in the character of its congestion, such being within the region involved, and that ultimately becomes solidified, strictly passive. In a true inflammatory action of an acute character, with a force and rapidity of development equal to the rapidity and development of a normally considered pneumonic process, congestion is eminently active, such being characterized by a more rapid determination of blood to the part and through the part, and by an increased acceleration of blood from the part. In this process, although the functional forces which cause the movement of the blood, the combined circulatory and the respiratory, are increased in rapidity of action and in energy, yet that fluid does not arrive at, affect, and depart from the locus morbi more quickly than in health; nay, it does not pass directly through the involved region at all, or but in comparatively small quantity, and that which does enter it does not leave it again, but is expressed into the exudate and there destroyed.

Again, this congestion is unlike an inflammatory congestion in the character of the blood involved, which is not arterial, except what may reach the part through the half-filled bronchial arteries, but is venous. This venous blood is deoxidized, and, furthermore, is charged with carbonic acid, and hence chemically incapable, in both a positive and a negative sense, of generating and maintaining an inflammatory action. The cyanosed condition of the patient is evidence that the blood is involved prior to becoming arterialized, and therefore that consolidation occurs with venous blood.

In the character of its exudate this process is unlike an inflammation in its being mainly, as a rule, hæmorrhagic, while in an inflammatory action a hæmorrhagic exudation is the exception; in consisting of preformed non-pyogenic products; in the rapidity and extent (amount) of its formation, and in its occurrence, considering its hæmorrhagic character, without causing some degree of anatomical injury to the delicate structures involved; in its action in not undergoing histotrophic development, but in forming by simple coagulation; in its destiny, in not remaining for a time adherent to and binding together the opposing surfaces from which it pours; in its instability, which permits of its quick degeneration and removal almost immediately after it is formed; in its special tendency as an exudate to degenerate first peripherally, where it comes in contact with the alveolar walls and vesicular septa, and from without inward

rather than from within outward, which is the rule in an inflammatory exudate; in its varying stages of progress, shown generally by its mottled red and gray, found on section in limited areas and in close relation throughout, which appearances (as to color) are not found in structures subject to a true inflammatory action and exudation; and, finally, in its quick liquefaction and, as a rule, in typical cases, entire removal.

In the effect of this process upon the pulmonary structures involved it is not like an inflammation. This effect, except in a nutritive sense and temporarily at that, is entirely negative; neither are the delicate capillary vessels that are directly implicated, and from which its immense exudation pours, structurally or seriously impaired by its process of development, sojourn, or removal; nor are the pulmonary structures, the vesicular walls and vesicular septa, functionally or organically impaired by it, an early return of function and of the vesicular murmur being ample evidence of such negative results. In no true inflammatory implication of an acute, sthenic action where the exudate is hæmorrhagic, even to a much less degree than occurs in an average pneumonia, do such negative results to the structures occur.

This process, furthermore, is unlike an inflammation in its limitation to certain parts of the organs affected—*i. e.*, to certain lobular and lobar areas—and in not developing diffusely throughout both lungs, which—except a greater predisposition of the action (process) to develop in certain localities of the lungs, to be explained by the greater natural impingement of the circulating force at such point on the one hand, or to an unequal capacity for resistance (nutritive) on the other, in structure and in relation to the quantity and quality of the circulating blood—are throughout similar, and therefore should be equally liable in every way to an inflammatory action and result. In the unequal progress of its advance and development (shown in the appearance of unequal color mentioned), which merely denotes different stages of advancement (Bennett), instead of by a continuously even advance—involving first contiguous structures, and in its preference for certain sites of development, namely, the bases of the lungs, and notably the base of the right lung—it does not conform to an inflammatory invasion and extension.

Again, that the essential action of a pneumonic process is not inflammatory is reasonably apparent from the absence of one result which should occur from an inflammatory action in the site at which a pneumonic process develops. It must appear, from the obstruction to the circulation which occurs from a developing pneumonic process, and from the co-existing cyanosis, that the primary and specific site of the action taking place, with reference to the pulmonary capillaries, is at a point just prior to that at which, in a functional sense, the blood is rendered arterial, and therefore within the venous tract—physiologically speaking, in the venous capillaries—and hence, if its action is an inflammation, must be a phlebitis. If, however, we deny that the vessels affected are veins, then we must admit that the efferent capillaries are veins; and, as they are also somewhat involved by implication, a phlebitis, even then, to some extent must result.

If a phlebitis formed the principal or a secondary feature of a pneumonic action, as there is no limiting membrane formed to prevent, and, furthermore, as no complete stasis of the circulation occurs to prevent, pus should result and find its way into the circulation, and pyæmia and its consequences should be a constant result of such action. As pyæmia does not result from pneumonia, even under these favorable conditions, we may conclude that there is not an inflammatory action to give rise to it.

The fact, also, of the unlikeness of this action in its events, products, and results, to either of the various recognized inflammations—to the cellular, the sero-fibrinous, necrotic, purulent, tubercular, reparative, or hyperplastic—renders its position as an inflammation most doubtful. The fact that this action is not abbreviated by depletion, as shown by the older statistics of treatment, when venesection was commonly practiced, and in many cases *coup sur coup* (clearly pointed out by Bennett in his clinical lectures), as an inflammatory action would be by such treatment, is evidence to some degree that it is not an inflammation. Although some temporary relief was obtained by bleeding in many cases—due, probably, to a temporary lessening of circulatory pressure and of congestion in the lungs—yet a permanent benefit, denoted by a shortening of the process, did not result, but the usual duration, and in many cases where bleeding was excessive a lengthened duration, was required to bring about convalescence.

And we may further refer in this place to two facts already alluded to as relative evidence. First, with regard to the nature of the action and its results: If the essential action of a pneumonic process and its exudation were inflammatory, the degree of such action, as it is characterized by the constitutional and physical signs and by its exudate or sputum, would naturally, if not entirely, destroy the structures directly involved, as they are held (I think erroneously) to be destroyed by Heitzman ("Microscopic Morphology in Health and Disease," p. 719), or at least lead to the development of such adhesions between the closely contiguous alveolar surfaces as would agglutinate them into a solid mass, and thereby prevent, if not permanently destroy, their further functional action. Such results of an essentially inflammatory process in the lung stroma are to be inferred not only from the close relation of the structures, and their comparatively slight or no action one upon the other, and also from the more or less constant effects of a like graded pleurisy or pericarditis, in which adhesions are the rule, but in which, owing to the greater movements of the applied diseased surfaces, they should be less than would occur in a true inflammation of the pulmonary stroma.

Second. To the fact that the blood involved in the pneumonic process is carbonic, and that carbonic blood has not as yet been shown to have supported an inflammatory action.

Lastly. If the local process were an inflammation, when it involves any considerable extent of lung structure it should be attended with the development of local heat, and this sign should be subjective and objective, and its comparative degree determinable by the thermometer. This inference is supported by analogy, derived from the occurrence of every undoubted acute, sthenic, inflammatory ac-

tion, and is in accord with general teaching, that a cardinal requirement justifying the presence of an inflammation, besides tumor, tenderness, and pain, is augmented heat.

From no point of view, aetiologically or pathologically considered, and from no other, excepting that of prejudice derived from hereditary teaching and the lack of a correct conception as to what the action might otherwise possibly be, can the hypothesis of an inflammation for this process be maintained; therefore the results predicated on such an hypothesis must be invalid.

Furthermore, that a greater extent of the local affection involves a more unfavorable prognosis upon other grounds I hold is not supported by the evidence of related facts—i. e., by the relative statements of accepted authorities; by the conceded fact that there is a lack of morbid correspondence, generally speaking, between the extent of the local lesion, the degree or severity of the constitutional symptoms, and the final results; by some suggestions of a general character relative to prognosis, affirmative and negative; and, lastly, by observations as to the causes of its fatality.

Of relative statements by authorities: Aitken ("Science and Practice of Medicine," vol. ii, p. 741) says: "Acute simple lobar pneumonia, happening between the ages of fifteen and forty, uncomplicated except by a limited pleurisy, is not a perilous disorder; recovery is the rule." Although no mention respecting a greater or less extent of local process is made in this statement, yet the observation is not less applicable, for we must bear in mind that it is in these simple uncomplicated cases, occurring in the ages noted and in otherwise robust subjects, that the most (rapidly formed and most) extensive consolidations occur, and the statement that recovery is the rule in such cases certainly does not argue a worse prognosis on account simply of a greater extent of the local process. Flint ("Practice of Medicine," p. 171) states: "Occurring as a primary disease, limited to a lower lobe, remaining uncomplicated, and the person affected having a fair constitution, the intrinsic tendency is to recovery; indeed, recovery is not only the rule, but the exceptions are exceedingly infrequent." This author proceeds to give a case in point:

The patient was attacked while working alone in a shanty in a swamp near New Orleans. It occurred in the winter season, and there were two inches of water on the ground. After the attack he was unable to leave the bed for any purpose for a week, and during that time he was entirely alone. He had a quart of brandy which he drank during the week. His habits, as stated, were temperate. At the end of a week he was visited by some one (not a physician) who gave him thirty grains of calomel. After this he was alone for ten days. A friend at length came to him and gave him some doses of quinine, and removed him first to his own house and afterward to the Charity Hospital, New Orleans. The principal signs on admission into the hospital showed pneumonitis affecting *the whole of the right lung* [italics mine] and resolution progressing. He remained at the hospital six days—convalescence going on rapidly—at the end of which time he was well enough to be discharged.

I quote this case entire, because (1) it is evidence that an extensive local process is not necessarily fatal even where the patient is most unfavorably situated, and is not only

neither treated nor nursed, but is necessarily jeopardized by probable unavoidable exposure; and (2) because it serves to demonstrate that a well-marked and extensive pneumonia may end in recovery quite as quickly and favorably under no treatment, naturally, as it does under the highly empirical treatment it generally receives.

As bearing upon the point in question I quote from Andral ("Clinique médicale"):

"By reason of some idiosyncrasy, simple engorgement of the lung, occupying but a small portion of that viscus, is sometimes fatal, while in another individual, placed in the same circumstances, a red hepatization occupying more space terminates in resolution."

Of conceded facts which imply that the prognosis of pneumonia is not essentially worse on account of a greater extent of local process, I give the following:

"No constant or reliable relation exists between the local process, as shown by the physical signs and the vital phenomena" (Aitken). "The violence of the symptoms bears no necessary relation to the extent or intensity of the disease" (Bennett). "During the whole course of a pneumonia there is no constant relation between the local and the febrile symptoms, nor dependence the one upon the other" (Juergensen).

Again, it is well known that, although the physical signs may indicate an ameliorating condition in the affected lung, such change is not always—though in the main and generally it is—attended by a corresponding improvement in the constitutional symptoms. And, finally, as we shall see when we come to inquire into the causes of death, extent of local lesion, simply, will not be found to be one of them.

Other suggestions which give support to the position herein taken are: According to general admission, death does not, as a rule, result from acute pneumonia in subjects otherwise robust and strong in whom the most extensive consolidations occur, while, on the other hand, as we shall see when we come to examine the statistics of the fatality of pneumonia, death does occur most frequently in asthenic patients, in whom, as a rule, the local process is more limited.

Lastly, from personal observations of the disease in hospital and private practice, cases of extensive consolidation, involving a lobe or an entire lung, have resulted as favorably as others in which it has been less extensive. In fact, my observations justify the statement that, the more extensive and well-defined consolidations (as denoted by physical signs) have formed, especially if they have developed as a single and not as a recurrent formation, and have received the proper and not an improper treatment; the more rapidly they have undergone degenerate softening, the more promptly has the pneumonic crisis occurred, and the more favorable have the final results been. And this observation is not inharmonious with the evidence of authorities and conceded facts as given.

In conclusion, therefore, we must decide that the facts do not sustain the teaching that a more extensive local process necessarily implies a more unfavorable result from pneumonia; but, on the contrary, that they do afford grounds for a justifiable inference that, as a rule, the more extensive the local process, the more favorable is the prognosis.

(To be continued.)

Correspondence.

LETTER FROM PARIS.

Professor Germain Sée's Hospital Service and Therapeutical Teaching. — The Treatment of Abdominal Wounds. — An American Lady as a Hospital Interne.

PARIS, February 2, 1887.

PROFESSOR GERMAIN SÉE has a hospital service at the Hôtel Dieu, and every Monday he gives a clinical lecture that is substantially a résumé of his remarkable experiments with various new drugs. At present everybody is at work with the cardiac remedies, and considerable success has been met with here in the treatment of heart diseases with convallaria and also with sulphate of sparteine, Professor Sée's observations with the latter having lately been confirmed in the German schools. Other cardiac agents under study are strophantine and *Grindelia robusta*, but the most interesting experiments have been those lately made with antipyrine, which has been tried with a large number of patients suffering with various diseases. The results obtained are remarkable, and some of the applications of this remedy are quite new and well worthy of attention. One of the most striking cases was that of a hospital patient with hydrarthrosis. There was a very considerable effusion into the synovial sac of the knee, which entirely disappeared after a few doses of antipyrine. There were also cases of rheumatism, acute and chronic, including one of gonorrhœal rheumatism. In a word, a number of arthritic and other patients were cured. The effect of the drug in neuralgias was constantly good. In cases of gouty and other concretions it has seemed to act as a solvent. M. Capitan, the *chef de clinique*, calls it a "*sur-salicylé*," because it has cured cases of acute rheumatism in which the salicylates had failed to do any good. In regard to collapse from its use, it has been seen only once, in a case of phthisis, but it has not been tried here at all in typhoid fever nor as an antipyretic.

Professor Sée is very fond of talking on the subject of megrim, as he himself is subject to sick headaches. He finds that the only remedies worthy of consideration in this complaint are bromide of potassium and caffeine, with the occasional use of quinine. He ridicules the study of exceptional cases by young physicians, and thinks that it is much better for them to grasp what he calls the "master symptoms" in all diseases. In like manner, with regard to the great number of remedies that are found mentioned in connection with a given disease, he says it is a pity to trifle with ardent young doctors, who go to their books and search the chapters on treatment for a remedy in a case they may have, only to find several dozens recommended, for as many reasons, thus leaving the inexperienced man in a perfect daze. The result must be that he can have no clear idea of what he ought to do in a given case. Altering the rule, M. Sée proposes to offer but few therapeutical measures, and those only that are based on physiological data. To return to the megrim, or migraine: in regard to the bromides, he thinks that it is an error to suppose that bromide of sodium has any advantage over potassium bromide. Professor Bouchard published a good deal last year to prove that we were almost all being poisoned with potash, but M. Sée calls attention to the fact that potassium bromide is eliminated by the kidneys as a sodium compound—that, in fact, the two metals are intimately associated in the economy, the blood-corpuscles containing potassium, and the blood-serum sodium. We can not eat meat but we take potassium. "Look," says M. Sée, "at the poor Irishman who lives on potatoes for most of his life; do the

sodium-*versus*-potassium doctors know that there is from six to seven per cent. of potassium in potatoes? According to them, then, our Irish friend is poisoning himself very rapidly." Antipyrine has been recommended in megrim, but M. Sée finds that it produces a cephalalgia in addition to that which already exists, and causes vomiting, if used in large doses, while in small ones it is of no use at all. The minimum daily amount is a drachm. Neither antipyrine, salicylic acid, nor any other of the antipyretics is of use in malarial fevers, and, although Jacquod and Vulpian have advised them in tubercular states, M. Sée does not think them of any benefit in those troubles. Gout, of the pure sort, seems to be mitigated with antipyrine. M. Sée states that pure gout does not occur in women.

The treatment of abdominal wounds has been under discussion by the Paris surgeons lately, and, as usual, they are divided into two camps, one party holding, with Professor Trélat, that laparotomy ought to be done at once, and the other, with M. Verneuil, that the expectant treatment is proper. M. Trélat says that it is a precept in America that in all doubtful cases the belly must be opened to ascertain the condition of the intestines. M. Réclus lately expounded the idea of the expectant treatment, and it is that of many good surgeons. Setting aside wounds made with large projectiles in time of war, and referring only to the every-day cases of pistol-shot and stab wounds, "What happens," he says, "when an intestine is cut by a ball or a knife? Why, there is an effusion of lymph, and, if they can be kept quiet, the divided parts will certainly join and heal." Therefore, with Tillaux, Després, and others, he proposes the following plan of treatment: "When the patient is first seen, don't attempt to probe the wound, but wash it with a solution of corrosive sublimate (1 to 1,000), and close it with a little collodion; then put the patient's body in as complete a state of immobility as possible by position in bed, give opium enough to stop all peristaltic action, apply an ice-bag to the abdomen, and allow no food but iced milk, not more than a tablespoonful at a time." Of course, if peritonitis comes on, or even if there is a discharge of fecal matter from the wound, laparotomy is indicated; but it is astonishing how a pistol-ball may remain in almost any part of the body during the life of the individual without doing the slightest harm. The lesson is, Don't probe!

It may interest your readers to learn that an American lady, Miss Klumpke, formerly of Boston, has been admitted as an interne of the Paris hospitals, and has been assigned to the charge of a service in the hôpital de Lourcine. Last year, for the first time, after a determined fight, ladies were allowed to take part in the public trial for the *internat*, with the result that this lady came in fifth in the list this year.

Malto-Viburnin.—We have received from the Maltine Manufacturing Company a sample of their malto-viburnin, which they recommend as a valuable remedy for painful and excessive menstruation. *Viburnum prunifolium* was, as it will be remembered, first brought before the notice of the profession as a reliable agent in arresting some forms of abortion, by Dr. J. H. Wilson in the pages of this Journal. Since then it has been tried extensively, and very good accounts have been published regarding it. It had a serious drawback, however, inasmuch as the liquid preparations were very disagreeable to the taste, and this practically limited its employment to those who could take it in pill form. This difficulty has now been satisfactorily removed by the Maltine Manufacturing Company, the preparation forwarded to us being fairly palatable, and not likely to be seriously objected to by the most fastidious palates. Not only does the combination with maltine remove its disagreeable flavor, it will also be of decided advantage in many cases from a therapeutical point of view. — *Liverpool Medical Journal*.

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THROAT SYMPTOMS PRODUCED BY HYPERTROPHIED
GLAND TISSUE AT THE BASE OF THE TONGUE.

ONE would hardly think of making a physical examination to discover the cause of globus hystericus; it is usually thought sufficient to refer the symptoms with which we are familiar under that name to the uncertain limbo of hysterical phenomena. But the term is a somewhat vague one, and has been made to embrace a great variety of manifestations and many different phases. There is good reason to believe that it has often been loosely employed when an ætiological factor much more tangible than a purely hysterical cause was overlooked. It seems that symptoms that have frequently been described as characteristic of globus hystericus find their exact counterpart in the subjective manifestations of an organic disease of certain glands situated at the back part of the tongue.

At the instigation of Professor Hagen, of Leipsic, Dr. H. L. Swain, of New Haven, has made a special study of this glandular affection, and the results are published, under the title of "Die Balgdrüsen am Zungengrunde und deren Hypertrophie," in a recent number of the "Deutsches Archiv für klinische Medicin." The disease consists in a hypertrophic development of the clustered glands which are situated just beneath the mucous membrane of the tongue, between the circumvallate papillæ and the glosso-epiglottidean sinuses, having a lymphatic structure analogous to that of the tonsils. When hypertrophy of these glands takes place, which is said to be the result of physiological rather than of pathological conditions, they become vastly increased in size, so as to project more or less prominently above the level of the mucous membrane, in the form of closely aggregated tubercular elevations. They may become large enough to hide the epiglottis completely from view, and, chiefly by their encroachment on the latter, give rise to more or less serious disturbance in the throat. The sense of a morbid enlargement becomes a source of intermittent or constant discomfort to the patient, with the feeling of a foreign body, or "lump," in the throat, attended usually with a frequent desire to swallow. Sometimes it is accompanied with decided pain, which may radiate to regions remote from the seat of disease. Moreover, the swelling may cause no little interference with the speaking or the singing voice. Singers complain that the voice soon becomes fatigued, and that it is with difficulty that a clear tone can be produced; and like trouble is met with in speaking. The varied movements of the tongue and the larynx in these acts give rise to continual friction between the epiglottis and the hypertrophied surface of the tongue, producing impairment of the voice sounds as well as nervous irritation. The latter would naturally be much greater in a nervous or

hysterical subject, and might readily assume an aggravated form of globus hystericus. Fortunately, according to Hagen and Swain's experience, the trouble is quite remediable. The treatment consists simply in painting the affected surface with Lugol's solution, using a brush mounted on a bent rod, with the aid of the laryngoscopic mirror. Those observers have never found any severer treatment necessary.

A MAINE DIPLOMA MILL.

THE "Boston Herald" has lately done the community a notable service by bringing to light the doings of a man named York and his associates, who, under cover of legislative authority, have been exploiting the diploma industry in Lewiston, Me. A representative of that journal, who states that he is utterly ignorant of medicine, found no special difficulty in obtaining from the medical department of the State of Maine branch of the "Druidic University of America" a diploma authorizing him to practice medicine. He obtained it without the slightest pretense of having done any study in the "university," simply on the strength of his statement to the "dean," the fellow York, that he had studied medicine to a certain extent—a statement supplemented by the farce of his being examined (by the aforesaid "dean" alone) in such manner as effectually to demonstrate both his and the "dean's" entire lack of medical knowledge. In plain English, the diploma was sold to him, and the whole transaction, from the time of his first call on York to his obtaining the document, was the work of a few hours only.

These facts are, of course, most disgraceful, but, essentially, they are but the repetition of what has come to be an old story. The remarkable feature in the case is the failure of the well-meaning legislators who passed the act of incorporation, and the Governor who signed the bill, to perceive that they were participating in a most grotesque piece of silliness as well as in an inexcusable iniquity; for, not content with the rôle ordinarily played by men of their stripe, York and his associates came before the law-makers in the characters of "Druids," "Bards," "Runes," and the like, the mere mention of which ought to have opened the eyes of even the average legislator. The people of Maine are now likely to have the pleasure of paying the expenses to be incurred by "a joint special committee on the part of the House, and such as the Senate may join, . . . to inquire into the expediency of repealing the charters of the Maine branch of the Druidic University and the Maine Eclectic Medical College, and to have power to send for persons and papers, compel the attendance of witnesses, and employ a stenographer"—a bill to that effect having been introduced by a member for Lewiston. It is a pity that the men who granted the charters in question can not be made to bear the expense of this investigation themselves.

MINOR PARAGRAPHS.

MEDICAL OBSERVATIONS AMONG THE APACHES.

DR. WILLIAM H. CORBUSIER, of the army, has written a most interesting account of his observations among the Apache-

Yumas and the Apache-Mojaves of Arizona, which is published in a recent number of the "American Antiquarian." Although the greater part of the article has no direct bearing on medicine, there are passages here and there calculated to arrest the attention of the medical reader. One of the most notable of these is an allusion to what we may perhaps interpret as a phase of sexual life analogous to the rut of the lower animals. Dr. Corbusier says that for two years in succession he observed that the women solicited the attentions of the men in August and September, when "an unusual number of couples were seen with their heads hidden in a blanket, caressing each other." The majority of the children, he adds, were born in the spring. During parturition, the woman squats, and is assisted by an old woman, who compresses the abdomen, follows the uterus down, and, in cases of difficult labor, seems to make great efforts to express the fœtus. After delivery, the mother draws a roll of buckskin snugly around her waist, and resumes her ordinary duties, but her diet is restricted for three or four days. Inflammation of the breast occurs occasionally, the treatment of which consists in holding the breast over a hot stone and pressing some of the milk out upon it. The author does not credit these Indians with the capacity for enduring physical suffering that is commonly attributed to savages. When they are not painted, he says, it is easy to detect their emotions, and they do not maintain their stolidity under minor surgical operations, the extraction of a tooth, for example, almost always eliciting a groan or a yell. Their teeth are often decayed, but never affected with tartar.

THE DEATH OF SCHROEDER, GALLARD, AND RAIGE-DELOIRME.

ANNOUNCEMENTS reach us almost simultaneously of the death of the distinguished Berlin gynecologist, Professor Carl Schroeder; of a Paris gynecologist almost as well known, Professor T. Gallard; and of one of the most erudite of Paris physicians, M. Raige-Delorme. Schroeder was best known in this country as an original and bold operator in the field of gynecology, and it can be said of him that he exerted a sensible influence on the gynecology of his time. His earlier work in obstetrics deserves to be more studied here than it has been, and it is a pity that an abbreviated translation of his text-book on the subject is all that is available to the great majority of American and British readers. Dr. Gallard's death took place on the 31st of January, from diabetes. He was one of the few French physicians who had recently contributed voluminously to the literature of gynecology. His clinic at the Hôtel Dieu had only lately been entirely refitted with modern appliances, and is said to be quite a model in its way. M. Raige-Delorme was one of the founders of the "Archives générales de médecine," the originator of the "Dictionnaire en trente volumes," and (in conjunction with the late M. Dechambre) the editor of the "Dictionnaire encyclopédique des sciences médicales." It is seldom indeed that medicine has had to bear the loss of three such men almost at the same time.

THE ANNUAL REPORT OF THE SURGEON-GENERAL OF THE NAVY.

SURGEON-GENERAL GUNNELL'S Report for the year 1886, together with the appended documents, makes a volume of 126 pages. Interesting reports from various foreign stations and upon individual vessels are furnished by members of the medical corps, and will be found to contain much matter of scientific value. There is also a carefully prepared report on the Museum of Hygiene, by Medical Director T. J. Turner. The reports and contributions on special subjects include Surgeon

G. W. Woods's on "Filaria in Dogs," Medical Director A. L. Gihon's and Medical Inspector A. Hudson's on "Kola as a Therapeutic Agent," Passed Assistant Surgeon O. Diehl's on "Typhilitis," Surgeon J. R. Tryon's on "Paraldehyde in Insomnia," Surgeon A. F. Price's on "Cholera," and Surgeon-General Gunnell's "Notes on the use of Opium in Fevers." We have before alluded to some of the important matters touched on in the Surgeon-General's Report. We will only add now that the volume will be found of value to any medical man.

"DEBAUCHING" GYNÆCOLOGICAL EXAMINATIONS.

DR. WILCOX, as will be seen by his article on "*Hydrastis canadensis*," published in this issue of the Journal, would have it the established rule that "no examination of [the genitalia of] an unmarried woman should be made unless with the unanimous decision of a consultation, one of the physicians, at least, to be a general practitioner," and he speaks of "unnecessary and debauching examinations." In the discussion that followed the reading of the paper, Dr. Wilcox substantially reiterated these statements after Dr. Palmer Dudley had, very properly we think, characterized them as too sweeping. Dr. Wilcox's sentiment in regard to unnecessary examinations is that of all right-minded men, but it is impossible for men of that sort to make a "debauching" examination, and men who do not come under that head are not likely to flourish in the practice of medicine. Indeed, we believe that the profession contains so few of them that practically they are of no account.

BOSTON UNDERGRADUATES AS PRACTITIONERS.

The statement is made in one of the Boston newspapers that a number of medical students have established themselves in practice near the head of McLean Street—somewhat clandestinely, it is suggested, for the building is said to be "to all appearances a boarding-house simply." The account goes on to say that they have been so far successful as to have had eighty cases of obstetrics on their list at one time, and that they are constantly on the alert for new clients of every description. Their enterprise, coupled with the proximity of their quarters to a lying-in hospital, in consequence of which many persons take it for granted that they are connected with the institution, is said to give them advantages detrimental to the interests of the established practitioners of that part of the city. These allegations may be somewhat exaggerated, but, if there is a foundation of truth for them, the young gentlemen concerned should be made to understand that they must wait.

THE MEDICAL SOCIETY OF THE COUNTY OF KINGS.

We understand that at its last meeting, held on Tuesday evening, the society adopted the report of a committee recommending the purchase of a piece of real estate on which to build a structure suitable for its library and for a place of meeting; and that Dr. Thallon, Dr. Matheson, Dr. Jewett, Dr. Hunt, and Dr. Hutchins were appointed to make the purchase. We have lately had the pleasure of recording several evidences of the progressive and flourishing state of professional matters in Brooklyn, and it is our conviction that this move on the part of the county society will prove not to be the least important of such events.

ITEMS, ETC.

McComb City, Miss., as a Health Resort.—A correspondent writes: "This place accomplishes wonders in pulmonary troubles. It has proved a revelation to me nearly every tubercular patient recovers here. I think the afflicted should

know of it. It is in the high pine woods, the bluff formation of South Mississippi, seventy-five or one hundred miles from any swamps or marshes."

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Fourth Division of the Health Department for the following statement of cases and deaths reported during the two weeks ending February 15, 1887:

DISEASES.	Week ending Feb. 8.		Week ending Feb. 15.	
	Cases.	Deaths.	Cases.	Deaths.
Typhus.....	1	0	0	0
Typhoid fever.....	7	5	6	1
Scarlet fever.....	36	2	56	13
Cerebro-spinal meningitis....	4	3	1	1
Measles.....	406	58	347	62
Diphtheria.....	116	38	107	48
Small-pox.....	6	2	14	6

The Painless Execution of Criminals.—It is announced that Dr. F. H. Gerrish, of Portland, recently appeared before a committee of the Maine Legislature to advocate the abolition of the gallows, and the substitution of poisoning with morphine administered subcutaneously.

Cocaine as a Poison.—At the last meeting of the Medical Society of the County of Kings, Dr. J. B. Mattison read a paper entitled "Cocaine Dosage and Cocaine Addiction," after which the meeting unanimously passed a motion, offered by Dr. Skene, appointing Dr. Wallace, Dr. De la Vergne, and Dr. Mattison a committee to draft a bill for presentation to the Legislature, placing cocaine on the list of poisonous drugs not to be dispensed except on physicians' prescriptions.

The late Dr. John P. Gray.—The secretary of the New York State Medical Association has sent us the following:

"The members of the Council of the New York State Medical Association, while humbly submitting to the decrees of Providence, realize with much grief that the year just closed was made notably sad in the loss by death of so many of their fellows whose labors have largely contributed to the honor, dignity, and usefulness of the medical profession. They now mourn the loss of the second president, Dr. John Perdue Gray, whose aid, wise counsels, and personal work have been of such signal service. In common with all the fellows of the association, and with the medical profession at large, they sorrow for the death of one who had rendered himself so useful to the State in the guidance of the charitable work in the department of medicine in which he had become a shining light.

"The Council, therefore, resolved that the foregoing be published in the forthcoming volume of the 'Transactions' of the association, and in the medical journals, and that a copy thereof be transmitted to the family of the deceased."

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from February 6, 1887, to February 12, 1887:*

FRYER, BLENCOWE E., Major and Surgeon. Ordered to Fort Lowell, Arizona Territory. S. O. 29, A. G. O., February 4, 1887.

LORING, L. Y., Captain and Assistant Surgeon. Leave of absence still further extended three months on surgeon's certificate of disability. S. O. 29, A. G. O., February 4, 1887.

PHILLIPS, JOHN L., First Lieutenant and Assistant Surgeon. Leave of absence further extended one month. S. O. 29, A. G. O., February 4, 1887.

WOOD, LEONARD, First Lieutenant and Assistant Surgeon. Ordered to proceed to these headquarters and report to the

department commander for temporary duty. S. O. 12, Department of Arizona, January 31, 1887.

HARRIS, H. S. T., First Lieutenant and Assistant Surgeon. Ordered from Fort Clark, Texas, to Fort Ringgold, Texas. S. O. 16, Department of Texas, January 31, 1887.

Society Meetings for the Coming Week:

MONDAY, *February 21st*: New York Academy of Medicine (Section in Ophthalmology and Otology); New York County Medical Association; Hartford, Conn., City Medical Association; Chicago Medical Society.

TUESDAY, *February 22d*: New York Academy of Medicine (Section in Laryngology and Rhinology); New York Dermatological Society (private); Buffalo Obstetrical Society (private); Boston Society of Medical Sciences (private).

WEDNESDAY, *February 23d*: New York Surgical Society; New York Pathological Society; American Microscopical Society of the City of New York; Medical Society of the County of Albany, N. Y.; Auburn, N. Y., City Medical Association; Berkshire, Mass., Medical Society (Pittsfield); Philadelphia County Medical Society (conversational).

THURSDAY, *February 24th*: New York Academy of Medicine (Section in Obstetrics and Diseases of Women and Children); New York Orthopaedic Society; Brooklyn Pathological Society; Roxbury, Mass., Society for Medical Improvement (private); Cumberland, Me., County Medical Society (Portland); Pathological Society of Philadelphia.

FRIDAY, *February 25th*: Yorkville Medical Association (private); New York Society of German Physicians; New York Clinical Society (private); Philadelphia Clinical Society; Philadelphia Laryngological Society.

SATURDAY, *February 26th*: New York Medical and Surgical Society (private).

OBITUARY NOTES.

Luther M. Knight, M. D., of Franklin, N. H., whose death occurred on the 3d inst., was born in Franconia, N. H., April 11, 1810, and was graduated from Dartmouth Medical College in 1835, in which year he settled in Thornton, where he practiced for ten years. He moved to Franklin in 1845. In September, 1861, he was appointed surgeon of the Fifth New Hampshire regiment, and rose to the rank of brigade surgeon, and subsequently to that of chief medical officer of a division. He resigned in May, 1863, in consequence of impaired health. He had represented Franklin in the State Legislature, and was at one time president of the New Hampshire State Medical Society.

Ezra Dyer, M. D., of Newport, R. I., died on Wednesday, February 9th, on board the steamer City of Columbia, of the New York and Savannah line, during the passage to New York. The deceased was born in Boston, October 17, 1836. He was graduated from Harvard University in 1857, and from Harvard Medical School in 1859. He was house surgeon at the Massachusetts General Hospital for one year, and after his graduation pursued his studies at Dublin, Rome, Vienna, Paris, and London, making the study of the eye a specialty. Returning to this country, he settled in Philadelphia, where during the civil war he was surgeon in charge of the eye wards of the Satterlee United States Army General Hospital. In 1883 he moved to Newport. He was a member of the American Ophthalmological Society, of the Rhode Island State Medical Society, and of the Newport Medical Society, of which he was vice-president at the time of his death.

Albion D. Weeks, M. D., of Providence, R. I., who had lain at the point of death for several weeks, died on the 10th inst.

A post-mortem examination showed the cause of death to be a tumor of the brain. Dr. Weeks had been failing in health for nearly a year, although his final illness lasted about five weeks, during which time he suffered intense pain. He was born in Maine forty years ago, and was educated at the Medical College of the University of Pennsylvania. He began practice in Providence in 1874 and had succeeded in building up a handsome practice. Personally he was little known to the public, but professionally he was highly esteemed by his patients as a kind-hearted man and a skillful physician.

William A. Webster, M. D., of Manchester, N. H., died February 7th, at the age of fifty-six. He was graduated from the Long Island College Hospital in 1862, and was appointed surgeon of the Ninth New Hampshire regiment, in which he served until 1864, when he was appointed medical director of the Second Division of the Ninth Corps. He was a member of the New Hampshire State Medical Society.

Letters to the Editor.

TRANSITORY SWELLINGS IN A CHILD.

SAN FRANCISCO, January 29, 1887.

To the Editor of the New York Medical Journal:

SIR: I send you the following account of what, to me, is a peculiar case, hoping you can furnish some explanation or recommend some book where I can look up the subject more thoroughly. The patient, a child twelve years of age, has been subject to epileptic attacks for the last four years, the cause of which was supposed to be a tænia, which disappeared after the use of anthelmintics four years ago, and has not recurred. The epileptic attacks have continued, however, decreasing somewhat under the influence of the bromides and borax. Although apparently well nourished, the child is of a nervous, excitable disposition, sleeping badly, and being subject to repeated hallucinations on waking. A few days ago I was called to see him during an epileptic attack, and the mother gave the following account: Having fallen in the street and been brought home, the child had involuntary passages of urine and feces, frothing at the mouth, etc.; but what frightened the family most of all was an enormous swelling behind and a little below the right ear. As they had never observed anything of the sort before, they feared that the child had injured himself by falling. On examination, there appeared to be nothing to verify any such statement; there was absolutely no swelling or inflammation, and the child had rallied unusually well from the attack. At one point, however, about two inches below the insertion of the sterno-cleido-mastoid muscle, on the right side, there seemed to be a spot marked by exaggerated tenderness, and the mother asserted that ten minutes before there had been an enormous "bunch" there. The child, who had never before resisted examination, became intractable the moment this spot was touched. Satisfied that there was nothing further than a little idiosyncrasy of temper present, I sat down to listen to the mother's statements. A minute or two later, on looking at the child, to my surprise I saw a swelling of nearly twice the size of a hen's egg at the very spot that had been pointed out to me as the one at which it had occurred before. A second examination was then made. The swelling was hard and tense; there was no abrupt line of demarkation, but it seemed to shade off gradually into the surrounding tissues. There was neither pulsation, elevation of temperature, nor apparent rigidity of the muscles, unless at this spot, nor any redness. The head could

be moved at will, although its motion was somewhat restricted by the size of the swelling, and the child complained that it pained him. Talking, and relaxation of the muscles by turning the head over on to the right side, failed to cause a disappearance of this singular tumor, and did not seem to aid in the diagnosis of the part affected. The heart's action was somewhat rapid, probably from excitement, but its sounds were normal. The temperature was 99°, the pulse 85. The swelling disappeared as rapidly as it had come, leaving nothing but the "sore spot" behind. There was no enlargement of glands, post-auricular or post-cervical, and I now knew as much about the cause as before. There was no reaction from pressure over the ordinary hystero epileptic zones, and, if this is to be classed as hystero-epilepsy or phantom tumor accompanying it, there certainly are wanting all the causes Pepper's "System" gives for its origin. The child has always complained of more or less pain around the locality of the occipito-parietal suture even between the attacks, but, other than a supposition of possible spicula of bone, no cause has ever suggested itself to my mind.

What I would like to know is this: What was the seat and what the cause of these swellings? Do they often occur in this locality? Does the rapid recovery of consciousness (in about an hour from the attack) point to an hysterical factor, and would not the age of the child preclude its entering into the subject?

H. W. FAULKNER.

Proceedings of Societies.

MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

Meeting of December 27, 1886.

The President, Dr. LAURENCE JOHNSON, in the Chair.

The Treatment of Hernia by Subcutaneous Injection —

Dr. W. B. DE GARMO first gave a brief history of the treatment of hernia by methods purporting to be subcutaneous, the object of all of which had been, up to the time of the publication of Heaton's method, to cause obliteration of the hernial sac. Heaton had been practicing his method, and obtaining many cures, since 1843, but he refused to make it known until 1877. From that time dated a new era in the treatment of hernia. Heaton made no attempt to destroy the hernial sac; the whole object of his operation was to so fortify the fibrous tissue surrounding the canal that protrusion would not occur. His method stood alone; it differed in every way from previous methods of subcutaneous treatment; the fluid injected was astringent and mildly irritant, and its action was brought to bear upon the muscular and tendinous structures of which the inguinal canal was composed and upon the connective tissue which bound these layers together. That improvement and practically cures would result from injections of this oak-bark solution the reader had had abundant evidence, and he could also state that it was practically without danger, at least when correctly employed. Several years ago he stood almost alone in indorsing the method, but since then it had been adopted by many others. That frequent failures had occurred was beyond question. To throw light upon the cause of some of the failures was a principal object of the paper. In the first place, too much had been expected of the operation, and this was in great part due to the manner in which Heaton placed it before the profession. It was quite natural that he, after so large an experience, should have met with greater success than the general operator. Then the method had been put to unfair tests. For instance, he had known patients to be allowed to go about immediately

after rising from the bed, seven or ten days after the operation, without any support. They had even been instructed to cough or strain in order to test whether or not the hernia would recur. A second error was the anticipation of a cure in old herniæ by a single injection. In these herniæ the sac was largely dilated and the canal shortened, and there was a funnel-shaped opening at the internal ring—conditions most favorable for the protrusion of the hernia—and it was very necessary to continue wearing a support. It was cases of oblique inguinal hernia of recent date, in which but few pathological changes had taken place, that were most readily cured by this method. That many errors had been committed in the performance of the operation he had abundant evidence. One error in operating consisted in puncturing the scrotal tissue invaginated by the finger, instead of inserting the needle directly into the canal. In order to enter the canal without injuring the cord he deflected this for convenience to the outer side, instead of to the inner, as advised by Heaton. Immediately and for some moments after withdrawing the needle he made firm pressure over the point of entrance to prevent the return of the fluid in the track of the needle. Some English surgeons laid the sac open and smeared it with the fluid, but there was nothing to be gained by this method, while it added danger. The reader had never observed abscess develop from subcutaneous injection. He employed a particular syringe with which to make the injections. The subsequent management of the case was as important as the manner in which the operation was done. The strengthening of the walls of the canal was a slow process, and not to wear a support, at least for some time after the operation, was only to invite a return of the hernia. On the other hand, too firm pressure was to be avoided as tending to weaken the tissues which it was desired to strengthen. The patient should be confined a week or ten days, and longer in extreme cases. He had usually employed during this time the bandage devised by Heaton. Last March he had called attention to a modification of Heaton's method which he believed to be important. It consisted in making repeated injections of a small quantity of the fluid when the patient had to continue at his business, and causing him to wear a truss in the mean time. His conclusions from seven years' experience with Heaton's method, during which time he had employed it in over a hundred cases, were: 1. That it was free from danger. 2. That over forty-five per cent. of all cases could be cured by it, and in select cases fifty to seventy-five per cent. 3. That many extreme cases uncontrollable by means of a truss could be brought under control by the operation. 4. That it was followed by improvement in almost every instance. 5. That children not cured by mechanical means could in almost every instance be cured by Heaton's operation.

Dr. R. F. WEIR said that the last time he looked over his records he had performed Heaton's operation seventy or eighty times, and the proportion of cures was between one third and one half—nearer one third than one half. At first he had made some of the errors in operating mentioned by Dr. De Garmo; in one instance he had inserted the needle so far as to inject some of the fluid into the abdominal cavity and set up inflammation. The patient died some months later from another cause, and at the autopsy there was evidence of his having injected the fluid into the omentum. He employed Heaton's bandage sometimes, but he preferred superimposed strips of adhesive plaster. Where the hernia was large, he thought the open method was the better. In general, his experience confirmed the views of the author.

A Clinical Study of Neuralgias in New York.—Dr. C. L. DANA read a paper with this title, including a special study of reflex neuralgias. The subdivisions of his paper were two: 1. Had the neuralgias in New York the same physiognomy as

those in Europe? 2. The reflex origin of neuralgias and neuralgic pains. True idiopathic neuralgia was a rare disease, not constituting over two or three per cent. of the various nervous disorders. Sympathetic neuralgia was extremely frequent. The neuralgias in New York which formed the basis of his studies occurred in 250 of his own patients and in 253 seen by other physicians in private or dispensary practice. Trigeminal neuralgia was present in 43 per cent., sciatica in 23, intercostal in 13, cervico-occipital in 4.5, lumbo-abdominal in 2.5, and articular in 2 per cent. One third of all the cases occurred before the twenty-fifth year, and two thirds before the thirty-fifth year; the ratio of males to females was three to five; the greatest number of cases occurred in the winter, the smallest in spring. The fact that the greater proportion of neuralgias in this country occurred in early life he regarded as a good sign, showing a lesser number of the degenerative and violent types.

As to neuralgia of special nerves, the branches of the fifth pair were affected the most frequently; out of a hundred cases, the supra-orbital was affected in 33 per cent., including migraine in 31 per cent., mixed forms in 17 per cent., infra-maxillary in 5 per cent., tic douloureux in 5 per cent., and infra-orbital in 3 per cent. In these cases about two out of three of the patients were females. There was an increase of trigeminal neuralgias between the ages of thirty-five and forty-five. In all neuralgias the left side was affected in about three out of five cases. Most cases of migraine and supra-orbital neuralgia were worse in the morning. As to causes, child-bearing, anæmia, and exposure were common. The nervous temperament was often present. The cases of migraine in which the face was flushed were rare; in nearly all cases it was a family disease, alternating at times with other neuroses; almost all responded well to treatment. He had not been able to convince himself of any connection between neuralgia and nasal or pharyngeal irritation. One case showed a relation to trouble with the eye. He did not regard migraine as due to an affection of the vaso-motor system; it belonged to the trigeminal neuralgias.

Much had been said about the reflex origin of intercostal neuralgias, but in his experience only a small proportion of the cases were of reflex origin. Probably one half the pains in the left side were myalgic. Neuralgic, myalgic, and neuro-myalgic varieties should be recognized in the treatment. Reflex influences in the production of neuralgias had probably become exaggerated in the minds of physicians, but they were of sufficient importance to deserve further study. A large part of the paper was devoted to a consideration of reflex neuralgias, and the author said that, according to numerous reports of cases, almost any surgical operation about the head would cure ninety per cent. of patients with migraine. He thought we might speak of a pseudo-angina pectoris of gastric origin. The stomach and intestines were the most frequent causes of reflex pains; second, he thought, was the uterus. In his conclusions he said that reflex pains were pains reflected from a lower to a higher level; they occurred, as a rule, when the irritation was severe, above the part where the irritation existed. Reflex pains originating in one cerebro-spinal nerve were referred to other cerebro-spinal nerves, and those originating in visceral nerves were reflected to the cerebro-spinal nerves—rarely the reverse. Reflex pains were unilateral when the cause was unilateral, and were felt on the same side. There were occasional exceptions to this rule. Remote reflex pains were produced only when the irritation was slight. Diffuse irradiation of the pains meant an impaired state of the nervous system. Reflex pains of visceral origin were carried by the cerebro-spinal nerves to the cord and thence to the brain, and not by way of the pneumogastric. He did not believe the pneumogastric to be a sensitive nerve of the viscera.

NEW YORK NEUROLOGICAL SOCIETY.

Meeting of January 4, 1887.

The President, Dr. C. L. DANA, in the Chair.

Note on Aphasia with reference to Loss of Nouns.—Dr.

M. PUTNAM JACOBI read a paper on that form of aphasia in which the defect is limited to the loss of nouns. Seventeen cases, out of a total of one hundred and sixteen analyzed, offered this peculiarity, which had not failed to attract the notice of authors. Several explanations had been offered, none of which seemed to the writer completely satisfactory. Anatomical data were not at present sufficient to throw much light on the matter further than to demonstrate that the symptom was probably always associated with diffuse, and not with focal, lesions. These lesions could not fail to lie on the sensory side of the speech mechanism, and for reasons detailed at length in the paper must especially involve the paths between the auditory and visual centers, through which the auditory impression or sign of the object became habitually associated with the visual impressions. The writer maintained that the act of speech always involved an entire proposition, framed in the supra-sensory concept centers, probably the superadded convolutions of Broadbent. This proposition constituted a verbal conglomerate, a unity to the mind expressing it, whatever the number of separate parts into which it might be broken up. Such actual verbal conglomerates remained in many primitive languages, such as those of the Greenlanders and North American Indians, where entire sentences were often inflected like a single noun or verb. In our languages the conglomerate or proposition to be expressed was composed of the reminiscences of auditory signs which had become fused with similar reminiscences of visual impressions of things and their relations. If the visuo-auditory paths were interrupted, the signs or names of things would be dislocated from their habitual association with the other characters of such things; while the visual impressions themselves remained, and entered directly into the verbal conglomerate. All other parts of speech than nouns, expressing complete intellectual relations, and although remotely connected with impressions registered in the visual center, were immediately associated only with the processes and registrations of the supra-sensory or intellectual centers. While these were intact, therefore, and unless focal lesions had altogether obliterated the memory of language, the speech of relations would be remembered and revived in expression. The objects which were involved in the relations of the conglomerate proposition would no longer be revived in consciousness by their names, but by means of their visual impressions only. These could be expressed by gestures, mimicry, or periphrases, and the loss of the auditory sign thus compensated for.

Peripheral Neuritis and the Painful Paralysis of Early Life.—Dr. H. D. CHAPIN read a paper with this title, in which he said there had been great scarcity of autopsies in comparison to the frequency of paralyzes in children. For that reason a very careful clinical study was necessary, interpreted by our later knowledge of anatomy and physiology of the central and peripheral nerves. The writer had met with an atrophic form of paralysis differing in its inception, development, and result from the spinal paralyzes with which he was familiar. Most of the autopsies had been made many years after the paralysis, when death had taken place from some other cause. As there had been but few autopsies in proportion to the number and variety of cases of paralysis, there seemed rather a slender basis for the theory of an exclusive spinal paralysis of children. La-borde's case was mentioned, where a tabetic neuritis had existed with sclerosis of the antero-lateral horns, while the ganglion

cells had been found normal. Robin's case was cited, where no lesion of the cord had been discovered. Such a case would show that paralysis was not necessarily always spinal. Bar-well's theory was incidentally mentioned. He had maintained that infantile paralysis was purely peripheral, involving the ultimate fibrillæ of the nerves among the muscular elements. Subsequently Leyden had advanced a more rational explanation—that in atrophic paralysis there might be neuritis with spinal cord lesion, and that, instead of such forms of paralysis always originating in the spinal cord, they might have their beginning in any part of the motor apparatus, then spreading to other parts, or remaining limited to the part first affected. Leyden maintained that where complete recovery took place the morbid processes always remained peripheric. Leyden's theory was accepted by the author of the paper as affording a satisfactory explanation for certain cases that he had observed clinically. The histories of three cases were given in which paralysis had been gradual at the onset, and attended by great and persistent pain. Pain had been one of the most marked symptoms, and principally in the extremities—legs and feet. Most of these cases had lasted several months, and then, to the surprise of the writer, had slowly ended in recovery. Atrophy had been present. One of the patients had appeared highly rheumatic. In the two others the cause had been uncertain. Malarial poisoning appeared to be able to produce a more or less severe form of multiple neuritis resulting in paralysis. The history of a mild case was given which had ended in recovery under the use of quinine.

The histories of several cases were related in which children with malarial fever had been seized with painful paralysis, lasting in one case over four months, followed by recovery. A possible explanation of the pain was that it was due to the marked general congestion of the gray matter of the spinal cord. The author stated that in his cases, and others like them, there had been no other symptoms showing irritation in the deeper parts of the cord. The general congestion or myelitis should cause bladder symptoms, bed-sores, and other disturbances. Histories of two cases of lead paralysis in young children seen by the author were given. The lesions were regarded as largely peripheric. Cold usually attacked by preference the peripheric system of nerves. The loss of power sometimes following rheumatism was also probably of this nature. Any morbid blood condition appeared able to produce a peripheral paralysis in early life, particularly the acute infectious diseases, especially diphtheria. The lesion in diphtheria was now known to be largely peripheric.

The object of the paper was suggestive, not dogmatic. The author had gladly availed himself of recent studies in peripheral neuritis tending to throw light upon some of the paralyzes of children which had caused much perplexity. The great differences in the clinical behavior of paralyzes in early life, in duration and curability, must admit of different anatomical and pathological explanations.

Dr. M. ALLEN STARR did not know of any recorded case in a patient under twenty-four years of age in which a lesion of a peripheral nerve had been found at autopsy which would account for the paralysis, and, while there was great probability in the statements made by the author, they yet lacked confirmation by autopsy. The points had been brought out very well with regard to the distinctions between peripheral neuritis and anterior polio-myelitis, but he would take exception to what had been said regarding the rapidity of the onset. There were many cases of acute onset of peripheral neuritis, the patient having fever and chill, and the limbs within twenty-four hours becoming entirely immovable.

Dr. RUBINER said that he had been the first to observe, so

early as eight or nine years ago, a form of polio-neuritis leading to paralysis and atrophy, following affections of the joint, often so-called rheumatic affections. We now saw often enough an affection of one or more joints, with inflammation, followed after a while by paralysis, usually curable.

Dr. FISHER said a girl, thirteen or fourteen years of age, had been brought to the dispensary with the history that one morning, after having taken cold, she had waked with paralysis of the upper and lower extremities. At that time she had had only paralysis in one leg, which he had supposed, without thought of neuritis, to be ordinary polio-myelitis. Rapid improvement had taken place, and she had recovered within six weeks, and the minister who brought her had reported the case as one that had been cured by faith. Dr. Fisher was unable to say whether the case was an affection of the anterior cornua, or a multiple neuritis.

Dr. SACHS thought we should not be influenced too much by the present fashion, and call all or most of the cases formerly regarded as polio-myelitis cases of multiple neuritis. Referring to one of the cases the histories of which had been related in the paper, and the symptom of pain, he said too much stress should not be laid upon it unless it was severe, persistent, and located distinctly along the tract of a peripheral nerve.

Dr. LESZYNSKY regarded pain as a prominent symptom of neuritis, but absent in the majority or all of the cases of simple polio-myelitis. The pains present in some of Dr. Chapin's patients reminded him of the pain from straining of the tendons of the extensor muscles which had been for some time in a paralyzed state.

Dr. CHAPIN thought that a neuritis would occasionally explain cases which could not be accounted for on the supposition of a spinal lesion, and he would rather say Halt! to the universal spinal cause of disease. With regard to pain, it was difficult to locate it along a particular nerve in children, but in his cases it had been acute and persistent, and not due simply to stretching of tendons.

ALUMNI ASSOCIATION OF THE WOMAN'S HOSPITAL.

Third Meeting.

The President, Dr. T. A. EMMET, in the Chair.

Hydrastis Canadensis in Uterine Hæmorrhage.—Dr. R. W. WILCOX, of New York, read a paper on this subject. [See page 199.]

The PRESIDENT thought that it would be interesting to know the exact way by which certain drugs which produced contraction of the uterus exerted their effect. In the case of ergot, it was known that its most decided effect was upon tissues which were innervated by the sympathetic. Was it to be supposed that all uterine hæmostatics acted through the sympathetic? It must be remembered that a hæmorrhage from the uterus did not necessarily imply a primary disorder of the uterus—for example, it might be excited by a pelvic cellulitis acting through the sympathetic upon erectile tissue.

Dr. E. C. DUDLEY wished to inquire whether the drug under discussion had acted favorably in all the cases in which the reader of the paper had used it. If it was of such great value as an astringent therapeutic agent, it should have a much wider range of application than for uterine hæmorrhage alone, and would be indicated in all instances in which an astringent was called for.

Dr. A. PALMER DUDLEY differed entirely with the reader in the sweeping manner in which he had opposed vaginal examinations among unmarried women. It was possible that abuses had been perpetrated in that particular, and suitable or even

extraordinary precautions should be used in making such examinations; but in such a matter as uterine hæmorrhage, for example, it would often be difficult or impossible to direct treatment intelligently without knowing something of the conditions which had caused it.

Dr. J. R. GOFFE said, in connection with the operation of sounding the uterus, which might be required in the course of a search for the cause of uterine hæmorrhage, that it should not be forgotten that no fixed depth of the organ could be taken as a guide. Not only did the depth vary considerably, especially in multiparæ, but by the use of a greater or less degree of force almost any depth that was desired could be obtained.

Dr. VAN NESS said that he had frequently used *Hydrastis canadensis* for uterine hæmorrhage, but he had failed to receive so favorable an impression from its use as the author had. In many instances hæmorrhage was not arrested by it, and it seemed to him that the conclusions of the reader were entirely too sweeping.

Dr. WILCOX, in conclusion, remarked that the physiological experiments with the drug showed that it acted by a central influence through the vaso-motor nerves. Its use was accompanied by a rise of pressure in the arteries in general. The drug was not an infallible one; he had known it to fail sometimes, but its usual effect was good. He desired to repeat his objection to the abuse of vaginal examinations in unmarried women. In his opinion such examinations should be made only after a consultation with two other physicians, one of whom should be a general practitioner.

As to the objection that the usefulness of the drug seemed to be too general, he had recommended it for but one indication, and as a uterine hæmostatic he thought it was the best we had.

Vaginal Cysts, with Report of a Case.—A paper with this title, by Dr. G. W. JOHNSTON, of Washington, was, in the absence of the author, read by title.

(To be continued.)

Book Notices.

A Text-book of Pathological Anatomy and Pathogenesis. By ERNST ZIEGLER, Professor of Pathological Anatomy in the University of Tübingen. Translated and Edited for English Students by DONALD MACALISTER, M. A., M. D., Fellow of the Royal College of Physicians, etc. Part II. Special Pathological Anatomy. Sections ix-xii. London and New York: Macmillan & Co., 1886. Pp. xii-3 to 391. [Price, \$3.50.]

WHEN Dr. Macalister's translations of Ziegler's writings first made their appearance, the verdict rendered by students in pathological anatomy and general medicine was uniformly that he had done them a very great service. The conciseness and comprehensiveness of the original work made it exceedingly useful.

The delay to which the reader of English only has been put in the publication of this volume has been annoying, to be sure, but this will be more than compensated for by the fact that the translator has had an opportunity to profit considerably by Professor Ziegler's own improvements, and "to bring up to date references to some of the rapidly advancing parts of the subject."

This volume contains Sections IX, X, XI, and XII. In Section IX the urinary organs receive attention, including malformations, disorders of the renal circulation, renal deposits, degeneration and necrosis, cysts and hydronephrosis, the varieties of

nephritis, pyelitis, and pyelonephritis, and the morbid changes affecting the bladder, the urethra, and the supra-renal capsules.

Section X includes the morbid changes affecting all the respiratory organs, beginning with the nasal cavities and ending with the thymus gland. Here we find the statement that true croupous pneumonia is, probably, due to bacterial infection. This is a guarded acceptance of the parasitic origin of the disease.

Sections XI and XII are especially interesting at the present time, when there seems to be developing what may be called the epoch of multiple neuritis. The author places himself among those who believe that the axis-cylinder in the peripheral end of a cut nerve degenerates, as well as in the motor fibers, after loss of the ganglion-cells in the anterior horns of the cord. He also adopts the view that in regeneration the new nerve-fibers are derived from the old nerves of the *central end*, and rejects, as contrary to all histogenetic analogy, the hypothesis that nerve-fibers may grow from granulation cells, or from the connective-tissue cells of the perineurium, endoneurium, or epineurium.

The work is fully illustrated, and the illustrations are remarkably faithful representations of microscopic appearances. Evidently two ideas have been kept in view in their production: (1) to illustrate morbid changes as they exist and can be demonstrated with the microscope; and (2) not to make them merely beautiful, and thus hope to make them attractive.

The printing is excellent and upon fine paper, and the book is within the reach of the student, without his being compelled to buy a library.

Bright's Disease and Allied Affections of the Kidneys. By CHARLES W. PURDY, M. D. (Queen's University), Professor of Genito-urinary and Renal Diseases in the Chicago Polyclinic, etc. With New and Original Illustrations. Philadelphia: Lea Brothers & Co., 1886. Pp. xi-17 to 295. [Price, \$2.]

Such a flood of books upon renal troubles has of late appeared, that one is inclined to look with disfavor upon each addition, as only tending to increase the labor, without adding to the information, of the already overburdened reader who is desirous of being abreast of the times.

This feeling, however, need not apply to Dr. Purdy's work, which, though not bringing anything distinctively new, as far as we have been able to discover, abounds in so much good sense, and presents the subject so clearly and logically, that, particularly for a beginner, it will prove especially useful. Paradoxical as it may at first seem, a great deal that contributes to this clearness is due to the fact that all attempts at classification are abandoned, and each different form of disease is treated of separately. The advantage of this will be apparent to all who have busied themselves with renal pathology, for it can hardly be doubted that the forced attempts at classification indulged in by most authors have tended rather to obscure than to elucidate the subject. Students are too often obliged to learn the most diverse classifications—since each writer and teacher invents some modification of his own—only to be compelled to unlearn them again in the school of experience.

Dr. Purdy has limited his work strictly to organic renal disease; all so-called "urinary" troubles, and even the surgical affections of the kidneys, being excluded. The first two chapters are devoted to the consideration of general symptoms and to general treatment, and we are glad to see so much stress laid upon the hygienic management of patients, with regard both to the prevention of further trouble and to extension of that already existing. Altogether, it may be said that the lines of treatment laid down are marked by practical good sense united with a just consideration of physiological conditions.

While there is no attempt at erudition, the author has understood how to happily summarize, in few words, the principal views of the prominent writers on the subject, and to so combine them that the reader at once obtains a clear view of the subject-matter before him.

There are numerous good cuts of microscopical sections, drawn by Dr. Frank Cary, illustrating the chief pathological lesions, but we notice with regret that in no case is the magnifying power given.

GENERAL LITERARY NOTES.

AMONG recent foreign publications we note the following:

J. F. BERGMANN, Wiesbaden.—T. Rumpf, "Die syphilit. Erkrankungen d. Nervensystems." (15M.) — H. Willbrand, "Die Seelenblindheit als Herderscheinung u. ihre Beziehungen zur homonymen Hemianopsie, zur Alexie u. Agraphie." (4M. 60.)

W. BRAUMULLER, Vienna.—J. Bayer, "Lehrbuch d. Veterinar-Chirurgie." (10M.) — E. Brucke, "Vorlesungen über Physiologie." 4th ed., 2d vol. (10M.) — L. Schrötter, "Vorlesungen über d. Krankheiten des Kehlkopfes, der Luftröhre, der Nase, u. des Rachens." 1st Lfg. (1M. 40.) — J. Struska, "Anleitung zu den anatomischen Präparierübungen f. Studierende d. Thierheilkunde." (2M.)

M. DRIESNER, Berlin.—J. Münz, "Ueber die jüdischen Aerzte im Mittelalter." (1M. 50.)

W. ENGELMANN, Leipsic.—A. de Bary, "Vorlesungen über Bacterien." 2d ed. (3M.)

F. ENKE, Stuttgart.—F. Friedberger u. E. Frohner, "Lehrbuch d. speciellen Pathologie u. Therapie d. Hausthiere." 8th Lfg. (3M.)

G. FOCK, Leipsic.—L. Fischer, "Ueber die Behandlungsmethoden d. Prostatitis mit bes. Berücksichtigung d. Prostatahypertrophie." (1M. 50.) — L. Peiser, "Die Lebersyphilis." (1M. 20.)

E. J. KAROW, Dorpat.—P. Dobbert, "Beiträge zur Innervation des Pylorus." (1M. 20.) — L. Helmsing, "Ueber den Nachweis des Cocains im Thierkörper." (1M.) — E. Heucking, "Ueber die Organisation des Thrombus." (1M.) — T. Hindess, "Ueber Zusammensetzung u. Entstehung der Harnsteine." (1M. 50.) — E. v. Hirschheydt, "Ueber die Wirkung des Krotontöls." (1M. 50.) — C. Martinson, "Ueber die Häufigkeits- u. Abhängigkeitsverhältnisse des Pannus bei Trachom." (1M.) — O. Pötschke, "Die Verwerthung der Gesichtsfeldprüfung f. d. Diagnostik u. Prognostik d. Amblyopie." (2M.) — A. Sohrt, "Pharmacotherapeutische Studien über das Hyoscin." (1M. 20.) — H. Thomson, "Ueber die Beeinflussung d. peripheren Gefässe durch pharmacologische Agentien." (1M. 50.) — N. Tufanow, "Ueber Cyclamin." (1M. 50.) — J. Türlitz, "Mittheilung über die Entwicklung der primitiven Aorten nach Untersuchungen an Hühnerembryonen." (2M.)

E. S. MITTLER & SOHN, Berlin.—E. Leyden, "Ueber Bronchialasthma." (0M. 80.)

G. REIMER, Berlin.—E. Korezynski u. W. Jaworski, "Klinische Befunde bei Ulcus u. Carcinoma ventriculi, sowie bei Magenblutungen." (0M. 80.) — H. Lehr, "Gelenkkrage d. Psychiatrie u. ihrer Hilfsdisciplinen in allen Ländern." (2M.)

E. ROTT, Giessen.—F. A. Kehrner, "Beiträge zur klinischen u. experimentellen Geburtshilfe u. Gynäkologie." 2d vol., 3d part. (4M.)

TOPLITZ & DEUTSCHE, Vienna.—F. Dimmer, "Der Augenspiegel u. die ophthalmoskopische Diagnostik." (5M.) — J. Horner, "Praktische Geburtshilfe." (6M.)

BOOKS AND PAMPHLETS RECEIVED.

Ninth Biennial Report of the State Board of Health of California, for the Fiscal Years from June 30, 1884, to June 30, 1886.

The Source of the Mississippi, comprising: I. Letter from Messrs. Ivison, Blakeman, Taylor, and Company. II. Report of Hopewell Clarke, Chief of the L. B. T. & Co. Expedition to the Head-waters of the Mississippi, October, 1886. [Reprinted from "Science."]

The Medals, Jetons, and Tokens illustrative of Obstetrics and Gynecology. By Horatio R. Storer, A. M., M. D., Newport, R. I. [Reprinted from the "New England Medical Monthly."]

Eighteenth Annual Report of the Trustees of the Willard Asylum for the Insane. For the Year 1886.

Twenty-third Annual Report of the New York Society for the Relief of the Ruptured and Crippled. For the Year ending September 30, 1886.

Massage as a Mode of Treatment. By William Murrell, M.D., F.R.C.P., Lecturer on Pharmacology and Therapeutics at the Westminster Hospital, etc. Second Edition. London: H. K. Lewis, 1887. Pp. vi to 100.

Reports on the Progress of Medicine.

CUTANEOUS AND VENEREAL DISEASES.

By GEORGE THOMAS JACKSON, M.D.

Arsenic in Skin Diseases.—The discussion of the value of arsenic in skin diseases is continued in the December number of the "Jour. of Cutan. and Ven. Dis." for 1886. The majority of the dermatologists in this city, as represented at a late meeting of the New York Dermatological Society, are in favor of arsenic in certain cases. Taylor has found it of benefit in acne simplex and indurata; in pemphigus, lichen planus, dermatitis herpetiformis, and chronic urticaria; in gouty and neurotic forms of eczema, as well as in erythematous and squamous eczema, and in some cases of psoriasis; in scaling syphilides, and in some cases of malignant precocious syphilis, and of the ulcerative forms. He uses Fowler's solution, arsenious acid, and the arsenate of sodium. Piffard considers arsenic as of great value; the more useful the more extended the eruption. He rarely gives a medium dose, preferring, in subacute and chronic cases, to administer a large dose until the physiological effect is produced, and then to continue it at the point of toleration, while in acute cases he gives the drug in small doses—say, one tenth or one twentieth of that ordinarily given. Used in this way, he has found it valuable in subacute and acute eczema, in psoriasis of long standing, in pemphigus, in some forms of syphilis, and in acne. Sherwell regards arsenic as the most powerful stimulant and therapeutic agent we possess for treating diseases of the epidermis and skin diseases of neurotic or malarial nature. Alexander has found arsenic useful in chronic eczema, psoriasis, and acne. Keyes has great confidence in arsenic (see abstract of his paper in the "N. Y. Med. Jour." for Nov. 6, 1886, p. 530). Morrow has lost faith in the efficacy of arsenic in psoriasis, and believes it to be of no great value in eczema; he has seen it do good in pemphigus and dermatitis herpetiformis, and in cases with a malarial history or of neurotic origin; also in some cases of erythema, acne, and rosacea. Allen has seen arsenic produce temporary benefit in psoriasis. He has never seen much benefit from its use in acne; but in lichen ruber he has seen it do good.

A tabulated statement of the replies received from forty physicians shows that arsenic was used quite generally for skin diseases by eighteen of them, while eight did not use it to any great extent. Twenty-one of them had seen more or less severe symptoms of poisoning from its use. Thirty-three of them made use of Fowler's solution exclusively.

The Therapeutical Uses of Iodol.—This new substitute for iodoform was first used by Mazzoni in 1885, having been discovered by Silber and Ciamician in Rome. Pick ("Vrtljschr. f. Derm. u. Syph.," 1886, Hft. 4, p. 583) has made extensive use of this drug, and values it highly as a substitute for iodoform, over which it has the great advantage of being nearly odorless. It occurs as an almost odorless and tasteless skin-colored powder, which is slightly soluble in water, 1 to 5,000; soluble in absolute alcohol in the proportion of 1 to 3, but thrown down by the addition of water to the alcohol. Ether dissolves less than its weight of iodol; chloroform takes up fully 50 per cent., and olive-oil, in a water-bath, takes up 15 per cent. Pick uses it in five forms: (1) a very fine powder; (2) iodol gauze; (3) iodol spray, 10 to 20 per cent. dissolved in ether; (4) iodol collodion, made by adding one part of iodol to five parts of ether and ten parts of collodion; and (5) iodol ointment in 5 to 10 per cent. strength.

He has used the drug with very satisfactory results in gonorrhœa of the female, in chancre, condyloma, gummatous syphilides, and suppurative and subacute adenitis, besides other non-venereal ulcerative diseases, such as chronic ulcers, scrofulous abscesses, and lupus after scarification. In gonorrhœa, after washing the vagina with a bichloride-of-mercury solution, the part is to be sprayed with the iodol spray, and tamponed with the iodol gauze. The gonococci disappear in a few days. The chancres were carefully cleaned, then sprayed with the iodol, and then either powdered with it or covered with the gauze. The condylomata were sprayed. In syphilitic gummatous lesions the iodol was given by the mouth in amounts not exceeding fifteen grains during the day. As a rule, four to eight grains were given morning and evening for two days, say on Monday and Tuesday; then no more was given until the following Monday, when the drug was administered again for two days. Locally, iodol was used in spray or in a lanolin ointment where the skin was intact over the gumma, and in powder where there was ulceration. In suppurative buboes, after they were opened, the abscess cavity was washed out with bichloride solution and filled with iodol powder and gauze, and a bandage placed over all. The bandage was removed in eight days, and the abscess healed in from twelve to twenty-two days. Symptoms of poisoning were never observed in any of the cases—one hundred and thirty-eight in all.

Hamamelis in Diseases of the Skin.—Dr. Shoemaker ("Med. Bulletin," December, 1886, p. 380) has found witch-hazel of service in a number of skin affections. In eczema, especially in the acute and subacute forms, given internally in doses of from one to thirty minims of the fluid extract every two or three hours, it often relieves the congestion of the skin and hastens recovery. In infantile eczema, the crusta lactea, given in doses of from one half to five drops in syrup or milk every two or three hours, it is of great benefit. Sometimes the local application of the fluid extract diluted, or the tincture, two to eight drachms to five ounces of water, kept constantly applied to the inflamed part, will afford great relief. In other cases an ointment, one half to two or more drachms to the ounce, will act better. For erysipelas a lotion is commended composed of one part of the tincture of hamamelis, one part of laudanum, and six parts of water. In acne and rosacea it has a decidedly beneficial effect, employed both internally and locally. In obstinate cases as much as three or four drachms of the fluid extract may be given daily internally, and the tincture may be used externally up to its full strength. In seborrhœa it is used either with or without one to ten grains of corrosive sublimate to four ounces of water or lard. In hyperidrosis and bromidrosis it is combined with ten to thirty grains of boric acid. In all these it renders great service, and often effects a cure. Administered internally, it is a useful adjunct in the treatment of psoriasis, specially in cases attended with severe inflammatory action and pruritus, and in purpura. In ulcers, specially of the varicose variety, cures will frequently be effected by full doses of the fluid extract and the local use of the tincture.

Electrolysis is recommended by Dr. Hardaway ("Maryland Med. Jour.," Dec. 25, 1886, p. 154) in the treatment of lupus vulgaris and lupus erythematosus, and in superficial cutaneous epitheliomata, fibromata, and the like. In operating on these, he uses a sewing-needle of a size adapted to the purpose in view.

Abortive Treatment of Phlegmons by Resorcin Inoculations.—Dr. L. Weiss reports ("Med. Record," Nov. 27, 1886, p. 597) four cases of phlegmon of the fingers and one case of the same disease of the toe which he treated with brilliant success by making multiple parallel shallow incisions, similar to those for vaccination, over the inflamed part and then dressing it with a ten- to thirty-per-cent. resorcin-lanolin ointment. The pain was relieved in every case within six to twelve hours, the constitutional disturbance disappeared, and recovery took place promptly. The incisions allowed the resorcin to be readily absorbed. The dressings should be renewed twice a day, and the ointment used freely. Dr. Weiss anoints the inflamed finger with the ointment, then wraps a piece of lint about it, and saturates that with the ointment, then applies some gutta-percha tissue, a layer of cotton, and a moist gauze bandage. This treatment has been successful even when lymphangitis and lymphadenitis had commenced.

Erythema Nodosum treated by Sulphurous Acid.—Dr. Veeder ("Med. Press of West. N. Y.," Dec., 1886, p. 681) has produced prompt

relief in this painful affection by the local use of equal parts of sulphurous acid and water, applied hot on cloths, the latter to be changed when they have become cold.

Treatment of the Erythematous Condition of the Hands which precedes Chilblain.—As soon as the weather becomes cold Besnier has the sufferers from this malady employ the following plan of treatment ("Jour. de méd. et de chir.," Sept., 1886, p. 396): The feet or hands are to be bathed with a decoction of walnut leaves and then dried, and spirits of camphor applied. Then the parts are to be covered with a powder of 90 parts of starch and 10 parts of salicylate of bismuth. If there are much discomfort and pain, before applying this powder the hands are to be bathed with a lotion of

Glycerin,	1	aa	50.00 parts.
Aque rosæ,	1		
Tannin,	10		

M.

Inflammation of the Hair Follicles within the Nares.—For this painful, annoying, and sometimes very obstinate disease, which is often called eczema, Dr. Hardaway, of St. Louis, has found the best treatment to be the administration of cod-liver oil with hypophosphites, and the local application of glycerin to which is added two drachms of Squire's glycerole of the subacetate of lead ("Jour. of Cut. and Ven. Dis.," Dec., 1886, p. 360). Sometimes he commences the treatment of a case by giving one-tenth-of-a-grain doses every third hour of the sulphide of calcium. The glycerin is to be applied with a camel's-hair brush both to the inside and to the outside of the nose; the parts are to be fomented several times a day, the hairs are to be plucked from the inflamed follicles, and when suppuration occurs the pustules are to be lanced. When the pain and tension have subsided, the following ointment is to be used:

R Squire's glycerol. plumb. subacetat.	3 ss.
Glycerin	3 jss.
Ung. aq. rosæ	3 j.
Cereæ albæ	q. s.

M.

The formula for Squire's glycerole is as follows: Acetate of lead, 5 parts; litharge, 3½ parts; glycerin, 20 parts, by weight. Mix and expose to a temperature of 350° F., and filter through a hot-water funnel.

Chalk Ointment in Erysipelas.—Duckworth ("Practitioner," Jan., 1887) recommends in the treatment of erysipelas an ointment made by mixing equal parts of prepared or precipitated chalk and melted lard, either with or without half a drachm of carbolic acid to the ounce. It is to be applied with the finger and smeared on thickly, a mask of plain lint or boric lint being laid over it. It is cleanly, unirritating, cooling, and soothing.

Treatment of Ichthyosis.—Besnier ("Jour. de méd. et de chir.," Sept., 1886, p. 394) recommends for ichthyosis baths of two to four hours' duration, followed by anointing with equal parts of glycerin and rose water; or with β naphthol, resorcin, or precipitated sulphur in vaseline in the strength of five per cent. These baths and anointings are to be repeated every day for a week, and then once a week continuously. In the course of several years the condition is often greatly improved.

Lichen Ruber Moniliformis is the name applied by Kaposi ("Vierteljahr. f. Derm. und Syph.," 1886, Hft. 4, p. 571) to a unique case of lichen ruber planus in which the typical lesions of the disease became transformed into keloidal nodes arranged in lines, the nodes being as large, in some places, as cherries, with their bases confluent and their upper parts separated by furrows. With the keloidal stripes occurred typical lichen planus papules and pigmented stains from their involution. The patient greatly improved under hypodermatic injections of arsenate of sodium, but had to leave the hospital before the cure was completed. An admirable chromo-lithograph accompanies the article, together with a number of drawings of the histology of the affection.

Lupus Erythematosus.—Dr. Morison, of Baltimore ("Vierteljahr. f. Derm. und Syph.," 1886, Hft. iv, p. 619), reports a case of lupus erythematosus which occurred upon the face and upon the vermilion border of the lower lip. The microscopical examination showed that the disease was an inflammatory process taking place about both the sebaceous and the sweat glands, and in no wise related histologically to lu-

pus vulgaris. It is proposed to discard the name of lupus erythematosus and to call the disease dermatitis glandularis erythematosus.

Lupus and Cancer.—From the study of a personal case and of cases published by other observers, Winternitz ("Vierteljahr. f. Derm. u. Syph.," 1886, Hft. 4, Part II, p. 767) has found that in cases of lupus of many years' standing epithelioma may develop; and this is particularly prone to occur after the person has passed his fortieth year. On the other hand, no case of the development of carcinoma out of lupus elements has ever been reported. The epitheliomas which develop in connection with lupus should be removed by the knife, on account of the rapidity with which they grow, and not attacked with caustics.

A New Apparatus for Urethral Injections.—Dr. Finger ("Allgemeine med. Zeit.," Nov. 9, 1886) has had made an apparatus which answers the double purpose of a fountain syringe and a syringe working by means of a piston. It consists of a cylinder with a capacity of from 300 c. c. to 500 c. c. which is suspended against the wall by means of a hook. From the lower pointed end comes off a rubber pipe with a pear-shaped nozzle at its farther extremity which is furnished with a cock. The upper end of the cylinder is closed by a simple cover-like cap which does not screw on, and this is bored through for the passage of the piston-rod. The syringe is filled by drawing up the fluid through the tube by the action of the piston. One filling is sufficient for many injections. In acute cases of gonorrhœa the cover of the cylinder with the piston is removed, and the apparatus is used as a fountain syringe. As soon as the urethra is well distended by the fluid and the patient feels some pain he turns the cock, withdraws the nozzle-tip, and, pressing the mouth of the urethra together, causes the injected fluid to be retained for one or two minutes. In gonorrhœa of some standing, when the acute symptoms have passed, the cover and piston are replaced and the injection is forced deeper in the urethra.

Stigmata Maidis in the Acute Stage of Gonorrhœa.—In the "Therapeutic Gazette" for December, 1886, Dr. Stuver extols the merits of the fluid extract of corn silk in the acute stage of gonorrhœa. He has had a large number of patients who have made speedy recoveries under its use. It is noticeable that he gives it combined with the acetate of potassium, and thus impairs the value of his observations.

Venereal Diseases of the Rectum and Anus.—Dr. Kelsey has done well in presenting to the profession a summary of what is known of this often neglected group of diseases ("Med. Rec.," Dec. 4, 1886, p. 623). He gives us also the result of his own experience in the study and treatment of these disorders. The article is too long to be more than briefly noticed here. Our author says that masturbation by way of the rectum, or sodomy, may be practiced for years without leaving a trace upon the rectum or anus; only under extreme conditions will such practices cause relaxation of the sphincter, disappearance of the radiating folds, an infundibuliform shape of the anus, fissures, lacerations, abrasions, and other marks of violence, and incontinence. But these symptoms may all be produced in other ways. Proctitis due to sodomy may be simple or gonorrhœal; in the former there will be heat and weight in the part, a frequent desire to go to stool, pain often extending to the bladder, sacrum, and loins, vesical tenesmus, and a discharge of sero-purulent matter, with the passages and between them. There may be some fever and loss of appetite, and examination of the rectum will reveal local rise of temperature and a congested mucous membrane. In the gonorrhœal form the symptoms will be more acute and severe, and the discharge very abundant and greenish. The mucous membrane is covered with a thick discharge, and bleeds easily when touched, and the follicles are enlarged and discharge pus. Treatment: Rest in bed, hot sitz-baths, anodyne injections of warm starch-water and opium, and perhaps one of a solution of nitrate of silver, 1 to 2 grs. to ʒj. Milk or fluid diet; saline laxatives. **Chancroids** at the anus, though they may be due to unnatural intercourse, arise more frequently, in women at least, from discharges from vulvar chancroids, or from the male organ in coition. They do not tend to spread into the rectum or to involve the surface of the gut above the sphincter, and when they do they are of limited extent and well circumscribed. They tend to spontaneous cure, and seldom leave any trace when healed. It is possible for a phagedenic chancre to give rise to stricture of the rectum, but the accident is rare. The appearances of the chancre are the same on the anus as elsewhere. Treatment: Gentle laxatives, local

application of nitrate of silver, five grains to the ounce, covered with soft lint. If the ulcer has invaded the sphincter, it must be exposed by the speculum and thoroughly cauterized with fuming nitric acid. If the ulcer can not be fully exposed and cauterized, resort should be had to astringent injections, say with nitrate of silver, two grains to the ounce three times a day. Phagedena is to be attacked with Paquelin's cautery. Chancres of the anus in men are sure signs of pæderasty. They are often mere erosions and resemble mucous patches. They tend to spontaneous healing, but may develop into mucous patches. They have been seen inside of the rectum, but seldom. Mucous patches are common either in the ulcerating or vegetating form, and often closely resemble another variety of non-venereal warts. Only one case of mucous patches within the rectum has been reported. Stricture of the rectum often follows ulceration from tubercular syphilitic deposits. Gummatus deposits have been seen in the rectum, and these may be circumscribed or diffused. [We must refer the reader to the article itself for the differential diagnosis and a full discussion of the subject.]

Clinical Notes on Syphilis.—Dr. B. Farquhar Curtis, of this city, has made a valuable contribution ("Med. Rec.," Dec. 11, 1886, p. 653) to the history of syphilis under this heading. His carefully kept notes of cases at the Out-patient Department of the Chambers Street Hospital show that among dispensary patients three cases of chancreoid are met with to one case of chancre; and that in every one hundred cases of venereal ulcers there were two multiple and twenty-three single chancres, thirty-five multiple and forty single chancreoids. He found that in twenty-nine out of forty-one cases of chancre the average interval between the appearance of the initial lesion and the first outbreak of general systemic syphilis was nine weeks when no constitutional treatment was given; and that in the remaining twelve cases, in which treatment was begun early, the average interval was twenty-two weeks. In one case induration of the venereal ulcer did not take place till over eight weeks had passed; and in another, nine weeks elapsed. Two patients who had had constitutional syphilis subsequently contracted chancreoids, which became indurated and greatly resembled initial lesions. Dr. Curtis thinks this induration in chancreoids may explain some of the cases of secondary infection of syphilis.

The Infrequency of Secondary Syphilitic Contagion.

—Dr. Arthur, of the U. S. Navy, has made a valuable study of the contagiousness of syphilis by means of its secondary lesions ("Med. Rec.," Dec. 18, 1886, p. 671), based upon the replies of one hundred and eighty-four army and navy surgeons to a circular sent out by him. In a period of ten years, during which some thirty-three thousand men had been under observation, only forty-one cases of secondary infection had been observed. In thirty-eight of these cases oral mucous patches were the supposed contagious lesion, and in them the contagion was by direct inoculation by tattooing in twenty-six cases, by vaccination in one, and by biting in two; twenty-nine in all. These are regarded by Dr. Arthur as of no account as instances of contagion, as the possibility of inoculation admits of no question. Of the remaining twelve cases reported as instances of contagion from secondary lesions, five were supposed to have been acquired from kissing; but here there is a possibility of mediate contagion by means of the finger coming in contact with a vaginal chancre or by the direct contact of the lips with a vulvar chancre, an open wound existing in either case upon the lips of the man, or the woman herself may have had a labial chancre. One case was acquired by a surgeon in a vaginal examination, where there might have been a chancre. In two cases the observations were imperfect. In the four remaining cases, mediate contagion took place in one by means of the mouth-piece of a cornet, in two by means of a pipe, and in one from drinking from a water-faucet. Still, when it is considered that syphilis is very common among soldiers and sailors, and that they are in the habit of using their pipes and drinking-vessels in common, the number of cases of secondary infection is strikingly small. From this study Dr. Arthur concludes that the danger of contagion from the secondary lesions of syphilis is very much overrated, but he does not deny its possibility.

New Inventions, etc.

A MODIFICATION OF SIMS'S SPECULUM.

By EDWARD B. DENCH, M.D.,

CHAMBERS STREET HOSPITAL; LATE HOUSE PHYSICIAN, ST. LUKE'S HOSPITAL.

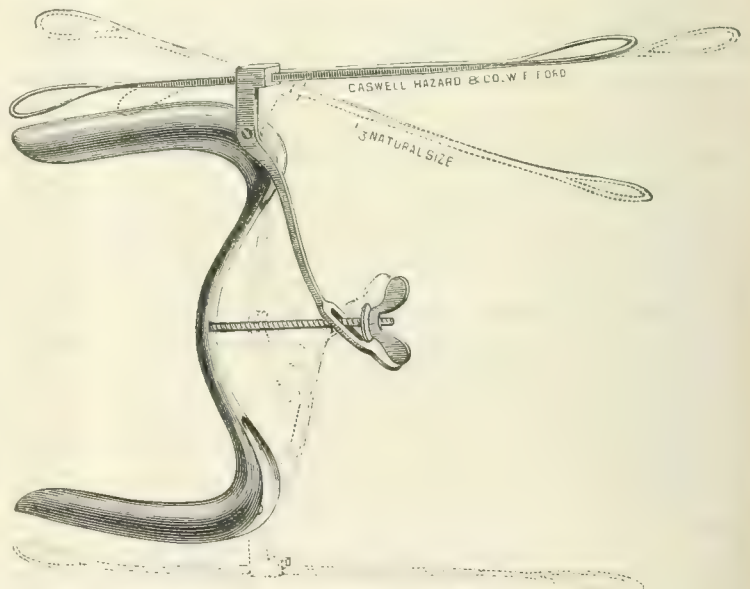
This speculum, which I take pleasure in presenting to the profession, seems to me to possess the advantages of the Sims instrument, at the same time it requires only one person to manipulate it. It consists of a light Sims speculum, to the middle of the back of which is fastened a bar, on which is cut a screw thread.

On the upper surface of each blade, near its junction with the back, is a French pivot, by means of which a lever can be attached to either blade. In the short arm of the lever is cut a groove of the size and shape of a cross-section of the depressor handle. The long arm of the lever is perforated, and fits over the bar attached to the back of the speculum.

In using the instrument, the free blade is grasped in the left hand, the thumb resting on the long arm of the lever attached to the other blade, and the instrument is introduced in the same manner as an ordinary Sims speculum. The depressor is then used to expose the cervix, and, after this has been accomplished, the handle of the depressor is slipped into the groove in the short arm of the lever; the pressure of the anterior and posterior vaginal walls holds the depressor firmly in the groove; the lever is then fixed by a screw on the bar, over which it fits.

To remove the speculum it is only necessary to loosen the screw; the depressor then falls from the groove from its own weight, and it and the speculum are withdrawn separately.

The accompanying cut shows the instrument with the depressor in the groove. The broken lines are used to show the position assumed by the lever and depressor when the instrument is in position; they are also used to show the lever attached to the other blade.



The instrument in my hands has been useful in virtue of the following facts:

1. The depressor is introduced and removed as a separate instrument, not becoming a part of the speculum, until the cervix is thoroughly exposed; this is especially advantageous when the parts are small or sensitive.
2. We have two different sizes of blade, as in the Sims instrument.
3. When the lever is removed, which is only the work of a moment, the instrument becomes an ordinary Sims.

I wish to express my thanks to Mr. W. F. Ford, of Caswell, Hazard, & Co., for the careful manner in which he has executed my ideas.

Miscellany.

Illegitimate Births in Paris.—According to "Progrès médical," there were born in Paris, from Sunday, January 9, 1887, to Saturday, January 15, 1887, three hundred and thirty-seven illegitimate children, of which one hundred and sixty-seven were males and one hundred and seventy females.

The New York Academy of Medicine.—At the meeting of the Section in Ophthalmology and Otology, Monday evening, the 21st inst., Dr. R. W. Amidon will read a paper on "Two Cases of Insufficiency of the Superior Rectus with Distressing Symptoms, permanently relieved by Prisms," and Dr. H. Knapp will read a paper entitled "Extraction of Cataract without Iridectomy, with Presentation of Cases."

At the meeting of the Section in Laryngology and Rhinology, Tuesday, the 22d inst., Dr. F. H. Bosworth will read a paper on "The Physiological Function of the Nasal Mucous Membrane and its so-called Erectile Tissue."

At the meeting of the Section in Obstetrics and Diseases of Women and Children, Thursday evening, the 24th inst., Dr. Malcolm McLean will read a paper on "Rupture of the Uterus."

At the meeting of the Section in Materia Medica and Therapeutics, Friday evening, the 25th inst., Dr. George D. Hays will read a paper on "The Management of Fæcal Retention."

The Health of Chicago.—According to the Health Department's "Condensed Statement of Mortality" for January, there were 1,261 deaths during the month, including 159 from croup and diphtheria, 5 from diarrhoea, 1 from dysentery, 2 from entero-colitis, 14 from erysipelas, 7 from cerebro-spinal fever, 2 from remittent fever, 23 from scarlet fever, 26 from typhoid fever, 9 from typho-malarial fever, 43 from measles, 5 from pyæmia, 2 from septicæmia, 2 from thrush, 4 from whooping-cough, 1 from chicken-pox, and 1 from hydrophobia.

A New Portuguese Journal.—We have received the first number of the "Revista de Medicina e Cirurgia do Hospital da Misericórdia do Porto," dated January 15, 1887. It contains sixteen large double-columned pages, the first article being illustrated with an excellent photograph of a patient who had undergone resection of a great part of the left parietal and the frontal bone. The contents of the number are varied, and adequately representative of the different branches of medicine. The journal is edited by Dr. Arthur Maia Mendes.

The Health of Burlington, Iowa.—According to the report of the Health Officer, Dr. H. A. Leipziger, there were 41 deaths during the month of January, including 2 from diphtheria, 1 from typhoid fever, 6 from pneumonia, and 2 from entero-colitis.

The Health of Boston.—During the week ending February 12th there were reported to the Board of Health 20 cases of diphtheria and 10 deaths; 13 cases of scarlet fever and no deaths; 17 cases of typhoid fever and 2 deaths; and 66 cases of measles and 2 deaths. There were also 27 deaths from consumption, 11 from pneumonia, 14 from heart disease, 11 from bronchitis, and 3 from marasmus. The total number of deaths for the week was 162, being 20 fewer than for the corresponding week last year.

Health Reports from Abroad.—By direction of the Secretary of the Treasury, Dr. John B. Hamilton, Surgeon-General of the Marine-Hospital Service, has issued the following abstract of sanitary reports received from foreign countries during the week ending February 10th:

England and Wales.—The deaths registered in twenty-eight great towns of England and Wales during the week ending January 22, 1887, correspond to an annual death rate of 22·8 in a thousand of aggregate population. The lowest death rate was recorded in Derby, viz., 150, and the highest in Plymouth, viz., 33·8 in a thousand. There were 1,757 deaths registered in London during the week, including 16 from scarlet fever, 13 from diphtheria, 31 from whooping-cough, 14 from enteric fever, and 13 from diarrhoea and dysentery. There were 531 deaths from diseases of the respiratory organs. Different forms of violence caused 59 deaths, and 8 suicides were registered.

Ireland.—The average annual death rate represented by the deaths registered during the week ending January 22d, in the sixteen principal town districts of Ireland was 29·1 in a thousand of population. The lowest death rate was recorded in Galway, viz., 16·8, and the highest in Lurgan, viz., 51·3.

Dublin.—There were 218 deaths registered in Dublin during the week ending January 22d, including 15 from zymotic diseases. In forty-five instances the cause of death was uncertified, there having been no medical attendant during the last illness.

Scotland.—The death rate in eight principal towns during the week ending January 22d was 23·7 in a thousand of estimated population. The lowest mortality was recorded in Perth, viz., 9·7 in a thousand, and the highest in Paisley, viz., 30·8 in a thousand.

Germany.—The deaths registered in fifty-two cities in Germany, having an aggregate population of 6,523,266, during the week ending January 8th, correspond to an annual death rate of 19·4 in a thousand. The lowest rate was recorded in Mayence, viz., 9·1 in a thousand, and the highest in Breslau, 34·6.

Havana.—There were 99 deaths registered during the week ending January 20th, including 1 from yellow fever.

Guayaquil.—There were 79 deaths registered during the week ending January 13th, including 25 from yellow fever, 3 from small-pox, and 21 from enteric fever.

Chili and Peru.—The United States minister at Lima, in his dispatch under date of January 5, 1887, states that prohibition is made against all ships from Chili leaving her ports after December 20th: that the measure is precautionary, and the immediate provocation he understands to be the appearance of cholera in Chili, at San Felipe, which town is said to contain about 10,000 people, and is the capital of the province of Aconcagua, situated near the base of the Andes, some thirty-eight or forty miles north of Santiago. A telegram on the 2d instant reported as having occurred there 55 cases and 40 deaths, but on the succeeding day there were no new cases. The same telegram reported that vigorous measures had been taken, and the locality had been isolated by a sanitary cordon. A telegram received from Chili, dated the 5th instant; communicated through the Chilean legation here (Lima), reported that the first case of cholera occurred December 26th, in the east of Aconcagua, and that the epidemic district, circumscribed to a square league, is absolutely isolated by the army in three successive lines of sanitary cordon, and it is hoped to extinguish it.

Genoa.—The United States consul, in his dispatch of January 13th, incloses a report from Dr. Ferrara, under date of the 10th instant, from which it appears that in 1886 two epidemics existed, one of cholera and the other of small pox. Two years ago cholera appeared in Genoa, brought from Marseilles. In the month of June, 1886, the first suspicious case appeared, followed in a few days by other cases, which the sanitary authorities declared to be not Asiatic cholera, but nostras, or sporadic cholera. Nevertheless, all measures were taken to prevent the spread of the disease. During the year 1886 there were 700 cases declared to be Asiatic cholera, of which 500 proved fatal. The municipal authorities attended to the cleanliness of the town by having all the streets and lanes washed every night. They disinfected all the sewers, and washed the public lavatories with a solution of corrosive sublimate. Particular attention was paid to the disinfection of clothing and furniture. During the epidemic of small pox which existed in Genoa from November, 1885, to July, 1886, there were 280 cases in the small pox hospital, of which 47 proved fatal.

Mayence.—The United States commercial agent at Mayence, in his dispatch of January 8th, incloses a communication from the Hessian government, in which it is stated that, in the cases of diarrhoea accompanied with vomiting, which appeared in the communes of Gonsenheim and Finthen, near Mayence, in the months of September and October, 1886, regarded as cases of native cholera, and first brought to official notice in the second half of the month of October, it was possible in but one instance in the examination of a dead body, and once in a case ending in convalescence, to prove, microscopically and bacteriologically, the presence of Koch's bacilli. The medical authorities are not ready to say, at least as regards the majority of the cases which occurred, that it was Asiatic cholera. The post-mortem examination, on the 27th of October, of the last victim did not in itself justify a diagnosis of Asiatic

cholera. The result of a microscopical and bacteriological examination of the contents of the intestines, October 29th, by experts, established the presence of Koch's bacilli, and thereby a diagnosis of Asiatic cholera was justified. On the 29th of October, in the case of a person sick with simple diarrhoea, the presence of Koch's bacilli in the evacuations was established. In Gonsenheim (3,229 inhabitants), during the time from September 17th to October 13th, there were 9 persons taken sick with symptoms of diarrhoea combined with vomiting, of whom 6 died. In Finthen (2,365 inhabitants), from September 25th to October 27th, there were 10 persons taken sick, of whom 8 died. The duration of the sickness varied. In a few cases, with a rapid course ending fatally, the symptoms lasted only seven to twelve hours. On the average, the length of sickness noted was one and one half to two days.

San Juan del Norte.—There were 5 cases of small-pox registered during the three weeks ending January 3d.

Rheims.—There were 52 deaths registered during the week ending January 22d, including 1 from small-pox, 2 from diphtheria, 3 from scarlet fever, and 2 from whooping-cough. Scarlet fever prevails.

Leghorn.—There were 56 deaths registered during the week ending January 23d, including 1 from enteric fever. There were 2 cases of small-pox reported, but no deaths from that disease.

Toronto.—There were 25 deaths registered during the week ending January 29th, including 1 from diphtheria.

St. Thomas.—There were 8 deaths registered during the week ending January 21st, including 1 from leprosy and 1 from small-pox.

Bordeaux.—There were 152 deaths registered during the week ending January 8th, including 3 from enteric fever.

Rotterdam.—There were 110 deaths registered during the week ending January 15th, including 4 from scarlet fever.

Trieste.—There were 111 deaths registered during the week ending January 15th, including 1 from enteric fever, 1 from scarlet fever, and 1 from diphtheria.

Glasgow.—There were 279 deaths registered during the week ending January 22d, including 9 from scarlet fever and 8 from diphtheria.

Leipsic.—There were 57 deaths registered during the week ending January 22d, including 7 from diphtheria.

Munich.—There were 103 deaths registered during the week ending January 15th, including 3 from scarlet fever and 3 from diphtheria.

Edinburgh.—There were 103 deaths registered during the week ending January 15th, including 2 from scarlet fever.

MORTALITY TABLE, FOREIGN CITIES.

CITIES.	Estimated population.	Week ending—	Total deaths from all causes.	Annual rate of mortality in 1,000.
Havana.....	208,000	January 20.	99	24.8
Guayaquil.....	35,000	January 13.	79	117.6
Rheims.....	98,083	January 22.	52	27.6
Leghorn.....	94,423	January 23.	56	30.9
Toronto.....	120,000	January 29.	25	10.8
St. Thomas.....	15,000	January 21.	8	27.8
Three Rivers.....	10,000	January 29.	4	20.8
Matamoros.....	12,000	January 22.	8	34.7
Acapulco.....	4,200	January 23.	5	61.9
Pernambuco.....	111,000	January 5.	49	23.0
Cadiz.....	65,028	January 15.	66	52.9
Stuttgart.....	125,510	January 22.	33	13.7
Frankfort.....	155,000	January 15.	42	14.1
Mayence.....	59,119	January 15.	25	22.0
Bremen.....	119,000	January 15.	36	15.7
Leith.....	72,297	January 15.	25	18.0
Bordeaux.....	221,305	January 8.	152	35.8
Rotterdam.....	190,522	January 15.	110	30.1
Trieste.....	150,157	January 15.	111	38.5
Amsterdam.....	372,325	January 15.	163	22.8
Glasgow.....	545,478	January 22.	279	26.6
Leipsic.....	170,000	January 22.	57	17.4
Munich.....	262,000	January 15.	103	20.5
Edinburgh.....	258,629	January 15.	103	20.7

The Telephone as a Source of Infection.—At a meeting of the Caucasian Medical Society, Dr. A. P. Astvatzaturoff, of Tiflis, drew attention ("Proceedings of the Caucasian Medical Society," November 17, 1886, p. 263) to the danger of infection arising from the promiscuous

use of the mouth-pieces of public telephones. To prevent any accident of the kind, he recommends that the mouth-piece should be disinfected every time after or, still better, before it is used. In other words, some disinfectant fluid should be kept at every telephone station, and the speaker should, first of all, dip the mouth-piece into the fluid, and then wipe it with a clean towel.—*Brit. Med. Jour.*

The St. Louis Medical Society announces, through its publishing committee, that henceforth reports of its proceedings will be available to any reputable medical journal.

The Liebig Company's Coca-Beef Tonic is thus spoken of by Dr. J. C. Le Hardy, of Savannah: "The want of a pleasant, nourishing, and easily assimilated tonic, containing as little alcohol as possible for its preservation, has always been a desideratum in our Southern climate, where dyspepsia or results of torpidity of the liver and of abuse in diet is very prevalent. For this reason I hail with pleasure preparations which may prove a relief. . . . I selected three cases of chronic dyspepsia, where the assimilation of food was defective, loss of weight, etc. The results obtained in two weeks were indeed surprising; one patient gained five pounds in weight, another three pounds, and the third one about the same."

The British Gynecological Society.—In the list of newly elected officers, as given in the "British Medical Journal," we find the names of Dr. William T. Lusk and Dr. Paul F. Mundé, of New York, among those of the vice-presidents.

THERAPEUTICAL NOTES.

The Spleen as a Therapeutic Agent.—At the suggestion of Professor Maragliano, Dr. Predazzi ("Bollet. della R. Accad. Med. di Genova") has experimented with the spleen (of what animal is not stated), reduced to a pulp, as a blood-forming agent, using this mixture:

Spleen pulp.....	2,250 grains;
Emulsion of bitter almonds.....	5,250 "
Brandy.....	750 "

The whole amount was given in the course of a day, with the meals, to each of five chlorotic patients. The diet consisted of soup with rice, macaroni, bread, etc., at 8 o'clock in the morning; another soup with four ounces of meat, bread, and a glass of wine at noon; and more soup at 6 o'clock in the evening. In from eight to twenty-five days there were observed a rapid improvement of the general condition, with an increase of the red blood-corpuscles; a prompt and lasting subsidence of previous functional disturbances of the nervous system, the digestive tract, and the circulatory and urinary apparatuses; an increase of arterial tension; and a gain in weight. [We agree with Dr. Breitung, who prepared an abstract of Predazzi's article for the "Deutsche Medizinal-Zeitung," that it is difficult to say how far the improvement noted can properly be ascribed to the use of the spleen pulp.]

Cannabis Indica in the Treatment of Headache.—Dr. Stephen Mackenzie ("Brit. Med. Jour.," Jan. 15, 1887) reports excellent results from the use of Indian hemp in the treatment of a class of headaches characterized by continuing day after day and week after week, not dependent on peripheral irritation or on anæmia, and apparently not of the nature of migraine. In a few cases there seemed to be a slight malarial taint, and in others it was thought that gout or rheumatism might be the cause. He gives a third of a grain or more (usually half a grain) of the extract night and morning, or occasionally three times a day. If at the end of a week there is some amelioration, these doses are continued; if there is little or no improvement, a grain is given at night and half a grain in the morning. If necessary, the doses are still further augmented, the largest being always given at night. He has seldom found it necessary to exceed two grains at night and a grain and a half in the morning.

An Injection for Fœtid Leucorrhœa.—The "Union médicale" gives the following formula:

Potassium chlorate.....	13 parts;
Wine of opium.....	10 "
Tar water.....	300 "

Two or three tablespoonfuls are to be added to a quart of warm water as a vaginal injection and lotion.

Original Communications.

MALIGNANT DISEASE OF THE SPINE:

A CONTRIBUTION TO THE STUDY OF

CRUVEILHIER'S "PARAPLÉGIE DOULOUREUSE."*

By R. W. AMIDON, A. M., M. D.

CRUVEILHIER, while perhaps not the first observer to describe the train of symptoms caused by slow compression of the cord, certainly was the first to give this group of symptoms a name, and the first to define and subdivide the previously rather loosely used term "paraplegia."

In his beautiful work, "Anatomie pathologique du corps humain," etc.,† vol. ii, part xxxv, he divides paralyzes of the extremities into two clinical groups distinguished by the presence or absence of pain: "Paraplégie douloureuse, which in general is the result of a compression exercised upon the cord by a growth developed either in the sub-arachnoid cellular tissue or outside the dura mater; and paraplégie non douloureuse, which applies to a disease of the substance of the cord itself." This clinical distinction, based upon pathological findings, has stood the test of scientific inquiry for fifty years, and to-day can not be improved upon.

The case entitled, *Extremely painful paraplegia; hydatid cyst developed in the spinal canal between the dura mater and the laminae of the vertebrae; compression and suppuration of the cord*, in connection with which he first employed the term "paraplégie douloureuse," is so extremely interesting and typical that, would space allow, I should like to quote it freely. A rigid exclusion of all except cases of purely malignant disease of the spine prevents me from presenting it.

A study of more recent cases has convinced me that almost all the symptoms of "paraplégie douloureuse" may be present in cases where no pressure whatever is exerted on the cord, but rather on the spinal nerves at or after their emergence from the vertebral column. I shall briefly present the histories of the three unpublished cases of this sort, and review the literature of the subject, strictly confining myself to the study of cases of malignant vertebral disease, avoiding any reference to other varieties of vertebral disease, caries, tubercle, rheumatoid conditions, or growths of the membranes or of the cord *per se*.

CASE I. *Cancer of Sacrum, Lumbar and Dorsal Vertebrae, with Cancerous Nodules in the Liver, Kidney, and Lung*.—A man of forty, seen in consultation with Dr. Ellsworth Eliot and Dr. A. B. Ball. A sister of the patient had cancer of breast. The patient was a porter, and lifted a great many heavy cases, often straining his back. Had in years past many attacks of lumbago of short duration. In March, 1885, was seized with severe pain in the right lumbar region, which extended down the back of the right thigh and leg. About the same time he noticed some slowness in micturition. In a few weeks the same pain invaded

the left lumbar region, and went down the back of the left thigh and leg. The pain was sharp and lancinating in character, seemingly following the trunk of the sciatic nerve. Later, a pain commenced in the left breast, and later still in the right breast and throughout the chest, and more or less in the abdomen. The pains were made much worse by coughing, taking long breath, or exercise. For the last few weeks the back and legs have grown so weak and painful that he has spent most of the time in bed. Has had no girdle feeling. Appetite has failed, and he has lost flesh and color. Bowels only move by enema. Some cough in the last few days.

Examined by me September 18, 1885, when the preceding history was obtained. Was then thin and cachectic-looking. Handled himself with the greatest care. Movements of the lower extremities were feeble, but all probably present. The legs were much wasted, but the wasting was general. Sensibility of the whole lower extremities to pain was much impaired, but by no means lost. Perhaps more marked in sciatic distribution than elsewhere. Sensibility normal above the pelvis. No hyperæsthesia anywhere, but spine all the way up was very tender on pressure, while the overlying skin when lifted and pinched was not tender. The liver extended five centimetres below the free border of the ribs, and seemed hard and slightly rough, and also very tender on pressure. Abdomen tender on pressure all over, but principally so in the right inguinal region. Femoral glands, left side, enlarged and hard; slightly so on right side. Supra-clavicular lymphatics, left side, distinctly enlarged and hard. Pulmonary resonance high-pitched over the right apex, where the voice and respiratory murmur were exaggerated.

I diagnosed malignant disease of the sacrum and spine with implication of the liver and right lung.

The patient, Dr. Eliot tells us, gradually sank, never, however, becoming entirely paraplegic or losing control of his bladder or rectum, and died October 2, 1885, seven months after the occurrence of the first distinctive symptom.

The autopsy revealed extensive cancerous deposit in the bodies of the dorsal and lumbar vertebrae in the form of nodules, a centimetre in diameter and smaller, and also in the form of a diffuse infiltration of the same cancellous tissue. The sacrum was utterly disorganized, as was the body of the last dorsal vertebra. The new growths reached in some cases the spinal canal, but did not encroach upon its caliber, or in any way compress the cord.

On closer examination it was found that the intervertebral foramina, in the lumbar region especially, were tightly plugged with firm, cancerous tissue, in this way exerting continuous pressure on the emerging nerves. The cancerous process in the dorso-lumbar region had not gone on to the softening and consequent caving in of any of the bodies of the vertebrae, hence there was no deformity of the spine or distortion or narrowing of the spinal canal. There were cancerous nodules in the left kidney, the liver (which was also enlarged), and the apex of the right lung.

CASE II. *Cancer of Dorso-lumbar Spine, with Deposits in the Lungs and Diaphragm*.—A man, thirty-seven years old, seen in consultation with Dr. R. F. Weir at the New York Hospital. The patient had gonorrhœa badly when seventeen, and since then, commencing six months after the clap, had repeated attacks of rheumatism in various joints. He said his back was always weak. In February, 1885, was seized with a severe pain, starting in the left lumbar region and extending down and around the groin even to the scrotum and penis, with contraction of the testicle. This was thought by his physician (Dr. L.) an attack of renal colic, and treated as such. Pain then and soon was only relieved by morphine. Before the use of morphine

* Read before the Section in Neurology of the New York Academy of Medicine, January 14, 1887.

† Paris, 1835-'42.

was commenced the bowels were constipated, and they have since remained so. Ever since the attack of so-called colic the patient has been troubled by severe pain in the lumbar spine on making any motion, and also pain in both lumbo-abdominal regions, worse on the left side, and down the front of the left thigh, which is numbish. Had been confined to bed three months, and had lost some appetite, color, and flesh. Last winter he might have committed some sexual excesses. Since spring he has noticed failure of sexual appetite and power. Has had no erection for six weeks. Since October 1st has had much pus in his urine. The patient was sent to the hospital with the view to being operated on for renal calculus, but the doubts of the surgeon as to the correctness of the diagnosis led to consultations which decided an operation not indicated.

I saw the patient November 1, 1885. I found him thin and cachectic-looking, although his wife did not lay much stress upon it. Thoracic and abdominal viscera apparently normal. Lumbar spine straight, instead of arched forward; perhaps slightly kyphotic. Spinal tenderness on pressure; commences in a slight degree at the eleventh dorsal vertebra, and gradually gets more exquisite until about the third lumbar vertebra is reached, where even slight pressure is very painful. From this point down the tenderness lessens until the sacrum is reached, where there is no tenderness whatever. There is no tenderness over either kidney, or in any other region. Quick movements cause much pain in the spine, and the patient is unable to lie on his face without a pillow or two under the belly. The left thigh and leg are a trifle smaller than the right. There was an anæsthetic patch, of the size and shape of the outspread hand, on the anterior surface of the left thigh, just below Poupart's ligament. The inguinal and femoral glands were enlarged on both sides.

I suggested that the pus in the urine was of vesical origin, and made a diagnosis of malignant disease of the dorso-lumbar spine.

The patient was also seen by Dr. A. B. Judson, who inclined to a diagnosis of malignant disease, while Dr. — called it a case of caries sicca, and Dr. — called it a case of rheumatic spondylitis.

The patient was removed to the private hospital of Drs. F. and H. L. Taylor, where I was told he gradually got worse and died.

March 28, 1886.—The autopsy revealed complete destruction of the body of the first lumbar vertebra by cancerous growth, and a consequent deformity allowing the apposition of the bodies of the twelfth dorsal and the second lumbar vertebrae.

CASE III. Sarcomatous Tumor of the Neck. Removal. Recurrence of the Growth in the Lower Cervical Spine.—A man, thirty years of age. Seen in consultation with Dr. G. B. Phelps and Dr. W. T. Bull.

Patient rather delicate and always anæmic. A maternal aunt had malignant tumor of the breast. In the month of August, 1885, first noticed a lump in the right side of the neck, which gradually grew, and was finally removed by Dr. Bull and Dr. Phelps, February 9, 1886. When removed, it was egg-shaped, and about eight centimetres long. The operation and healing were without accident or hæmorrhage. In August, 1886, began to have dull pain across top of shoulders, and later vagrant pains and sensory disturbances of various sorts (burning, etc.) in the shoulders and down the arms. Pains always worse at night. Shoulders and arms became very stiff also. Variable pains came on in both pectoral regions. Was very careful in walking, because jarring caused much pain. Slept poorly; more comfortably on the back, with the head high.

Has become more anæmic within the last three or four months, during which time he has lost six or seven pounds of flesh. Has lost much strength, which he attributes to continual pain. Bowels costive. On examination, I found him very anæmic and cachectic. Although he walked to my office, his legs had not a proper amount of strength. The knee reflexes were exaggerated; sensibility of upper and lower extremities normal; upper extremities of normal strength. Jarring or striking the top of the head caused much pain in the chest, some in the cervico-dorsal spine. Rotation not painful. Carries his head bent well forward.

On examination, there was seen to be a diffuse swelling over and alongside of the last cervical and upper two or three dorsal vertebrae; not very tender on pressure.

Dr. Phelps made out some signs of consolidation at the apex of the left lung.

Secondary sarcoma of the spine, with compression of the lower cervical and upper dorsal nerves, was diagnosed, and a fatal prognosis given. Patient was advised to go home at once, where he could be properly cared for. Before he went (ten days) he had retention of urine and much weakness of the legs, both these symptoms coming on rather suddenly. Was helped to the train, and went home, where he grew progressively worse, and died January 16, 1887.

A general review of the cases published herewith reveals some interesting statistical facts.

A large proportion of the persons suffering from this disease are males; in the present instance, sixteen men and eight women. In age the subjects ranged from seventeen to seventy-nine, the average of twenty-three cases being forty-five years. The disease lasted from the appearance of the first nervous symptom until death, on the average, eight months, the duration ranging from seven weeks to two years.

There was an antecedent cancer of the breast in four women and one man. There was a family history of malignant disease in two cases: in one a sister had cancer, in one a maternal aunt. In the latter case the patient too had a sarcomatous growth removed from the neck. One woman had had an undescribed tumor removed from the mastoid fifteen years before. This latter patient attributed her trouble to a strain of the back, as did a man. In one case a severe blow upon the spine was followed in one month by malignant growth in the same place.

As for symptoms, the pains were described as follows: As severe, six times; sharp, five; neural in distribution, four; lancinating, three; worse at night, three; aching, three; cramp-like, four; making the patient cry, two; shooting, va. grant, stabbing, burning, like renal colic, in twinges, and spasmodic, once each. One patient complained much of a "drawing back" of the spine.

The pains disappeared or very much lessened toward death in six cases. The pains in almost every case were much aggravated by active or passive motion. In two cases there was hyperæsthesia of certain parts, and in two an anæsthesia of a neural distribution.

Ten cases developed complete paralysis of motion and sensation up to a certain level, with incontinence or retention of urine and feces, and in five cases with gangrene or bed-sores. In these cases it is almost needless to add that a secondary destructive lesion of the cord existed.

No.	Ob-server.	Reference.	Sex.	Age.	Dura-tion of disease.	Ætiology.	Nervous Symptoms.	General Symptoms.	Nature of Growth.	Spinal Lesions.	Other Lesions.
1	Owen Rees.	"Med. T. & M. Gaz." Feb. 1, 1862, p. 109.	M.	17	7 wks.		Severe pain between scapulae; legs weak after exertion; 10th day, swelling right lumbar region; legs worse, with cramps; 26th day, could not get up from sitting posture, and no motion or sensation in the legs since; 34th day, incontinence faeces, and overflow of urine; 37th day, anæsthesia below fifth rib; pain in legs very slight.	35th day, movable tumor, right lumbar region; hard deposit in each epididymis; 37th day, legs œdematous; bed-sore on back.	Carcinoma.	Cancerous mass surrounding upper dorsal vertebrae and pressing on cord by squeezing between the vertebrae.	Upper dors. cord soft; growth 2.5 ctm. long by .5 ctm. diam. between membranes of cord at that place; cancer of mesentery, jejunum, kidneys, each epididymis and left spermatic cord.
2	Co-tard.	"Mém. de la soc. de biologie," 1865, p. 139.	F.	79			Sharp pains in loins and lower extremities, with failure of strength in the same; pains went away before death.	Died with uncontrollable diarrhœa.	Carcinoma.	Tumor on body of 3d lumbar vertebra, and the body of that vertebra cancerous; small growths in 4th lumbar vertebra.	Colloid cancer of the breast; nodules in lung.
3	Co-tard.	"Mém. de la soc. de biologie," 1865, p. 139.	F.	69	13 mos.	Ulcerated cancer of breast of six years' standing.	Lancinating pains in breast, back, and inferior extremities, with numbness of fingers; pains in legs lessening before death.	Lateral deviation of the vertebral column; died of diarrhœa.	Carcinoma.	Cancerous masses in all dorsal and lumbar vertebrae; sinking in of bodies of 12th dorsal and 1st and 2d lumbar vertebrae; body 1st dorsal entirely cancerous.	Spinal cord intact; two cancerous nodules in liver.
4	Jeaffreson.	"Tr. Path. Soc.," London, 1868, xix, p. 426.	M.	68	16 mos.		Nov., 1866, severe pains in right hip joint, and restricted motion of same; abdom. tumor like enlarged spleen. March, 1867, pains more severe, and excruciating stabs in distribution of right crural nerves; left leg next invaded. Nov., 1867, aching pain lumbar spine, and swelling at site of 3d lumbar vertebra; gradual loss of power, but no paralysis of lower limbs, bladder, or rectum.	Several attacks of hæmaturia and uric acid gravel and small calculi; neoplasm finally attacked right clavicle and left ulna.	Cancer.	Body of 3d lumbar vertebra obliterated by soft cancer, as were arches and spine to a less degree; nerves involved in cancerous growth; no encroachment on spinal canal.	Cancer left kidney, right supra-renal capsule, lungs, and intra-ventricular septum of the heart, also of soft tissues of back lumbar region.
5	Terrier.	"Jour. de M. méd. et de chir. prat.," 1874, p. 250.	Adult.	2 yrs.		Cancer of breast.	Cancer of breast one year, when spontaneous very sharp pains set in in left lower extremity, with pain on pressure over sciatic; did not walk because it aggravated pain; no deformity, but sacrum was painful on pressure; year later sharp pains in legs, but no motor trouble or anæsthesia.	Year later, cancer of breast, large and ulcerated, with ulcerated lymphatics in axilla; died of erysipelas after the use of Canquoin's paste.	Cancer.	3d, 4th, 5th lumbar vertebrae and part of sacrum invaded by cancer; tissue of laminae, transverse processes (left side), greater part of spinous processes, replaced by whitish cartilaginous tissue; cord normal.	Three cancerous tumors of abdominal cavity.
6	Morello and Stacchini.	"Lo sper. mentale," 1875, xxxvi, p. 3.	M.	35	6 mos.		Pain in iliac fossa and hypogastric region, aggravated by getting up or moving; short time before death, motor and sensory paralysis of legs came on suddenly, with incontinence of urine and faeces; bed-sores.	Vomiting and diarrhœa; œdema of lower extremities.	Cancer.	One of abdominal tumors had caused destruction of the tenth dorsal vertebra, and compressed the cord; softening of the posterior columns.	
7	Norton	"Lancet," 1878, ii, p. 649.	F.	35	7 mos.		Pain in back and loins, extending down legs; confined Jan. 10, 1878; pain on pressure in right groin and both gluteal regions. Mar. 21, can't stand or sit; swelling over lower lumbar vertebra and sacrum on right side; movements right thigh very painful. Apr. 8, hyperæsthesia and œdema right leg; retention urine one day, and some motor paralysis. Apr. 29, anæsthesia in distribution of anterior tibial nerve. May 2, pains better; hyperæsthesia of left leg, which is paralyzed. May 13, anæsthesia both legs; later, legs stronger, and less pain and anæsthesia; more œdema.		Cancer.	Bodies of three lower lumbar vertebrae and greater part sacrum replaced by cancer; no displacement	Right ilium, mesenteric and lumbar glands, left ureter, aorta, and trachea cancerous.

No.	Ob-server.	Reference.	Sex.	Age.	Dura-tion of disease	Etiology.	Nervous Symptoms.	General Symptoms.	Nature of Growth.	Spinal Lesions.	Other Lesions.
8	Hün-icken.	"Berl. klin. Woch.," 1878, p. 386.	F.	24	7 mos.	Strain of	Aug., 1876, sharp and severe pain in back on descending hill; month later, legs very weak; pains cramp-like, and at night would make her cry for hours. Oct., paraplegia, first bladder, then rectum; partial anæsthesia in lower extremities and diminished reflexes. End of Nov., gangrene of labia maj., and later nates.		Sar-coma.	Sarcomatous tumor, 10th and 11th dorsal vertebra; cord flattened; membranes intact.	
9	Edes.	"Bost. Med. M. and Surg. Journal," 1879, ci, p. 661.	M.	55	3 mos. (?)		Pain in front of both legs, worse at night; 3 months later couldn't turn in bed; no decided paralysis, but great general weakness.	Loss of flesh	Sar-coma.	Body 2d lumbar vertebra replaced by new growth projecting anteriorly and to right.	Growth size of fist in right psoas muscle; two nodules in liver.
10	Kesteven.	"Tr. Path. Society," xxxiv, p. 216.	M.	35	4 mos.	Blow on	One month after blow, pain in right hypochondrium; there was found increased hepatic dullness and displacement of the 8th dorsal vertebra, which was tender on pressure; some loss of voluntary power and sensibility; knee and ankle reflexes increased; involuntary twitchings; later, occasional involuntary motions and retention of urine; last week, bed-sores.	Cystitis and scanty urine; rigors; extreme emaciation.	Sar-coma, spindle-celled.	Body 7th dorsal vertebra destroyed; cord at that point softened; 7th dorsal nerves destroyed.	
11	Limont	"Med. Press and Circular," June 28, 1882.	M.	48	6 mos.		Pain right lumbar region, soon went across to left side and down left leg; occasional twinges in crest left ilium; pains in lumbar spine made him scream; later, painful girdle about lower abdominal region; no deformity.	Emaciation; temp. over 100°; no enlarged glands; later, vomiting and constipation.	Cancer.	Bodies lumbar vertebrae riddled with small cancerous nodules; cord healthy.	Left ilium a mere shell from cancerous degeneration.
12	Seguin.	"Journ. of Nerv. and Ment. Disease," July, 1882.	F.	40	1 yr.	Tumor of breast removed in 1879; recurrence removed June, 1880.	Dec., 1880, pain in left ilium, later in right anterior femoral region; later, "drawing back" of the spine, and cramps throughout hips, thighs, and feet; confined, spring, 1881; in Sept. began to gradually lose power in legs. Oct. 1st, complete paralysis of motion and sensation in legs, with partial retention of urine; a kyphosis in lower dorsal region and one in lumbar; cessation of pain toward last; finally, bed-sores formed on trochanters and sacrum.	Progressive loss of color and weight.	Cancer.	Total destruction of the body of the 10th dorsal vertebra, with compression of the cord; same lesion of the 3d lumbar vertebra; gelatinous nodules throughout all parts of the spine examined.	Only spine examined.
13	Humphrey.	"Lancet," 1884, p. 14.	M.	72	13 mos.	Sister had cancer of breast.	Subject to occasional pain in the back and stooped; spines 5 lower dorsal vertebrae projected and were tender; later, constant headache and spasms of pain in the stomach and loins, and down legs; later, legs got weak, unsteady, and uncertain, with an abatement of the pain; later, impaired sensibility, reflexes exaggerated and sensation retarded; 4 months before death retention and overflow; no bed-sores.	Constipation and nausea; emaciation.	Sar-coma.	Sarcomatous infiltration of almost entire spine; body of 10th dorsal crushed in and cord compressed just above lumbar enlargement.	Sarcomatous infiltration of muscles of the back.
14	Moll'n-hauer.	"Am. Jour. of Neurol. and Psych.," iii, 1884, p. 484.	M.	46	9 mos.	Hepatic derangement 1 year before nervous symptoms.	Summer of 1883 could not rise or sit alone; dull feeling small of back; occasional lancinating pains down legs; irritable and ugly; first sleepless, later somnolent; no deviation of spine; no <i>ceinture</i> ; some hyperæsthesia of the legs; legs weak, all reflexes and sensibility preserved; left leg more wasted; œdema both legs week before death.	Emaciation; anorexia; constipation; occasional diarrhœa; bilious urine; jaundice; enlarged nodular liver; large tumor abdomen and over left quadratus lumborum; died comatose.	Myxo-sar-coma.	Destruction of part of body of 2d lumbar vertebra, and compression of the cord.	Large sarcomatous tumor of back, abdomen, and deposits in liver and kidneys.

No.	Ob-server.	Reference.	Sex.	Age.	Dura-tion of disease.	Ætiology.	Nervous Symptoms.	General Symptoms.	Nature of Growth.	Spinal Lesions.	Other Lesions.
15	Kemper.	"Journ. of Nerv. and Mental Dis.," January, 1885, p. 9.	F.	44	4 mos. +	Mammary tumor removed Aug. 18, 1878; entire gland May 29, 1883.	July 7th, took to bed. Aug. 21, could not raise head or turn in bed; 8th and 9th dorsal vertebræ prominent; entire spine rigid and excessively tender; later, pain in right shoulder, both sides of chest, and across the lumbar region; weakness first right arm, then right hip, thigh, and leg; later, loss of sensibility in legs, body, and right arm. Oct. 7th, sudden retention of urine and fæces; later, girdle sensation above umbilicus, with anæsthesia below; later, loss of power left arm; later, œdema lower extremities; one small bed-sore.	Mucous râles, both apices; dyspnœa; in last month rapid pulse; temperature sometimes 101°.	Alveolar sarcoma.	Autopsy only partial; 8th and 9th dorsal vertebræ softened from sarcomatous deposit.	
16	Edes.	"Bost. Med. and Surg. Journal," '86, cxix, p. 559.	M.	51	2 mos.?	.....	Pain in back, most in right side just below ribs, worse on full inspiration, moving or sitting up; no spinal tenderness.	Clotted blood in stools.	.....	5th dorsal and 3d lumbar broken down, and many spaces filled with gray, gelatinous material.	
17	"	"	M.	53	3 mos. +	.....	Pains front and back of legs, worse at night; unable to walk or turn in bed for three months; no distinct paralysis, but general loss of strength in both legs.	Great emaciation.	Sarcoma.	Body 2d lumbar vertebra replaced by neoplasm; slight implication of cartilage and bodies of 1st and 2d lumbar vertebræ.	Tumor in right psoas, and nodules in the liver.
18	"	"	F.	35	9 mos. +	.....	Sciatic pain, making locomotion painful and difficult; when at rest, steady pains in the small of back, feet, and legs, worse below knees; both sides alternating; flexing head causes pain in back of neck; none on rotation; no spinal prominence or tenderness.	Died with great dyspnœa.	.....	Vertebræ very soft and infiltrated; cord intact.	Nodules in the spleen; tumor size of filbert in dura over each orbit.
19	"	"	F.	43	.....	Scirrhus of right mamma.	Sudden loss of power in legs; pains in shoulders, and arms painful on motion; partial paralysis of the arms, and anæsthesia of lower part of body.	.....	Cancer	Bodies of three lower cervical and first dorsal in state of cancerous degeneration.	
20	"	"	M.	48	5 mos. +	Tumor of sternum a year before nervous symptoms.	Sept., pain, numbness, and gradual loss of power in legs; pains sharp and shooting, and lasted 4 to 5 days. Dec. 4, became unable to walk, and had involuntary and unconscious evacuations. Dec. 11, paralysis of legs and partial anæsthesia up to middle of thigh, which became total. Dec. 22, bed-sores. Jan. 2, no reflexes below hypochondrium; died Jan. 17.	Great pallor; no icterus; temperature once 101°.	Sarcoma.	Bodies 11th, 12th dorsal and 1st lumbar vertebræ occupied by yellow gravis material; vertebral canal diminished to about one third its normal caliber; cord compressed and softened by tumor of dura mater.	Nodules outside and inside sternum: in the 9th rib, left side, and 4th and 11th ribs, right side.
21	Stickler.	"Medical News," 1885, xlv, p. 599.	M.	30	16 mos.	.....	For 9 months pain in back on walking or using lumbar muscles. Oct. 28, alternate sciatic pains; later, lost use of legs, and had incontinence of fæces; anæsthesia below 1st lumbar vertebra; 1 month later, incontinence of urine. Dec. 15, kyphosis, not angular, extending from last dorsal to 2d lumbar spine, not painful; died in March.	Extreme emaciation; middle of January, tumor in abdomen, left side.	Sarcoma.	Last dorsal and 1st lumbar vertebræ completely disorganized; no trace of cord at that point.	Enlargement of mesenteric glands; large retro-peritoneal tumor stopping one ureter.
22	Amidon.	.....	M.	40	7 mos.	Sister, cancer of breast.	See text	Died of exhaustion. See text.	Cancer	See text.	See text.
23	"	.....	M.	37	11 mos.	.....	See text	"	Cancer	"	"
24	"	.....	M.	30	7 mos.	Maternal aunt, malignant tumor; patient himself, sarcoma of neck removed.	See text	"	Sarcoma.	"	"

Deformity of the spine was mentioned in nine cases, pain on pressure over the spine in seven cases, œdema of the extremities in six cases, emaciation in thirteen cases, cachexia in five cases, jaundice in one.

The malignant disease was declared carcinoma in thirteen cases, sarcoma in nine.

Deposits of the morbid growth were found in the cervical vertebræ six times, in the dorsal seventeen times, in the lumbar twenty-two times, in the sacrum three times, and in all the vertebræ examined three times. The region most often found diseased was that extending from the tenth dorsal to the third lumbar vertebra; the latter being more often the seat of disease than any other one, being attacked in nine instances.

The other tissues or organs affected by the malignant disease were, in the order of their frequency: Liver, five times; kidney (one or both), four times; lungs and muscles of the back, three times each; ilium, ureter, and psoas muscle, twice: abdominal tumors and axillary glands, in two cases; while in one instance each the jejunum, supra-renal capsule, epididymis, spermatic cord, breast, heart, aorta, trachea, mesentery, mesenteric glands, lumbar glands, sternum, ribs, retro-peritoneal tissue, and cerebral dura mater were the seat of disease.

The immediate cause of death in most cases was undoubtedly exhaustion, although not so stated. In two cases an uncontrollable diarrhœa closed the scene, while in one case death was precipitated by an attack of erysipelas brought on by the use of Canquoin's paste on an ulcerated cancer of the breast.

We may therefore conclude that malignant vertebral disease is an ailment of middle adult life, more common in men than in women; that, while often following a malignant tumor of the breast, or occurring in a person with an hereditary taint, it frequently seems of spontaneous origin due to traumatism or strain; that it runs a chronic course measured by months; that its earliest and chief symptom is pain, generally dull and aching, in the spine, sharp, paroxysmal in the anterior regions of the trunk and in the extremities; that these pains are apt to be bilateral, and in the area of distribution of certain nerves or groups of nerves (neural pains); that they are aggravated by movement, and are generally worse at night; that complete motor or sensory paralysis, with disturbance of the functions of the bladder and rectum, indicates an encroachment upon the caliber of the spinal canal and consequent compression of the cord; that spinal deformity is often present, but never marked or very angular; that spinal tenderness is often present, sometimes acute, more often elicited by firm pressure only; that emaciation is generally marked, and cachexia probably more often present than described; that other symptoms depend on the implication of other organs by the disease, the œdema being due to obstruction of lymphatics or veins by the pressure of enlarged glands or tumors, the icterus and pulmonary signs being due to implication of the liver and lungs respectively; that the growth is rather more apt to be cancer than sarcoma; that the part most often attacked is the upper lumbar and lower dorsal spine; that similar disease of some other organ is the rule, the liver being most frequent-

ly the one involved; that the immediate cause of death is generally exhaustion.

Malignant disease of the spine is most apt to be confounded with acute spinal caries. To aid in the differential diagnosis, the following distinguishing features are appended:

	Caries.	Malignant disease.
Age.....	A disease of youth.	A disease of adults.
Antecedents.....	Tubercular.	Malignant.
Local tenderness and pain.....	Rare.	Common.
Neural pains.....	Later.	Earlier.
Deformity.....	More frequent and angular.	Not always present, and seldom angular.
Anæmia.....	A late symptom.	An early symptom.
Emaciation.....	A late symptom.	An early symptom.
Cachexia.....	If present, a very late symptom.	An early and constant symptom.
œdema.....	Rare; if present, anæmic or renal.	Frequent, and from obstruction.
Enlarged glands...	Rare, and, if present, general.	Common and localized.
Abscesses.....	Present.	Absent.
Temperature.....	Hectic.	Seldom elevated.
Location of disease	In a large proportion dorsal.	In a large proportion lumbar.
Other organs involved.	If any, general tuberculosis, with predilection for the nervous system or the lungs.	All organs, most often the liver.

True paraplegia, when it occurs, of course due to compression myelitis, and the same in both.

From an ordinary lumbago the pains of malignant disease ought to be distinguished by chronicity and rebelliousness to treatment. A severe lumbago lasting several weeks, defying treatment, and lacking renal characteristics, should excite suspicion of organic spinal disease.

From ordinary sciatica the pains differ by their chronicity and rebelliousness to treatment, and the fact that they are generally bilateral and often accompanied by pains in the distribution of the crural, lumbar, or dorsal nerves; a double sciatica or continuous bilateral pains should always put one on his guard. Moreover, general weakness of the legs rarely occurs with sciatica. In spinal irritation, spinal tenderness is more apt to be general and exquisite, while the pains of that disease are fugitive, non-neural, and shifting. The history of the patient ought to have much weight in this case. Spinal irritation in adult males is rare. The protean manifestations of hysteria should not mislead a careful clinician in the face of the unmistakable signs of organic disease generally present. Spinal meningitis and pachymeningitis are comparatively rare ailments, and are generally characterized by *non-neural* pains and various spasmodic disturbances peculiar to themselves. Intra-spinal growths cause symptoms very closely resembling those of the late stage of vertebral disease, but the early appearance and rapid progression of paralytic symptoms, and the absence of a previous protracted stage of neural pains *without* paraplegia, are suggestive factors in the diagnosis.

The history of the case, aside from the absence of ataxia, diminished reflexes, anæsthesias, retarded sensations, and periods of complete freedom from pain, should render a confusion of vertebral disease with posterior spinal sclerosis well-nigh impossible.

Inflammatory affections of the cord *per se*, forming the various types of myelitis, should be easily recognized by their almost universal freedom from *acute* pain, and by the early supervention of real motor and sensory paralyses and the frequency of vesical and rectal disturbances.

18 WEST TWENTY-FIRST STREET, *January 23, 1887.*

A CONTRIBUTION TO THE PATHOLOGY AND TREATMENT OF THE RESPIRATORY VASO-MOTOR NEUROSES.*

BY JOHN NOLAND MACKENZIE, M. D.,
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WE are at present passing through a revolution of sentiment in regard to the pathology of certain affections whose external phenomena at least are chiefly or wholly manifested in the respiratory apparatus, and notably its upper segments. Phenomena inexplicable on commonly accepted beliefs have received their fitting explanation in morbid conditions of these structures linked to a disordered state—imperfectly defined it may be—of the vaso-motor sympathetic. Especially is this true of that interesting group of symptoms known as “hay-fever,” but for which I think the term coryza vaso-motoria periodica a more appropriate appellation.

In this paper I shall limit myself strictly to the essentially vaso-motor neuroses, and shall not enter upon the discussion of the purely sensitive and motor reflex. As my views on the subject of the respiratory reflex neuroses, and especially in regard to vaso-motor coryza, differ in many essential particulars from those advanced by other observers, and as some of my *confrères*, who have done me the honor to quote from my writings, have apparently failed to appreciate the fundamental ideas underlying my theory of these affections, I will ask your indulgence while I recapitulate, as briefly as possible, the principal articles of my belief. I shall furthermore ask you to refer for a more elaborate statement of my case to my former communications on the subject of reflex and vaso-motor phenomena.†

That portion of the respiratory apparatus known as the naso-bronchial tract is, together with its appendages and connections, frequently the seat of certain periodical vascular disturbances in which paroxysmal explosions of nervous force play a conspicuous part, and which depend, it is reasonable to assume, upon some form of sympathetic or vaso-motor nerve-irritation. The vascular changes with their associated nervous phenomena may affect the upper respiratory tract in its entirety, either appearing simultaneously or successively in its different segments, or may be chiefly mani-

fested or localized in some individual portion of the tract (nose, pharynx, larynx, bronchial tubes). In the latter case the nasal cavities and the bronchial tubes are most frequently the areas upon which the nervous shock is expended—the two territories being seemingly held in close reciprocal relationship by virtue of a physiological law of sympathy between the two extremities of a mucous tract. In the one case a sympathetic coryza results, in the other a sympathetic bronchitis.

In the evolution of these reflex phenomena two factors are conspicuously concerned: a depraved condition of the nerve-centers, and an abnormal excitability of certain portions of the naso-bronchial tract.

The derangement of the nervous apparatus may be transmitted from father to son, or it may be acquired in a number of different ways. Thus, for example, it may be the result of prolonged irritation of the respiratory membrane (*e. g.*, from nasal congestion and inflammation, polypi, etc., chronic affections of the larynx, pharynx, and bronchi), leading to repeated and continuous vascular disturbances over certain areas (as, for example, the frequent engorgement of that portion of the nasal cavities covered by erectile tissue), with subsequent abnormal irritation of the nerve-centers. I do not bring this forward as a mere theoretical assumption, but as a fact of personal experience, having been able to trace clinically the development of the neurasthenic condition from simple pathological irritation in the respiratory tract, and notably in the nasal passages.

It thus comes to pass, after a time, that the constant excitation of the nerve-centers by the peripheral irritation so alters their reflex excitability that they respond more readily to reflex-producing impressions. When, therefore, an increase of peripheral irritation occurs, either from extraneous influences or internal causes, a corresponding excitation of the centers is produced which expresses itself in a paroxysm. We might draw a parallel here between this chain of events and the mechanism of the epileptic attack, or the exaltation of the spinal nervous system from abuse or disease of the generative apparatus.

The exalted state of the centers may be conditioned in another series of cases, entirely independently of any local irritative process in the respiratory tract, by a constant wear and tear of the general nervous system from a multitude of causes—from the faulty nervous constitution which Beard has termed neurasthenia. Such a condition, it is not difficult to imagine, might produce in time a disordered state of the sympathetic and abnormal functional activity of the vaso-motor centers.

In individuals affected with this form of neurasthenia, local organic irritation would be more likely to lead to reflex phenomena referable to the region of the affected part than in those whose nerve-centers had not been subjected to the same amount of functional strain. In the vaso-motor manifestations under review are found simply an application and illustration of this natural law. Or, to put it in other words, the area in which the vaso-motor reflexes occur will depend, other things being equal, on the seat of the local pathological process—on the localization of the area of peripheral irritability. A polypus in the nose, for example,

* Read before the American Laryngological Association, May 29, 1886.

† See especially, “Trans. of the American Laryng. Assoc.,” 1884, pp. 113 *et seq.* Papers on Coryza Vaso-motoria Periodica in “Medical Record,” July 19 and Oct. 18, 1884; Rhinitis Sympathetica, “Maryland Med. Journal,” April 11, 1885; Origin and Cure of Coryza Vaso-motoria, etc., “Trans. of the Medico-Chirurg. Faculty of Maryland,” 1885; Review of Morell Mackenzie on Hay Fever, “Am. Journal of the Med. Sciences,” Oct., 1885, pp. 511–528; Production of Rose-Cold by an Artificial Rose, etc., *ibid.*, Jan., 1886.

would excite in such a person symptoms referable to the respiratory system, while a similar growth in the rectum would elicit reflex disturbances referable to the lower bowel. Now, as there is no tract more subject to direct irritation from the external world than the respiratory, we should naturally look to it for manifestations of central vaso-motor disturbance, and herein lies the answer to the question which may be propounded: Why is it that these vaso-motor disturbances are so often encountered in the respiratory tract, and notably the nasal passages?

In still another class of cases the excessive irritability of the nerve-centers may find its predisposing cause in pathological states of the system as a whole, as, for example, certain diathetic conditions; or it may be the result of reflected irritation from individual parts of the body.

There are certain diseases that tend to abrogate the functional activity of the nerve-centers, and at the same time show a special proclivity to manifest themselves or leave traces of their existence in the respiratory tract. I might instance gout, rheumatism, certain fevers, syphilis, etc., and it is a clinical fact that the origin of the trouble may be traced to such a source. You are familiar with the fact that vaso-motor coryza was, and is by some at present, supposed to be one of the protean manifestations of gout, from the alleged frequency with which it is encountered in those of a gouty diathesis. If what I have said above is accepted, however, it is scarcely necessary to point out the inadequacy of this theory, and to lay stress upon the proposition that gout enters as a factor into the ætiology of the affection only in so far as it is one of a host of diathetic conditions which lead to weakness of the nerve-centers and inflammatory conditions of the respiratory tract.

In connection with this portion of my subject I should like to call attention briefly to the occasional remarkable behavior of this group of respiratory neuroses under the influence of certain acute diseases. I have observed the whole group of symptoms—coryza, asthma, sneezing, cough, etc.—completely disappear during an attack of acute rheumatism, while in another case a recurrence of the nasal affection and asthma took place during an attack of measles after a prolonged interregnum of immunity from these conditions.

We now come to the discussion of the hyperæsthetic condition of the respiratory membrane. Is this factor constant, is it primary, is it the *fons et origo* of these affections, or is it fugitive and secondary? Is it the result of purely local disease, or is it the peripheral expression of more central nerve-irritation? These questions have an important practical bearing on the treatment.

It seems to me that the existing confusion in regard to these questions arises from failure to separate the hyperæsthesia naturally associated with the local pathological process and the excessive irritability principally met with during the paroxysms of this class of affection. According to my belief, the intense hyperæsthesia characteristic of the paroxysm is, like the vaso-motor phenomena (engorgement, swelling, etc.) which accompany it, a purely secondary phenomenon, and occurs only through the intervention of central irritation or paresis. This characteristic irritability

may pass away with the subsidence of the attack, or may be more or less constantly present in the interregnum, according, presumably, to the amount of structural injury which the nerve-centers have undergone. This secondary hyperæsthesia may be brought about, then, if my view be accepted, either by a direct impression made upon the terminal nerve filaments in the respiratory mucous membrane, or by an indirect influence conveyed or reflected through the vaso-motor centers from a distant organ; or, finally, from an excitation starting in the centers themselves.

The hyperæsthesia met with in these conditions may be general, or localized in individual segments of the respiratory tract. In either case, while all portions of the tract as a whole or in part may share in the general hyperæsthesia, there are certain areas in which the latter is usually more pronounced, in which a greater susceptibility to the impressions by which reflex acts are produced is discoverable, and in which may be most conveniently and satisfactorily studied the vaso-motor manifestations of this special class of neuroses. These are: In the nasal passages, the area covered by erectile tissue, and chiefly that portion found in the lower and posterior portions of the nostril (posterior end of inferior turbinated body and erectile tissue in the septum immediately opposite—reflex sensitive area); in the pharynx, the vault and posterior wall; in the larynx, the inter-arytenoid commissure; and, in the trachea, certain areas along its posterior wall. It is worthy of notice that, roughly speaking, it is the lower and posterior portions of the individual segments of the respiratory apparatus where these sensitive areas have been shown to exist.

According to my belief, then, these affections are intimately related to some disturbance of the sympathetic nerve, and probably a deranged condition of the vaso-motor centers themselves.* The neurasthenic phenomena, whatever the condition may be upon which they depend, may, as has been pointed out above, be due entirely to a primary irritation or well-defined disease in the nostril or in other parts of the respiratory tract, but until this condition is produced the case is simply one of ordinary nasal inflammation, and does not become true vaso-motor coryza until the nervous apparatus is markedly involved. In other words, in considering this affection we are dealing with a neurosis, or, at least, with an affection in which the neurotic element plays the essential and most conspicuous part.

In addition to the arguments already advanced in favor of this view, I desire to call attention to the existence of a hitherto undescribed neurosis of the aural apparatus closely allied or analogous in ætiology, mechanism, etc., to vaso-motor coryza, of which I have seen one case, which will be published in due time. Suffice it to say here that in this affection we have to deal with, if we may thus express it, a sort of hay-fever of the ear. When to this we add the recent observation of Dr. Gradle† concerning a periodical affection of the conjunctiva closely analogous to hay-fever, we have, it seems to me, additional evidence in favor of the sympathetic origin of the affection under re-

* For an elaboration of this point, see especially "Am. Journal of the Med. Sci.," Oct., 1885, *loc. cit.*

† "Am. Jour. of the Med. Sci.," April, 1886.

view. In vaso-motor coryza the area over which the reflex vaso-motor disturbances are manifested is chiefly the territory which receives its vaso-motor nerve-supply from the sphenopalatine ganglion; in the aural neurosis, the phenomena are localized or more pronounced in the area presided over by the otic; in Dr. Gradle's cases of recurring conjunctivitis the parts involved are supplied by the ophthalmic, and so on.

I would also refer to two additional observations which I have made, and which are of especial interest in view of the probable vaso-motor or sympathetic nature of the affection—viz., the occasional marked swelling of the thyroid gland, and to an enormously swollen and congested condition of the auricles analogous to that of the rabbit's ear in the famous experiment of Claude Bernard upon the cervical sympathetic.

I have said above that the two areas most frequently and notably concerned in these respiratory vaso-motor disturbances are the nasal passages and bronchial tubes. This leads me to refer briefly to the question of asthma and its relation to nasal disease. To Voltolini is universally and erroneously attributed the credit of pointing out this interesting relationship. That the asthmatic paroxysm is not infrequently associated with or terminated by a discharge of mucus or serum from the nasal passages, is a fact which was familiar in ancient times. Thus, among others, Cælius Aurelianus,* in speaking of the diagnostic value of an excess of mucus in connection with the so-called "convulsive asthma," after commenting on its various symptoms, proceeds to say:

"At si gravior impetus superpositionis fuerit, ora ægrotantium livescunt, et quidem excluso per nares humore mucilento, relaxantur, atque præfocationis carent metu, quod non aliter cedit, etiamsi per oculos lacrimarum fuerit fluor."

He also gives a cold in the head (*gravedo*) as a symptom of asthma. It was not, however, until centuries afterward that Zecchius† described an asthma whose cause he ascribed solely to a catarrh of the head, whose premonitory symptoms were a pain in the head, a distillation from the nose, and a small cough, and whose treatment consisted in the use of the ordinary remedies directed against catarrh of the head. I have called attention, too, elsewhere,‡ to the "suffocative catarrh" of Schneider, and the "anniversary asthma" of Floyer, as bearing upon this relationship. I may add that the association of asthma, whooping-cough, and sneezing was also observed by Josef Frank.*

Coming down to more recent times, we find Bree|| referring to a case of an asthmatic restored from the disease—

* "De morbis acut. et chron., libri viii"; Amstelodami, 1709, lib. iib. cap. i, p. 430.

† "Consultationes medicinales," Francofurt., 1650, xviii, p. 160 et seq.; liii, p. 565; lxxiv, p. 708 et seq.—*et in al. loc.*

‡ "Am. Journal of the Med. Sciences," January, 1886, p. 52, footnote, and p. 53.

* "Præceps medicæ universæ præcepta," Lipsiæ, 1818, pars II, vol. ii, sec. 1.

|| Robert Bree, "A Practical Inquiry into Disordered Respiration, distinguishing the Species of Convulsive Asthma, etc.," Phila. ed., 1811, p. 145.

"Whose Schneiderian membrane became unusually dry in the progress of his recovery, and was even affected at this time with inflammation. The fluctuating qualities of the air, often irritating this membrane, occasionally produced a paroxysm without expectoration, until the habit of relapse was at last conquered by the means employed." In another place he observes: "If there have been frequent repetitions of irritating causes and convulsive efforts of the respiratory muscles, the asthmatic paroxysm may much more probably supervene upon the milder effort to reject an acrid particle by sneezing and cough."

Later on, Rudolf Ferber,* of Hamburg, referring to the frequent association of sneezing, migraine, bronchial asthma, and hay-fever, advanced the theory that these phenomena were the expression of a neurosis of the trigeminus brought about by circulatory disturbances in the lower pelvis. These led, he thought, to a slowing of the venous current with stagnation of blood in the skin, mucous membranes, nose, etc. This abnormal condition finally begets a disturbance of the sensitive nerves of the parts with a tendency to reflex phenomena, manifesting themselves chiefly in the domain of the trigeminus. Thus the alveoli of the lungs and the mucous membrane of the bronchi become surcharged with venous blood, and this engorged condition probably acts directly on the sensitive filaments of the vagus.

I may mention here a little brochure to which I have never seen any reference, even among German writers, which I stumbled on accidentally in the library of the Surgeon-General's Office at Washington, and which I take pleasure in rescuing from an undeserved oblivion. The pamphlet is entitled "*Die Migraine ist eine Angina, der acuter Magenkatarrh eine Neurose. Ueber die Bedeutung der Angina faucium, ihre Verbindung und ihren Zusammenhang mit einer Reihe von Krankheiten.*" and is from the pen of Dr. Ferdinand Wylder, of Aarau. The chief contention of the author is indicated in the title of his work. Among the conditions supposed to depend upon slight catarrh of the pharynx are cardialgia, gastralgia, vertigo, vomiting of blood, epistaxis, sopor, delirium at night, hemicrania, neuroses of the trigeminus, cervico-occipital neuralgia, angina pectoris, brachial neuralgia, stenocardia, etc. He concludes as follows:

"Nach meiner Auffassung ist die Hemicranie, sowie die frische Trigeminusneuralgie eine Angina, gleichsam eine fragmentarische Angina, mit den begleitenden hervorstechenden Krankheitssymptomen der einfachen catarrhalischen Angina nervöser erethischen Personen; eine Angina, bei welcher als hauptsächlichste Symptome, Prostration und Kopfschmerz, Schwindel, meistens auch Erbrechen erscheinen, und sich als Hauptleiden hinstellen, die jedoch deutlich von dem Zeichen der Zusammenhänge des Zusammenhanges und Ursprungs, von der frischen Rothung der Schlundgebilde begleitet sind."

While the enthusiasm of the author carries him a little too far, his pamphlet must be regarded as an important contribution to the literature of the naso-pharyngeal reflex.

* "Der Keisckrampl u. deren Beziehung zur Migraine, zum Bronchialasthma u. zum Heufieber." "Arch. d. Heilkunde," ferner Jahrg., Leipzig, 1869, p. 586.

Finally, Trousseau* discussed at length the relation of coryza to asthma, and Follin and Duplay† assert that many of those who suffer from nasal polypi "become subject to attacks of asthma." To Voltolini belongs the credit of curing his patient by removal of the nasal neoplasm.

The older writers, as has already been pointed out,‡ were doubtless familiar with the disease known as "hay-fever," which they considered as a species of, or identical with, the so-called bronchial asthma of the present day. It was not until after the observations of Bostock that the asthma arising from the emanations of grasses was regarded as distinct from the asthma produced by other causes, while it has taken nearly a century for us to return to the simpler classification of the older nosologists. Even now our notions of the condition known as "asthma" are more or less vague and indeterminate. It is looked upon as a disease *per se*, as a distinct pathological entity; but if we consider exactly what is involved in the ordinary conception of this condition—that, like many other disturbances of respiration, it has no definite anatomical lesion—that it is common to an almost indefinite number of pathological states, we shall be forced to regard asthma as a symptom which, like cough, may be ushered in, follow, or occur simultaneously with irritation in various parts of the body, but which is most commonly symptomatic of some disorder of the respiratory tract. I do not propose, in this communication, to discuss the mechanism of the asthmatic paroxysm; whether it is essentially a spasmodic phenomenon, or whether the bronchial constriction is due to an engorged condition of the mucous membrane analogous to that seen in vaso-motor coryza—a transference, so to speak, of the nasal swelling to the bronchial tubes—are matters which do not come within the range of the present inquiry. While there are many reasons for belief in the correctness of the latter view, which was advanced by Weber,* and which has recently found an eloquent defender in Sir Andrew Clarke,|| and while such transference probably does take place in a large number of cases, still it were unwise, in the present state of our knowledge, to eliminate completely the element of spasm as a possible factor in other cases, and to lay down the law that the constriction of the bronchial tubes alleged to be peculiar to this condition can only be brought about by sudden swelling of the mucous membrane.

* "Clinical Medicine," New Syd. Soc. Trans., London, 1868, vol. i, p. 619 *et seq.*

† "Traité élémentaire de pathologie externe," Paris, 1868-'69, tom. 3, p. 815.

‡ "Trans. of the Med.-Chir. Fac. of Md.," *L. c.* "Am. Journal of the Med. Sci.," Jan., 1886.

* "Ueber Asthma nervosum." See "Tageblatt d. 45 Versammlung deutsch. Naturforscher u. Aerzte in Leipzig," 1872, p. 159.

|| "American Journal of the Med. Sciences," Jan., 1886. In simple justice to Trousseau, whom some recent writers seem to overlook, it must be stated that he was the first to look upon the peculiar coryza (undoubtedly the hay-fever of the present day) occurring in connection with asthma (see above) as one of the manifestations of that disease, as a part of the asthmatic process, and also the first to suppose that the difficulty in respiration, sometimes associated with urticaria, was "occasioned by an eruptive or congestive state of the mucous membrane of the bronchial tubes analogous to the eruption and congestion on the skin." (*Op. cit.*, vol. ii, p. 284.)

An interesting feature of a certain proportion of the class of cases we are now discussing is the occasional association of urticaria, asthma, and coryza. And just here I may remark that the relation of asthma to skin affections was familiar long before the days of Trousseau. Thus the illustrious Hoffmann* mentions, as a fact of common experience, that asthma sometimes follows the suppression of a cutaneous rash; and before him Baglivi† had recommended, in such an event, that the patient should sleep with one having the "scabies," that, catching it, he might be relieved of his asthma. It is also related that William of Orange was cured of an inveterate asthma during the running of a sore on the shoulder produced by the famous cannon-ball wound received at the battle of the Boyne.

In the condition of affairs that we are discussing, the coryza may precede the asthma and urticaria in time of appearance, disappearing or remaining after their eruption; or the asthma or urticaria may antedate the attack of coryza; or, finally, instead of alternating the one with the other, they may appear simultaneously in the individual. At the last meeting of this association I stated my belief that these phenomena seemingly depend on an imperfectly defined neurosis or vaso-motor influence (possibly some derangement of the cervico-occipital sympathetic), which is probably the connecting link between these affections. Now, in attempting to define the reciprocal relationship between this triad of conditions, we may regard the skin essentially as a part of the respiratory tract—as the external organ of respiration. It is only necessary for me to recall the physiological importance of the skin in respiration among some of the lower animals, and the embarrassment of respiration in man from pathological or experimental suppression of the cutaneous function. We may accordingly regard this neuro-vascular disturbance of the external surface as a natural symptom of the respiratory vaso-motor neuroses, and assume that, while the relation of asthma and coryza may be explicable by a possible "normal sympathy existing between the two extremities of the internal respiratory tract, both asthma and coryza may be linked to the skin affection by a sympathetic bond which holds in equilibrium and close consent the whole mechanism of the respiratory function.

The principles involved in the foregoing propositions have served as the basis and rules of my practice in this class of affections during the past three years, and with a most gratifying result. In that time between sixty and eighty cases of paroxysmal vaso-motor neuroses of the respiratory tract have come directly or indirectly under my professional observation. Of this number, the nasal passages were most frequently the seat of the vascular disturbance, and next in frequency the bronchial tubes and

* "*Ita experientia docemur, a scabie repulsa . . . a tinea capitis male curata . . . nostram passionem exoriri.*" F. Hoffmann, "Op. omnia physico-medica," part ii, § ix, p. 257, Geneva, 1760. In speaking, too, of the symptoms of asthma, he adds, "Mucus per nares excluditur."

† "Opera omnia med. practica," ed. octava, Lugduni, 1714, "Prax. med., appendix de asthma," p. 104. "*Ex scabie repulsa si asthma fiat, cum scabioso dormiendum est, ut scabies revocetur, vel urticis cedenda cutis.*"

pharynx. Occasionally the affection was more or less clearly localized in the laryngeal cavity, but, according to my experience, this is an exceptional event. While the sympathetic nerve disturbances manifest themselves most frequently in the nasal cavities, in a certain proportion of cases the pharynx and larynx appear to be the starting-point of the trouble, and I have traced a number of reflex phenomena, such as asthma, cough, etc., to diseased conditions of these structures. The vaso-motor disturbances, both of the pharynx and larynx, are, however, commonly associated with, or preceded by, similar affections of the nasal cavities. In the pharynx and larynx they are characterized by an excessive degree of hyperæsthesia—the very act of opening the mouth giving rise in some cases to retching and even vomiting. Indeed, a considerable number of cases of so-called hyperæsthesia and paræsthesia of the larynx and pharynx are traceable to some vaso-motor disturbance or sympathetic nerve irritation. The changes in the vascularity of the mucous membrane often take place with great rapidity, the vessel dilatation being quickly replaced by a condition approaching pallor, while the latter as quickly gives place to the laryngeal or pharyngeal blush. In cases in which the neurotic feature is especially well marked, the alternate dilatation and contraction of the vessels can be most conveniently studied. The suffusion and swelling may be diffuse and uniformly distributed over the structures, or it may be more pronounced over certain areas, presenting a certain anatomical resemblance to a cutaneous eruption.

The secretion of colorless watery fluid is not so constant nor so abundant as in analogous conditions of the nasal passages, nor is the swelling of the mucous surfaces so conspicuous. The reflex phenomena symptomatic of this class of pharyngo-laryngeal neurosis need not detain us at present. Suffice it to say that they are sufficiently numerous, and consist chiefly of various sensory and motor disturbances in the path of the nerves that radiate from the pharyngeal plexus, and in spasmodic contraction of the pharyngo-laryngeal muscles. In one case the spasm of the pharyngeal and palatal muscles was so great that it materially hindered the passage of air through the nares and laryngeal vestibule, causing the patient to start suddenly from his sleep with what might be termed a veritable naso-pharyngeal asthma.

In whatever portion of the respiratory tract these vaso-motor neuroses are situated, the general principles of treatment are in each and every event essentially the same.

When, some time ago,* I formulated the view according to which the so-called nasal or respiratory reflex neuroses, the group of phenomena known as "hay-fever," "asthma," and other reflex conditions found in connection with nasal disease, may be classed as symptoms which, owing their origin to a common cause, form part and parcel of a single pathological process, I did so not merely upon theoretical grounds, but based my conclusions upon the results of clinical experience—upon the observation that the treatment of one of these neuroses was essentially the treatment for all, and whether we had to deal with paroxysmal cough,

asthma, or with the *ensemble* of those phenomena known as "hay-fever," "rose cold," etc., the therapeutic indications are identical.

With these brief prefatory remarks, let us turn to the most typical and interesting of these affections, in which the nasal passages and adjacent organs are the most conspicuous seats of the vascular disturbances, and which we may designate coryza vaso-motoria periodica.

The chief indications in the treatment of this affection are: (1) To remove any existing local respiratory disease or irritation; (2) to so alter the nutrition of the nerve-centers that they may not respond so easily to reflex-producing impressions; (3) to search carefully for any pathological condition, systemic or local, which may be regarded as a source of direct or indirect irritation of the nervous or respiratory apparatus, and adopt appropriate measures for its relief. Failing in the above measures, (4) the partial or complete destruction of the vessels or sinuses over the area or areas in which the vascular disturbance is most marked.

I have dilated at length, elsewhere, upon the manner in which these indications should be carried out, and shall, therefore, on this occasion, only offer a few supplementary suggestions.

The first lesson to be learned in the treatment of this affection is that it is a chronic neurosis, and, as such, requires chronic treatment. It should be remembered that the peculiar condition of the sympathetic is, like epilepsy, with the patient by day and by night, in winter and summer, ready at any moment, under favorable conditions, to give expression to its presence by a paroxysm. Any treatment, therefore, undertaken a short while before the expected attack or during its course, is almost wholly palliative, and can rarely, if ever, accomplish any permanent good. And thus the innumerable remedies (such as chloral, belladonna, opium, stramonium, etc.) which have been used from time to time can accomplish no lasting good, and in many cases either lose their beneficial effects altogether, or, in the end, by their constant physiological effects upon the nerve-centers, may tend even to aggravate the predisposition to the affection. In this category I would place cocaine. As I pointed out some time ago,* and also at the last meeting of this association,† the long-continued use of this drug in the nose and throat begets an increased irritability of these structures, due, probably, to the repeated contraction and consequent fatigue of the contractile elements in the smaller vessels and erectile tissues, which terminates in some cases in a subparalytic condition of these structures, and subsequent puffiness of the membrane. As the habitual use of earthartics eventuates, sooner or later, in constipation, so the prolonged use of cocaine will result, in a certain proportion of cases, in a hyperæsthetic condition of the mucous membrane. In the case of the erectile

* Discussion on Cocaine, May 15, 1885. "Trans. of the Med. chir. Fac. of Maryland," 1885, p. 189.

† Discussion, June 26, 1885. "Trans. of the Am. Laryng. Assoc.," 1885, p. 142. I may add that since then Bevelock Robinson ("Med. Record," Oct. 17, 1885), Ingals ("Journal of the Am. Med. Assoc.," Feb. 20, 1886), and others, have recorded similar observations.

* "Maryland Med. Journal," April 11, 1885.

tissues, it is especially open to the objection that, by bringing repeatedly into play the contractile power of these structures, it may ultimately weaken their walls and lay the foundation for a permanent dilatation of the erectile cells. In calling attention to these disadvantages of its continuous use in these affections, I do not by any means desire to question the many excellent virtues of this remedy. In certain acute affections of the mucous membrane, and for its effect on the nasal erectile structures, pointed out by Bosworth, it is a God-send, but I am convinced that at present it is too indiscriminately and injudiciously employed. In the disease under review, it has in my hands utterly failed to dissipate, except temporarily, its symptoms, or to abridge, in the slightest degree, its course. For a short while amelioration is secured, but, at the expiration of a period varying from half an hour to two hours, the symptoms recur, and the drug has to be used again and again.

My custom is to treat this affection as I would any other chronic disease of the nervous system. The commencement of the treatment, accordingly, should date from the first appearance of the patient for consultation, and terminate, it may be, long after he is apparently free from his disease. I can not insist too strongly on the importance of prolonged and continuous tonic treatment addressed to the nervous apparatus. It may at first fail, and the paroxysms return again and again with all their accustomed severity; but, if it be persisted in, the time will come, sooner or later—provided there is not some incurable lesion—when the intervals between the paroxysms will be less and less, and the attacks themselves less severe, until finally they cease altogether.

The great mistake which is universally made, it seems to me, is the suspension of treatment upon the termination of the attack, and I therefore wish to emphasize the importance and necessity of continuous treatment throughout the interregnum of fancied immunity from the disease.

In carrying out this remedial course two difficulties will present themselves: the firmly-rooted belief in the patient's mind that there is nothing the matter with him in the intervals of exemption, and his natural discouragement when, in spite of treatment, he may have an occasional return of his old disorder.

The general tonic and hygienic treatment will vary with the individual peculiarities of the subject and the conditions of his environment, and will usually consist, to speak in general terms, of prophylactic measures directed against the development of nervous and catarrhal affections.

Among the many remedies I have tried in the constitutional management of this class of affections, I would mention and recommend arsenic, phosphorus, zinc, quinine, and *nux vomica*. These drugs may be used alone or in combination for an almost indefinite time, if the usual precautions in regard to their physiological effects are exercised. The following method of administration, although it has failed me at times, has, nevertheless, been so generally beneficial in my practice that I do not hesitate to recommend it for your trial:

(1.)

R Zinc, phosphid. gr. $\frac{1}{16}$;
Quin. sulph. gr. ij;
Ext. nuc. vom. gr. $\frac{1}{4}$.

M. Ft. pil. no. j.

S.: To be taken before meals.

(2.)

R Liq. arsenic. et hydrarg. ioidid., gtt. iij ad v.

S.: In wineglassful water, after meals.

Formerly I used Fowler's solution, but for the past year have substituted the iodide of arsenic and mercury (Donovan's). The quantity of the ingredients should be increased according to the judgment of the physician. Should the physiological effects of any of the remedies manifest themselves, it should be stopped for a week or so, and then resumed in the same or diminished doses.

I may add, in leaving the subject of constitutional treatment, that for several years I have employed the above-mentioned lines of treatment in simple inflammatory conditions of the nasal passages and throat, and have found them important auxiliaries, especially in the earlier stages of the simple inflammatory process, when the vaso-motor element of inflammation is chiefly evident from the repeated and sudden erection of the turbinated structures.*

I have also seen good effects from the continuous use of the bromides and the iodide of potassium. In two cases I have made use of the constant current (from ten to fifteen cells), placing one electrode over the nape of the neck, and passing the other extremity of the current alternately over the region of the superior cervical ganglion and through the nasal passages. In one, apparent, and in the other decided, relief to the symptoms was obtained. Although my experience with this agent has not been sufficient to warrant me in pronouncing either for or against its use, I consider it, nevertheless, worthy of further trial.

In one case a satisfactory result, as far as the amelioration of the symptoms was concerned, was secured by partial obliteration of the pharyngeal vessels with the galvanocautery. The patient, a physician, suffered from the pharyngeal variety of vaso-motor neurosis, associated with an abnormally large, swollen, and varicose condition of the veins on the posterior wall. The vessels were cut across in a number of places, and since the operation the paroxysms have been notably less severe.

In regard to the topical treatment of existing nasal disease, I can only repeat what I have said over and over again—that any treatment addressed to the nasal chambers accomplishes one result, and one only—it closes one door against *ab extra* irritation of the nerve-centers. In many cases, it is true, this will be of itself sufficient. The nasal passages may be the sole avenues through which the nerve-centers are influenced, and, with the removal of the irritant and the consequent physiological rest of the centers, the disorder may be apparently, and in the course of time actually, dissipated. But there are other cases in which, from what I have indicated above, such a course will obviously fail. Those of my colleagues, therefore, who consider the re-

* See article by the writer in the "Medical News," Philadelphia April 4, 1885.

moval of the nasal obstruction or irritation as the sole remedy for this disorder, base their belief, it seems to me, upon an incomplete conception of its pathology. The value of the galvano-cautery and other therapeutic measures addressed to the nasal passages will depend, to a large extent, upon whether the existing nasal disease is the primary cause of the central irritation, whether it is the sequel of repeated attacks of vaso-motor coryza, or whether it is a purely accidental phenomenon. Whether primary, secondary, or accidental, it always acts as an excitant of the disease, and it is of the utmost importance that it should receive the most careful attention. But it must not be forgotten, at the same time, that behind the nasal, throat, and head phenomena stands the neurosis, and that, until the sympathetic nerve-irritation is overcome, we can not expect to thoroughly eradicate the disease.

A CASE OF NEURALGIC OSTEITIS.

By J. H. WOODWARD, M. D.,
BURLINGTON, VT.

Mr. A. N., a farmer, about forty years of age, came to me for treatment in September, 1885. His well-knit frame denoted remarkable physical strength and endurance. His health had always been robust until his present attack. He had never used tobacco or alcoholic liquors, and no history of specific or hereditary constitutional disease could be obtained from him. In March, 1885, while operating a large, square churn, he was struck in the face by one of its corners with great force. The blow cut through his upper lip and laid bare the jaw-bone at a point directly over the root of the left upper canine tooth, loosening that tooth and both bicuspids. The wound through his lip healed promptly, the teeth soon became firmly fixed in their sockets again, but the wound through the gum at the root of the canine tooth did not heal, and later on it began to discharge. He worked on his farm as usual until about the 1st of August, 1885, when he began to suffer pain in the left side of his face. Up to that time his jaw had not given him any trouble. The pain rapidly increased in severity, until it was a constant dull, heavy, throbbing ache, which seemed to start from the region of the socket of his left upper canine tooth and invade every part of that side of his face. The pain was deep-seated. It was most severe about the canine tooth, at the infra-orbital foramen, in the substance of the malar bone, and at a point deeper than, but near to, the left temporo-maxillary articulation. After six weeks' trial of drugs, his physician had been unable to mitigate the severity of the pain.

At the date of his first visit to me, September 18, 1885, the patient was suffering with the excruciating pain already mentioned. He bore the marks of suffering in his countenance. He could not work. He could not eat. His nights were restless, and his sleep was broken by the agony he endured. He was losing flesh and strength. At the bottom of the small discharging excavation at the root of the canine tooth the probe touched bare bone. All of his teeth appeared to be sound. They were examined by Dr. F. H. Hudson, a skillful dentist, and nothing abnormal was discovered excepting the small excavation and the denuded bone at the bottom of it. None of the teeth were tender to pressure or percussion. Excepting in the region immediately surrounding the excavation, no signs of inflammation in the bone or soft parts were discoverable. During the preceding three weeks the patient had been annoyed by a purulent discharge, which flowed from his left nostril, and

which seemed to be more abundant when he rested on his right side. Hypertrophic rhinitis was well marked in both nasal passages, but it was not more marked in the left than in the right. The walls of the antrum were not displaced in any degree.

September 20, 1885.—Anæsthetized the patient with ether, to which chloroform was sparingly added, for even an unusually large quantity of ether did not suffice to control his movements on the table. The anæsthetics caused profuse diaphoresis. The left upper canine tooth was extracted with considerable difficulty, for it was firmly adherent to its socket. The anterior wall of the socket was removed, and the inflamed bone gouged away up to the floor of the antrum. By perforating the antrum, I ascertained that it was in a healthy condition. No further indications for continuing the operation being noted, the patient was allowed to come out of the anæsthesia. He suffered considerable depression from the anæsthesia for several days.

The operation caused a noticeable temporary diminution of the severity of the pain; but two days later the patient was suffering intensely again. Full doses of quinine were given, without benefit. I was obliged to resort to opium in large doses to make life endurable for him. This operation wound was never the site of pain or uncomfortable sensations.

27th.—Owing to lack of anterior support, the first bicuspid tooth had become loose, and it was extracted. Its root was rough, and pretty firmly attached to the alveolus.

About this time electricity was added to the treatment. I found that the rapidly interrupted faradaic current controlled the pain better than the galvanic. The + electrode (my hand) was applied over the painful region in the face, and the — electrode was applied to the nape of the patient's neck. The strength of the current was gradually increased until my arms could endure no more. The sittings ended when the pain ceased—a result obtained after an hour or two of continuous electrization. The applications were given on alternate days. No unpleasant effects ensued from this treatment. Within an hour or two after the sittings the pain returned, and gradually attained its former severity.

October 15th.—The second bicuspid tooth has become sore. Patient says it seems to be about an inch too long, and he can not bite upon it. A very mild faradaic current temporarily removed those sensations. But after a few futile attempts to save the tooth it was extracted. Its root was rough, like the others.

The use of opium had been abandoned, and about this time I attempted to modify the pain with increasing doses of gel-selenium, but failed.

November 2nd.—The alveolar margin of the jaw behind the first operation wound has been tender, and the overlying soft parts have been inflamed for two weeks. Tincture of iodine has been applied to the inflamed region, and stimulating injections of chloride of zinc have been used in the sockets of the two bicuspids. No evidence of repair can be detected in the socket of the second bicuspid, but the other wounds are almost healed. The alveolar margin in this region is inflamed, and the treatment has not modified the progress of the inflammation.

The patient's general condition is improved. He sleeps fairly well. His appetite has increased. He can do light work; but he is never free from pain, excepting immediately after the applications of electricity, and the pain is generally very severe. The left side of his face and his left temple are very hyperæsthetic, and sensitive points exist at the inferior orbital foramen, over the inflamed bone and just in front of his left ear. His left upper molars are becoming tender, and they are sometimes painful. Twinges of neuralgic pain start from the right upper teeth from time to time. The patient readily consented to another operation, which I performed, November 24, 1885.

Fifteen minutes prior to commencing the anæsthesia, three minims of Magendie's solution of morphine and $\frac{1}{12}$ of a grain of sulphate of atropine were given hypodermically. Ether and chloroform were administered, as on the former occasion. The patient passed under the influence of the anæsthetics without a struggle. No increase in the amount of perspiration was noticed. I extracted the molars with great difficulty, removing with each a segment of the jaw, which was firmly adherent to them. The entire alveolar margin, from the socket of the canine tooth backward, was cut away up to the floor of the antrum. This removed all the evidences of inflammation. The periosteum was saved.

The patient rallied promptly, and was not weakened by the anæsthesia, as in the first instance. The wound was not sutured. It was rinsed with cold water several times daily, and it healed very rapidly, leaving a linear scar. During the succeeding three or four weeks the contraction of the scar annoyed the patient somewhat.

The results of this operation were: complete and permanent relief from pain referable to the alveolar margin; marked diminution in the severity of the pain in other parts; complete relief from all pain for hours at a time; more restful sleep; greater ambition to work.

Still my patient suffered very much. I continued electrical treatment. The galvanic current was given, with good effect. The + electrode was applied over the infra-orbital foramen, and the - electrode on the nape of the neck. The current strength was as high as the patient's skin would endure. The sittings were from ten to fifteen minutes in duration. The anode was applied also in front of the left ear. Faradaic electricity was applied with the brush, and by the method adopted on former occasions. The total time consumed at each treatment was about thirty minutes, and I did not stop until the pain had been subdued. The electricity was given at first three times weekly, and, after six applications, twice weekly, until February, 1886. Under the treatment after the last operation, the patient gained rapidly.

February 1, 1886.—He suffers very little, comparatively speaking. He is free from pain during whole days. When the pain returns it is much less severe, and it passes away after a short time. Patient is eating and sleeping almost as well as ever, and he is working as usual. His left cheek feels uncomfortable, but it is much less hyperæsthetic than it has been at any time since his first visit. Discontinued the electrical treatment, and ordered a mixture of *tr. ferri chloridi*, *hydrargyri chlorid. corrosiv.*, *liq. potassii arsenitis*, and *acid. phosphoricæ dil.*, in tonic doses. He took this prescription six weeks.

March, 1886.—Patient is free from pain. Occasionally the uncomfortable and prickling sensations in his cheek trouble him, but they are passing away.

June, 1886.—No recurrence of pain. There is still some prickling in his cheek. No treatment.

November, 1886.—No recurrence of pain. Very seldom notices any abnormal sensation in his cheek. General health and strength normal. Scar normal.

The case was one of membranous croup in a strong, healthy girl, three years and a half old, of French Canadian parentage. Intubation was performed January 16th, at 8 A. M. The child had been sick only twenty-four hours, but was already becoming cyanotic, and had an extremely labored respiration of 48 to the minute, with marked dilatation of the nostrils and recession at the ensiform cartilage. The respiratory murmur was very faint all over the chest. No membrane was visible upon palate, fauces, or pharynx. The pulse-rate was 156.

An O'Dwyer's tube of the newest pattern, and of the size marked 3-4 on his gauge, was introduced, with immediate improvement in the symptoms. In five minutes the number of respirations had fallen to 30 a minute, and the pulse-rate to 120; the manner of breathing had changed, the complexion improved, and air entered the lungs freely, as shown by auscultation. The child was perfectly comfortable all day, sleeping quietly a great part of the time, and taking nourishment, both solid and liquid, without the slightest inconvenience. During the evening the child breathed noisily, as though there were a good deal of mucus in the tube, but apparently without any impediment to respiration. At 10 P. M. she had a severe fit of coughing, and, according to her mother's account, "choked up and died in about two minutes." The distance between my office and the patient's home, one mile, rendered it impossible for me to be of any assistance.

No autopsy was allowed, but on extracting the tube it was found to be plugged with a large piece of false membrane, which extended almost to the top of the tube and protruded a quarter of an inch from its lower end, forming as complete an obstruction to the passage of air as the obturator itself would have done.

The general treatment of the case consisted in the administration of one tenth of a grain of calomel every hour, and in keeping the air of the room moist with steam. A snow-pack to the throat was ordered the evening before the operation, but I think it was not applied.

The termination of this case is unique, so far as I have been able to discover. A few cases of intubation are reported, two of them by Dr. O'Dwyer, in which the tube became plugged with false membrane; but in these cases the tube was at once coughed out, thus preventing the suffocation which proved fatal in my case.

As this is my first case of intubation, and as my experience of tracheotomy is small, owing to the reluctance of parents to consent to the operation, a positive expression of opinion regarding the comparative merits of the two operations would be premature. My tracheotomies number only two, both fatal. The result in each case is fairly attributable to negligence on the part of the attendants, who were too stupid and careless to follow out directions. As nearly all cases of croup, in this part of the country at least, occur among that class of people, the most desirable operation would seem to be the one which depends least for its success upon skilled or even intelligent nursing. This operation is generally acknowledged to be intubation, as compared with tracheotomy. In the case which I have reported, the result might, to be sure, have been different had any one been present who knew how to extract the tube when it became plugged. But this is only one case in a total of some two hundred which have thus far been reported, while there is no case of tracheotomy which does not call for more skill in its management than is usually to be found in the homes of the poorer class of patients.

A CASE OF INTUBATION OF THE LARYNX.

By JOHN B. WHEELER, M. D.,

BURLINGTON, VT.

EXAMINATION of the reported cases of intubation of the larynx leads me to suppose that the result of the following case is rare enough to render it of interest to the readers of the Journal.

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THE ALLEGED IDENTITY OF SMALL-POX AND COW-POX.

IN our issue for December 11, 1886, we spoke approvingly of the efforts made by an English veterinarian, Dr. George Fleming, to point out the fallacy of the doctrine of the identity of these two diseases. We stated that the doctrine rested upon a flimsy foundation. Our statement called forth a letter from an esteemed member of the Massachusetts Medical Society, calling attention to an account of a presumed instance of the conversion of small-pox into cow-pox, *i. e.*, the production of cow-pox in a cow by inoculation with variolous virus. This letter we published in our issue for January 1, 1887, together with the promise that on some subsequent occasion we would attempt to point out the distinction that should be made between matters of fact and questions of interpretation in the accounts handed down to us by Mr. Ceely, Dr. Adams, and others.

The only indisputable fact about these gentlemen's experiments is that they succeeded in producing by variolation of the cow a disease which they considered to be cow-pox. It is remarkable that Dr. Adams seems to have succeeded in his first and only attempt, whereas Mr. Ceely made several fruitless attempts before he succeeded, and the testimony is not quite satisfactory that the Lyons commissioners succeeded at all. Variolation of the cow, then, whatever else may be said of it, must be conceded to be a matter of difficulty. When it succeeds, the question still presents itself, Is the resulting disease small-pox or cow-pox? Nothing in the pathological anatomy of the lesion will enable us to answer this question, for the pock of variola and that of vaccinia are identical; no man can tell them apart. Nor is inoculated variola necessarily productive of an eruption; very commonly there are no lesions save at the points of inoculation.

Recognizing these facts, those who affirm the possibility of producing cow-pox by inoculating the cow with small-pox virus rest their conviction on the phenomena which have followed the continued transmission of the disease in the human subject. Many thousands of such continued transmissions have been made, and in so few instances have they been attended with any indications that the disease was small-pox that there is a great deal of negative evidence, it must be allowed, to favor the doctrine of the identity of the two diseases, or at least of the possibility of converting the one into the other. But it should not be forgotten that this evidence is only negative, and that a single positive occurrence to the contrary is competent to upset it entirely. Dr. Fleming asserts that these instances have happened on several occasions, at least three serious acci-

dents, he says, having resulted; and Mr. Ceely himself* says: "I could not be unmindful of the insidious but serious results of the very interesting and valuable experiments in India, performed by Mr. Brown, before alluded to, by which it appears that a vaccine disease propagated from the cows at Silhet had *ultimately and unexpectedly* [the italics are Mr. Ceely's] been accompanied by a varioloid eruption, and had assumed a fatal character."

In view of the difficulties which attend the interpretation of inoculation experiments, to question the correctness of Mr. Ceely's and Dr. Adams's conclusions involves no reflection upon their sincerity or upon their ability as observers. The truth is that inoculated small-pox may be transmitted many times without betraying any signs of its real nature, especially to an observer whose mind is preoccupied with the conviction that it is vaccinia. This has been strikingly exemplified from time to time in the cases of a few experimenters who fancied that they had "modified" the virus of small-pox by merely mixing it with cows' milk—for to that length has the notion of the cow's transmuting power actually been carried. Witness Dr. C. H. Tebault's experience in the Confederate Army. Dr. Tebault used the mixture of milk and small pox virus, and he says: "I ingrafted one soldier after another with the modified lymph, until thirty-odd had swelled the list of my experiments. Of thirty-five persons thus successfully inoculated, three only exhibited a few additional pocks, in no case more than six, in addition to the seat of puncture. No perceptible difference could be detected, whether in the course of the pock or in its effects on the system at large, when contrasted with the phenomena attendant on simple, uncomplicated vaccine."† Variolation is a thing of the past; otherwise it would not be necessary to remind our readers of its frequent benignity through a series of inoculations. It is on that benignity that we found our contention that the human subjects inoculated from variolated cows by Mr. Ceely, Dr. Adams, and others, were really variolated and not vaccinated, and that small-pox and cow-pox are distinct diseases.

THE HEREDITY OF TUBERCULOSIS.

AT one period in the history of medicine—the period of the diatheses—the belief in the direct hereditary transmission of consumption was implicit. It was even stated that the affection was seldom or never acquired. Then came the period of statistics, which showed that a large number of cases occurred in individuals with absolutely no hereditary taint, and that the offspring of affected parents might go through a long life without ever presenting any evidence of the disease. Heredity as an aetiological factor had now to be forced into the background, and prominence was given to *predisposition*, which, it was said, was often inherited from consumptive parents, to manifest itself only under favorable circumstances. Wherein this predisposition lay was not clearly stated. Koch's great discovery

* "Observations on the Variolæ Vaccinæ," etc. Worcester, 1840, p. 118.

† "New Orleans Med. and Surg. Jour.," July, 1866, p. 36.

has, at one and the same time, imparted a fresh impetus to the subject, and afforded tangible material upon which to follow up investigations. With a palpable *casus morbi* at hand we are enabled to trace its course and ascertain whether it passes from parent to offspring, and how.

That observers have not been slow to take advantage of this is evident from a glance at the medical literature of the past few years. In the January number of the "*Revue de médecine*," Professor Firket, of Liège, furnishes an able critical review of the work done in this direction, together with several original observations of considerable interest. He admits the rarity of true congenital tuberculosis, but that it does exist he considers proved by the investigations of Johné, Landouzy, and Queyrat. The direct transmission of the bacilli may occur in two different ways; either by infection of the ovum by spermatozoa mingled with bacilli, or by means of the placental circulation. The first-mentioned he considers purely hypothetical and extremely unlikely in the light of the examinations made by Jani of the healthy genito-urinary organs of phthisical patients. This observer examined the dried spermatozoa of nine bodies with negative results. In the testicles, he found a few bacilli in five out of eight cases, and in the prostate, in four out of six cases. The remainder of the genital tract was free from micro-organisms. The passage of the bacilli through the placental circulation the author considers much more plausible. The observations of Kombassoff and others demonstrate the probability of this theory, but the indispensable condition of the transmission through this channel is the presence of the bacilli in the mother's blood. At its commencement, however, pulmonary phthisis is in most cases a purely local affection, the morbid agents reaching the general circulation only after a tedious passage through the lymphatics. The patient may, and not infrequently does, succumb to the morbid process before infection of the blood takes place. The books say very little as to the frequency with which blood infection occurs. To determine this point, other organs besides the lungs must be examined. The thyroid gland, from its anatomical features and relations, would appear the most suitable for this purpose, but, unfortunately, it shows very little disposition to secondary tuberculosis. Examination of the kidneys affords a safer criterion. In a hundred and forty-one examinations of consumptive subjects by the author, tubercular lesions were found in the kidneys in thirty instances—twenty-one per cent. It may reasonably be presumed that the placenta becomes affected secondarily in the same percentage. But do the placental vessels allow of the passage of the bacilli? Jani's observation of a pregnant woman with acute miliary tuberculosis, in whom tubercle bacilli were found in all the organs (but none in the placenta or in the fetus), would give a negative answer. On the other hand, the experiments of Landouzy and Martin in inoculating with placentas from phthisical patients afforded positive results. Admitting, then, that the bacilli pass through the placenta, the umbilical vein becomes charged with them, and hence it is the liver and not the lungs that constitutes the site of predilection for these micro-organisms. This

theory is supported by Johné's experiments and by Charrin's and Merkel's cases. In Charrin's case, a phthisical mother gave birth to a fetus of seven months and a half, which lived three days. Tubercular lesions were found in the abdominal organs, especially the liver, but the lungs were found healthy. In Merkel's case, the mother, who was consumptive at the time of conception, went to full term, and died two days after delivery. The infant was emaciated at the time of its birth, and presented a small grayish-yellow tumor, of the size of a pea, on the arch of the palate. This underwent caseous degeneration and was followed by disease of the hip joint. The child died while a suckling, in spite of good care and nursing; at the autopsy the lungs were found intact, but there was a caseous focus on the palatine arch, involving the bone, and caseous foci were found in the lymphatic glands, in the liver, and in the coxo-femoral articulation. The author concludes, therefore, that, in true congenital tuberculosis, infection takes place through the placental circulation, and that the liver will be found the seat of tubercular foci, while the lungs may be intact. When the lungs are found diseased and the liver healthy, in all probability the disease is due to infection after birth.

MINOR PARAGRAPHS.

THE LIVERPOOL HOSPITAL FOR WOMEN.

THE Liverpool newspapers contain accounts of the recent annual meeting of the subscribers to the hospital, by which we learn with regret that the discord among the members of the medical staff has resulted in at least temporary injury to the institution, having impaired its income, reduced the number of patients applying for treatment, and led to the resignation of some of its oldest and most efficient officers. Our readers will remember that the dissensions among the medical officers centered on the merits and demerits of the operation of removal of the uterine annexa, and that a prominent episode was a suit for damages brought against one of the surgeons, Dr. Imlach, by a woman who had been a patient in the hospital. Some of the speeches made at the meeting were very pointed, and the extraordinary step was taken of dropping Dr. Imlach from the staff. It seemed to be the general feeling, however, that no reflection on that gentleman's professional capability was intended, but that the action taken was the only practicable way out of animosities and dissensions which could not be allayed. We hope that the hospital will not be seriously crippled by this unfortunate affair, and we are quite sure that neither Dr. Imlach nor any surgical procedure advocated by him, even if somewhat too zealously, will be found to have been materially affected by it.

THE ATTITUDE OF THE PROFESSION BEFORE THE PUBLIC.

At a recent meeting of the Academy of Medicine, the president, Dr. Jacobi, read an address in which he remarked that the influence of the medical profession in promoting sanitary reforms depended upon its united action and upon the moral and intellectual status of its individual members. Instances were cited in which sanitary abuses had been to some extent corrected in consequence of concerted action by the profession, and some marked examples were pointed out of the present need of more work of the sort. A considerable part of the address was devoted to the subject of "newspaper advertising" in the way of reports of wonderful operations, etc., by which

individual physicians and the entire profession were made to appear ridiculous before the public. Dr. Jacobi thought that this abuse had become much less common after his allusion to it a year ago or more, but that it was now being revived. Doubtless the newspaper reporter, and not the physician, was to blame in many cases, but the physician could not be too cautious in the presence of "interviewers."

DR. CORNING'S RESEARCHES IN COCAINE ANÆSTHESIA.

It is satisfactory to meet with an independent observer's frank acknowledgment of the value of such researches as those carried on by Dr. J. Leonard Corning as to the capabilities of cocaine as an anæsthetic, the first account of which was published in this Journal. In a paper contained in a recent issue of the "Deutsche medicinische Wochenschrift," Dr. E. Hoffmann, of the surgical clinic of the University of Greitswald, declares that "the essential advancement in the application of cocaine for local anæsthetic purposes, as seen in its present usual mode of employment, is attributable to Corning's discovery." Having described at some length the numerous useful points brought out by Dr. Corning's many painstaking and ingenious researches, the German writer adds: "These experiments of Corning's are the foundation for the present employment of cocaine for the production of local anæsthesia of the extremities."

A STUDENTS' DEMONSTRATION IN PARIS.

THE "Progrès médical" states that, on the occasion of a recent distribution of prizes, the medical students of Paris became infuriated because they were denied the opportunity of the traditional row incident to the ceremonies heretofore. To display their contempt for the Director-General of the *Assistance publique*, three or four hundred of them took possession of the various offices of the bureau, smashed the windows, etc., and built a bonfire in the court. No opposition being made to them, they soon proceeded to the School of Medicine, bent on a demonstration against some decree issued by the dean. Here, also, although the police were present, the disorder was allowed to take its course, and not a single arrest was made. The journal from which we have taken the account expresses its satisfaction that the storm was allowed to exhaust itself without recourse being had to the customary lightning-rod-like devices for diverting it.

ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Fourth Division of the Health Department for the following statement of cases and deaths reported during the two weeks ending February 22, 1887:

DISEASES	Week ending Feb. 15.		Week ending Feb. 22.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever.....	6	1	9	5
Scarlet fever.....	56	13	31	7
Cerebro-spinal meningitis....	1	1	3	3
Measles.....	347	62	269	35
Diphtheria.....	107	18	69	28
Small-pox.....	14	6	11	3

The Health of New York City.—During the four weeks ending Monday, February 21st, there were reported to the Sanitary Bureau of the Fourth Division of the Health Department 34 cases of typhoid fever and 14 deaths; 163 cases of scarlet fever and 32 deaths; 11 cases of cerebro-spinal meningitis and 10 deaths; 1,506 cases of measles and 214 deaths; 381

cases of diphtheria and 154 deaths; 49 cases of small-pox and 18 deaths; and 1 case of typhus.

The New York Post-graduate Medical School and Hospital.—Dr. Joseph O'Dwyer will give a course of instruction in intubation of the larynx on Wednesdays and Saturdays, at 3 P. M., at this institution.

The International Medical Congress.—"We understand," says the "Lancet," "that the owner of the steam yacht *Ceylon* is anxious to place his vessel at the disposal of members of the medical profession and their families who intend to visit America during the Congress. The cost (inclusive of everything) would be, we believe, £50, but at least sixty passengers would be required."

The Death of Professor Beclard is announced in the "Gazette hebdomadaire de médecine et de chirurgie" as having taken place on the 9th inst., as the result of a pneumonia. The deceased was one of the early collaborators of the journal mentioned, and the president of the society of the "Dictionnaire encyclopédique des sciences médicales."

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from February 15, 1887, to February 19, 1887:*

SMITH, JOSEPH R., Lieutenant Colonel and Surgeon. Detailed, in addition to his present duties, as president of the Army Medical Board in New York city, N. Y. S. O. 38, A. G. O., February 15, 1887.

TREMAINE, W. S., Major and Surgeon. Sick leave still further extended four months on surgeon's certificate of disability. S. O. 39, A. G. O., February 16, 1887.

MC CREERY, GEORGE, Captain and Assistant Surgeon. Granted leave of absence for one month, with permission to apply for one month's extension. S. O. 35, A. G. O., February 11, 1887.

TAYLOR, ARTHUR W., Captain and Assistant Surgeon. Relieved from duty at Camp Medicine Butte, Wyoming, and ordered for duty at Fort Laramie, Wyoming. S. O. 14, Department of the Platte, February 12, 1887.

WYETH, M. C., Captain and Assistant Surgeon. Ordered from Fort Wayne, Michigan, to Fort Barrancas, Florida. S. O. 39, A. G. O., February 16, 1887.

MORRIS, EDWARD R., First Lieutenant and Assistant Surgeon. Leave of absence extended twenty days. S. O. 35, A. G. O., February 11, 1887.

WAKEMAN, WILLIAM J., First Lieutenant and Assistant Surgeon. Relieved from duty in the Department of the Platte, to take effect on the expiration of his present leave of absence, and ordered for duty at Fort Walla Walla, Washington Territory. S. O. 36, A. G. O., February 12, 1887.

Society Meetings for the Coming Week:

MONDAY, *February 28th*: Medical Society of the County of New York; Boston Society for Medical Improvement; Lawrence, Mass., Medical Club (private); Cambridge, Mass., Society for Medical Improvement.

TUESDAY, *March 1st*: New York Obstetrical Society (private); New York Neurological Society; Elmira, N. Y., Academy of Medicine; Buffalo Medical and Surgical Association; Ogdensburg, N. Y., Medical Association; Hudson, N. J., County Medical Society (Jersey City); Essex, Mass., South District Medical Society (annual—Salem); Androscoggin, Me., County Medical Association (Lewiston).

WEDNESDAY, *March 2d*: Harlem Medical Association of the City of New York; Medical Society of the County of Richmond,

N. Y. (Stapleton); Penobscot, Me., County Medical Society (Bangor); Philadelphia County Medical Society; Bridgeport, Conn., Medical Association.

THURSDAY, *March 3d*: New York Academy of Medicine; Society of Physicians of the Village of Canandaigua, N. Y.; Boston Medico-psychological Association; Obstetrical Society of Philadelphia; United States Naval Medical Society (Washington).

FRIDAY, *March 4th*: Practitioners' Society of New York (private).

SATURDAY, *March 5th*: Clinical Society of the New York Post-graduate Medical School and Hospital; Manhattan Medical and Surgical Society (private); Miller's River, Mass., Medical Society.

OBITUARY NOTES.

Fenner Harris Peckham, M. D., one of the oldest and best-known physicians in Providence, R. I., died on the 17th inst., of Bright's disease, from which he had suffered for nine years. Dr. Peckham, the son of an eminent physician, was born in Killingly, Conn., in 1820. He was graduated at Yale Medical College, and began his medical practice in Connecticut, where he remained until 1852, when he settled in Providence. During the war he was a surgeon in an artillery regiment. Of late years he had given up the burden of a large practice to his son, Dr. Fenner H. Peckham, Jr. Dr. Peckham was widely respected and esteemed for his professional skill and his staunch integrity.

Letters to the Editor.

ANTIPYRINE AS A HÆMOSTATIC.

Boston, February 18, 1887.

To the Editor of the *New York Medical Journal*:

SIR: A statement has, I am informed, been printed in some of the journals recently to the effect that antipyrine is a useful remedy internally in cases of hæmorrhage, and attributing its first use in this way to a German professor within the past few weeks. I wish to say, through the columns of your journal, that, at a meeting of the Boston Therapeutical Society, held in November, 1886, Dr. A. F. Pattee, the president, stated, during a discussion on the drug, that he had used it for some time internally as a remedy for hæmorrhage, particularly in that from the lungs and the respiratory tract, and found it to be a valuable remedy in this class of cases; also that it was a good local hæmostatic. In the last statement he was corroborated by several of the gentlemen present. The fact was also emphasized that in the hectic fever of phthisis antipyrine was one of the best remedies, if not the best.

JOHN W. JOHNSON.

Proceedings of Societies.

NEW YORK PATHOLOGICAL SOCIETY.

Annual Meeting, January 12, 1887.

The Vice-President, Dr. T. MITCHELL PRUDDEN, in the Chair.

Officers for the Ensuing Year.—At the executive session, Dr. T. M. Prudden was elected president; Dr. W. P. Northrup,

vice-president; Dr. W. M. Carpenter, secretary; Dr. J. H. Hinton, treasurer; Dr. J. C. Peters, editor; Dr. W. Mendelson, Dr. J. C. Peters, Dr. H. Marion-Sims, Dr. L. E. Holt, and Dr. W. H. Porter, committee on admissions and on ethics; and Dr. G. C. Freeborn and Dr. W. P. Northrup, members of the committee on publication.

Pneumonia.—Dr. NORTHROP presented the lung of a child which had died of pneumonia following measles. The point of interest was the exhibition, by a favorable cut, of the bronchial tree.

Syphilitic Lung.—Dr. W. H. PORTER presented a lung and microscopical sections in further illustration of the points made regarding the syphilitic lung and the absence of the tubercle bacillus in such cases at a recent meeting of the society.

Broncho-pneumonia; its Different Stages Illustrated.—

Dr. L. E. HOLT presented the lungs of a child, eight months old, dead of broncho-pneumonia which had grown worse for six or eight weeks. One portion of the lung showed the lesions which evidently had taken place at the commencement of the disease; a second portion, those about three weeks old; a third portion, those two or three days old.

Typhoid Fever with Symptoms of Cerebro-spinal Meningitis.—

Dr. R. W. AMIDON presented the intestines of a woman, showing marked lesions of typhoid fever. The disease had been of eight weeks' duration, and many of the ulcers in the lower part of the ileum had healed; an ulcer which had caused death by hæmorrhage was situated three feet from the anus and was in a sloughing condition. The interest in the case centered in the fact that the symptoms were largely those of cerebro-spinal meningitis. The woman, aged thirty years, began to complain of pain in the occiput about November 19th. Pain at the back of the neck, stiffness of the neck, and pain in the temples continued, and it was thought she was suffering from cold. She had chills, the pain grew worse, and about a week after the commencement of her illness her physician, Dr. Currier, was called. Her temperature at this time was about 103° F. The cerebro-spinal symptoms were exaggerated, with the addition of pain in the back. A peculiarity of the case throughout its course was the irregularity of the temperature, which was usually higher in the morning than in the afternoon, and fell nearly to normal on two or three occasions. Dr. Amidon saw the patient only once in consultation, about the third week of her illness, when the symptoms mentioned were present; there was no gurgling over the cæcum, no special tenderness of the abdomen, and no eruption. He made a diagnosis of cerebro-spinal meningitis, with the reservation of possible typhoid fever. Three days later an eruption appeared in patches all over the body, scarlatinal in character, most marked about the joints. On the 30th of December the temperature was 97.8°. Two or three days later she ate to excess, and again had chill, rise of temperature, and pains. On the morning of January 4th the temperature was 102.8°, and she had two chills and suffered from severe occipital pain; in the afternoon she had five chills. Dr. Currier diagnosed septicæmia or pyæmia, and Dr. Amidon, being told of the symptoms, thought it probable that septic poisoning was taking place from typhoid ulcers. The temperature went up to 105°, and she had frequent chills, but by the 10th of January the temperature had fallen nearly to 101°. On the afternoon of the 11th she died of hæmorrhage from the intestine. As far as the speaker was informed, attention had not yet been called to the differential diagnosis between typhoid fever and cerebro-spinal meningitis. He had made brief search and had found only one case of septicæmia following typhoid fever. In this case no lesion was found in the spinal cord; the brain was not examined.

NEW YORK SURGICAL SOCIETY.

Meeting of January 26, 1887.

Dr. ROBERT F. WEIR, Chairman.

Osteoplastic Operation after Necrosis of the Femur.

—The following case was reported by Dr. LANGE:

"The patient whom you see before you is forty-six years old, and is a native of northern Germany. When ten years old he had, according to his statement, a serious and very painful affection of his right knee and thigh, which kept him in bed for one year. His physicians had proposed amputation to him, but, through the wisdom and cleverness of a midwife, as he said, his limb was saved, and he was able to get up on crutches. A number of sinuses had opened, and for about eleven years suppuration persisted, but then ceased. The shape and shortening of the limb had always been the same since that acute disease as at present, and at no time had any surgical operation been done, nor had any bone come away spontaneously, until about sixteen years ago; that is, for about nine years all remained healed. Then, however, sinuses formed again, and did not heal. I saw the patient about one year ago. He attributed this renewed suppuration to his habitually having a board on his knees over which he used a heavy flat-iron while working at his trade as a tailor.

"There was a profuse offensive discharge from a fistulous opening near the external edge of the right patella, just above the condyle, at the bottom of which necrotic bone could be felt. The whole limb presents a rather monstrous deformity. There is bony ankylosis of the knee joint at an angle of about 140 degrees. The femur is about eight inches shorter than that of the other side, and there is a distinct angular bend at a point between the middle and lower third of the femur.

"Just about a year ago I performed necrotomy by making an H-shaped incision, forming flaps which included the periosteum, and removing the patella and the anterior portion of the lower third of the bone, so that, after the removal of the numerous sequestra which you see here, a shallow bone cavity was formed, into which the soft parts were depressed and fixed by strong, straight needles.

"The healing process took place very rapidly, so that after about four or five weeks the patient went home with a few granulating superficial wounds, which finally healed under an ointment dressing.

"About three months later a fistula formed again, and in September of last year I had to make a thorough revision, to scrape out and chisel away some carious bone at the bottom of the former cavity. At present everything seems perfectly solid and cicatrized, and the patient uses his leg as well as his high heel (for equalizing the shortening) allows him.

"The case is very interesting in some respects. When a boy of ten the patient doubtless had a severe acute osteomyelitis with spontaneous fracture of the thigh, but no necrosis of any great extent could have existed. Otherwise the suppuration would not have ceased for fully nine years. No doubt the pieces of dead bone which I found at the operation a year ago belong to a process of secondary necrosis. They also present a character quite different from that of the usual sequestrum. They look like dead cancellous tissue, and were found in a portion of bone which normally has no bony substance in its center. The whole lower third of the thigh-bone proved to be filled with a new formation of bone, and that had undergone partial necrosis, apparently in a very chronic manner. The primary acute osteitic process had not had the immediate effect of necrosis, though it must have been very severe, judging from the spontaneous fracture of the bone, but it led to diffuse ossifying osteitis. Probably some of the infectious material remained encysted until, later on, in consequence of some noxious influence, it must have been set free, and, by its injurious action upon the newly formed central osteophytic substance, caused necrosis of the same. This secondary necrosis or breaking

down of newly formed substance, especially in the lower third of the femur, is not uncommon.

"About three years ago I presented before this society three cases belonging to this group. In all of them extensive cavities in the lower part of the femur existed, and plastic operations similar to that just described proved to be effective. If left alone, these bone-cavities, in persons of somewhat advanced years, will not heal. The cavity must be obliterated by a plastic inversion of soft parts, which, in cases like these, where bony ankylosis of the knee joint exists, are best taken from the anterior aspect of the thigh, the patella being removed. These operations must, of course, be done aseptically, if union of the flaps by first intention is to be expected, and it is by no means easy to do the operation with such thoroughness that a perfectly aseptic wound is left. The sharp spoon, chisel, and disinfecting fluids must be used carefully in all the remote corners and granulating recesses, which, if left untouched, will, of course, become the seat of suppuration.

"I regard this method of dealing with bone-cavities as a decided advance in modern surgery, and I can not recommend it too highly also for certain cases of necrotomy in younger persons, where large bone-cavities remain after the operation. There happens, though exceptionally, a certain kind of necrosis, the so-called 'necrosis disseminata,' in which numerous sequestra are scattered all through the bone, lodged in small, shallow lacunæ, which are generally connected with each other by narrow canals filled with granulations. [A number of illustrative specimens were presented.] It requires not infrequently great care to trace these canals, and, after thorough removal of all the dead pieces of bone, eventually a thin involucrum may remain. I have, with very satisfactory results, tried to obliterate such cavities by inversion of the soft parts, and have done so on the thigh, the tibia, and the radius. On the thigh I have made use of the soft parts on the inner aspect; on the tibia I have formed flaps corresponding to the inner side of the bone. Into cavities at the head of the tibia I have, after the proposition of Neuber, to whom we owe this recent method, inverted tongue like flaps having their bases in the region of the tuberosity. Where very thick soft parts have to be cut across, as in the thigh, I take some care in tying all visible vessels when cutting down to the bone, and do not trust to the effect of the compressing dressing before removing the constricting bandage. On the contrary, I remove the latter in these cases before applying the dressing. Sometimes, while the limb is elevated, digital compression of the main artery is kept up, so that only a small quantity of blood is allowed to pass into the distal portion at intervals. All vessels of any importance are ligated, and then, after inverting and fixing the flap, I apply a compressing antiseptic dressing. I usually change the dressing on the second day, especially in summer. The second dressing may stay for one or more weeks, when, as a rule, union of the flaps will practically be obtained, and the open spaces left will show healthy granulating surfaces.

"One more word about secondary necrosis in cases of osteomyelitis. There exists one variety of this affection which I might rather call secondary metastatic necrosis. For instance, a boy had extensive necrosis of one tibia, involving the ankle joint. He underwent necrotomy. Altogether eighteen sequestra, including the two lower epiphyses, were removed. The healing process went on somewhat slowly, and the boy, though gaining in flesh, showed a pale, almost chlorotic appearance. He walked for several weeks on crutches, as he had done before the operation, when a subacute affection of his right os brachii at about its upper third occurred, and, after incision of an abscess, which contained very little pus, bare bone was felt. A sequestrum was removed and the wound gradually healed. About one

month later he developed the same trouble in the other os brachii, almost exactly at the same point, and here also a central sequestrum was found. In another boy, who in the acute stage developed an osteomyelitis of the ilium at the end of the first year (apparently from the constant use of canes), inflammation of the lower epiphyses of both radii and exfoliation of small sequestra took place. You perhaps recollect a boy whom I presented here about two years ago. He had a severe acute osteomyelitis in the hip joint, with necrosis of the head of the femur and spontaneous epiphyseolysis. About one year after the first attack, when suppuration was still present, after he had been using crutches for a good while, he developed a central bone abscess in the lower part of the radius just above the epiphysis, and in the course of that year the same condition existed in the upper third of the os brachii, which had been exposed to the pressure of the crutch, and in the diaphysis of the tibia, where he had knocked himself. I emphasize the fact that in none of these cases during the acute stage had the regions secondarily affected participated in the diseased process, though in some of the cases multiple acute osteomyelitis was present. I can not explain this occurrence except by assuming that a mechanical lesion at certain points in a subject still affected with the poison of osteomyelitis (whether that poison is the *Staphylococcus aureus* or some other parasite) will favor the deposition of the poison at those points, where it will develop its characteristic lesion.

"None of these secondary metastatic affections were of a very acute type, but they were either subacute or chronic, perhaps in consequence of the diminished susceptibility of the already inoculated constitution. A last practical word. I see often in our hospitals undue force used in applying the constricting elastic tube for bloodless operations; this is superfluous, and only increases the paralysis of the circulation. I show here Nicolaï's bandage, which, except for the thigh in muscular subjects, will answer every purpose. It is a good plan to try on one's own limbs how little elastic pressure is necessary in order to arrest the circulation. In patients who are under an anæsthetic this force is still less, and I should advise never to apply the bandage before the patient is fully anæsthetized."

Dr. ABBE asked if the angle of fixation had always been the same, to which Dr. LANGE replied in the affirmative, adding that for thirty-five years the patient had walked with his leg in that position.

Nephrectomy for Pyonephrosis.—Dr. LANGE exhibited a kidney which he had removed at the German Hospital in November from a woman about forty years of age. Nephrotomy had been performed several weeks before, a large quantity of extremely offensive pus being removed. The kidney at the time of the operation had been as large as a child's head. Some improvement had taken place after the nephrotomy, but a profuse discharge of pus had continued, hectic symptoms had appeared, and the patient's health had failed so much that it had been decided to remove the diseased organ. The usual lumbar incision had been made, and the distal ends of the eleventh and twelfth ribs had been resected, in order to gain more room, because at his last operation the speaker had found that the kidney extended high up under the diaphragm. The operation had not been entirely a simple one; the peritoneum at the upper angle of the wound had been torn, in spite of the fact that the retractors had been covered with flat sponges. The rent had been covered with iodoform gauze during the operation, and had subsequently been closed with catgut sutures, so that peritonitis had not followed. Furthermore, through the carelessness of an assistant, who had exerted undue traction on the elastic ligature, by means of which preliminary compression of the pedicle had been effected, it had slipped, and a very

copious hæmorrhage from the large renal vessels had occurred. This had been controlled by suitable forceps, and several strong silk ligatures had been applied. Recovery had taken place without any disturbance, the wound being left open and packed with iodoform gauze. An intercurrent bronchitis had caused some rise of temperature for several weeks. The urine still contained a little pus and vesical epithelium and some albumin; it was light in color, and there was some suspicion that the remaining kidney was not entirely healthy. Still, the patient's condition had been materially improved, and, above all, the pain had been relieved. This was the second case in which, from urgent indications, he had removed one kidney while the other was not sound. The other patient was very comfortable, being placed under favorable hygienic condition in a mild European climate; still, he had occasional attacks of pyelitis. From his experience in these two cases, the speaker was inclined to conclude that, when urgent symptoms were present, the extirpation of one kidney was not absolutely contra-indicated by a diseased condition of the other.

Renal Calculus removed from a Pyonephrotic Kidney.

—Dr. LANGE showed a calculus that lacked only fifteen grains of weighing an ounce, which he had removed from a lady fifty-three years of age, who had suffered from pyonephrosis. The presence of the stone had not been suspected, and only a small portion of it could be felt when the pelvis of the kidney had been opened, the rest being firmly encysted, so that it had been necessary to dig it out with the aid of an elevator, a sharp spoon, and a forceps; as in a similar case in which the speaker had operated, the calculus had a number of irregular projections, which had been so firmly imbedded in the calices that it had been by no means easy to dislodge it. As soon as the stone had been removed a fresh quantity of pus had escaped, which had probably been shut in by the calculus. As the operation had been performed only five days before, it was impossible to say what would be the fate of the patient, although she was then in very good condition. It was an interesting fact that in the previous history of the case there had been no symptoms pointing to renal calculus, and it had been only three weeks before, after a fall, that the patient had begun to complain of pain in the affected side and general disturbance. The pyonephrotic tumor had then been quite large, and had probably existed for a long time previously as a hydronephrosis. A slight pain in the right lumbar region, which the patient had noticed during the past six years, must be attributed to disease of the kidney. The speaker had observed several cases in which renal calculus had produced no pathognomonic symptoms; if the concretion was firmly imbedded in the calices, so as to remain stationary, neither hæmorrhage nor great pain would be present.

Supra-pubic Lithotomy for Vesical Calculi and Hypertrophied Middle Lobe of the Prostate.

—Dr. LANGE also presented these specimens, which he had removed from a man upward of sixty years of age; the patient had suffered very severely for several years, and had been treated by the speaker about six years before, without obtaining much relief. Cystotomy had been proposed at that time, but it had been declined. On opening the bladder, both calculi had been found to be lodged in a deep diverticulum on the right side near the entrance of the urethra; one of them had been long and rounded, resembling one of the irregular processes of the renal calculus previously exhibited, so that it was possible that the stone might have descended from the kidney. Finding that the middle lobe of the prostate was considerably enlarged, Dr. Lange had seized it with a volsella, encircled it with a galvano-caustic snare, and removed it without much difficulty, the hæmorrhage being slight. The wound in the bladder had been kept

open, in order to allow of effective local treatment. The patient's recovery had been retarded by a severe and protracted bronchitis; at the end of two months the wound was entirely healed, and he was then able to pass a full stream of urine, instead of being obliged to use a catheter, as he had done for years. The urine was nearly normal. The patient's face had entirely lost that characteristic anxious, nervous expression so common in those suffering from painful chronic affections of the bladder.

(To be concluded.)

AMERICAN LARYNGOLOGICAL ASSOCIATION.

(Continued from page 694, vol. xlv.)

A Contribution to the Pathology and Treatment of the Respiratory Vaso-motor Neuroses.—A paper with this title was read by Dr. JOHN N. MACKENZIE. [See p. 231.]

Dr. DALY: A number of years have passed—five, I believe—since I had the honor of first pointing out to the profession the pathological relations between nasal disorders and hay asthma, and, although I have not published anything lately upon the subject, I have a number of useful clinical notes that when offered to the profession will go far to uphold the accuracy and merit of what I first brought to your notice at our congress in New York in 1881. I should like to add this remark here: that my subsequent and rather extensive experience has more than borne out the correctness of my original observations. I have purposely kept silent upon this subject these five years, much to the surprise and, possibly, the disappointment of my friends, who looked for other papers to follow the one which first brought my original observations to the attention of the profession through our congress; but I had furnished the stimulus, so to speak, to others, and I preferred to have the accuracy of what I had observed and pointed out to the medical profession put under the crucial test by other and abler men. I was naturally pleased to find that the subsequent observations of my colleagues, who had devoted themselves to the investigation of the heretofore enigmatical cause of hay asthma, were confirmatory of my views. I was especially pleased, nay, proud, that among these distinguished, painstaking, and labor-loving observers were Dr. Roe, of Rochester, Dr. Hack, of Freiberg, Professor Harrison Allen, of the University of Pennsylvania, Dr. Mackenzie, of Baltimore—the talented author of the paper under discussion—Dr. Sajous, of Philadelphia, Dr. Bosworth, of New York, and many others—all of whom have been kind enough to accord to me their support as to the accuracy of my original observations.

You will pardon me, I trust, if I indulge the belief that this work, these investigations and observations of hay asthma, promises to be of a higher practical value to the profession than any other measure accomplished in laryngology in recent years. With such ability as is now brought to bear upon this subject, not to speak of the others who will cast their observations upon this line of study, there must be valuable results. As the matter now stands, I am proud, very proud, to say that, before I had the honor to point out the existence of local nasal disease in a large proportion of cases of hay asthma, we temporized with our patients by sending them to expensive places of immunity. We now cure our patients, and, if they go away, we let them go as healthful tourists in search of pleasure, and not as invalids to circumscribed geographical limits—exiles, so to speak, and weeping exiles at that.

I therefore, after these five years' observation of what I then first pointed out, again ask the pertinent question, as I did then, "whether we are warranted in believing any case of hay asthma purely a neurosis without first eliminating the possible causa-

tion due to local structural or functional disease in the naso-pharynx." I would, therefore, most earnestly insist that all cases of this kind be subjected to a most careful inspection of the naso-pharynx and nasal chambers throughout, and if any abnormality is found, that it receive proper local treatment. Look well to the local treatment, gentlemen. Let not constitutional measures be neglected; but they should receive attention AFTER fruitless search for local disease, organic or functional. If this is done, you will cure your patients more frequently than by any other method.

Dr. MORGAN: I have nothing to add to the physiological and pathological features of vaso-motor neuroses of the respiratory tract as elucidated by Dr. Mackenzie. I have given much reflection, however, during the past year to a point which, if properly developed, may in the near future contribute something toward solving at least a few of the mooted questions concerning the ætiology and pathology of so-called hay fever. I refer to anosmia as a factor in preventing the development of hay fever and allied affections. Has any member of this association met with a patient suffering with an essential anosmia who was the victim of hay fever?

I have interrogated many of my colleagues whose opportunities for observation upon this subject were ample, and the reply has invariably been, that they never saw an individual with permanent loss of smell suffer from hay fever. While I do not now venture to assert absolutely that hay fever has never occurred in an anosmic person, I certainly deem the question worthy of careful consideration and future clinical observation. It is a well-known fact that a few at least of the hay-fever patients successfully treated with the galvano-cautery have experienced partial loss or impairment of the sense of smell, and this occurrence has been unjustly urged by some against this method.

How many of those thus cured of hay fever were cured at the expense of olfactory acuteness is what I should like to ascertain, for it bears directly on the question of the prophylactic relation of anosmia to hay fever. I am aware that it is not considered necessary to invade with the galvano-cautery those portions of the nares supplied by the olfactory nerves in order to cure hay fever; nevertheless, it occasionally happens.

My experience with the galvano-cautery in treating hay fever has not been nearly so favorable as that reported by some of my colleagues. My cures have been few, although the popular methods, local and systemic, were pursued in all their details, and some of the patients were good subjects for treatment.

I despair of curing eighty per cent., as some profess to have done, and, as this is a matter in which every laryngologist is deeply interested, I would ask some of my friends, especially Dr. Sajous, to state his experience in the past, and his present opinion, of the treatment of suitable cases of hay fever by means of the galvano-cautery. I can hardly believe that the cause of hay fever is limited to the nasal passages in eighty per cent. of those affected, and therefore do not think any treatment of a local nature, and directed solely to the nares, can afford any such results.

After all, what is urgently required for the satisfactory solution of this perplexing hay-fever matter, and for the cure of this malady, is, more facts, practical observations, devoid of theory and speculation.

Dr. SAJOUS: In answer to Dr. Morgan's question, I should expect that loss of smell would be accompanied by lessened sensibility of the mucous membranes, both the power of conducting olfactory impressions, and ordinary tactile sensation, being reduced. If the theory of hyperæsthesia of the mucous membranes over the turbinate bones as the immediate cause of hay

fever is accepted, this might be an important point. With regard to the galvano-cautery in the treatment of this disease, I am glad of this opportunity to present the results of my experience. In the earlier part of my experience with this method it was fraught with excellent results—success, I may say, being universal. Last year, however, it was not so good. Whether this was due to improper treatment, to the intensity of the disorder, or to other causes, I do not know; but the results were not so satisfactory as those of preceding years. It was not from want of attention, for I had given the unsuccessful cases the most devoted care. I followed up the treatment from day to day, and I can assure you that nothing was neglected. After attention to local conditions, eradicating hypertrophies, removing polypi, etc., and giving my patients the benefit of all the suggestions so far made by writers in the same field, including cauterization of sensitive spots and even beyond, I do not think that my results could be taken as higher than forty-five per cent. of cures. All were benefited, some decidedly so, but permanent relief resulted only in the proportion mentioned. In one case, which was reported as successful and which was treated two years ago, the patient escaped entirely the succeeding years, but had a mild attack last year. In my work upon hay fever I expressed the opinion that this case had been absolutely cured. Some of my patients, however, have escaped subsequent attacks, and have had no symptoms whatever. One, sent to me by Dr. Massey, of West Chester, who was treated in 1881 by application of acetic acid, has had no return since. I can say confidently, however, that the so-called "rose-cold" cases respond with more certainty to the treatment by cautery and acids, and that I yet consider them as curable in the great majority of cases.

Dr. SEILER: Since Dr. Morgan has asked the question as to the results of treatment of hay fever with the galvano-cautery, I may say a few words upon this subject. I am not inclined to be enthusiastic upon any subject, and certainly not upon this method of treating hay fever. At the same time, I think that the explanation of some of the failures in obtaining a good result may be looked for in the suggestion thrown out by Dr. Mackenzie in his paper; it is not always the case that the irritation is situated in the nasal chambers. It may be in the pharynx, or in the naso-pharynx, larynx, or bronchi. Therefore we should carry our examination a little farther than the nose, and, if the case should not yield to local treatment, we should look farther back. A patient came to me two years ago with the statement that he had been treated for hay fever with applications of glacial acetic acid, the result being that he had been free from hay fever, but had suffered all winter with asthma. On examination, I found a large posterior hypertrophy which I removed; during the last two summers he has had no hay fever and in winter no asthma. Here the cause of the reflex irritation was not in the nose at all, but in the naso-pharynx. In my experience the irritation is situated in the nose in about 60 per cent., and of these, by the use of the galvano-cautery, about 75 per cent. have been entirely relieved, and 25 per cent. only partially relieved, so that the attacks still recur, although milder than they were before. In one case a gentleman, an officer in the army, stationed out on the plains, suffered with hay fever so severely that he had to be sent home for treatment. I applied the galvano-cautery very carefully. The next year he was affected, though not nearly so much as the preceding year. The third year brought him back again, and I found some spots of special tenderness in the nasal chambers which I touched, and since then he has been entirely free, although he returned to the plains, where he was brought into contact with irritating dust. I think that the explanation of the failure is often that the cause of the irritation is not in the nasal cavity, but somewhere else, as pointed out by Dr. Mackenzie.

Some of these cases are very curious. Recently I saw a little girl suffering with laryngeal chorea; the barking occurred every fifteen minutes, at night as well as in the day-time, annoying her friends, and worrying her parents nearly to distraction. I examined her nose and pharynx carefully, but could detect nothing. I said that I did not know the cause, but I would treat it anyhow with the battery. There appeared to be a slight hypertrophy upon the lower part of the right inferior turbinated bone. I applied the galvano-cautery, and the cough ceased at once. That was two weeks ago, and her mother said to-day that she had not coughed since.

Dr. BOSWORTH: As regards the position taken by the author, I must say that I think that the term reflex is made to cover a large amount of ignorance. What do we mean by a reflex disorder? I think that the case just reported by Dr. Seiler is by no means uncommon. We need not look for a reflex apparatus in order to account for the symptoms. There is direct continuity of surface from the nasal chambers to the bronchial tubes, and there is a relation between the blood-vessels of the larynx and those of the nose, so that a close sympathy exists between them, and anything producing congestion in one place may induce congestion in the other. This is due to the close relation of the structure of the mucous membrane, and is not reflex, whatever reflex may mean. There is a direct connection also between the mucous membrane of the nasal chambers and the lungs, so that nasal obstruction may give rise to asthma. The mucous membrane in this situation also has an important protective influence, and by its hygroscopic qualities modifies the air which goes to the lungs. I believe that the passage of the air over these moist surfaces is necessary for the normal performance of respiration. When this surface is destroyed, the air in passing to the lungs is not modified; and congestions and inflammation of the bronchial mucous membrane result. This is not theory; it is based upon clinical observations from day to day.

A single application of chromic acid to the nasal chambers may relieve cough or difficulty of breathing at once. I say this not from a single observation, but from numberless observations. It is a question with me whether or not, in the future, I shall drop this term reflex, and acknowledge a direct symptomatic relation only in the explanation of these phenomena.

Dr. LANGMAID: I have been much interested in the discussion, but must say that I can not accept Dr. Bosworth's explanation.

Dr. SHURLY: I agree with Dr. Langmaid. It is indeed a startling theory which gives such predominance to the locality of the nose. The vaso-motor nerves regulating the blood supply, of course, have a great deal to do with the blood circulation in all parts of the body. We might go still further upon the theory just advanced, and conclude that disturbances of circulation in the turbinated bodies might cause other of the diseases of the lungs, as well as simple bronchial catarrh. It is undoubtedly a fact, as Dr. Bosworth has said, that there are cases of bronchial irritation and bronchial inflammation which are the result of primary disease in the nasal passages. But I believe that such cases are more exceptional than common. The idea that diseases of the lungs in general are, or may be, products of local conditions of the nasal passages solely, seems to me preposterous, when we so often find various diseases of the lungs or larynx even without notable abnormal changes in the nasal passages. Therefore, it would seem almost too much to expect of us to accept at the present time, in the face of our knowledge concerning the nervous connection and influence between the various parts of the body, the notion that specific diseases or inflammations of remote organs are the result or

effect of local disease of the nasal passages. Now, in Dr. Seiler's case, who can tell whether or not an application of the actual cautery to the back of the neck, instead of the nasal mucous membrane, would have been followed by the same result? Who can adequately explain the action of a blister in relieving pain or internal pathological processes? Everybody must have seen cases frequently in which counter-irritation promptly relieved pain or grave symptoms of disease, either temporarily or permanently. I therefore can not understand Dr. Bosworth's aversion to the admission of a reflex agency.

Dr. MACKENZIE: The points raised in the discussion are fully explained, it seems to me, in the paper I have just read, and in various other contributions, but more especially in my review of the subject in the "American Journal of the Medical Sciences" for last October.

Absolute anosmia would certainly prevent the operation of an exciting cause acting through the olfactory sense; but it should be remembered that the latter is only one, and that an inconstant one, of a host of avenues through which the sympathetic may be affected. Indeed, if the views expressed in my paper are accepted, it is scarcely conceivable that absence of the sense of smell could afford immunity against the disease.

I am thoroughly impressed with the importance of attention to the nasal cavities and other portions of the air tract, and, should local respiratory disease be the primary cause of the affection, its removal, with the consequent physiological rest of the centers, may be alone sufficient to secure prolonged immunity from the disease; but I can not too forcibly insist upon the necessity of strict attention to the nervous apparatus, and that not only during the period or paroxysm, but continuously throughout the interregnum of so-called immunity. In carrying out any form of treatment, I can not too often insist upon the separation of the phenomena which are the natural concomitants of the local pathological process and those which are secondary and dependent upon more central disturbance.

I have already sufficiently indicated the fallacies involved in the theory which attributes periodic vaso-motor coryza and allied affections to simple nasal obstruction. In regard to Dr. Bosworth's recent defense of this proposition I must say, if he will allow me to differ with him, that I deny the existence of the physiological ideas which he advances; while, even admitting their existence, they are thoroughly inadequate to account for the most common phases of the disorder. This view, therefore, violates the two most essential criteria of a logical hypothesis—the facts do not exist, and the assumption is inadequate to even partially explain the phenomena. To take one of a multitude of illustrations: how could rarefaction of air in the bronchial tubes, the result of nasal obstruction, account for the sudden and immediate production of a paroxysm of asthma from the simple contact of a probe with the nasal mucous membrane—a result which I have several times observed? If there is one physiological fact which is established beyond the possibility of doubt, it is the fact of reflex action, and we should be going far out of our way in forsaking this simple and rational explanation for the skepticism and speculations of my friend Dr. Bosworth.

In regard to prognosis, I can only repeat what I said elsewhere: that it will depend not only upon the nature of the predisposing and exciting causes of the affection and the facility with which they may be removed, but also upon the amount of structural injury done to the respiratory apparatus, to the central nervous system, and to other parts of the body included in the arc of the reflex vaso-motor disturbance. I have found children much more amenable to treatment than adults, although the severest types of the disease often occur at an early period of life, and in the management of this class of cases I have been,

as a rule, successful. Each case must be studied on its individual merits; we can not, therefore, lay down any definite rule to be followed in all cases.

Book Notices.

Manual of Operative Surgery. By JOSEPH D. BRYANT, M. D., Professor of Anatomy and Clinical Surgery, and Associate Professor of Orthopædic Surgery, Bellevue Hospital Medical College; Visiting Surgeon to Bellevue Hospital, and Consulting Surgeon to the New York Lunatic Asylum, etc. With Seven Hundred and Ninety-three Illustrations. New York: D. Appleton & Company, 1887. Pp. xxiv-530. [Price, \$5.]

READERS who remember the appearance of this work as published in 1884, and who, in spite of the dark and fateful character of its illustrations, found themselves attracted to its repeated perusal by the practical and vigorous style of its reading matter, will congratulate its author on the present issue.

It has evidently had a careful revision, and will repay perusal and study by any one who wishes to refresh his memory on obscure points, or compare methods of operative work.

The subject of antiseptics is gone over in a very few pages, but its treatment is fairly thorough, though we are surprised that two such well-known substances as naphthalin and hydronaphthol are not even mentioned, particularly as the latter affords the best known basis for irrigation during operations, and baths for instruments, as it can be used with impunity on the most sensitive tissues, and without reference to steel or other instruments coming into contact with it. The sections having reference to plastic operations, ligation of vessels, and the operative treatment of hernia are particularly good.

The author has brought his book fully up to the times in discussing the surgery of the abdominal cavity and its contents, as is well shown in the chapter upon "Operations on Hollow Viscera in Contact with Serous Surfaces."

Altogether the work compares very favorably with any of the later books on purely operative surgery, and will repay careful study.

GENERAL LITERARY NOTES.

Among recent foreign publications we note the following:

G. FOCK, Leipzig.—L. FISCHER, "Ueb. d. Behandlungsmethoden d. Prostatitis, mit bes. Berücksichtigung d. Prostata-hypertrophie." (J.M. 50.)

P. HANSTEIN, Bonn.—H. SCHOPPE, "Der Brechdurchfall d. Säuglinge u. seine Behandlung." (J.M. 50.)

LIPSTUS & FISCHER, Kiel.—J. O. JOHANNSEN, "Beitrag zur path. Anat. u. Histol. d. Magengeschwurs." (J.M. 20.)

J. C. B. MOHR, Freiburg i. B.—E. STARKER, "Die Phosphorbehandlung d. Rhachitis." (J.M.)

H. POHLE, Jena.—S. KAJAN, "Beitrag zur Therap. d. puerperalen Sepsis." (O.M. 75.) — C. REINHARDT, "Zwei Fälle von Pyosalpinx." (O.M. 65.)

J. SPRINGER, Berlin.—B. FISCHER, "Die neuen Arzneimittel." (J.M.)
URBAN & SCHWARZENBERG, Vienna.—H. EICHHOIST, "Handbuch d. spez. Pathol. u. Therap." 3d ed., 2d vol. (J.M.)

ESPASA, Barcelona.—Cardenal, "Manual Práctico de Cirugía Anti-séptica."

BIBLIOTECA DE LA "REVISTA MÉDICA DE SEVILLA."—J. SOLÍS-COHEN, "El Crup en sus Relaciones con la Traqueotomía." Transl. and ed. by R. de la Sita y Lastera. — B. ROBERTS, "Uso del Alcohol en el Tratamiento de la Pulmonía." (2 pgs. 50.) — — — BOUTHEVILLÉ y BRICON, "Manual de las Inyecciones Subcutáneas." (2 pgs. 50.)

BOOKS AND PAMPHLETS RECEIVED.

Report of the Surgeon-General of the Navy for the Year 1886.

Nineteenth Annual Report of the New York Orthopædic Dispensary and Hospital (for Children with Spine and Hip Diseases and other Deformities) for the Year ending September 30, 1886.

A Contribution to the History of Hydramnios. By Robert T. Wilson, M. D., of Baltimore, Md. [Reprinted from the "American Journal of Obstetrics and Diseases of Women and Children."]

The Use of Antiseptics in Obstetric Practice. By William L. Richardson, M. D., Professor of Obstetrics, Harvard University. [Reprinted from the "Boston Medical and Surgical Journal."]

The Therapeutical Drinking of Hot Water; its Origin and Use. Pp. 3 to 9. Origin of the Salisbury Plans of Diet in Chronic Diseases, with Directions for preparing Beef Pulp. By Ephraim Cutler, M. D., New York. Pp. 3 to 34.

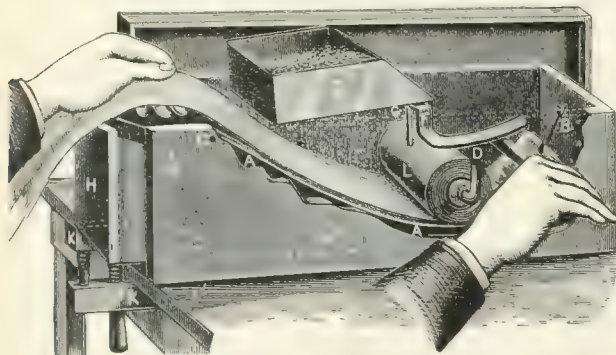
On Aphasia; being a Contribution to the Subject of the Dissolution of Speech from Cerebral Disease. By James Ross, M. D., LL. D., Aberd., Fellow of the Royal College of Physicians of London, etc. London: J. & A. Churchill, 1887. Pp. 128.

New Inventions, etc.

A NEW APPARATUS FOR PREPARING DRY GYPSUM BANDAGES.

At a meeting of the Philadelphia County Medical Society, held February 9, 1887, Dr. H. Augustus Wilson read the following paper:

Rolling the dry plaster-of-Paris bandages by hand, the method usually in use, is unsatisfactory, and under the most favorable circumstances a dirty process. It was to avoid the inconveniences and irregularities of that method that I devised this apparatus, which I have had made by A. G. Gefvert, the orthopædic apparatus manufacturer. It consists of an ordinary box-bandage roller, with the addition of the following: A movable bottom, A A A, held in contact with the outermost layer of the bandage, as it is rolled, by a rubber band B, and at the other end by a hinge-joint, C. Upon this movable bottom, and just in front of the crank, is a flood-gate or distributor, not shown in the illustration, which equalizes the distribution of the plaster and presses it into the bandage from above, while the movable bottom prevents the gypsum from passing through the meshes. The proper tension is applied by two rubber bands.



A hopper, E, is provided with an arm, F, bent in such a manner as to be raised by the crank at each half turn, and upon being released it falls, throwing down a quantity of the powder upon the bandage in front of the distributor. A compartment, H H H, occupying the otherwise waste space under the movable bottom, is utilized as a receptacle in which may be kept the gypsum when the apparatus is not in use. A scoop accompanies the apparatus with which to take gypsum from the compartment and fill the hopper. The entire affair can be securely

held to a table by a clamp, K. Elastic bands are used for springs, because they are inexpensive and can be very readily replaced when worn out. The method of using is, first to pass the end of the bandage to be rolled over the movable bottom, under the distributor, and attach to the crank. The hopper is now to be placed in position, and, by means of the scoop, filled with a sufficient quantity of gypsum. While the crank is turned with the right hand, the left guides the bandage, which may be watched, over the hopper, as it is being rolled. The bent arm of the hopper is so arranged that the fall of the hopper may be sudden or gradual, and upon this depends the quantity of powder discharged. When the crank is turned very slowly the hopper is raised slowly and descends with the motion of the crank, and scarcely any gypsum is precipitated, and, of course, the converse follows. This being clearly understood, a very slight experience will enable any one to control the action of the hopper with the crank. When a bandage is finished, the crank is withdrawn sufficiently to disengage it from the bent arm of the hopper, and while the left hand holds the bandage a quick reverse turn of the crank enables it to be easily withdrawn. The gypsum remaining on the movable bottom is now discharged into the compartment by placing the hopper to one side, detaching the spring, B, and raising that end. The apparatus is applicable to the rolling of the ordinary surgical bandage by detaching the rubber spring, B, thus allowing the movable bottom to drop out of the way. It prepares the dry gypsum bandages evenly and quickly. It is very simple in its construction and action. It can not get out of order, except by the breaking of the rubber bands. It is inexpensive. Possessing these advantages, I hope it will be of service and facilitate the preparation of the dry gypsum bandages in the hands of other physicians as it undoubtedly has in mine.

Miscellany.

The Medical Maid.—The "Glasgow Medical Journal" reprints the following verses, by Dr. John Smith, from a recent Edinburgh publication entitled "Lays of the Colleges":

Air—"Green grow the Rashes, O!"

As I gaed owre tae meet my class,
A winsome quean cam' after me.
Quo' she, "Sir, wad ye gi'e a lass
Prelections on Anatomy?"
I speired was there nae wark at hame
Micht suit her mair becomingly,
For delvin' in a corpse's wame
Was neither sweet nor womanly.

But deil may care, she said her sphere
Was not domestic drudgery;
An' threapit that her mission here
Was medicine an' surgery;
Nae langer she'd her cawnle hide,
Anaeth a bushel, scomfishin',
Since woman noo wi' rapid stride
Her function was accomplishin'.

Afore her powers o' speech I fell,
She fairly got command o' me,
I felt I wasna just mysel'
An' she'd the upper hand o' me.
Wi' smile sae sweet, an' words sae fair,
She made I watna what o' me.
Says I, "My woman, fleech nae mair:
I'll drill ye in Anatomy."

I thoct I did but what was richt,
Tae treat her wae urbanity;
My state, hooever, since that nicht
Has bordered on insanity.

I'm clean dumfounded what to say,
What pairs to gi'e, whaur she's to be ;
For decency I think I'll ha'e
Her demonstrations privately.

My best *cadaver* she at ance
Bespoke in its integrity ;
It was a male : I couldna but
Admire her intrepidity ;
When I suggested something mair
Consistent wi' propriety,
At ance she said she wadna be
Restricket in variety.

Frae day till day I've thoct the jade
Wad drive the senses oot o' me,
Wi' speirin' whiles aboot sic things
As did pit me aboot a wee ;
An' aye she'd houp I'd not forget,
Wi' want o' generosity,
'Twas science set her there, and not
A morbid curiosity.

My words oot o' respect for her
I've trimmed wi' ingenuity ;
At ance she said my language was
Devoid o' perspicuity.
She disna gi'e a single flea
For feminine timidity,
Demandin' baith tae hear an' see
The plain facts wi' lucidity.

It's no mysel' alane she skeers
Frae speakin' wi' obscurity,
Ilk bashfu' lecturer she hears,
Taks refuge in obscurity ;
Oor houdies a' she pits till shame,
For wi' superiority,
It speaks aboot the female frame
On sic direct authority.

Ilk jurisprudence lecturer
Complains o' his predicament,
He canna thole tae speak till her
On horrors that suld mak' her faint.
Its kittle no tae feel confused,
Or tell her wi' facility,
O' things that micht mak' her amazed,
If that's a possibility.

The surgical professors say
It wad be sae incongruous
O' certain ills to speak, that they
Maun modify their syllabus.
A class o' matrons they micht face,
O' strict respectability,
But frisky kimmers in the place
Tells on their equanimity.

The folk outside bid us gi'e in
Syn' we're in the minority,
They haud oor case no worth a prin,
An' her's tae hae priority.
I was a gowk tae tak her in,
For now she'll no gang oot again,
Man's first mishap cam' by a lass—
My days hae been cut short by ane.

The Surgery of the Pancreas.—Dr. Senn, in the January number of the "American Journal of the Medical Sciences," concludes his exhaustive study of the surgery of the pancreas, based upon experiments and clinical researches. He formulates his conclusions as follows: 1.

Restoration of the continuity of the pancreatic duct does not take place after complete section of the pancreas. 2. Complete extirpation of the pancreas is invariably followed by death, produced either by traumatism or gangrene of the duodenum. 3. Partial excision of the pancreas for injury or disease is a feasible and justifiable surgical procedure. 4. Complete obstruction of the pancreatic duct, uncomplicated by pathological conditions of the parenchyma of the organ, never results in the formation of a cyst. 5. In simple obstruction of the pancreatic duct, the pancreatic juice is removed by absorption. 6. General atrophy of the pancreas from nutritive or degenerative changes of the secreting structure is not incompatible with health. 7. Physiological detachment of any portion of the pancreas is invariably followed by progressive degeneration and atrophy of the glandular tissue. 8. Extravasation of fresh normal pancreatic juice into the peritoneal cavity does not produce peritonitis, but is promptly removed by absorption. 9. Crushed or lacerated pancreatic tissue is removed by absorption, provided the site of operation remains aseptic. 10. Complete division of the pancreas by elastic constriction is never followed by restoration of interrupted anatomical continuities. 11. Limited detachment of the mesentery from the duodenum, as required in operations upon the pancreas, is not followed by gangrene of the bowel. 12. In all operations upon the head of the pancreas, the physiological connection of the peripheral portion of the gland should be maintained by preserving the integrity of the main pancreatic duct. 13. Partial excision of the splenic portion of the pancreas is indicated in cases of circumscribed abscess and malignant tumors, in all cases where the pathological product can be removed completely without danger of compromising pancreatic digestion or inflicting additional injury upon important adjacent organs. 14. Ligation of the pancreas at the point or points of section should precede extirpation as a prophylactic measure against troublesome hæmorrhage and extravasation of pancreatic juice into the peritoneal cavity. 15. The formation of an external pancreatic fistula by abdominal section is indicated in the treatment of cysts, abscesses, gangrene, and hæmorrhage of the pancreas due to local causes. 16. Abdominal section and lumbar drainage are indicated in cases of abscess or gangrene of the pancreas where it is found impossible to establish an anterior abdominal fistula. 17. Thorough drainage is indicated in cases of abscess and gangrene of the pancreas, with diffuse burrowing of pus in the retro-peritoneal space. 18. Removal of an impacted pancreatic calculus in the duodenal extremity of the duct of Wirsung, by taxis or incision and extraction, should be practiced in all cases where the common bile-duct is compressed or obstructed by the calculus and death is threatened by cholæmia. 19. In such cases the principal source of danger, extravasation of bile into the peritoneal cavity, should be avoided by preliminary aspiration of the dilated bile-ducts, accurate closure of the visceral wound with fine silk sutures, and absolute physiological rest of the organs of digestion during the time required in the healing of the visceral wound.

Harvard Medical School.—At a meeting of the overseers of Harvard University, held on Thursday of last week, it was voted to concur with the president and fellows in appointing Dr. John S. Billings lecturer on the history of medicine for the current academic year.

The Health of Boston.—The number of cases and deaths from infectious diseases reported to the Board of Health for the week ending Saturday, February 19th, were as follows: Diphtheria, 17 cases and 5 deaths; scarlet fever, 18 cases and 1 death; typhoid fever, 9 cases and 3 deaths; measles, 66 cases and 3 deaths. There were also 38 deaths from consumption, 12 from pneumonia, 1 from whooping-cough, 14 from heart disease, 8 from bronchitis, and 6 from marasmus. The total number of deaths reported was 189, an increase of 22 over the corresponding week last year.

A New Disinfectant.—Carbolic saponate is the name given to a potassium soap containing from 5 to 10 per cent. of carbolic acid. It is recommended as an excellent means for disinfecting furniture, wooden articles, linen, water-closets, night utensils, etc., and especially for washing the hands before and after operations, or after contact with infectious patients. By its use in the latter operation it is said that the skin is rendered smooth and soft, and no irritation whatever is pro-

duced. According to Dr. Stroganoff, of Odessa, however, carbolic saponate possesses slightly irritating properties.—*Brit. and Colon. Druggist.*

Health Reports from Abroad.—By direction of the Secretary of the Treasury, Dr. John B. Hamilton, Surgeon-General of the Marine-Hospital Service, has issued the following abstract of sanitary reports received from foreign countries during the week ending February 17th:

England and Wales.—The deaths registered in twenty-eight great towns of England and Wales during the week ending January 29, 1887, corresponded to an annual death rate of 21.1 in a thousand of the aggregate population, which is estimated at 9,245,099. The lowest death rate was recorded in Derby, viz., 11.1, and the highest in Bristol, viz., 30.6 in a thousand.

London.—There were 1,585 deaths registered in London during the week, including 54 from measles, 14 from scarlet fever, 22 from diphtheria, 31 from whooping-cough, 1 from typhus fever, 9 from enteric fever, 1 from an undefined form of continued fever, and 9 from diarrhoea and dysentery. There were 432 deaths from diseases of the respiratory organs. Different forms of violence caused 67 deaths, and 6 suicides were registered. The deaths from all causes corresponded to an annual rate of 19.6 in a thousand.

Ireland.—The average annual death rate represented by the deaths registered during the week ending January 29th, in the sixteen principal town districts of Ireland, was 27.4 in a thousand of population. The lowest rate was recorded at Armagh, viz., 5.2 in a thousand, and the highest in Sligo, 86.6 in a thousand.

Dublin.—There were 191 deaths registered during the week ending January 29th, including 15 from zymotic diseases. In thirty-five instances the cause of death was uncertified, there having been no medical attendant during the last illness. The deaths from all causes corresponded to an annual death rate of 27.5 in a thousand.

Germany.—The deaths registered in fifty-two cities in Germany, having an aggregate population of 6,523,266, during the week ending January 15, 1887, corresponded to an annual death rate of 21.4 in a thousand. The lowest rate was recorded in Darmstadt, viz., 10.9 in a thousand, and the highest in Altona, viz., 32.9 in a thousand.

Calcutta.—Five hundred and ninety-two deaths were registered during the two weeks ending December 28th, including 112 from cholera, 167 from fevers, 78 from bowel complaints, and 50 from tetanus.

Guayaquil.—Fifty-seven deaths were registered during the week ending January 20th, including 12 from yellow fever, 5 from small-pox, and 12 from enteric fever.

Havana.—The United States sanitary inspector reports for the month of January 490 deaths from all causes, including 6 from yellow fever, 7 from enteric fever, 4 from pernicious fever, 2 from diphtheria, and 2 from croup. During the week ending February 3d there were 6 cases of yellow fever, but no deaths from that disease.

Cairo, Egypt.—The United States consul-general, in his dispatch dated December 16th, concerning the inspection of Egyptian rags, states that, "as a sanitary measure, I think Egyptian rags should be closely scrutinized. The sources from which these rags are obtained are of the filthiest character. Though cholera does not now exist in Egypt, that terrible malady, small-pox, is always prevalent here. It now prevails largely throughout the country, and rags reeking with infection are sold in the markets, and, no doubt, they find their way to ports of the United States. These people care nothing for disease; they do not seem to fear infection or contamination, and, official sanitation being barely in its inception, a mere sham even where it is locally proclaimed, there is absolutely no protection against rags being sold to dealers directly from the bodies of those affected with this loathsome disease, and there can be no doubt that such poisonous rags find their way to the United States ports. I would, therefore, urgently present the necessity of strict measures regarding the perfect disinfection of Egyptian rags intended for shipment to the United States."

Nagasaki, Japan.—The United States consul, in his dispatch dated December 27, 1886, states that "the port of Nagasaki was officially declared free from Asiatic cholera November 6th. The epidemic of the present year in Nagasaki Ken, owing to the speedy and vigorous restrictive measures adopted by the Government, was not so severe as

last year. In 1885, from August 13th to November 14th, practically the limits of the duration of the disease, there were 4,435 cases and 2,927 deaths. This year, from August 9th to November 6th, there were 2,384 cases and 1,551 deaths. While the character of the disease was as severe, and the percentage of deaths about the same as last year, being about 65 per cent., the number of persons attacked is less by over 2,000. At Takasima Colliery, on the Island of Takasima, near Nagasaki, the point at which last year the epidemic raged with great severity, of the 4,000 men employed in the mines, 1,500 were attacked and 800 died. As this was the third or fourth time that the island had been ravaged with cholera, the owners of the mines, the Mitsubishi Company, determined to try such preventive means as modern science could suggest. A complete sewerage system was formed. Heavy pumping arrangements were erected on the beach, for pumping sea-water to the highest point of the island, whence by an arrangement of drains and sluices it was gravitated back to the sea, flushing for three or four hours daily every drain among the dwelling-houses. An extensive fresh-water condensing apparatus was erected, turning out from 7,000 to 8,000 gallons of water a day. The wells on the island were closed, and water from the main-land only allowed to be imported for purposes of washing, etc. A strict system of food quarantine was instituted, and all food was supplied through the company. Three digesters, each of 800 gallons' capacity, were erected, beef killed under inspection being used to make soup, about 1,000 gallons a day being supplied to the miners. Beef was also served out in the rations. All shell-fish were prohibited, only deep-water fish, after inspection, being allowed to be landed or sold. No deleterious vegetables of any kind were permitted to be brought to the island, potatoes, beans, and certain harmless native vegetables being the only ones allowed for consumption. The success of the system adopted has been amply demonstrated by the fact that Takasima has been the only place in Nagasaki Ken untouched by cholera during this year's epidemic. The treatment used by Dr. Nakamura, the chief surgeon of the mines, was remarkably successful. The proportion of deaths to cases in the city of Nagasaki was about 90 per cent. In Takasima it was only about 50 per cent. Dr. Nakamura depended greatly on spirits of camphor and morphine in the initial stages of the disease (even to the subcutaneous injections in severe cases), and on morphine and atropine in the collapsed stage, in this stage the morphine and atropine being injected. He reports an interesting case, which occurred this year, on the neighboring island of Nakenosima, in which a cholera patient was kept alive and restored to health who had been for forty-eight hours without a perceptible pulse. He is emphatic in requiring abstinence from liquors by the patient in the fever stage of the disease. While the cholera experience of 1885 has not been repeated in Nagasaki and vicinity in 1886, the epidemic has raged with virulence in other parts of the empire of Japan. In 1885 there were altogether 11,927 cases and 7,152 deaths, the proportion of mortality being about 60 per cent. This year (1886) there were 154,373 cases and 101,695 deaths, a proportion of about 66 per cent. We may say that the cholera in Japan during the past year has spread widely, has been exceptionally severe, and the percentage of deaths enormous. The mortality is appalling when we consider that the disease has been combated with unusual activity, and with all the resources of modern science."

Maracaibo.—The United States consul, in his dispatch dated January 23d, states that experiments in inoculation as a preventive of yellow fever are being conducted on the Colombian frontier, in the city of Cucuta, with good results.

Paris.—Eleven hundred and twenty-eight deaths were registered during the week ending January 22d, including 3 from small-pox, 11 from whooping-cough, 27 from enteric fever, 3 from scarlet fever, and 23 from diphtheria.

Marseilles.—One thousand and seventy-nine deaths were registered during the month ending January 31st, including 14 from small-pox, 29 from enteric fever, 64 from diphtheria, and 3 from measles.

Palermo.—One hundred and twenty-seven deaths were registered during the week ending January 22d, including 2 from typhus fever, 1 from enteric fever, 5 from diphtheria, and 4 from other fevers.

Leghorn.—Seventy deaths were registered during the week ending January 30th, including 1 from small-pox.

Bristol.—One hundred and eleven deaths were registered during the week ending January 22d, including 1 from scarlet fever. Whooping-cough, measles, and scarlet fever prevailed.

Belfast.—One hundred deaths were registered during the week ending January 22d, including 2 from scarlet fever.

Toronto.—Thirty-one deaths were registered during the week ending February 5th, including 4 from diphtheria.

Gibraltar.—Ten deaths were registered during the week ending January 16th, including 1 from diphtheria. One patient with small-pox was landed from a steamer from abroad.

Genoa.—One hundred and forty-seven deaths were registered during the week ending January 22d, including 3 from small-pox and 3 from enteric fever.

Rome.—Two hundred and eighty-three deaths were registered during the two weeks ending December 13th, including 22 from small-pox, 5 from enteric fever, and 2 from diphtheria.

Leipsic.—Seventy-three deaths were registered during the week ending January 29th, including 2 from measles, 1 from scarlet fever, 6 from diphtheria, and 1 from dysentery.

Warsaw.—Two hundred and nineteen deaths were registered during the week ending January 22d, including 10 from small-pox.

Mayence.—Eighteen deaths were registered during the week ending January 22d, including 1 from typhus fever.

Munich.—One hundred and twenty-three deaths were registered during the week ending January 22d, including 1 from scarlet fever and 6 from diphtheria.

Bremen.—Forty-six deaths were registered during the week ending January 22d, including 1 from scarlet fever, 1 from diphtheria, 2 from whooping-cough, and 1 suicide.

Vera Cruz.—Twenty-five deaths were registered during the week ending January 27th, including 19 from diphtheria.

Guaymas.—Thirty-six deaths were registered during the month ending January 31st, including 16 from small-pox.

MORTALITY TABLE, FOREIGN CITIES.

CITIES.	Estimated population.	Week ending—	Total deaths from all causes.	Annual rate of mortality in 1,000.
Calcutta.....	433,219	December 25.	287	34.5
Guayaquil.....	35,000	January 20.	57	84.9
Paris.....	2,260,045	January 22.	1,128	26.0
Palermo.....	250,000	January 22.	127	26.4
Rome.....	355,026	December 18.	138	20.2
Leghorn.....	101,172	January 30.	70	36.0
Bristol.....	223,695	January 22.	111	25.3
Belfast.....	224,822	January 22.	100	23.1
Toronto.....	120,000	February 5.	31	13.4
Gibraltar.....	23,731	January 16.	10	21.9
Genoa.....	179,483	January 22.	147	42.7
Leipsic.....	170,000	January 29.	73	22.3
Warsaw.....	431,572	January 22.	219	26.4
Mayence.....	65,701	January 22.	18	14.2
Munich.....	262,000	January 22.	123	24.4
Bremen.....	119,000	January 22.	46	20.0
Vera Cruz.....	23,800	January 27.	25	54.7
Mannheim.....	65,000	January 15.	13	10.4
Stuttgart.....	125,510	January 29.	36	14.9
Cadiz.....	65,028	January 22.	72	37.7
Laguaira.....	7,428	January 29.	9	63.1
Matamoros.....	12,000	January 29.	13	56.4
Acapulco.....	4,200	January 30.	3	37.0
Curacao.....	25,000	January 29.	8	16.6
Antigua.....	15,847	January 2.	11	36.1
Kingston, Canada.....	15,109	February 11.	2	6.8

The Therapeutic Value of Mountain-climbing.—Dr. L. Barkan, of Brooklyn, writes as follows: Although the strengthening and invigorating effect of exercise, and especially of mountain-climbing, is well recognized, yet it would seem not to be superfluous to examine a little more closely this most precious of remedies, which, by the relief which it gives from the cares of business, combined with residence in a healthful locality, active respiration of pure air, and drinking of pure water, exerts not only a transitory beneficial effect, but even, in most cases, leads to a permanent cure, and also tends to prevent disease. Among the

most active of disinfectant agents belong a good soil and also, in my humble opinion, good air. The more thickly settled a place, the less potent for good are the hygienic influences of the soil and air; and the smaller the settlement, the more active, *ceteris paribus*, are these two factors; they attain their greatest efficacy in elevated regions.

According to Professors Senator and Fluegge, one volume of good sandy soil can render innocuous two hundred and fifty volumes of ordinary sewage; but as regards the disinfecting power of air we are still in the dark. I believe that the oxygen present in pure air is able, probably by means of combustion, to render more or less innocuous the disease germs received into the blood—that is, to act as a disinfectant. Perhaps the therapeutic efficacy of permanganate of potassium lies in the fact that it favors the reception of oxygen by the blood-corpuscles, while the toxic action of strychnine would seem, according to Rossbach, to be due to the fact that it retards this union of the blood-corpuscles with oxygen.

There are floating in the air numberless germs, many of them of a harmful nature, and it would seem possible that the injurious germs which, especially in large places, are received into the human organism, might be rendered innocuous by the oxygen of the air (and, perhaps, also by air-currents acting in a mechanical way), while in stagnant air—as, for example, in a badly ventilated apartment, where the exhalations from the lungs and skin are constantly accumulating—there is less disinfectant action because of the diminished quantity of oxygen. We seek to get rid as quickly as possible of the other excretory products while, strangely enough, the same amount of zeal in disposing of the exhalations—that is, the excretions—of the lungs and skin is comparatively seldom exhibited. And, indeed, thorough and effective ventilation of the living-room is not so readily obtained. As nature purifies the atmosphere partly in an electro-chemical way, by means of thunder-storms, and partly in a mechanical way, by means of high winds, so must we, upon occasion, purify the atmosphere of our dwellings by means of fumigation and the use of disinfectants, but especially by constant ventilation, and sometimes by the production of artificial currents of air. At whatever cost, the air must be thoroughly changed in every corner and crevice of the room. While serving in the Turco-Servian war, I kept the windows in almost every room in my hospital constantly open, even during the night; and I had the satisfaction of observing that, while in other hospitals small-pox and other contagious diseases prevailed, in my hospital they seemed to find no suitable soil for their further development, and, notwithstanding that, from want of room, I was often obliged to put patients suffering from small-pox, typhus, erysipelas, diphtheria, etc., together with other patients in the same ward, these diseases did not spread.

A favorite experiment of mine, and one from which I never saw any but favorable results, was to send patients suffering from grave diseases a distance of six miles to another and more roomy hospital. They were removed even in winter, when the weather was not excessively cold, but were, of course, well wrapped up, and every precaution was observed to prevent them from receiving any injury on the way.

It is well known that not every one exposed to a contagious disease acquires that disease; and may it not be that those escape entirely or suffer from a mild form of the disease who, after exposure, spend a considerable time in the open air? I leave out of consideration the fact that the danger of contagion depends also somewhat upon the position that the visitor occupies when at the sick bed.

So much as to the value of pure air. It is of especial efficacy in elevated regions, and its good effects are the more evident the higher the climber ascends, and the more muscular effort he puts forth in the ascent. The best inhalation apparatus, baths, and medicaments are of but temporary value if no compensation is made for the loss of vitality and of muscular tone, especially that of the heart and vessels; if the blood stasis in the glands and other organs does not yield to an increased flow of blood in the arteries and veins; if the thinned blood does not become thicker and more rich in albumin; if the accumulating carbonic acid is not expelled by a more plentiful supply of oxygen; if the fat deposited in the body is not more rapidly oxidized; and if the kidneys are not made to act more efficiently. But all these effects are produced, according to Jacobi, Loomis, Voit, Oertel, and other authorities, more certainly and more generally by mountain-climbing than in

any other way whatever. After several weeks spent in mountain excursions, the condition of the patient is radically changed for the better. There is an elasticity of the mental processes in place of the former hebetude; will, thought, and impulse seem to move on wings; the formerly dull senses are sharpened; the formerly half-closed eyes sparkle, and the flabby cheeks become fuller and rosy; the formerly prominent abdomen is reduced to more seemly dimensions, notwithstanding that food and drink are taken with greater relish, and the chest is expanded. These changes, it is true, are not without their inconveniences to the patient as regards his apparel, for his unmentionables are found to have become much too wide around the waist, while his coat, collar, and shirt are too small. The one who was before so heavy and dull now feels as elastic and springy as if the burden of earthly existence had been lifted from his shoulders, and, almost as in his childhood days, he goes running and springing along, and covers a distance of ten or twelve miles a day. He is no longer in the shape of a discontented and surly creature, a parody on man, but fits better in the ranks of other strong and happy beings; he is possessed of a new spirit, the pulse beats more strongly, and the tone of the entire circulatory system is better.

I will now instance a few cases showing the good results obtained by patients whom I have accompanied in various mountain tours in Europe and other parts of the world.

CASE I.—J. B., forty years of age, weight 230 pounds. Circumference of the waist, 129 cm.; of the chest, 116 cm. The first walk caused him to gasp for breath, so that he was almost snorting. The tired heart, with its faint pulsations, seemed hardly adequate to the task imposed upon it, and the patient was forced to stop every three minutes. On the second day the breathing was a little more easy; instead of the snorting respirations, the breath came in quick panting jerks, as in pneumonia. He was obliged to rest every five minutes. The secretions were increased in amount and the torpid condition of the bowels was corrected. The distance covered in the walk was lengthened a little each day. At the end of a month, climbing caused but slight acceleration of the respirations, which were also almost inaudible; there was only moderate perspiration, and the patient was able to continue for at least a quarter of an hour without stopping to rest; and he could soon climb for four hours a day, whereas on the first day he could barely continue for a single hour. The cardiac contractions were now full and strong, and the patient had long since lost the feeling of oppression of the chest and dyspnoea. At the end of the trip his weight was 208 pounds, the circumference of the waist 107 cm., and of the chest 121 cm.

CASE II.—T. R. had suffered from paralysis of the left facial nerve. In 1879, when he was thirty-four years old, he had had another attack, and, although under the best of medical care, his physician would not promise a perfect cure. The treatment had consisted in the application of a strong galvanic current. At the conclusion of his treatment the patient still had had a feeling of numbness in the affected cheek. After an excursion of three weeks' duration this numbness had entirely disappeared, and there has been no return since that time. On one occasion the patient objected to taking the walk, on account of a severe and painful attack of diarrhoea; but he finally yielded to my advice and went, and two hours later all the symptoms had disappeared.

CASE III.—E. F. S., fifty years old, had suffered for thirteen years from rheumatism. At first I let him ride a part of the way and walk a part on level ground. At the end of two weeks he could climb hills. After doing this for a week and a half his rheumatism had permanently disappeared. The patient indulges in this mode of treatment now every summer.

CASE IV.—C. W., thirty-nine years of age, was plethoric and hypochondriacal, and suffered from hæmorrhoids. An improvement was noticeable at the end of two weeks; and at the expiration of four weeks the hæmorrhoids had entirely disappeared, and the patient began to enjoy life. His weight at the beginning was 211 pounds, at the end of the trip it was 185 pounds; the measurements around the abdomen and chest were 108 cm. and 104 cm. respectively at the commencement of the tour, and 98 and 109 cm. at its termination.

CASE V.—H. L., thirty-two years old, was suffering from chronic catarrh of the stomach. There was a noticeable improvement at the

end of one week, and after three weeks the stomach was in good condition, and the patient was obliged to observe but little care in his diet. A bronchial catarrh, which had given him constant trouble, was much improved the first day, and had disappeared by the end of the third day. His weight was at the commencement 145 pounds, and at the termination of the trip 160 pounds.

CASE VI.—L. S., twenty-five years old, suffered from psoriasis. At the end of twenty-four days this had permanently disappeared.

CASE VII.—J. B., eighteen years of age, had trouble at both apices, and complained of a poor appetite. At the end of five weeks the patient had gained nine pounds in weight and felt very well.

CASE VIII.—Miss A. O., nineteen years old, had chlorosis, amenorrhœa, and suffered from a miserable appetite. After seven days there was a marked improvement, and at the end of two weeks the patient presented the appearance of a healthy girl with an excellent appetite.

CASE IX.—Mrs. L. P., forty-eight years old, was weak, hysterical, and had not menstruated for two years. At the expiration of eight weeks she was much stronger, had no more hysterical attacks, and menstruation had commenced again.

In organizing parties for mountain-climbing, it is necessary to have everything arranged and to attend to certain preliminary details. Regulations should be established as to the gradual increase in the extent of the daily ascents, the periods for rest, the choice of food, the permission to drink, the regulation of time for stool, the protection of the feet, legs, and nates against chafing and the formation of blisters, the protection of the neck, and finally the selection of the mountain up which the ascent is to be made; these are all points which require careful consideration. The European mountains, where there is a better climate, and, as a rule, better paths than are to be found in the mountains of America, are to be preferred. An exception is, however, to be made in favor of the Adirondacks and some other mountains in the Eastern States, which might answer as places for exercise for American youths in search of health. It is necessary to take into consideration the individuality of the patient; and, in order to avoid monotony, which may be wearisome to the patient, it will be advisable to change from one mountain or one locality to another, so that the patient will not be tempted to discontinue the treatment.

Cinchona Cultivation in Madras.—At the end of the year 1885-'86 the number of plants on the four Madras Government cinchona plantations was 1,950,345. With one exception, that of the "Wood estate," the plantations are all in excellent order; but as this plantation is in an exposed position, and as the soil is poor, the director recommends the abandonment of a great portion of it. The outturn of dry bark during the year was 113,366 pounds, more than one half of which was crown bark. The crop of the previous year was 118,017 pounds, the amount in store at the beginning of the year 125,603 pounds, and the quantity sold during the year 113,940 pounds. This left a stock in hand at the end of March, 1886, of 125,089 pounds. The actual receipts from the sales of bark were Rs. 1,02,690, and the charges Rs. 78,935, thus leaving a satisfactory balance for the public revenue. The Madras gardens are very small compared with those of the Bengal Government in Sikkim. In the present year there are nearly five million trees in the Sikkim plantation, and the outturn of bark in 1885-'86 was 339,201 pounds. Some idea of the enormous quantity of the cinchona febrifuge that has been placed in the market might be formed from the fact that the Bengal gardens alone have turned out 3,256,927 pounds of bark since they began to yield. Almost the whole of this bark has been manufactured into febrifuge on the plantation, and the actual profits on the sale of cinchona products up to the present amounts to Rs. 4,95,513, while the saving to Government on the substitution of cinchona febrifuge for quinine is set down at no less than twenty-five lakhs. The profits in Madras have been correspondingly great, and private enterprise has followed in the wake of the Government enterprise. In the Nilgiris, Wynaad, Travancore, and Coorg there are private concerns, but the industry has never attracted the planters in Eastern Himalayas or Assam, although the reason for this does not seem very obvious.—*Indian Medical Gazette*.

A Reception in Honor of Dr. S. Weir Mitchell, of Philadelphia, was given by Dr. T. Gaillard Thomas on Friday evening of last week.

Original Communications.

THE USE OF

TRACTION IN THE TREATMENT OF CLUB-FOOT,

*With a Consideration of some of the Mechanical Points involved, and a Description of the Antero-Posterior and Lateral Traction Apparatus.**

By NEWTON M. SHAFFER, M. D.,

ATTENDING SURGEON IN CHARGE OF THE NEW YORK ORTHOPÆDIC DISPENSARY AND HOSPITAL.

OVER twelve years ago I felt that there was room for improvement in the then existing forms of apparatus for the mechanical treatment of club-foot, and, in connection with my service at the New York Orthopædic Dispensary and Hospital, commenced a series of experiments bearing upon this subject, and based upon a study of the mechanism of the ankle and tarsus.

The result of these experiments was published in the "Medical Record" for November 23, 1878, under the title "Traction in the Treatment of Club-Foot." In this article, which may be called a provisional report, I called attention to some of the defects in the conventional form of club-foot apparatus, and described one form of traction apparatus, viz., the antero-posterior (see Figs. 7, 8, 9, *et seq.*), which was devised for overcoming the contractions of uncomplicated talipes equinus. The simple lateral shoe or "pusher," with its hinged lever and screw (see Fig. 22), was also described, the latter being used to overcome the so-called lateral deformities of equino-varus prior to the use of the antero-posterior traction apparatus.

Since the publication of this provisional paper I have continued my investigations, and have made many improvements in the apparatus first described. The antero-posterior traction-shoe has been made much more efficient, and perhaps nearly perfect. The simple "lateral pusher" did not meet all of the indications presented in the compound deformity known as equino-varus, and it has been discarded in the treatment of this condition excepting in early infancy, and then it is used as a preliminary splint, the antero-posterior or lateral traction apparatus being used subsequently.

This simple "lateral pusher," however, with its hinged lever and screw, suggested the right line of investigation and introduced, I believe, the important *pushing* principle into the mechanical treatment of talipes.† Following up the clew it gave, I have, from time to time, added other mechanical pushing and traction elements to it until I have practically perfected the lateral-traction apparatus, which meets quite perfectly the indications presented in the compound deformities of club-foot combining the elements of equinus with either varus or valgus.

* Read before the New York Academy of Medicine, February 3, 1887.

† I have searched in vain for a description of an apparatus which fulfills the indications presented by this "lateral pusher." It has a purely lateral action, the hinge being placed at or near the malleolus, and the force is applied to the concave side of the deformity, pushing the entire foot toward the normal position.

In the article already referred to I ventured to point out some of the defects in the mechanism of the conventional club-foot apparatus, the principal one being the difficulty of controlling the heel, which, in the conventional form of apparatus, is held in place, more or less insecurely, by the Scarpa heel-cup, and the retaining strap, which passes from the heel-cup over the neck of the astragalus. All surgeons who have seen and treated many cases of club-foot will at once appreciate this difficulty of controlling the heel with the apparatus ordinarily employed. I did not, when I wrote my provisional essay upon this subject, fully appreciate all the mechanical points involved, though I felt that I had discovered the correct principle of treatment. Further investigation and study enable me to present my theme in a much more tangible shape, and to accompany a description of my apparatus with, so far as I know, a few novel demonstrations of the movements at the ankle and tarsus, which movements we ought to imitate and even exaggerate with the mechanism devised to relieve the deformities of equinus and equino-varus; for it is only these varieties of club-foot that will be considered on this occasion.

I propose to call attention, first, to some points in the mechanism of the normal foot, and to afterward describe the apparatus I have devised to overcome the deformities of talipes.



FIG. 1.

In Fig. 1 let ABE represent a line drawn from the head of the fibula through the ankle joint to the sole of the foot, B representing the center of antero-posterior motion at the ankle joint. CED represents the sole of the foot, C the heel, and D the toes. The diagram is supposed to pre-

sent a side-view of the leg and foot, with the foot at right angles with the leg, as in standing upright; a position, conventionally speaking, midway between flexion and extension of the ankle joint.

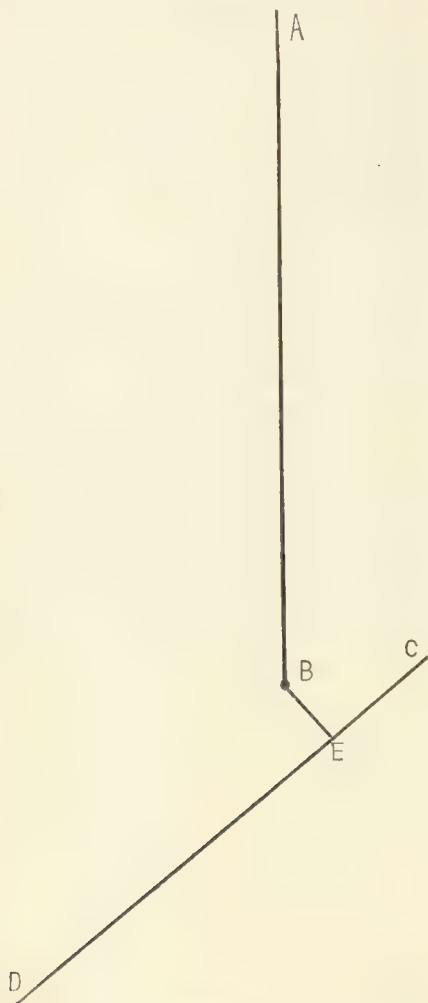


FIG. 2.

In Fig. 2 we have another diagram, similarly lettered, with the ankle in extension. The line AB is the same as in Fig. 1, but at B (the center of antero-posterior motion at the ankle joint) this line becomes deflected posteriorly on its way to E, the line CED forming an angle of about 45° with the line AB, the position of full extension of the ankle joint.

In Fig. 3 we have still another diagram, lettered as in Figs. 1 and 2, but with the ankle in full flexion. In this figure, at B, the line AB is deflected anteriorly at B on the course to E, the line CED forming, in normal flexion of the ankle joint, an angle of about 20° with the line AB.

In these three diagrams, as in the normal foot, there is only one center of antero-posterior rotation, and this is at the point B.* It is not at the ankle joint, but considerably below it, and in all our efforts to change a position of per-

manent extension, due to muscular or fibrous resistance, to that of flexion, we ought to construct the apparatus devised for this purpose with this definitely located center of motion properly placed. Indeed, it is well to exaggerate the force applied by placing this joint of the mechanism lower down than the normal center of motion at the ankle joint.

This center of antero-posterior rotation at the ankle joint being recognized, we will now combine these three diagrams in one and study the combination.

In Fig. 4 the vertical line ABI corresponds with ABE in Fig. 1; CID corresponds with CED, Fig. 1; ABK and EKF in this diagram correspond with ABE and CED, respectively, of Fig. 2; ABL and GLH of this diagram correspond with ABE and CED, respectively, of Fig. 3.

In short, ABK and EKF represent extension of the ankle joint. ABI and CID represent the position when the foot is between extension and flexion, the so-called normal position, or that occupied in standing erect with the foot fairly upon the floor. ABL and GLH represent extreme flexion. All of these three positions have one common center of antero-posterior rotation, viz., B, just as there is only one center of antero-posterior rotation at the ankle joint.



FIG. 3.

We may now apply the principle demonstrated by these diagrams to the deformity of talipes equinus. The ankle is in, we will suppose, full extension, and the heel is represented by the letter E, in Fig. 4. The problem is to force the heel, E, to take the position G, and to carry the toes

* "The axis of rotation of the curved superior surface of the astragalus passes through the most fixed part of the bone, viz., the tarsal canal, touching the outer malleolus, but passing below the inner, which does not descend so low."—Frank Baker, in Wood's "Handbook of the Medical Sciences," article "Ankle Joint."

from the position F to that of H. The heel, rotating around its center of motion B, must follow the curved arrow E C G, and the toes must also follow the curved arrow F D H.

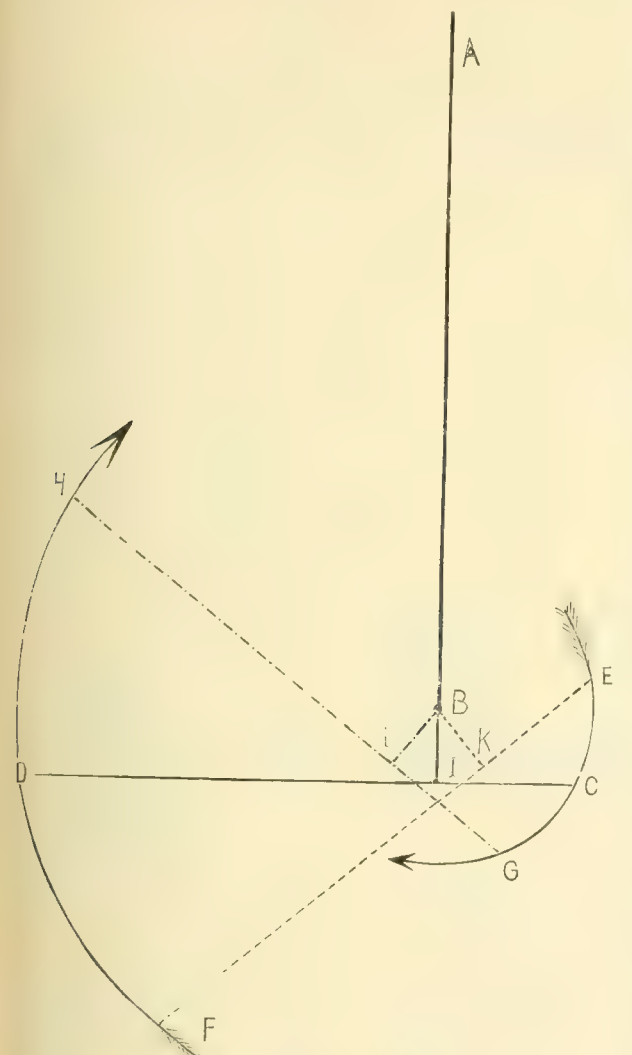


FIG. 4.

It naturally follows that the arrows E C G and F D H represent segments of a circle, each having a common center B, the latter having a longer radius.

This fundamental position being recognized, we can now study the direction of the curved heel and toe arrows, and attempt to apply the results of our study to the antero-posterior deformity known as talipes equinus.

Taking the point opposite the center of motion, B, as the plane of measurement, the direction of the heel arrow is *downward* and *forward*. Taking the same center and plane again, the direction of the toe arrow is *upward* and *forward*. When the right-angled position is reached, the heel arrow still goes *downward* and *forward*, being carried below the plane of the standing position, and the toe arrow has a direction *upward* and *backward*, or toward the vertical line (A B, Fig. 4), as in normal flexion of the foot.*

* When the "right-angled position" (Fig. 1) is reached in overcoming the deformity of talipes equinus, the deformity is practically reduced. The antero-posterior traction-shoe is so arranged, however, that any desired position of flexion may be obtained, the traction-bar

Any apparatus devised for the relief of the conditions found in talipes equinus ought to carry out these indications, and present movements based upon a correct interpretation of normal antero-posterior ankle-joint rotation.

It may be said that the conventional forms of club-foot apparatus present the movements here described. Many of them do, but no adequate means is taken to make the deformed foot, restrained by muscular contraction, follow the direction taken by the curved arrows; and, for reasons now to be stated, they can not be made to accomplish this end.

As I stated in the paper already referred to, when criticising the conventional method of retaining the heel in the heel-cup of the ordinary forms of apparatus devised for the treatment of club-foot, "the point at which the retaining force and counter-pressure is made" (the neck of the astragalus) "must also rotate around the pivotal point" (the center of motion indicated by B in all the foregoing diagrams).

In Fig. 5 let A represent the center of motion at the ankle joint. A H represents extension of the ankle joint; A I, the right-angled position; A J, flexion. When the heel rotates around the center of motion, A, and goes *downward* and *forward* (curved arrow B C), the toes pass *upward*

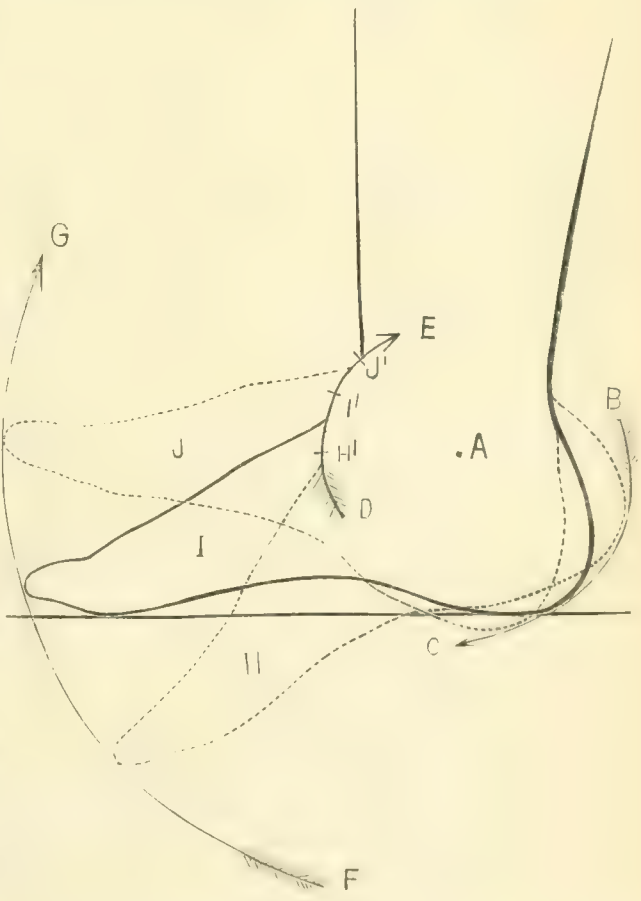


FIG. 5.

and *forward* (curved arrow F G), the neck of the astragalus passes from H¹ (extension) to I¹ (right-angled position) to being made long enough to forcibly carry the heel *downward* and *forward* to any desired extent, thus forcing the toes *upward* and *backward* toward the tibia when the "right-angled position" is passed.

J¹ (flexion), and it (the neck of the astragalus) follows its own curved arrow, D E, the direction of which is *upward* and *backward*. In short, the heel rotates *downward*, and the neck of the astragalus rotates *upward* around the transverse center of antero-posterior motion at the ankle joint.

It becomes plain, therefore, that the neck of the astragalus, being tied down, as in the conventional form of apparatus, can not rotate *upward*, and, if this movement is blocked, the heel can not go *downward*. When flexion is attempted in the ordinary forms of apparatus, with the retaining heel-strap applied, there are these insurmountable mechanical impediments that effectually prevent the foot from following the mechanical law of antero-posterior rotation which I have attempted to describe.

If this heel-strap which passes over the neck of the astragalus is loosened to permit the movements indicated in the conventional form of apparatus, all control over the foot is lost.

And this brings us to an important point that ought to be considered. The center of motion of the ankle joint is below the malleoli. While this anatomical center of antero-posterior rotation of the ankle can not be changed, and we can make the artificial center in the apparatus correspond with it, the restraining force necessary to produce forcible flexion of the ankle must be applied at the *rotating astragalar neck*. If we could pass an iron bar transversely through the foot at the center of antero-posterior motion of the ankle, the restraining astragalus strap would be unnecessary. Even if this could be done, the foot would not follow the apparatus with strong contractions holding it in a deformed position unless the foot were securely fastened to the foot-plate of the apparatus by some such means as the traction heel-strap of my apparatus (soon to be described), and an adequate force applied to bring the foot into the desired position. It should be remembered that we are not, in treating the conditions found in club-foot, applying a mechanism to a foot with normal antero-posterior motion. There are strong contractions to be overcome, and the normal movements should be *exaggerated*, in order to exert the proper *traction* upon the resisting tissues.

In the conventional form of club-foot shoe the rotation of the astragalus is blocked by the faulty mechanism, antero-posterior rotation of the ankle joint is prevented, the heel is not controlled by the Scarpa heel-cup, and no adequate force is applied to carry the heel *downward* and *forward*.

There is another fault no less important in the mechanism of the ordinary form of apparatus.

I will attempt to explain it by another diagram:

In Fig. 6, A B I and C I D correspond with A B E and C E D of Fig. 1 when the foot is at the right-angled position. A B K and E K F correspond with A B E and C E D of Fig. 2 when the foot is in extension. In the conventional form of apparatus the flexion force is applied in the direction of the arrow, R S, which is mechanically incorrect and opposed to the movements sought for. The heel should move *downward* and *forward*, the toes should go *upward* and *forward*, the head and neck of the astragalus should pass *upward* and *backward*, in the first movement of talipes equinus. Any force, be it elastic or other, applied in the direction of the

arrow, R S, in talipes equinus, antagonizes these movements, and favors the *upward* and *backward* movement of the heel, especially if a restraining astragalar strap is used to block the upward rotation of the astragalus. When the right-angled position of the foot is reached, the movement indicated by the arrow, R S, is correct, if the heel is brought downward and forward by some traction force, and allowance is made for the rotating astragalar neck. But when the right-angled position is reached, the difficult feature of the deformity is removed, and the favorable result is practically assured.

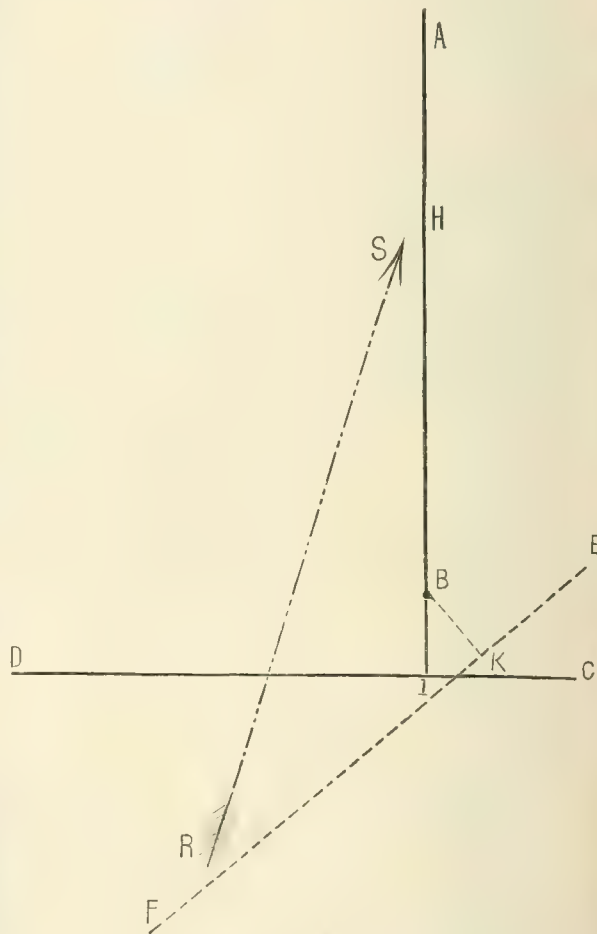


FIG. 6.

Still another fault exists in the conventional form of apparatus. No provision is made in the foot-plate of the apparatus for the heel as it passes *downward* and *forward*. As soon as the right-angled position is passed, the heel drops below, just as the toes pass above, the plane presented by the sole of the foot as it rests upon the floor. This is shown in the curved heel arrows in Figs. 4 and 5. As soon as the right-angled position is passed, the further rotation of the heel is permanently obstructed in the conventional form of apparatus by the foot-plate of the apparatus, which should be provided with an opening for the descending heel.

It should be the object of treatment in talipes equinus to restore the normal movements of the ankle, if possible; certainly to produce a certain amount of flexion beyond the right-angled position. The apparatus about to be described permits any desired angle of flexion to be obtained, and

the apparatus is especially constructed with this end in view.

These are the principal points of criticism to be made upon the conventional forms of apparatus obtainable in the shops of the instrument-makers. There are others I might urge were there time or inclination. Those mentioned are the most important, and demand the attention of all who are interested in the treatment of club-foot.

Having pointed out that which I consider radically defective in the apparatus ordinarily used for the treatment of club-foot, and which I was taught to use and did use for years, I come now to a description of what I have termed the "traction apparatus," which, I think, not only meets the mechanical indications mentioned, but permits the application of sufficient force to overcome many of the deformities presented without the intervention of tenotomy.

As the diagrams I have presented bear only or principally upon the indications for the treatment of antero-posterior deformities, with plantar or post-tibial contraction, or both, I will describe the "antero-posterior traction apparatus" first, and call attention to the "lateral-traction shoe" afterward.

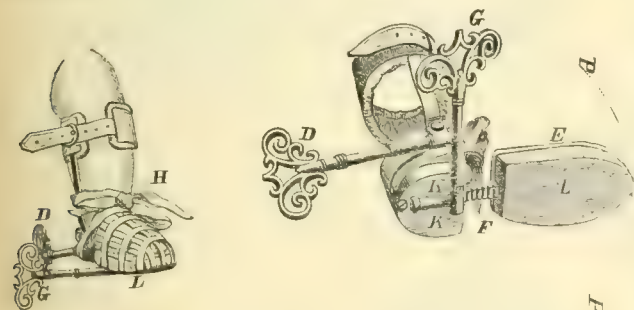


FIG. 7.

FIG. 8.

In the paper already referred to I described this antero-posterior traction-shoe. I then attached the apparatus to the foot by means of adhesive plaster. The apparatus with its adhesive-plaster attachment, as originally used, is shown in Fig. 7.

Figs. 8 and 9 were also used to illustrate the apparatus.

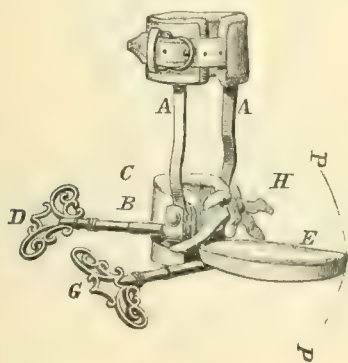


FIG. 9.

I have long since discarded the use of adhesive plaster in making traction for a much more ready and convenient method, as will be seen by a comparison of these engravings with the engravings that illustrate the apparatus as used at present.

The apparatus as at present used, without the webbing heel-traction strap (by which traction is made), is shown in Fig. 10. It consists of a calf band joined to two strong up-rights, which are attached, opposite or below the center of ankle-joint^{*} motion, to the heel-cup. These parts, being very

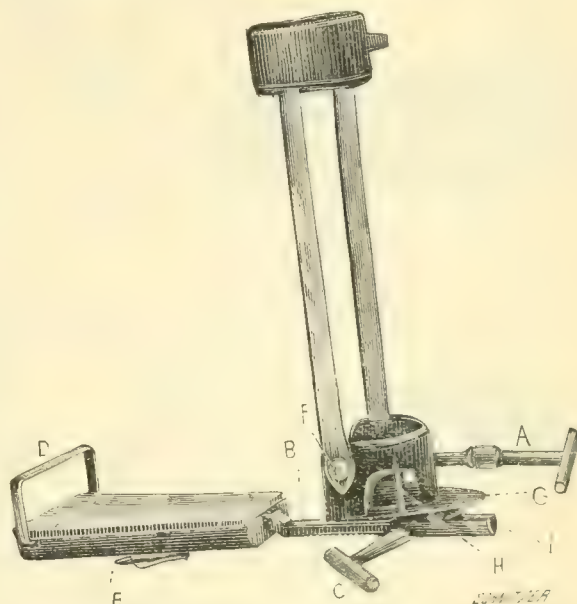


FIG. 10.

prominent and easily understood, have not been lettered. This heel-cup^{*} is perforated posteriorly, as in the conventional form of apparatus, by two openings, H, through which the heel-strap, or, as I prefer to call it, the astragalus retention-strap, is passed (see C, Fig. 16). One upright (see Fig. 12, C D) is attached to the heel-cup by an endless worm and screw, controlled by the key A (Fig. 10); the other upright has a plain antero-posterior joint, F, seen in the engraving. This endless worm and screw movement enables the operator to place the foot-plate of the apparatus at any desired angle of flexion or extension. At a point which corresponds, when the apparatus is applied, with the medio-tarsal joint, the foot-plate is divided transversely and the anterior part is connected with the heel portion by a traction rod, B, which is controlled by a key C. Under the heel-cup is a long cylinder, I, into which the traction bar fits, and the foot-plate is extended posteriorly to afford a strong support (G) for the traction-cylinder and rod. Anteriorly the foot-plate has on its lower surface two buckles, E, for the attachment of the traction heel-strap (Fig. 14; Fig. 15; K and D D, Fig. 16). This heel traction-strap is made of webbing. It goes around the heel, and, passing forward, is reflected back upon the uprights of the bridge, D, to the buckles at E, on either side of the under part of the foot-plate (see Figs. 15 and 16). The key C moves the ante-

^{*} This heel-cup is an unnecessary adjunct to any club-foot shoe which aims to bring the heel downward and forward. I have recently had my apparatus made without any heel-cup. It serves, however, as a useful guide in placing the heel in position before applying traction, and strengthens the apparatus. But the Scarpa heel-cup is unnecessary, inasmuch as the first movement of the heel is *backward and downward*.

rior part of the foot-plate backward and forward by a ratchet movement on the extension bar, B.

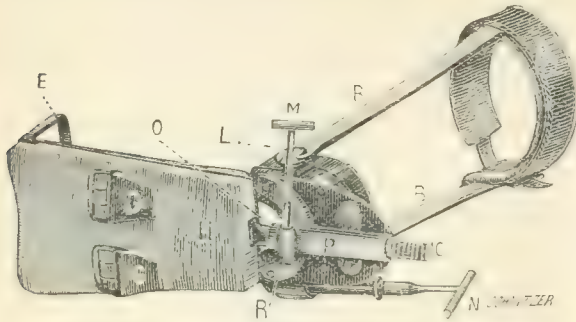


FIG. 11.

Fig. 11 gives a view of the lower part of the foot-plate. The buckles, G G, for the attachment of the traction heel-strap; the traction rod, C; the cylinder, P; the flexion and extension worm and screw controlled by the key, N, are plainly shown. The key, M, is in position to throw the anterior part of the foot-piece forward. The semicircular opening, O, for the descent of the heel, in the foot part of the heel-cup, surrounded by its strong rim, R, is also shown. When traction is made and the heel is brought downward and forward, it passes through this opening unopposed by any obstruction.



FIG. 12.

bridge, F, for the reflected heel traction-strap.

Fig. 13 affords a general view of the apparatus with the traction rod closed and with the heel, toe, and astragalus arrows in position, all having their center in the ankle joint, C, of the apparatus.

This being a brief description of the antero-posterior traction apparatus, I will now attempt to show its application and to demonstrate how it fulfills the indications I have tried to point out.

The first step in the application of the apparatus is to prepare the foot for the traction it must undergo, and to so apply the necessary pads and straps that the movements indicated in the previous part of my remarks may be accomplished.

This preliminary process is shown in Fig. 14. A thick pad of Canton flannel or other soft material, C, is placed over the neck of the astragalus. A narrow piece of roller bandage, A, is then passed over it and around the heel as in-

dicated in the engraving. Two or three turns are sufficient. The end of the bandage is secured by an ordinary pin just below the internal malleolus, where no pressure is exerted

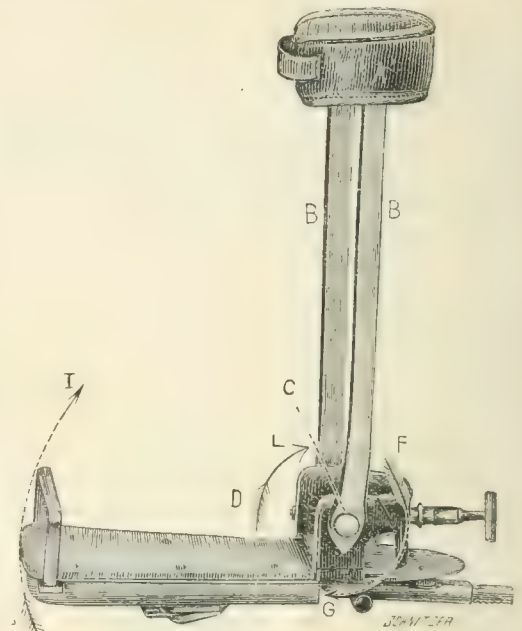


FIG. 13.

when the traction is applied. A piece of surgical webbing five eighths of an inch wide is then placed over the heel, well down, and brought forward under the bandage and below the malleoli (as shown in Fig. 14), the bandage act-

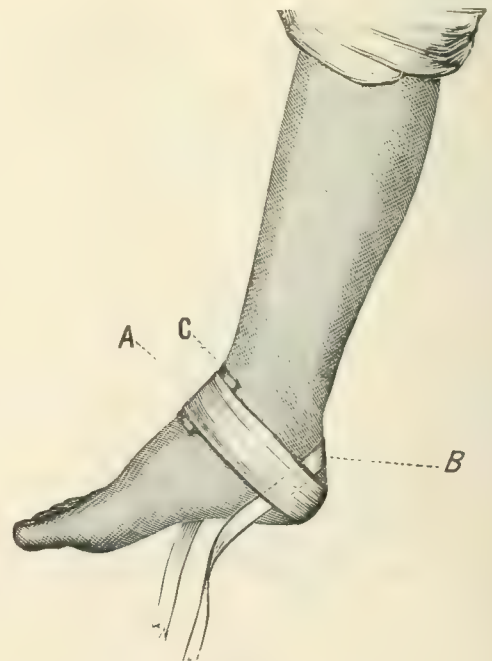


FIG. 14.

ing not only to retain the astragalus pad in position, but the heel traction-strap as well.* (In the engraving the webbing

* As this webbing is an important matter, I may say that the only webbing I have obtained which answers the purpose came from Messrs. H. V. Allen & Co., No. 738 Broadway, New York.

heel traction-strap is much too short, and the pad, C, should be much thicker.)

In Fig. 15 the traction heel-strap is shown (D D and K).

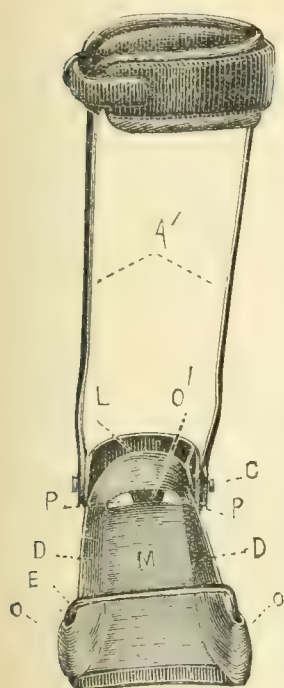


FIG. 15.

This is the correct position for it when the traction is applied, though it is here shown lying against the heel-cup at K, without being passed under the retaining bandage, as in Fig. 14. It is carried forward to the uprights of the bridge and is reflected back at O, to pass, as in J (Fig. 16), to the buckles underneath the foot-plate.

In Fig. 16 the astragalus and heel traction-straps are shown in position, the general adjustment being illustrated in Figs. 17, 18, and 19. The astragalus-strap, C, is made of Allien's webbing, five eighths of an inch wide, seventeen or eighteen inches long, and a buckle is sewed on one of its free ends, as at D (Fig. 16). This webbing is passed through the openings

in the upright part of the heel-cup (M M, Fig. 12), and is "buckled on itself," as shown in the engraving.

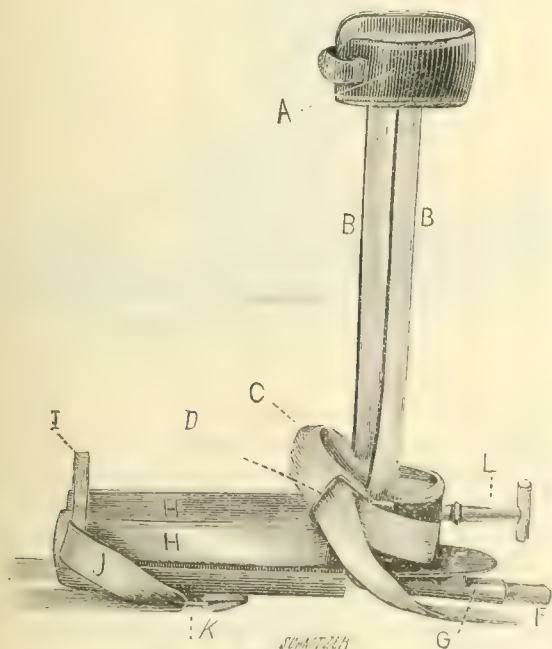


FIG. 16.

The traction heel-strap is also shown (H J), though, of course, this strap is passed around the heel and under the retaining bandage as a preliminary step, as shown in Fig. 14.

I have made it a cardinal rule in the treatment of chronic deformities to make the apparatus fit the deformity, and to so arrange the mechanism of the apparatus that a progres-

sive and easily applied pressure may be exerted in the direction indicated. This is especially true of the mechanical treatment of club-foot, and I have long since ceased to attempt to crowd a crooked foot, partly relieved by tenotomy, into, comparatively speaking, a straight apparatus.

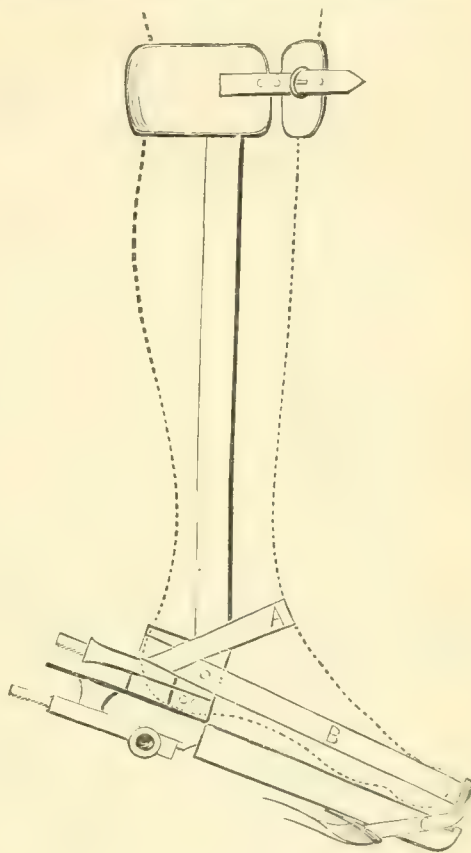


FIG. 17.

Adapting the antero-posterior traction apparatus exactly to the antero-posterior deformity by using key L, Fig. 16, and placing the foot, with its traction heel-strap and astragalus pad adjusted as in Fig. 14, in the apparatus, we have an adjustment as shown in Fig. 17. The astragalus strap, A, is buckled on itself, holding the foot securely in the heel-cup; the traction heel-strap, B C, is drawn tightly, reflected back around the vertical uprights of the "bridge," and buckled, each one of these webbing straps being made as tense as possible. The apparatus fits the deformity and the heel is squarely in its place, being retained by the astragalus strap. The astragalus strap, A, is made very tight in order to get an accurate and tense adjustment of the traction heel-strap, B C. Being sure that B C is drawn tightly, with the heel well down, and resting against the posterior part of the heel-cup, we now *loosen the astragalus strap, A, from half an inch to an inch and a half*, depending on the size of the foot. All being ready, we now use the key A (Fig. 16), and change the position of the apparatus from extension to that of the right-angled position. What happens? The apparatus obeys, but the foot does not change its position; the loosened astragalus strap allows the heel to take its own position, and no traction is made upon the resisting tissues.

Fig. 18 shows this result. The foot-plate of the apparatus is at the right-angled position, but the post-tribial con-

tractions are unaffected. There has been nothing done to bring the heel *downward* and *forward*. On the contrary, it

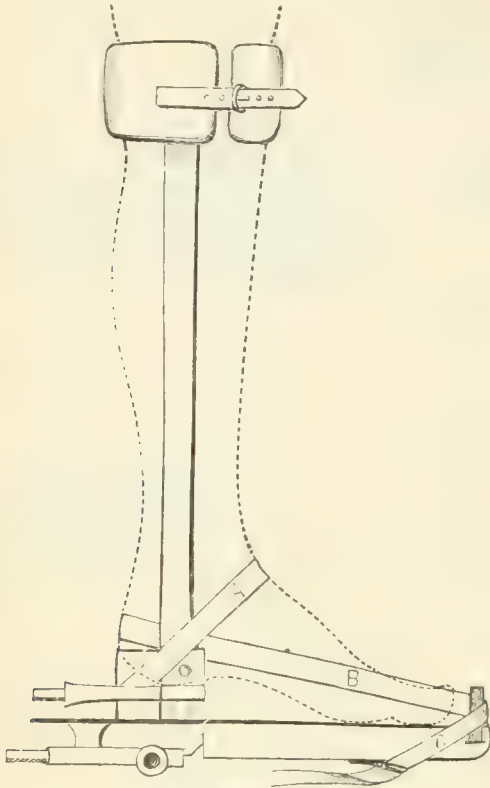


FIG. 18.

has remained in its original position, because the force thus far used has been applied upon the incorrect principle shown in Fig. 6.

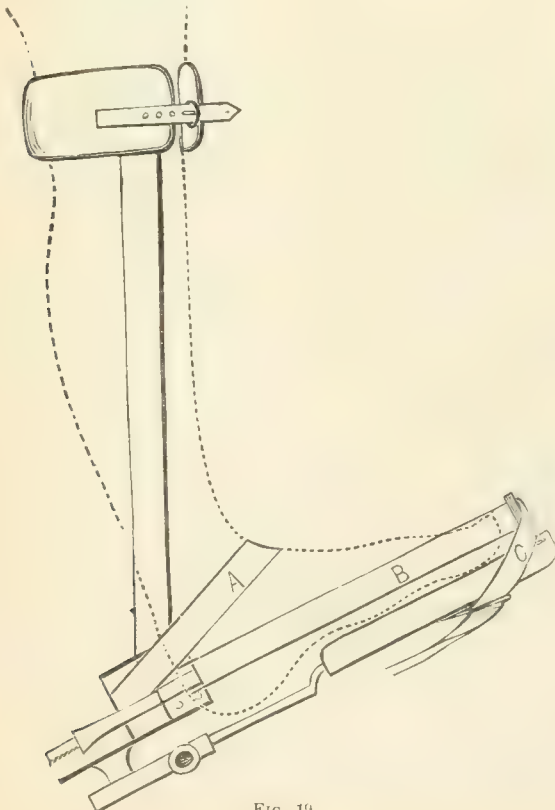


FIG. 19.

We now give the key A (Fig. 10) another turn or two, and use the antero-posterior worm and screw to force the apparatus into the position of flexion. The heel still remains in its original position. Now, however, use key C (Fig. 10) and apply direct traction. The result is shown in Fig. 19. The heel is drawn irresistibly *downward* and *forward*, the toes are carried *upward* and *forward*, and the loosened astragalus strap permits the neck of the astragalus to move *upward* and *backward*. By this simple process we have given the apparatus the desired plane of flexion, have made full allowance for the rotating astragalar neck, and have deliberately drawn the resisting foot into the position sought for, and fulfilled the indications presented in Figs. 4 and 5.

It will be noted not only that the normal antero-posterior movements of the ankle joint are here reproduced,

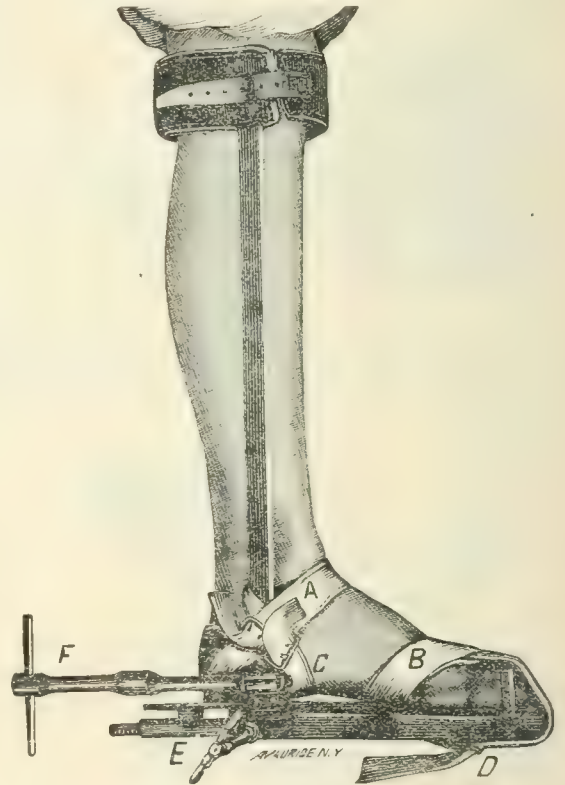


FIG. 20.

but that they are *exaggerated*. We can, by the use of this apparatus, imitate the natural movements, and, by the use of traction, stretch all the opposing antero-posterior tissues, whether post-tibial or plantar, or both. It not infrequently happens that the adolescent foot is permanently elongated half an inch by this easily controlled traction-force without tenotomy, and a temporary gain of from one eighth to one fourth of an inch at a single treatment, lasting only fifteen or twenty minutes, is not unusual. This makes this apparatus particularly serviceable in adult or adolescent cases of non-deforming club-foot,* as well as in confirmed talipes equinus.

We can make this traction apparatus available also in the, strictly speaking, tarsal or plantar contractions, espe-

* See "Non-deforming Club-Foot," by the writer, "Medical Record," May 23, 1885.

cially when they are antero-posterior. When much varus exists, the "lateral-traction shoe" is indicated, and this will be described further on.

In Fig. 20 the antero-posterior traction-shoe is applied to a patient with marked contraction of the plantar fascia. The astragalar strap is fastened in the manner described at Fig. 16. In place of the traction heel-strap there described, however, a webbing strap (C, Fig. 20) is passed underneath the os calcis and behind the lateral uprights of the apparatus, "buckling on itself," as does the astragalar strap (A, Fig. 20). We then have the os calcis secured firmly in the heel-cup by the astragalar and sub-os-calcis straps. A loop of webbing is then passed over the anterior part of the foot, just back of the "ball of the foot" (B, Fig. 20), and this is fastened to a buckle on the under part of the foot-plate (D, Fig. 20). The apparatus is now placed in any desired position of flexion, and direct traction is applied with key E, Fig. 20, and the result is shown in Fig. 21.

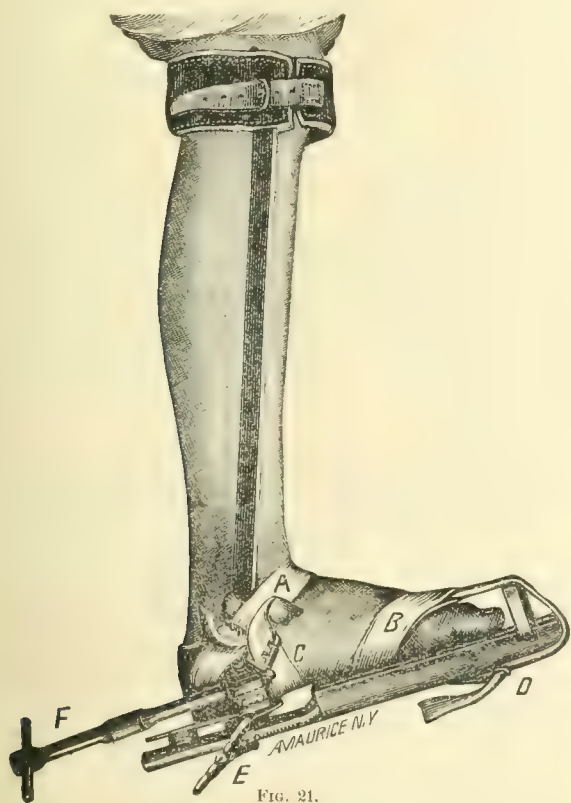


FIG. 21.

The more firmly the astragalar and the os calcis are fixed, the better in this condition, as the traction is needed at the plantar fascia, and not at the gastrocnemius muscle, and hence the astragalar strap is not loosened, as in the treatment of post-tibial contractions. I have seen severe and apparently permanent contractures in the adult overcome without tenotomy by this simple method of treatment, and it is apparently an easy matter to lengthen the foot from one eighth to one half of an inch in adults and adolescents by the traction method in cases of plantar contracture.*

(To be concluded.)

* In Figs. 20 and 21 the necessary pads over the astragalar and under the metatarsal loop are omitted in order to show the principle of action more clearly. No pad is needed under the os-calcis strap.

SOME CONSIDERATIONS CONCERNING CANCER OF THE UTERUS, ESPECIALLY ITS PALLIATIVE TREATMENT IN ITS LATER STAGES.*

By ANDREW F. CURRIER, M. D.

THERE are some forms of disease which have been handed down to us from remote antiquity in which the evolution of knowledge which leads to their cure has been a very slow process. Such, for example, has been the history of syphilis, small-pox, and pulmonary phthisis.

Equally ancient is the dreadful and dreaded disease which is known as cancer, and the fullness of time and knowledge has not yet come when it can be considered curable, certainly if we refer to it in those stages in which it is ordinarily seen.

It was a singular fancy of Galen, who saw in the distended and tortuous veins of the cancerous breast the resemblance to the claws of a crab, and therefore called the disease *cancer*—the crab—by which name it has been perpetuated through all the centuries since Galen lived; and it was a long step forward when the investigation of it was based upon other than purely clinical considerations.

Now, while I firmly believe that the clinical symptoms are usually sufficiently positive, after the disease has made some headway, to enable one to pronounce a diagnosis, that assurance is frequently wanting in the early stages, especially in cancer of the uterus, and it is just these stages concerning which exact knowledge is of the greatest practical importance.

It is time, too, that our classifications of this and other morbid conditions were made to conform with the present state of anatomical knowledge, rather than with real or fancied resemblances to various objects in nature. To say that one cancer is encephaloid, another medullary, and another colloid, because the men who suggested these names saw in the first a remote resemblance to brain matter, in the second a resemblance to marrow, and in the third a slight resemblance to glue, would be amusing if such terminology were not so seriously received and reverently retained by the profession.

In other words, the only rational and scientific classification of anatomical entities is that which is based upon anatomical structure.

There are three principal theories with regard to the structure of cancer, all of them admitting, however, what is fundamental and easily recognized, namely, that the neoplasm cancer consists of a connective-tissue framework of alveolar formation, the alveoli being more or less densely packed with free cells. The essential features of these theories are as follows, viz.:

1. Virchow regards the structure as a heterologous one, the epithelial cells of the alveoli being the result of the proliferation of connective-tissue cells.
2. Rindfleisch considers that the cellular elements of the alveoli originate from epithelial structures, but that by a kind of epithelial infection the connective-tissue round

* Read before the Medical Society of the State of New York at its eighty-first annual meeting.

cells of the alveoli may be converted into epithelial elements.

1. Waldeyer regards cancer or carcinoma in general as simply an atypical epithelial new growth, which is derived essentially from epithelium wherever it occurs. (See Macewen, "Glasgow Med. Jour.," April, 1886; Waldeyer, Virchow's "Archiv.," Bd. lv, 1872; Waldeyer, Volkmann's "Sammlung," No. 33; Perls, "Allgemeine Pathologie," Bd. i, pp. 480-485; Billroth, "Surgical Pathology" [Appleton, 1877], pp. 646-660.)

The theories of Thiersch and Billroth harmonize with that of Waldeyer, and, as was stated at the great discussion on cancer before the Glasgow Pathological and Clinical Society in 1886, nothing has appeared since Waldeyer's investigations were published which could refute them, Macewen also observing in that discussion that it was probable that the questions as to the structure and method of development of the neoplasm were settled.*

In by far the larger number of cases cancer of the uterus is a primary affection, but it is not infrequently secondary, as the methods by which the disease is propagated would suggest.†

As to whether the disease is local or constitutional in its origin, the weight of opinion now tends to the adoption of the former hypothesis. This question was vigorously discussed by the London Pathological Society in 1874 in a series of four notable sessions ("Trans. of the Path. Soc. of London," 1874). Mr. De Morgan, of the Middlesex Hospital, and others maintaining the former (local) view, and Sir James Paget the latter (constitutional). At the Glasgow discussion both views were also advanced, the strongest arguments being in favor of the former. (See "Glasgow Med. Jour.," April, May, June, July, 1886.) Among German gynecologists and pathologists the *local* theory is quite generally held.

On the other hand, there is without doubt, in certain individuals, an hereditary tendency to develop certain types of disease under sufficient provocation, but the fact that so many daughters of mothers who have died from cancer of the uterus have lived and borne healthy children, and died without showing any signs of cancer in any form, militates strongly against the heredity theory which Sir James Paget has so earnestly endeavored to establish.

At the same time, the facts that cancerous tissue may be removed never so carefully and thoroughly, that the disease may remain latent perhaps for years, but almost always reappears, if not at the original site yet in some remote part

* Friedlander has recently stated that Waldeyer's definition is not sufficient, and that we should add to it, as the most important peculiarity of cancer, the words "of a malignant character." The malignancy of the process is shown, he adds, by its forcing its way through various tissues without hindrance. (See Friedlander, "The Use of the Microscope," translated by Dr. H. C. Coe, Appleton & Co., 1885, pp. 170 *et seq.*)

† Two cases of secondary cancer of the uterus are reported in Dr. Willard Parker's tables, which include three hundred and ninety-seven cases of cancer of the breast ("Cancer," Putnam, 1885), these being the most recent statistics I have seen upon this subject. Both cases occurred in aged women many years after the removal of cancerous breasts.

or organ—these facts, I say, admonish us that there can be no radical removal of the cancerous uterus when its first stages are passed; that is, when it has gone beyond the uterus itself. The statistics of Schröder's experience in this matter are instructive and suggestive. (See Hofmeier, "Ztsch. f. Geb. u. Gyn.," Bd. x, H. 2, "Zur Statistik des Gebärmutterkrebses.") Of 812 cases of cancer of the uterus which he had seen either in public or private practice, 129 were operated upon successfully, and with the hope that a radical cure would result. In only 29 of these had the disease failed to recur at the end of two years, and subsequently this number was further diminished.

Let it be borne in mind that these figures represent not only the work of one who has had more experience in this field than any other living man, but also that he is a man of great learning and operative skill, and enthusiastic upon the subject of the surgical treatment of cancer.*

It is a sad reflection that, with all the boldness and dexterity which have been exerted since Freund's memorable essay proposing the complete removal of the uterus for cancer in 1876, with the improved vaginal hysterectomy, with resection of the rectum, bladder, ureters, and pelvic tissues, the disease will persistently recur unless, as has already been stated, the operation is performed before the advance guard, as it were, has gone beyond the reach of the knife. As yet I believe no one has been rash enough to profess to have found a bacillus of cancer, and, while one of the Glasgow disputants admitted the great advantage which would follow were a bacillus to be found "curled up in its epithelium," there was no difference of opinion among those who participated in the discussion that the disease was not likely to be placed upon this basis.

The possibility of its originating by inoculation deserves at least a passing thought. Several well-authenticated cases of cancer of the breast and cancer of the penis were cited by Macewen at the Glasgow discussion in proof of its inoculability, and if these are facts the same thing is possible for cancer of the uterus. There are still too few data upon this point to speak with positiveness.

No one has as yet proposed any method of inoculation as a means of treatment, and herein lies a fine opportunity for some ambitious disciple of Pasteur. Inflammations and senility of the tissues have also been brought forward as possible causes of this disease. While the former may not constitute an immediate cause, they doubtless may predispose to it by their effect upon the tissues. Concerning the latter as a cause, nothing but speculation has been offered, so far as I know. The term is a very comprehensive one, and may refer either to worn-out tissues in early life, worn-out tissues which result from over-activity (*e. g.*, very frequent pregnancies), or to those which occur in women who have reached the later periods of life. Under any of these conditions it would not be difficult to speculate upon this point, but without a satisfactory conclusion.

The ordinary classification of cancer of the uterus into

* Since this paper was written, word has been brought us of Professor Schröder's death. No man of his generation had done more to develop gynecological surgery, and his efforts were wise and conservative.

scirrhus, encephaloid, medullary, and colloid seems to me to be both artificial and confusing, for, the structure being essentially the same in all the forms, who can tell exactly how great a preponderance of one or the other anatomical element will constitute the dividing-line for each variety?

Following Waldeyer, I prefer to call all the forms *epitheliomata*; in other words, I would make *uterine epithelioma* and *uterine cancer* synonymous.* Clinically, we have hard cancer or epithelioma when it is chronic or slow in its development, and when there is an excess of connective tissue, which also means low vascularity, relatively few cells, and slight discharges. We have soft cancer or epithelioma when it is acute or rapid in its course, and when there is an excess of cells, which also means high vascularity, relatively small quantity of connective tissue, offensive discharges, and perhaps dangerous hemorrhages. When hard cancer has reached the stage of ulceration, it is frequently indistinguishable from the soft variety.

It has been thought that certain nations or races, certain classes of society, and certain ages were more susceptible to this disease than others. It has been alleged that German and Irish women show this susceptibility to a marked degree, and that the negro race is practically exempt from it. It has also been stated that the working classes are more liable to it than their sisters who are more fortunately circumstanced in the struggle of life, all of which statements are true within certain limits. In Schröder's statistics (*l. c.*) of 18,000 cases of disease of the female genito-urinary apparatus which were seen at his Poliklinik, 603 (= 3.6 per cent.) were cases of uterine cancer. Of 9,400 cases which were seen in private practice, there were 209 (= 2.18 per cent.) cases of cancer of the uterus. Presumably most of the women were Germans, and the proportion of cancer to other so-called female diseases is large. The larger percentage in public as compared with private practice is also noticeable and significant.

Of 65 cases of uterine cancer which have been seen at the New York Skin and Cancer Hospital during the past three years, 25 occurred in Irish women, 15 in Germans, 13 in Americans (including 1 negress and 1 mulatto), 8 in English women, 2 in Scotch, and 2 in French. They were, almost without exception, poor, hard-working women, living in bad hygienic surroundings. The excess of Irish and Germans in this table may be accounted for by the preponderance of these elements in our cosmopolitan community. The negro race and its modifications are by no means exempt, as the mortality reports of our Southern States will show. (See Thomas, "Dis. of Women," 1880, p. 584.) All writers agree that cancer of the uterus is exceptional in nulliparæ, and that the tendency to it increases with increased fertility. Of Schröder's 812 patients only 39 were nulliparous, and in the 65 whose cases I have analyzed there were but 3 (their ages being thirty-nine, fifty-three, and sixty-seven, respectively).

The average number of children for 49 of these 65 women who were known to be parous was nearly $4\frac{1}{2}$, one of them having had 13. Of Schröder's patients, 76 had borne

10 or more children each. In Schröder's table almost all the women were between thirty and sixty years of age, the largest number, 272, being between forty and fifty—that is, in the decade which includes the climacteric. Hence the conclusion is reasonable that cancer of the uterus is practically limited to the period from the thirtieth to the sixtieth year of life, by far the largest number of cases occurring between the fortieth and fiftieth years. In Schröder's cases it was observed that the disease developed very rapidly during the puerperal period—that is, while the pelvic circulation was in an exalted condition.

To these causes—overwork, underfeeding, bad hygiene, race peculiarities, and family tendency, however much or little the latter may be influential—I wish to add another, upon which due stress has never been laid by any writer with whose work I am acquainted, and that is excessive sexual indulgence. Excessive sexual indulgence means excessive hyperæmia of the uterus and vagina, excessive vasomotor irritation, excessive destruction of the epithelium of the vagina and *ce vix uteri*; and when we reflect that this indulgence is so frequently persisted in without respect to the normal hyperæmia of the menstrual period, the softened condition of the tissues during pregnancy, or their parietic condition in the period which follows parturition, is it any wonder that cancer of the uterus heads the list, and that in by far the greater number of cases it is the cervix or vagina which first resents the injuries which have been received?

Considering all the facts which have been brought forward, it is not strange that cancerous disease is reported to be increasing. The increase is most marked in the crowded cities, for there the struggle for existence is hardest, and the three great blessings of nature—air, sunlight, and water—are least enjoyed by those whom cancer selects for its victims.

In Great Britain the deaths from cancer in 1858 were 334 to the million of inhabitants; in 1862 they were 368 to the million; in 1864 they were 394; in 1867, 403 to the million (McCall Anderson, "Glasgow Med. Jour.," July, 1886, p. 17); in 1873-'74, 443 to the million (Post, "Am. Jour. of the Med. Sci.," Jan., 1886, p. 113). In New York city in 1875 they were 400 to the million; in 1885, 530; but what is especially significant is the fact that one half of all cases of cancer involve the uterus (Post, *l. c.*).

From the foregoing it may be inferred that I am an adherent of the doctrine that cancer of the uterus is the result of local irritation. Constitutional weaknesses, bad hygiene, improper alimentation, excessive fertility, etc., prepare the soil, as it were, but a local irritant is, in most cases, needed to precipitate the disease. It may be a long time, however, before the effect of that irritation is fully developed, and this is not a forced hypothesis, for we frequently have severe forms of disease of other kinds developed years after the original lesion was received. As to the seat of election for development of cancer of the uterus, I know of no more rational exposition than Schröder's ("Brit. Med. Jour.," Dec. 8, 1883). I shall therefore adopt that with some modifications. My observations upon this portion of my subject have been almost entirely clinical, and I have been

* Friedlander objects to the term *epithelioma* for epithelial tumors of all kinds. He prefers the term *cancer* for those that are malignant, and *adenoma* for the benign growths (*l. c.*, p. 172).

able to detect the disease in its early stages in only a very small number of cases.

1. First in point of frequency, least malignant, according to Schröder, and most amenable to radical operation, is the form of hard cancer which is commonly known as the *cauliflower excrescence*, or *cancroid*, or *papilloma*, which is of slow growth, and involves principally the epithelium of the follicles of the mucous membrane of the vaginal portion of the cervix. Schröder describes it as involving also the mucous membrane of the vagina, the pelvic cellular tissue, and, finally, the mucous membrane of the cervical canal. It seems to me, however, that before the latter is reached there must be more or less extensive lymphatic infection, and hence it is difficult to accurately define the limit within which radical removal is possible.

2. The second form is developed upon the pavement epithelium of the vagina and vaginal portion of the cervix, hard in character, and slow in development. Connective tissue in it is relatively abundant, and I have recently seen a case in which there were large areas of connective tissue which had completely displaced the epithelial elements, and in these areas the progress of the disease appeared by the microscope to be self-limited. Beyond these areas, however, the vessels, though few, were very large.

3. This variety has a relatively large epithelial element, with less of the connective tissue, and is, therefore, rapid in its development and soft in character. It begins in the epithelium of the mucous membrane of the cervical canal—a location which would favor rapid growth—and ulcerates outwardly and upwardly, presenting a cavernous opening, with walls which are readily broken down. In my experience this form has been more frequent than the first variety in this series, contrary to the experience of Schröder.

4. This form is less frequently seen than either of the others, and begins in the mucous membrane of the body of the uterus. In Schröder's tables only six per cent. of the cases were of this variety. As it develops, the uterus enlarges from infiltration; a fungous and then an ulcerated mass is found upon the mucous membrane, and subsequently the disease extends to the cervix.

Of course, only a mere outline of these four modes of development of uterine cancer has been attempted; but, with the clinical characteristics *hard* and *soft*, it may be sufficient to furnish the necessary data for differentiation.

Starting with the idea that the development of the neoplasm cancer is caused by the proliferation of epithelial elements at the point or points of irritation, and that there is associated with this process a proliferation of connective-tissue round cells, all the cells being included in an alveolar framework of connective tissue which is more or less abundantly supplied with blood-vessels and lymphatics, according as the progress of the disease is rapid or slow, it has been found that there are at least four methods by which it is propagated:

1. By direct extension into the surrounding tissues, displacing and destroying them by the greater activity of its elements, and itself breaking down and ulcerating in turn.

2. By invasion of lymphatic ducts and glands, choking

and infiltrating them, the cells constantly proliferating in their onward march, and finally entering the blood-current, and depositing themselves in distant parts or organs as *foci* for the formation of secondary growths which continue identical in structure with the primary one.

3. By direct entrance into the blood-vessels, especially the veins, of the original structure, thus infecting the system, and producing secondary growths more rapidly than is the case when the lymphatic system is first traversed. The latter is the usual, the other the exceptional, method by which general infection is accomplished.

4. By auto-inoculation, the infecting epithelium being directly transferred or transplanted from the primary growth to the structure which is immediately contiguous. The existence of such a method has been seriously questioned by some writers; but well-authenticated cases are on record in which it has occurred. In cancer of the uterus it is at least extremely probable that such propagation occurs, as, for example, when epithelium from the vaginal portion of the cervix is transplanted upon the adjacent vaginal mucous membrane.

All the foregoing points were clearly stated in the masterly papers of Coats and Macewen at the Glasgow discussion already referred to, and their order is that which was followed by Macewen.

As yet very little has been said in regard to the operative treatment of these growths, and this is the only rational method of procedure until the great discovery shall be made which Paget has prophesied of a potent agent which, taken internally, shall alter the condition of the cancerous subject in a manner analogous to the effect of mercury upon syphilis.

Without going into the details of the various partial and would-be radical operations, permit me to say that I thoroughly believe in them as the best thing we have at present. Schröder, with indomitable faith and perseverance, has said, "If but one in twenty recovers, still I shall operate"; and I do not agree with Knowsley Thornton in his belief that both the vaginal and the abdominal operations will soon drop out of surgical practice ("Brit. Med. Jour.," Dec. 8, 1883). Even if the limit of life after such operations shall not exceed two years, it seems to me to be worth while to give a woman a reprieve for that period, as long as men like Brennecke can report eighteen consecutive hysterectomies without a death (see Post, "Am. Jour. Med. Sci.," Jan., 1886), and Schröder, Martin, and Staude show results which are almost as good.

The limits of this paper will not permit me to discuss the indications for the various operations, and whether they should be more or less extensive. I must refer you for such matters to the writings of the gentlemen whom I have mentioned, and to those of Czerny, Billroth, Tauffer, Hofmeier, Fritsch, and others.

Let us now consider the question of the palliative treatment of this disease in its later stages. I believe that no one will offer objection to the following propositions:

1. It is the duty of a physician to use all available means to prolong life.

2. If life can not be prolonged to any considerable ex-

tent, it is still his duty to make it as comfortable as possible.

Upon this basis the cancer department of the New York Skin and Cancer Hospital was established and is continued.

By the later stages of the disease is meant those periods in which constitutional infection has almost certainly occurred, and in which the question of radical removal is not dreamed of. The uterus is usually firmly fixed, ulceration exists to a greater or less degree, and the peritonæum, bladder, and rectum have received contributions by extension of the primary growth. Frequently the health of the individual is not shattered, but serious inroads upon it are almost inevitable from the pain, exhausting discharges, and interference with function which have now existed for weeks or months. The plan of treatment which is followed in the Skin and Cancer Hospital is comprehensive, including surgical, medical, dietetic, and hygienic means. It may be objected that the surgery of such cases is not of a very exalted character. That may be true in one sense, but, my friends, it seems to me far better than shaking the head and doing nothing. Besides, it is humane, hence unselfish, hence to be approved.

"It is the good," says Socrates (Plato's "Gorgias"), "and not the pleasant, which is the end of all actions. If we seek for the pleasant, we seek it because we believe it to be the good, and all things ought to be done for its sake," etc.

Assuming that the patient is sufficiently robust to bear the operation, and it really requires very little strength, for the shock and inflammation which follow are usually slight, after anæsthetization she is placed in Sims's position, and a large Sims's speculum is introduced. The scissors are used for the removal of all tissues which can be so removed, and with Sims's curette the vagina and uterus are scraped as thoroughly as circumstances will permit. It must be done rapidly, for the hæmorrhage is sometimes free, and it may be necessary to tampon the cavity for a few minutes with cotton dipped in a solution of tannic acid or some other styptic. There is seldom trouble from spurting arteries, the curetting being a lacerating rather than a cutting operation. The hæmorrhage having ceased and the cavity having been dried, a very large and short Fergusson's speculum is introduced, which not only dilates the vagina but illuminates the cavity of operation. An important detail, which will cause unpleasant consequences if overlooked, consists in packing wet absorbent cotton around the speculum at the vulva and vaginal entrance.*

The bulb of the Paquelin cautery, at red heat, is then carefully applied over the entire field of operation, and is followed by a light cotton tampon, the first piece of which is smeared with vaseline, and the others either with a solution of bicarbonate of sodium or a mixture of iodoform and the fluid extract of eucalyptus. The tampon is allowed to remain two or three days, and the slough will come away two or three days later. If the tissues will then admit it, the cavity is carefully packed with cotton dipped in a thirty-

per-cent. solution of chloride of zinc, which may also remain two or three days. Within a week an extensive slough of the entire interior of the uterus may be removed, and an apparently healthy granulating surface of the remainder of the organ will usually be found. Subsequent surgical treatment may consist of vaginal irrigations of hot water and suitable topical applications, astringents and disinfectants being of course selected.

In a few cases in private practice my esteemed friend, Dr. J. E. Janvrin, who is the head of the cancer department of the hospital, has used a paste made from the Brazilian plant *aveloz*, one of the *Euphorbiaceæ*, which has only recently been brought to this country, as a topical application, not only for cancer of the uterus, but for cancer of the rectum, the breast, and the face, and he has expressed great satisfaction with the results thus far. None of the cases of uterine cancer have been in advanced stages, however. The effect is caustic, but the pain does not last very long, and the result, as I have seen it in a case of cancer of the right frontal region of many years' duration in a woman nearly seventy years of age, is to produce a very healthy-looking surface, and to remove the indurated and infiltrated border which marks the advance of the disease. Dr. Janvrin has not concluded from his experiments thus far whether any permanent benefit may be expected from this drug, and whether it acts otherwise than locally.

The hygienic treatment of these cases which are now under discussion consists in removing the patients from the city hospital to the country branch at Fordham Heights. There, upon high and dry ground, small pavilions have been erected, in which all the benefits which can be derived from pure air, sunlight, and quiet and pleasant surroundings are enjoyed.

I regret that the limits of my paper prevent me from dwelling upon this feature of the treatment as its importance deserves.

The dietetic portion of the treatment during the last months of life is, in my opinion, of the highest importance. When the stomachs of the patients will not tolerate the ordinary fare of meat and vegetables, and obstinate gastric troubles usually constitute the most prominent features of the closing scenes of their lives, it seems to me that we can do no better than to pattern our treatment largely after that which is adopted at the beginning of life in connection with that most sensitive of all organs—the stomach of a baby. Milk, therefore, forms the basis of the diet, and it is combined with lime-water or with bicarbonate of sodium; it is taken in the form of kumyss, or in a peptonized form, and, when all of these have failed, it has been used in certain cases, and with great satisfaction, in the cream mixture which was prepared a few years ago by Meigs. It would be quite unnecessary to refer to the indications as to the quantity of food to be given in such cases, or to the proper intervals; these are among the elements of medical practice. Stimulants are used freely with the milk, and it need not be stated that whisky and ammonia are the agents which are preferred. Rectal alimentation is out of the question for obvious reasons. The future may help us in the matter of the endermic use of food in this disease. There is a ray

* Previous to the use of the cautery, I would suggest a careful inspection of the field of operation with a small electric light, such, for example, as is used by laryngologists.

of hope in this proposition when we consider the facility with which oleates are absorbed through the skin. The medical treatment is quite insignificant. With individuals in this condition the stomach is intended almost exclusively for food, and the drugs which would be appropriate enough for many symptoms which are identical with those that also appear in the late stages of cancer are now of little use, or rather they are more likely to harm than to benefit. Opium is used, of course, if it is required, but, under the treatment which has been described, it has been a matter of astonishment to me that so little pain is present, especially when I have seen, post mortem, the enormous secondary deposits in sensitive areas.

Death in many of the sixty-five cases which are in my table has come very slowly, and under far more favorable circumstances than could possibly have existed in the dreary and cheerless places which these poor creatures called their homes. No man need feel ashamed of working in such a cause, even though the results be not brilliant.

In "Muarda," the beautiful story of ancient Egyptian life by George Elers, one of the most interesting characters is Nebsecht, a physician-priest. With greater enthusiasm for investigation than for the duties of the priesthood, his thirst for knowledge impels him to the dissection of animals, and finally he exiles himself that, among a less superstitious people than the Egyptians, he may continue his studies upon the human body. He demonstrates to his satisfaction that the seat of knowledge is not in the heart, as his priestly education had informed him, but in the brain. Finally he receives fatal injuries while rescuing a young princess from the burning palace of the Pharaoh. As death approaches and he reflects upon the work which he loved, he says to the friend by his couch: "It is not seeing, it is seeking that is delightful." And so, in respect to these most hopeless cases, seeing no cure as yet, still it is delightful to seek for it, to seek to lessen the measure of human suffering.

A REPORT OF TEN CASES OF ABDOMINAL SECTION.*

BY JOSEPH PRICE, M. D.,
PHILADELPHIA.

CASE I.—Mrs. McN., aged twenty-six, white, married twice, married very young, bore a healthy male child at sixteen years, labor normal, was a widow for several years, and enjoyed good health. She married for the second time eighteen months ago. Menses ceased for two months after marriage. She had irregular bleeding, severe pelvic pain, chills, and pyrexia. She remained under the treatment of several physicians. She was sent to the Woman's Hospital, and remained there some weeks. While there pus was discharged freely from an opening about the umbilicus. From the Woman's Hospital she went to the Presbyterian Hospital, and stayed there some weeks. While there free discharge of pus was favored. She came under my care complaining of a swelling on the left side, severe pelvic pain, constant discharge of pus from the umbilicus, and high temperature.

* Read before the Philadelphia County Medical Society, January 26, 1887.

Examination revealed a large, symmetrical, boggy tumor, extending far over to the left of the median line. The uterus was normal in size, but pushed to the right and forward. There was irregular fullness in the left lateral peritoneal pouch. Incision, with free drainage, was urged.

Abdominal section was performed twice in the case of this patient. At the first operation a drainage-tube was placed in an abscess and tortuous sinus anterior to the bladder. Marked diminution in the size of the tumor followed. A small quantity of pus continuing to flow, and some fullness still remaining about the region of the left ovary and tube, I again made a small opening, and introduced a glass drainage-tube into the abscess cavity. The adhesions in this case were too general for enucleation. In all probability it began as an abscess of the ovary or tube.

The cure was not perfect. This date, February 2d, there remains an indurated mass on the left side that will have to be removed to perfect the cure. She is anxious to have the removal.

CASE II.—Mrs. G., aged twenty-four, white, married six years, one child four years ago; forceps delivery, followed by two miscarriages, the last one two years ago at the sixth month. Her ill-health dates from the labor at term. She has been losing flesh and strength. Menses are irregular and painful. Bowels are constipated, and defecation is painful. Pelvic pain is present, especially on the left side.

Examination revealed both ovaries enlarged and adherent. Uterus large, retroflexed, and bound down in the hollow of the sacrum.

Diagnosis.—Incipient cystoma.

This woman had passed through several hospitals. Local and general treatment had been given full trial. Abdominal section resulted in the removal of large adherent cystic ovaries. Tubes thickened and occluded. Rapid and perfect recovery followed the operation. She has increased in flesh and strength, and is at present enjoying excellent health.

CASE III.—Mrs. R., aged twenty-seven, white, married eight years, two children, last six years ago; labors normal. At present she is living the life of a prostitute. Early in September she was told she was probably pregnant, and, after leaving the dispensary, she brought on an abortion by first trying to force air into the uterus; this was followed by the free use of the crochet and knitting-needle. General purulent peritonitis followed. Examination showed the abdomen distended; there were pain and high temperature. She was dying of septic poisoning.

Abdominal section was made, and the intestines were found adherent throughout. The finger was passed through the cellular tissue in front of and posterior to the uterus, emptying numerous pus-pockets. The intestines were separated. Free irrigation was employed, and a large quantity of pus and lymph washed out. A large rubber tube was laid between the intestines above, and a glass drainage-tube was introduced into the pelvic cavity. The peritoneal cavity was irrigated thrice daily for five days. The rubber tube was removed on the fourth day, the glass tube remaining until the discharge ceased on the tenth day. She made a good recovery, and is now a picture of health.

CASE IV.—Mrs. N., aged thirty-six, white, married, one child twelve years ago. Miscarriage six years ago. She has been suffering pelvic pain on the left side for the last twelve years, with chills and high temperature at times. There were great emaciation, constant nausea, and rectal and vesical disturbance. She has been treated by numerous good physicians. Her suffering when she came under my care was very great. Locomotion was impossible. She ejected everything she took into her stomach.

Examination revealed general abdominal tenderness, the uterus retroposed and pushed to the right, and a small ovarian cyst, lying between the uterus and bowel, firmly adherent to the surrounding viscera, and of about the size of an orange.

Diagnosis.—Ovarian cystoma of the left side. Abdominal section was performed, and a small ovarian cyst, with tube, enucleated. There was salpingitis, with muco-purulent contents. There was no shock or nausea. No catheter or opium was used. Although she had been under the influence of opiates for years, none have been given since the operation. Her improvement has been all that could be expected in one so long ill and run down in general health.

CASE V.—Kate A., Polish, married, mother of two children, the youngest of whom is two years old. She has had one miscarriage; is pale and anæmic; has menstruated regularly at intervals of three weeks. Previous to present treatment there was a delayed menstrual period of two weeks, during which she suffered with nausea and acute agonizing pelvic pain. The flow, when established, continued for two weeks.

Examination revealed the uterus retroposed; the left ovary and tube large, prolapsed, and adherent; the distended tube and firm ovary easily mapped out; marked tenderness; high temperature; feeble pulse.

Operation.—Upon entering the peritoneal cavity there was a gush of blood and clot, the pelvic cavity being filled with clot. The left ovary and tube, both large and covered by adherent clots, and filling the pelvic cavity, were removed. There were adhesions to the surrounding pelvic viscera. Free irrigation with distilled water was employed. No drainage. Recovery was rapid.

Macroscopical examination showed a ruptured tube full of clot with all the characteristics of tubal pregnancy, but, as no microscopical examination took place, it is impossible to say definitely.

CASE VI.—Lizzie B., white, aged twenty-seven, a prostitute. She was never pregnant, her menses always having been irregular and scant. Never enjoyed good health. At present is pale, anæmic, and greatly emaciated; complains of severe pain in the pelvis, with pain on locomotion. Micturition and defecation are painful; there is diarrhœa; pulse 132; chills; high temperature, being 103° at night.

Examination showed the pelvis completely filled; the uterus small, in front and to the right; irregular, tortuous, boggy masses to the right, to the left, and posteriorly.

Section urged and made the following day. A small and short incision was made. The pelvis was filled with pus-tubes; there were abscess of the right ovary and cyst of the right broad ligament as large as a cricket-ball. Adhesions were general and firmly organized. Complete removal of tubes and cyst of broad ligaments was made, the cyst being first tapped. Free irrigation with distilled water was employed; a glass drain was used, followed by a short rubber tube. There was no discharge; the tube was removed on the fourth day. Rapid and perfect recovery.

CASE VII.—Clara D., white, aged twenty-one, married; one child and one miscarriage two months before treatment. She had swelling and pain in external genitals; great pelvic pain and burning; locomotion painful; feverish, sleepless, and without appetite.

Examination showed that the uterus was in good position, slightly movable. A symmetrical tumor as large as a base-ball was found to the right. It was extremely tender to the touch; pulse, 120; temperature, 101.5°. Removal of mass urged.

A large pyosalpinx was removed; adhesions were general and firm; free discharge of pus occurred from the tube during the operation. Tube cheesy; omentum, which was adherent

over mass, perforated in operation. A glass drain was inserted and removed on the second day, followed by rubber tube for two days. There was no discharge; rapid recovery. No opium nor catheter, and bowels regular.

CASE VIII.—Emma C., colored, aged thirty-four, married, four children, two miscarriages. Last child was born three years ago, followed by post-puerperal trouble. Ever since she has had pelvic pain and painful locomotion, losing at the same time flesh and strength. Chills, high temperature, furred tongue, and insomnia were also present. On examination, the pelvis was found full of irregular, sausage-like masses. Uterus to the right; the left tube large and boggy. Section urged and made the next day. Long pus-tube and ovarian cyst on left side were completely enucleated, requiring extensive tying. There were adhesions to the uterus, the hollow of sacrum, and pelvic walls. A glass drain was used up to the fourth day, followed by rubber. Rapid recovery.

CASE IX.—Mazie G., white, prostitute, aged twenty-two. She had one child three years ago, followed by three or more criminal abortions. There had been pelvic inflammatory trouble ever since, the patient never being free from pain. Was losing flesh and strength; temperature 101°, pulse 110, sleepless, and capricious appetite. On examination, the uterus was found low down, retroflexed, and adherent. The tubes and ovaries were prolapsed and firmly adherent to the uterus, bowel, and sacrum. Operation was made the next day. Removal of the right tube and ovary was found to be impossible. The left ovary and tube, which was as long as the middle finger, tortuous, cheesy, and full of pus, were removed, with considerable bleeding. The bleeding proceeded from the torn adhesions and the tube severed by the first ligature. A glass drain was inserted; metrostaxis occurred in twenty-four hours. She had good nights. On the first night one sixth of a grain of morphine was given; there was free bloody discharge from tube. On the second day the pulse and temperature were normal. Fourth day she was eating and sleeping well. Twelfth day the rubber tube was taken out, leaving a small track. General condition excellent.

CASE X.—Florence B., white, aged seventeen. Menses at eleven years, prostitute at thirteen. Has been in two reformatory homes, but as yet has experienced no change of heart. She had given up her occupation for rest and treatment, pelvic pain and tenderness being too great for her to follow it.

Examination showed that her general health was poor; she was small and greatly emaciated; had high temperature and feeble pulse. A small ovarian cyst and tortuous boggy tube were found on the right side; adhesions general. The cyst and tube were enucleated. The tube was filled with pus throughout its entire length. The left tube and ovary were healthy. No drainage was used. During convalescence she was free of pain, happy, and comfortable. Two months after the operation the same conditions developed on the other side. Operation to be done.

Six of this group were drained, all of whom would probably have died without it, in spite of careful toilet. My experience is that the utmost vigilance must be exercised to prevent stagnation of fluids in the pelvis and other points. In purulent peritonitis the drainage must be favored from all points of the abdominal cavity. The statement of Dr. Keith, that "it seems to be simply impossible to kill some women, be the putrid mass left in the pelvis what it may," may hold good in Scotland, but it will not in America.

Most of this entire group of patients were feeble, half-starved, greatly emaciated, the victims of hectic fever and

exhaustion. Taken altogether, they were most unpromising subjects. The few fairly healthy recovered rapidly and without a bad symptom. Metrostaxis came on in all cases by the thirty-sixth hour. The homes and surroundings in these cases were far from being in good hygienic condition.

An eminent teacher and author went abroad with the object of comparing methods, "to explain why our results in America have not yet, as a rule, reached the high rate of success attained by the best operators abroad." I can venture to say, without fear of successful contradiction, that a careful study of the work of American operators will not show their results to be inferior to those of the operators abroad.

With one exception, that of Mr. Lawson Tait, the success of American operators compares favorably with, if it does not exceed, that of the operators of the Continent. Mr. Tait's success has been marvelous; indeed, phenomenal. He exceeds the world in number of cases, and his per cent. of mortality is the lowest yet attained. The mortality of numerous American operators is now small. Dr. John Homans, of Boston, in his first series of 100, lost 13, taking cases as they came. He has had a run of 38 recoveries. In referring to this work, Dr. Homans says: "This is about as well as I can do, unless I refuse the desperate cases." Dr. Robert Battey, of Rome, Ga., one of our veteran American surgeons, gives us a showing of 70 consecutive cases, with 68 recoveries and 2 deaths. Dr. Thomas, of New York, and Dr. Drysdale and Dr. Goodell, of this city, are operating with excellent results, their mortality being exceptionally small.

Numerous Eastern and Western operators are now making a wonderfully good showing. In comparing the work and results of American operators with those of Great Britain, the profession must take into consideration the number of operators in the respective countries. In Great Britain they may be classed as experts. You can easily count upon your fingers the names of those who have attained prominence in abdominal surgery, and the names are of men who have made that branch of surgery a specialty.

More than one half of my abdominal sections have been done for pus, and I shall never again "allow a case of peritonitis to die without at least proposing abdominal section as the proper course." I am now fully confirmed in the opinion, from my own experience, that suppurative peritonitis must be treated like any other abscess to secure the same results. The pus must be cleared out by abdominal section, irrigation, and drainage. Further, I am convinced that more recoveries will follow the knife and drainage than the old "sheet-anchor" treatment of opium and poultice. While the use of the knife may be regarded as a bold and heroic measure, it must be remembered that the disease is uniformly fatal. This fact furnishes the justification for heroic treatment to avert the dangers which await the patient. The surgeon must be prepared, in a disease that progresses certainly and rapidly to death, to take active steps in the line marked out by well-known surgical laws.

Now that Listerism is all the rage, a few words as to it. I will not here dwell upon the varied forms in which it is

applied. I am not a convert to a belief in any of the many solutions. I am fully satisfied with, believe in, the entire efficiency of the gospel of cleanliness. In this matter of cleanliness the Germans are now scrupulous. Dr. Emmet says he "heard Professor Lister himself say that 'one operator in Germany was so conscientious a believer that he and his assistant surgeons always scrubbed their heads with carbolic-acid solution and a nail-brush before undertaking any capital operation.'" The most successful of British ovariologists have long since rejected Listerism. Dr. Emmet says of the work of Bantock and Thornton:

"I followed their patients after each operation until the sutures were removed. I saw patient after patient in the service of each recover without a temperature over a hundred, and with a perfect line of primary union. So far as I could see, their results were equally good. There is also not much to choose between them in the matter of skill. They are both fine operators. Yet, strangely enough, each ascribes his especial success to absolutely contradictory causes. Thornton believes in the specific effect of consistent Listerism. Bantock believes the use of carbolic acid or corrosive sublimate absolutely deleterious to the patient, and uses water directly from the main." J. Knowsley Thornton, in a correspondence with Professor S. D. Gross, published in the "Medical News," January 27, 1883, p. 117, says: "I think my own mortality (328 cases, 10·67 per cent.) answers your question as to the value of the spray."

At a meeting of the International Medical Congress, held in Copenhagen, August, 1884, Mr. Thornton reported that he had performed 423 ovariectomies, with 40 deaths, a mortality of 9·45 per cent.*

It may, with equal justice, be said of Dr. Bantock's mortality that it answers the question as to the value of Listerism. He uses no spray and no solutions, and his mortality is as follows:

Statistics to April 26, 1886.—Ovariectomy.

Total mortality.....	13·5 per cent.
Mortality before Listerism.....	25 "
" under strict Listerism.....	22·2 "
" after abandonment of Listerism...	10·5 "
" of last 73 cases, 3 deaths, or.....	4·1 "
" of last 54 cases, 2 deaths, or.....	3·7 "
" of last 37 cases, 1 death, or.....	2·7 "

A prominent teacher and operator, writing, says: "By operative skill, by cleanliness, and by wise hygienic measures, the fatality has been reduced to about 25 per cent." At that time he recommended the use of "old sheets, old comforters, old pillows, old carpets." In his last production he recommends "clean sheets, clean blankets, clean comfortables, and clean pillows." With this simple change to cleanliness, this writer and skillful operator has a very marked change in his own mortality. In 44 cases, 40 recoveries, 4 deaths.

I would state that on this occasion I have made only casual reference to the statistics of a few eminent operators

* It is difficult to reconcile some of the excuses given for high mortality. In point, Mr. Thornton attributes his large mortality in hysterectomy as compared with that of ovariectomy (under 4 per cent.) to the fact that, in the majority of the former operations, it is impossible to carry out strict antiseptic or aseptic surgery.

to serve a special purpose, and have made no attempt at accurate and extended statistical research; that task I reserve for a work in hand.

FORCED INSPIRATION IN PNEUMATIC DIFFERENTIATION.

By WILLIAM B. WOOD, M. D.

Two cases, recently under my observation, have served to bring out very clearly some points of practical value in pneumatic differentiation, and especially to individualize the action of forced inspiration used alone.

CASE I.—Mr. G., aged thirty-six, began about December 1st to have a dry cough, notably upon quick exertion, and to be troubled with shortness of breath. The cough increased until December 20th, when there developed pain in the infra-mammary region. Upon examination of the patient at his house, creaking and crackling sounds were heard over an area about three inches in diameter. There was an evening temperature of 101.2° , and a pulse of 100 to 110. After ten days' care at home it seemed safe for the patient to come to my office for cabinet treatment. At this time there were no friction sounds, but there was dullness on percussion, diminution of respiratory murmur, and the same tendency to cough on quick exertion, with diminished respiratory movement of the lower right chest. December 29th, the first time this patient was put into the cabinet, he was allowed to remain five minutes, the forced inspiration alone being used under a vacuum of four tenths of an inch. The object was fully to dilate that portion of the lung beneath the affected pleura, and thus re-establish at once the normal respiratory act and capillary circulation in that crippled area. It was hoped that, if this could be done, nature would completely clear up the pleural trouble. On coming out of the cabinet after this first treatment, Mr. G. took the first long breath he had drawn in weeks, expressed a "sense of relief," and went immediately to his office. He continued daily after that to attend to his business, meanwhile having no cough, no pain, no shortness of breath, and no rise of temperature.

A week later he was given a second cabinet treatment similar to the first. At this time examination failed to disclose any dullness on percussion or diminished respiratory murmur over the affected side.

CASE II.—Mr. B., aged thirty-nine, had an old pleurisy with a contracted right lung; the left lung showed prolonged expiratory murmur, emphysema, and bulging. There were frequent paroxysmal fits of violent coughing of a most distressing character, which nothing but morphine would control. The patient could cough from fifteen minutes to an hour after the effort of crawling slowly up a single flight of stairs. When cabinet treatment was applied in this case I withdrew all medicines except tonics. As in Case I, the forced inspiratory act alone was used, with a vacuum of from two tenths to eight tenths; time, five minutes. After the first treatment Mr. B. went home, and walked up two flights of stairs without distress or paroxysm of coughing, which he continued able to do. The single act of forced inspiration under from two tenths to eight tenths vacuum, five minutes each time, was continued in this case for two months, at intervals of six days, aggregating ten treatments. The patient had freedom from fits of coughing for three or four days after each treatment; then the tendency to cough returned to some degree, until it was checked again by the next cabinet treatment. The object of confining the treatment to the single act of forced inspiration was to individualize its action.

The patient showed his maximum gain after the third treatment. Examination showed a loss of one inch in the semi-circumference of the bulging left side, and a corresponding gain in the right contracted side.

The patient also during this time increased his weight one pound. There was no subsequent gain or loss or any notable change in physical signs. It also gradually became evident that this treatment would be unsafe if the vacuum were increased or the time of treatment prolonged much over five minutes. But, upon giving this patient pneumatic differentiation—the combination of vacuum and pressure treatment—a further and progressive improvement ensued.

It would seem, then, that forced inspiration must be employed with caution, and can not be used alone either long at one time or many times repeated with the hope of increasing benefit; and that the maximum gain will be reached after a very few treatments of short duration under a vacuum of from two tenths to eight tenths of an inch.

In such cases as the first one given, the act of forced expiration might have rekindled the pleuritic trouble by too violently stretching the pleural surfaces apart, while the single act of forced inspiration expanded the lung to the normal condition, and re-established the capillary circulation in that portion involved by the affected pleura.

This experience convinced me not only that in cases of recovering pleurisy the application of forced inspiration alone is the appropriate and a sufficient procedure, but that in cases of bronchial or alveolar disease the forced inspiratory act alone not only is insufficient, but, if continued, may be positively injurious. The lung demands that the rest and compensation of forced expiration should follow forced inspiration.

PERITYPHLITIS:

OPERATION; RECOVERY.

By J. E. SUMMERS, JR., M. D.,

OMAHA, NEB.

In the January 15th issue of this Journal appeared the report of a discussion in the New York Surgical Society, following the reading of the notes of a case of "Laparotomy for Suppurative Peritonitis from Acute Perforation of the Vermiform Appendix," by Dr. Weir. The following case is of interest as bearing on several of the points brought out in the discussion:

Mr. P., aged thirty-six, was taken sick on January 1st with the usual symptoms of perityphlitis, and was seen by me on the night of January 3d (I had treated the patient in September, 1886, for the same trouble, the tumor ending in resolution). There was considerable accumulation of fecal matter, which was, in part, removed by castor oil, cautiously administered, and by enema; opium was given to control pain. The temperature ranged from 99.5° F. to 102° F.; there were no chills nor sweating.

On the eleventh day the dullness had extended over most of the area bounded by Poupart's ligament, the median line, and a line joining this latter with the anterior superior spine of the ilium. There was doubtful deep fluctuation. An aspirating needle introduced two inches and a half into the upper part of the tumor, where pus was suspected, removed half an ounce of very foul-smelling pus. A few hours later, under ether, an incision three inches and three quarters long, parallel with

Poupart's ligament, was made, and at a point in the lower half of this incision several drachms of pus, in character the same as that obtained with the aspirator, were removed. The finger, when introduced, passed into a cavity bounded above by the anterior abdominal wall, below by a mass of intestines, the tumor. The finger passed at one point toward the median line into the general abdominal cavity; whether this opening was made by me I cannot say; no sensation of resistance was perceptible. The finger (index) could also be passed its whole length directly into the mass of intestines. No foreign body was discovered. The needle, as passed, certainly removed the pus from the first of these communicating cavities, and the incision carried through the peritonæum where the needle had pierced it, opened the general cavity, the sac and peritonæum not having adhered; the latter, however, was much thickened. The intestines presenting at this false incision were congested and covered with lymph. The peritonæum was united with carbolized iron-dyed silk, and the muscles and skin were closed with the same kind of material. A drainage-tube was introduced into that part of the cavity surrounded by intestines, and antiseptic dressings were applied. Convalescence was interrupted by an attack of pleurisy of the right side, which was almost completely filled with an effusion. No fecal matter was discharged from the wound, but intestinal gas frequently escaped at the dressings, and at other times, the patient complaining of a sensation as if the whole wound were "ripping open."

The wound is almost entirely closed at the present writing, January 30th. This was undoubtedly one of those forms of abscess *not* external to the peritonæum. The opening of that part of the abdominal cavity not involved in the inflammatory condition was due to my belief that at the point where the needle had penetrated there must be adhesion between the peritonæum and the sac, especially as the former was so much thickened and changed in appearance.

Correspondence.

LETTER FROM LONDON.

Mr. Savory's Hunterian Oration at the College of Surgeons.—Nephro-lithotomy at the Clinical Society; the Lumbar Incision as compared with Laparotomy.

LONDON, February 15, 1887.

YESTERDAY afternoon Mr. Savory, F. R. S., the senior surgeon to St. Bartholomew's Hospital, delivered the Hunterian Oration at the Royal College of Surgeons. Hunter, he told us, was pre-eminent among surgeons because he had been and still was, beyond and above all surgeons, a philosopher in surgery. His idea of the subject of his thoughts was far more adequate than that of other men. He was supreme in the scope and method of his work. He understood much better than those around him how to engage in the interpretation of nature; he knew best how to approach and to disclose truth. He was ever searching for principles, but strove to reach them only through facts, and an explanation of the facts themselves could only be arrived at through physiology. The fact that Hunter was not what would be called a well-educated man is well known, and many have avowed that had he received a better general education to start with, he would never have done the work he did. Mr. Savory contended that had he received a good general education in early life, he would have been all the better

for it; he would have lost nothing, his mental powers would have been in no way impaired—on the contrary, they would have been enhanced. He would have recorded the result of his labors in better order, with more light and better effect, and we should have had the advantage of a clearer revelation of his thoughts. Hunter was no scholar, but, "if a transcendent knowledge of Nature and her ways, if a firm and ample grasp of her noblest truths be accounted education, if the devotion through a life-time of gigantic intellectual powers and a truly loving heart to the reverent study of God's works be culture, then Hunter, though not a man of letters, was surely an educated man."

The fame of Hunter in reality fell far short of him; it was only after a review of the whole of his vast labors in their mutual relation, not merely after a study of the merits of his numerous papers, each taken by itself, but in an attempt to apprehend the scheme to which all his labors were subservient, that we were in any measure able to realize the strength of Hunter's genius. Of all men who had acquired greatness Hunter required to be studied with the greatest diligence, and this was partly due to his lack of literary style; but he was a man supremely endowed with power and faculties for the discovery of truth. With little education at the outset of life, without the advantage of the schools, Hunter found himself face to face with the deepest and most mysterious problems of nature, and he was forthwith able to take full measure of the magnitude of the task.

Mr. Savory concluded with an earnest appeal that the museum of which Hunter laid the foundation with his own hands and with his whole heart should for ever be made worthy of his name. Mr. Savory spoke for exactly an hour without hesitation or faltering, and without even a note to remind him in case his memory should fail him, and the close of the oration was received with tremendous applause. I have heard several lectures and orations in the same place, but none which could compare with this either in elegance of diction or in grace of delivery, and there can be no doubt that Mr. Savory has proved himself worthy of a place among the first orators of the day.

On Friday last there was an interesting discussion at the Clinical Society on nephro-lithotomy, following on papers by Mr. Henry Morris and others on the subject. The point of the debate was whether it was best to explore the kidney and remove the stone by the lumbar incision or not. The chief opponent of this plan was Mr. Knowsley Thornton, who, in a rather long but otherwise excellent speech, advocated strongly the so-called combined method, viz.: opening the abdomen first and exploring the kidney, and then fixing it with one hand in the abdomen to cut down on it through the loin and remove the stone. His contention was that in this way both kidneys could be explored, and so the risk of leaving the real source of the mischief untouched would be avoided. There is no doubt, explain it how we will, that sometimes the pain is referred to the sound kidney, and an exploration from the loin of course then fails. Mr. Thornton quoted a very interesting case in which five calculi were found in one kidney, though the symptoms had all pointed to the other kidney, which appeared sound, as being the affected one. The chief grounds of objection raised to the combined method, apart from a preliminary objection to so formidable a step as laparotomy, were that it was sometimes quite impossible to feel a small stone in a kidney, even with the organ in one's hand, immediately after its removal from the body, and that, therefore, the recognition of a stone was not absolutely certain by the combined method, so that for all practical purposes the lumbar incision might be regarded as affording all the information likely to be gained.

THE

NEW YORK MEDICAL JOURNAL,

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D. APPLETON & Co.Edited by
FRANK P. FOSTER, M. D.

NEW YORK, SATURDAY, MARCH 5, 1887.

THE ARTIFICIAL CULTIVATION OF VACCINE.

THE period from 1883 to 1886, inclusive, constituted, as some of our readers doubtless are aware, the term during which it was open to competitors for the First Quadrennial Discovery Prize of £1,000, offered by the Grocers' Company, of London, to present their achievements in attempts to solve the problem put before them—the artificial cultivation of vaccine lymph, or, more precisely, of the virulent micro organism of vaccinia, without any impairment of its infective character. Among those who essayed the task was Dr. John Dougall, lecturer on materia medica and therapeutics in the Glasgow Royal Infirmary School of Medicine. Dr. Dougall's account of his experiments, a hundred and eighteen in number, runs through several recent issues of the "Glasgow Medical Journal." He writes with the utmost candor, and does not seek in the slightest degree to disguise his failure to accomplish the object in view. It is true that he mentions certain "apparent successes," but, in so far as these were not palpably fallacious, he is careful to state that they included but a mere multiplication of cocci which gave abundant evidence of having lost their infective power. In no instance did the cultivations prove to be inoculable, for Dr. Dougall is undoubtedly correct in assuming that, in the few cases in which feebly developed vaccinal lesions seemed to have resulted from their action, those lesions were really the product of a slight accidental admixture of natural vaccine, as they invariably occurred in close proximity to test inoculations with the latter.

One would think, as Dr. Dougall remarks, "that in the course of a hundred and eighteen experiments, each differing in some respect from all the others, success would even have been stumbled on"—assuming success to have been possible. It would be rash, even on the strength of so careful and competent an experimenter's failure, however it may tally with theoretical considerations, to assert the impossibility of accomplishing the object he had in view; but it may at least be said that the *a priori* improbability of success is remarkably strengthened by his investigations. When we remember that attempts to preserve natural vaccine virus for a length of time unimpaired are successful in proportion as they involve the rigid exclusion of all conditions favorable to the growth and multiplication of micro-organisms, the vaccine coccus included, the inference is almost unavoidable that such growth and multiplication are necessarily associated with a loss of the microphyte's infective power. The ideal conditions for the preservation of vaccine seem to be those which, while they protect its vitality from destruction, make it absolutely impossible for that vitality to manifest itself in any process of growth or develop-

ment. To attempt such preservation without regard to these circumstances appears about as hopeless as to force a plant past the flowering stage to that of fructification with the idea of making it more esteemed by florists.

Dr. Dougall's work has not been in vain, however; he has added materially to our knowledge of the natural history of the micro-organism of vaccinia, and those who are engaged in like investigations, however different in their purpose, may take many useful hints from his account. Moreover, he is still decidedly of the opinion that the problem before him admits of solution, and, as he says that the fascination of the inquiry has not failed, we may perhaps be justified in looking for its further prosecution at his hands.

MINOR PARAGRAPHS.

THE CALIFORNIA STATE BOARD OF HEALTH.

THE board's "Ninth Biennial Report," covering the period from June 30, 1884, to June 30, 1886, contains abstracts of the proceedings at the quarterly meetings, the report of the Secretary, Dr. Gerrard G. Tyrrell, various statistical tables, and the following meritorious essays: "The Climatology and Diseases of Southern California," by Dr. H. S. Orme, the president of the board; "Irrigation," by Dr. H. C. Crowder, a member of the board; "The Drinking Habit in California," by Dr. W. H. Mays, of the lunatic asylum at Stockton; "The Prophylaxis of Trichinosis," by Dr. Albert Abrams, of San Francisco; a "Report on the Topography, Botany, Climatology, and Diseases of Surprise and Goose Lake Valleys," by Dr. George M. Kober, of the army; "The Coast Climate of California" and "On the Use and Abuse of the Mineral Springs of California," by Dr. John W. Robertson, of Crescent City; "On the Necessity of Quarantine along our Southern Frontier," by Dr. M. F. Price, of Colton; "Yellow Fever in California," by Dr. Alfred M. Perry, of San Francisco; "Yellow Fever considered in its Relation to the State of California," by Dr. Wolfred Nelson, late of the Panama Board of Health; and "Disinfection and Individual Prophylaxis against Infectious Diseases" (republished), by Dr. George M. Sternberg, of the army. The board is to be commended not only for its valuable report, but also for the economy observed in the conduct of its work. The appropriation for each of the two years was \$1,250.00, of which \$388.16 remained unexpended the first year, and \$247.88 the second year.

THE STATISTICAL TEST OF METHODS IN LAPAROTOMY.

At a recent meeting of the Philadelphia County Medical Society, Dr. H. A. Kelly presented an instructive account of his work in abdominal surgery. While admitting that he has a personal pride in his work, he deprecates, most justly as it seems to us, "the bitter spirit which animates so much of the percentage discussion." "The time was," he adds, "when by this means alone, by means of the striking differences which existed, we were enabled to determine, in the absence of personal experience, the relative value of methods; but that time has passed, and with the closure of the chapter on ovariectomy this spirit of emulation survives no longer in the intrest of science, but is personal and unworthy of our cause." In the discussion, Dr. Price remarked that at present the surgeon simply presented numbers and percentages of recoveries as representing the exact measure of his skill in operating and his care in the after-treatment. Too great importance had been given to bare statistics, but the growing tendency to hold surgeons

strictly responsible for every unfavorable result had stimulated abdominal operators to great carefulness, and consequently the methods of abdominal surgery had become well-nigh perfect.

UNDERGRADUATE PRACTICE IN BOSTON.

We are glad to learn from our esteemed contemporary, the "Boston Medical and Surgical Journal," that the newspaper account to which we alluded two weeks ago, to the effect that a band of Boston medical students had engaged in an enterprise whereby they were practicing under advantages that enabled them to make inroads on the work of the established practitioners, was founded on an erroneous interpretation of the facts by a reporter, who, as our contemporary observes, seems to have confounded instruction in obstetrics with dispensary practice.

A NEW LARYNGOLOGICAL JOURNAL.

THE "Journal of Laryngology and Rhinology" is the title of a new monthly publication, of 44 octavo pages, edited by Dr. Morell Mackenzie and Dr. R. Norris Wolfenden, of London, whose names are a sufficient guarantee of the excellence of the work. The first issue opens with an editorial article on "Intubation of the Larynx," and this is followed by a great number of brief abstracts from other publications. From what is said in the prospectus, it seems that this is to be the scope of the new journal, rather than the publication of formal papers entire. The plan, it will be seen, is similar to that on which the "London Medical Record" has been conducted, and not unlike that of the various German "Centralblätter." There can be no doubt that the journal will prove of exceeding value to those who wish to keep the run of laryngological and rhinological literature.

THE NEW PHILADELPHIA JOURNAL.

THE early issues of the "Medical Register," a new weekly journal published in Philadelphia, have reached us. It is edited by Dr. John V. Shoemaker, the editor of the "Medical Bulletin," of Philadelphia; and Dr. William C. Wile, the editor of the "New England Medical Monthly." The first number contains reports of clinical lectures by Dr. W. H. Pancoast and Dr. P. D. Keyser, of Philadelphia; original articles by Dr. J. W. S. Gouley, of New York, Dr. H. O. Marcy, of Boston, Dr. Frank Woodbury and Dr. Benjamin Lee, of Philadelphia, and Dr. William Murrell, of London; and an attractive array of editorials, book notices, abstracts, etc. The "Register" is a handsome journal of twenty-four pages. The acquirements and enterprise of the editors may be expected to make the new journal a creditable addition to the list of Philadelphia medical journals, of which there are now three published weekly.

THE POLITICAL SIGNIFICANCE OF A DOCTOR'S MOVEMENTS.

So commonplace a matter as the alleged intention of a well-known German physician of New York to make a visit to his native country has been seized upon by one of the newspapers and held up to the public as another indication of an impending European war, the statement being made that the gentleman is going to Germany at the request of the Imperial Government, to take part in a reorganization of the military hospital service.

DOCTORS' BILLS.

It is a hopeful sign when the newspapers take up the cudgels for our profession. The "Brooklyn Daily Eagle" has lately done so most energetically, and at the same time very judicious-

ly, in the course of some comments on a case in which a physician of that city sued for the amount of a bill for medical services, and the jury awarded the full amount, almost without leaving their seats. The "Eagle" alludes to the well-known hesitation of doctors to sue those who refuse to pay their bills, than which, as a rule, it says, there are none more moderate; but urges upon medical men that it is one of the duties of their citizenship to assert their just claims, with the aid of a resort to the law if necessary—a view in which we wholly concur.

ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Fourth Division of the Health Department for the following statement of cases and deaths reported during the two weeks ending March 1, 1887:

DISEASES.	Week ending Feb. 22.		Week ending Mar. 1.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever.....	9	5	8	4
Scarlet fever.....	31	7	63	15
Cerebro-spinal meningitis....	3	3	5	5
Measles.....	269	33	250	34
Diphtheria.....	69	28	55	38
Small-pox.....	11	3	20	3

Small-pox Infection from Rags is stated to have occurred lately at Holyoke, Mass., the disease having first made its appearance among the rag-sorters of the paper mills.

The Alumni Association of the Long Island College Hospital held its annual dinner last Tuesday evening, at Remsen Hall, Brooklyn. The goodly attendance and the enthusiasm displayed were fresh reminders of the creditable career of the college and of the warmth with which its alumni esteem it—and not they alone, we may add, but all who have had the opportunity of observing its course.

The New York Polyclinic.—The annual reception was held at the college building, in East Thirty-fourth Street, on Wednesday evening of this week. The occasion gave abundant evidence of the continued prosperity and excellent management of the school.

The Long Island College Hospital held its commencement exercises at the Brooklyn Academy of Music on Wednesday evening, when the degree in medicine was conferred on thirty candidates.

Professor Virchow, it is announced, was elected to the Reichstag at the recent election.

The Deutsche Poliklinik.—Last Tuesday evening the Thalia Theatre company gave a representation of "Der Vagabund," at the Academy of Music, for the benefit of the Poliklinik.

Society Meetings for the Coming Week:

MONDAY, March 7th: New York Academy of Sciences (Section in Biology); Medico-chirurgical Society of German Physicians; Morrisania Medical Society (private); Brooklyn Anatomical and Surgical Society (private); Utica, N. Y., Medical Library Association; Boston Society for Medical Observation; St. Albans, Vt., Medical Association; Providence, R. I., Medical Association (annual); Hartford, Conn., City Medical Association; Chicago Medical Society.

TUESDAY, March 8th: New York Medical Union (private); Medical Societies of the Counties of Chemung (Elmira) and Rensselaer, N. Y.; Newark (private) and Trenton (private), N. J., Medical Associations.

WEDNESDAY, *March 9th*: New York Surgical Society; New York Pathological Society; American Microscopical Society of the City of New York; Medico-legal Society; Medical Societies of the Counties of Albany, Cayuga, and Montgomery, N. Y.; Pittsfield, Mass., Medical Association (private); Worcester, Mass., District Medical Society (Worcester); Philadelphia County Medical Society (conversational).

THURSDAY, *March 10th*: Society of Medical Jurisprudence and State Medicine; Brooklyn Pathological Society; South Boston, Mass., Medical Club (private); Pathological Society of Philadelphia.

FRIDAY, *March 11th*: New York Academy of Medicine (Section in Neurology); Yorkville Medical Association (private); Medical Society of the Town of Saugerties, N. Y.

SATURDAY, *March 12th*: Obstetrical Society of Boston (private).

OBITUARY NOTES.

Lewis Fisher, M.D., of New York, died at Jacksonville, Fla., whither he had gone on account of the state of his health, on Tuesday, the 1st inst. Dr. Fisher was a graduate of the Medical Department of the University of the City of New York, of the class of 1861. Soon after the outbreak of the War of the Rebellion he entered the medical corps of the army, and served with distinction. At the close of the war he settled in practice in Morristown, N. J., where, in the course of a few years, he achieved a decided reputation. He subsequently came to New York, where he continued in practice until a few months ago. Dr. Fisher was a man of unusual mental capacity, and he was held in high esteem by his patients and by his professional brethren. He was forty-seven years old at the time of his death.

Letters to the Editor.

MULTIPLE PARACENTESIS OF THE MEMBRANA TYMPANI.

49 WEST FIFTY-SEVENTH STREET, *February 26, 1887.*

To the Editor of the New York Medical Journal:

SIR: Dr. Pomeroy, in his article on "Cases Exhibiting the Results of Multiple Paracentesis of the Drum Membrane on the Hearing in Chronic Aural Catarrh," makes some statements about me which are not justifiable. By giving a history of the operation performed by me I can best explain the assertions made by Dr. Pomeroy.

In July, 1885, I was treating a patient suffering from chronic catarrhal inflammation of the middle ear. At the end of two weeks he was not improving. I had employed the usual methods of treatment, except paracentesis for drainage and ventilation. Knowing that paracentesis was not injurious in itself, even if not beneficial, I tried it, with the faint hope that some benefit might follow. One puncture seemed to do good, and, on my own responsibility, I made many punctures, with the hope of getting more improvement. The patient was markedly improved. I told Dr. Pomeroy. He was incredulous. I took the patient to his office, and Dr. Pomeroy was partly convinced that what I professed to have done was true. Next, I asked for a test case from the hospital, and, after repeated petitions, a deaf-mute was given me to treat. Dr. Pomeroy said at that time that he did not believe I could help the patient. After a month's treatment, the deaf-mute was better. Dr. Pomeroy then examined the patient, and admitted that the operation was a good one. This was early in November. From that time he became

very enthusiastic over the operation, and advocated it for all suitable cases. In my article on the subject, to which Dr. Pomeroy alludes, I thanked him for the personal kindness he had extended to me.

In conclusion, I would add that for a brief time I was the subject of some ridicule for so-called preposterous pretensions, until the proof showed to the contrary.

W. H. BATES, M.D.

AN ACCIDENT IN INTUBATION OF THE LARYNX.

TROY, N. Y., *February 26, 1887.*

To the Editor of the New York Medical Journal:

SIR: The following case illustrates a possible accident in the procedure of intubation of the larynx. It occurred under the observation of Dr. J. B. Harvie and myself. The patient, a child about three years of age, had been ill with diphtheria for three or four days, when the laryngeal obstruction became so severe that intubation was undertaken as a means of relief, though the prognosis from the general effect of the disease was grave. The tube (O'Dwyer's) was inserted at the second attempt, but, on withdrawing the "core," respiration was found to be completely obstructed. The withdrawal of the tube improved matters very slightly as far as inspiration was concerned, expiration being apparently nearly entirely obstructed. Concluding that the tube had detached and carried in advance the false membrane, thereby occluding its lower orifice, and that, on the withdrawal of the tube, the displaced membrane acted as a valve to occlude the subglottic space, a tracheotomy tube was promptly inserted, and afforded immediate and complete relief. The child died about thirty hours after the operation, but without a return of the dyspnoea and without the development of pneumonitis.

E. D. FERGUSON, M.D.

Proceedings of Societies.

NEW YORK COUNTY MEDICAL ASSOCIATION.

Meeting of December 20, 1886.

The President, Dr. CHARLES A. LEALE, in the Chair.

The Pathology of Scarlatinal Nephritis.—Dr. FRANK GRAUER said the subject of his paper was one which had interested the medical profession from both a clinical and pathological point of view, and, although a great deal had been done within the last ten years in the pathology of scarlatinal nephritis, there still existed differences of opinion as to the minute changes which occurred in the various forms of this trouble. The different forms of scarlatinal nephritis which were met with post mortem might be classified, according to Friedlander, as follows: 1. Initial catarrhal nephritis. 2. The large, flabby, hæmorrhagic kidney. 3. Acute glomerulo-nephritis, or nephritis post-scarlatina. Initial catarrhal nephritis was the form met with in the first week of the disease, accompanying the exanthema. Its duration was short, and it rarely led to death. Microscopical examination of the urine showed hyaline and mucous casts, more rarely red and white corpuscles, renal epithelium, and granular casts. The large, flabby, hæmorrhagic kidney was not so frequent as the two other forms. It might occur from the first to the fourth week of the disease. It ran a rapid course. The urine might be normal to within twenty-four or forty-eight hours of death. Edema rarely occurred. It was found especially in cases accompanied by extreme angina and diphtheritic inflammation. The kidneys were

enlarged and softened; the cortical substance was thickened, grayish-red in color, and studded with ecchymoses and hemorrhagic infiltrations. Microscopically, the tubules were found to contain the various forms of casts, red blood-corpuscles, degenerated epithelium, and an increase in the connective tissue characterized by a round-cell infiltration situated mainly around the glomeruli and between the convoluted tubules. The third form was found in the third and fourth weeks of the disease. The patient was apparently convalescing when œdema was noticed about the eyes and lower extremities. The urine contained albumin, was diminished in amount, and had a high specific gravity. It contained red and white blood-corpuscles, renal epithelium, and hyaline, epithelial, blood, and granular casts. As the process increased, the urine became bloody, varying in color from a slight smokiness to a dark red. Fluid accumulated in the abdominal, pleural, and pericardial cavities, and in some cases there was complete suppression of urine, followed by death. Nine cases of glomerulo-nephritis which he had examined in the pathological laboratory of Dr. Carl Friedländer had shown the following changes: The kidneys were enlarged and hyperemic, the cortical substance was slightly thickened, but there was no loss of cortical striae. The glomeruli were pale, prominent, and more or less enlarged. Microscopically, the uriniferous tubules were apparently normal; occasionally in some tubules a slight parenchymatous change was present. The glomeruli were enlarged and bloodless. The capillary loops were dilated and filled with a mass of nuclei, which proved to be the nuclei of proliferated endothelial cells, and not white blood-corpuscles. There were also swelling and proliferation of the glomerular epithelium. Proliferation of the capsular epithelium, as described by Klebs, was not observed, although it occurred in certain forms of scarlatinal nephritis. From these examinations the author thought the conclusion could be drawn that the change was a proliferation and thickening of the endothelial cells, which produced obstruction to the circulation of the blood through the capillaries, and not a compression of the capillaries by proliferation of the glomerular epithelium, as had been supposed. In injected specimens the vasa afferentia were dilated to twice or three times their normal size. The loops of the capillaries were not injected, showing that there was an obstruction in them.

Dr. AUSTIN FLINT said that formerly the opinion had prevailed that the solid constituents of the urine were secreted by the cells of the convoluted tubules, while the glomeruli, or Malpighian bodies, had to do with the transudation of the liquid element. Afterward the view prevailed that the Malpighian bodies participated largely with the cells of the convoluted tubules in the liberation of the excrementitious constituents of the blood. But another change of opinion among physicians, and shared by him, had taken place in favor of the older view. The pathological condition known as glomerulo-nephritis had been only recently recognized, its discovery being due to improved modes in microscopical study. The subject of uræmia, referred to in the paper, was one which had greatly interested him, and one regarding which he had formerly entertained very decided opinions; he was now emphatically of the opinion that his former views would bear revision. Within the past year he had examined the excrementitious matters of the urine to a considerable extent, and sometimes a doubt had risen in his mind as to whether urea was a poison. He thought from some of these recent investigations that probably water as it was produced in the body was an excrementitious substance—an innoxious one—for certainly water in excess in the body did not act as a poison. Recalling some old experiments, it would be seen also that carbonic-acid gas was not in itself a poison, for animals inhaling this gas, and at the same time an increased

amount of oxygen, did not die. It was undoubtedly true, however, that the kidneys were necessary to life, as animals died when both were removed. As to the cause of death, it was attributed to uræmia. He believed that the parenchymatous degenerations observed in so many acute diseases were due very largely to the elevation of the temperature, a point which had not been mentioned in the cases reported; that the direction which the parenchymatous degenerations took was determined, at least in many cases, by the character of the poison which gave rise to the fever. In scarlatinal nephritis there was diminution of the urine, with an increase of its specific gravity, and the quantity of albumin was frequently large. Why was it, he asked, that the cells of the convoluted tubules separated the solid constituents, while the Malpighian bodies failed to pour out water to wash away the solid elements?

Dr. ISAAC E. TAYLOR referred to cases of death within forty-eight hours after the commencement of scarlatina, and queried as to its cause; whether it was a profound impression of the poison upon the nervous system.

After some further remarks by other gentlemen, Dr. GRAUER closed the discussion, and said, with regard to whether, in complete obliteration of the glomeruli, the epithelium of the convoluted tubules could perform the work of the kidneys, that he had examined the kidneys in one case in which there had been complete anuria for twenty-four hours, and found the tufts completely obliterated. Here the epithelium lining the tubules had not been able to do the work. As to Dr. Taylor's question, he said that all the cases with complete suppression of the urine and early death, examined microscopically, showed acute glomerulo-nephritis. Whether in any case a nervous trouble would cause suppression of the urine, he was unable to say. The majority of cases of scarlatinal nephritis ended in recovery, but a few passed on to chronic kidney trouble.

NEW YORK SURGICAL SOCIETY.

Meeting of January 26, 1887.

Dr. ROBERT F. WEIR, Chairman.

(Concluded from page 245.)

Operation for the Relief of Carcinoma of the Rectum.

—Dr. LANGE presented a patient, sixty-five years of age, with paralysis agitans, the result of prolonged submersion in icy water several years before. He had entered the German Hospital in October complaining of difficulty in defecation of four months' standing. On examination, it had been found that he had an adeno-carcinoma of the rectum, and the diseased growth had been removed in the usual manner, four inches of the gut being excised. The wound had healed well. There had been some constriction a short distance from the anus, probably due to contraction of the sphincter tertius. He had had control over his bowels until he reached the closet, but had been unable to have a thorough evacuation, so that he was inclined to have another movement soon after. In this case no attempt had been made to unite the ends of the levatores ani, and the patient had been obliged to wear a supporter. In another patient in whose case this had been attempted, on introducing the finger into the rectum it had been evident that there was some voluntary muscular action. [In connection with the case Dr. Lange exhibited two specimens of cancer of the rectum and one of melanotic sarcoma, the latter, he remarked, being quite rare.]

A New Operation for Prolapsus Ani.—Dr. LANGE related the history of the following case:

"For almost twenty years Mr. P. G. has been suffering from prolapsus recti, with more or less incontinence. It seems that an inflammatory disease of the rectum (probably dysentery), accompanied

with intense tenesmus, was the original cause. He has been operated upon a number of times after the usual methods (cauterization and excision of the mucous membrane), but apparently with only transient and partial relief. After one operation done by my colleague, Dr. Adler, he was improved for several years. Altogether he had undergone five different operations, when, in October last, he was readmitted into the German Hospital. He suffered from incontinence as before. The anal ring was quite relaxed and wide open, and even with slight pressure the rectum was pressed out. The patient assured me that the prolapse was at times worse than ever before, and from Dr. Adler's statement I concluded that formerly the rectum would protrude to the length of fully six inches.

"Not taking into consideration cases of partial prolapse of the rectal wall, we must admit that our methods of treating prolapsus recti do not yield very encouraging results. Once, in pre-antiseptic days, I assisted at the operation of amputating an extensive prolapsed portion after a preliminary operation, the purpose of which was to set up an inflammatory adhesion of the peritoneal layers. The patient died several weeks after from septicæmia. The amputation was done, if I am not mistaken, with the galvano-caustic snare. In our present aseptic era, I believe that such an operation, or a similar one, would be much less dangerous; but the question is, Would the result be lasting? As long as the lower part of the gut is allowed to pass through a widened and relaxed muscular sheath, which is formed by the levator ani and the sphincters, and the lowest portion of the rectum itself remains wide, there is always, I think, a strong probability of recurrence. I therefore, in my method of operating, have tried to meet both indications—to narrow the rectum as high up as possible, and to fix around it a narrowed muscular ring. Anatomical and clinical observation lead me to infer that the levator ani takes an important part in the closure of the rectum. Be kind enough, gentlemen, when the opportunity presents, to place the tip of your finger upon the anus and then try to make that muscular effort by which you prevent the passage of feces. You will find that your anal orifice is not only lifted, but also slightly drawn forward against the perineum. This, I presume, is due to the action of those fibers of the levator ani which, in passing behind the rectum and uniting with those of the opposite side, form a strong muscular arch which in contracting must necessarily exert a pressure against the posterior wall of the gut, and in this way cause closure of the same.

"I operated in the following manner: The patient was fixed on the table in the knee-elbow position, a thick cushion placed between his knees and under the lower part of his thorax and the upper part of his abdomen, giving a sufficient support; his legs were tied to the table, and his head rested sideways on a pillow. I have lately performed almost all my rectal operations with the patient in this position, and I can not recommend it enough. The hemorrhage is decidedly diminished, the parts are all more accessible, and the principal vessels can nearly all be secured before they are divided.

"An incision was carried from the lower part of the sacrum down to the anus until the posterior wall of the rectum is reached. I then removed the coccyx, for two reasons—first, I wished to narrow the gut as high up as possible, and, secondly, I thought that the proposed action of the levator and might thus become less impeded.

"The lumen of the rectum was narrowed in such a way that buried *étage* sutures of iodoform catgut were introduced which did not perforate the entire thickness of the gut, the first row being inserted near the middle line, and forming a fold in the posterior wall, which protruded against the rectum. In this way the more lateral portions of the gut, as far as it could be done without causing too much tension, were brought into apposition. Then the surfaces of the levator ani and sphincter externus, which had been dissected back in order to lay bare the posterior wall of the rectum, and next their cut surfaces, were united by similar sutures. In order to secure a more lasting union, several

buried sutures of silk-worm gut were also inserted into this muscular crest. Finally, a few sutures in the integument were introduced, and the cavity corresponding to the removed coccyx was left open and loosely filled with iodoform gauze.

"The healing process proceeded without any special disturbance. Everywhere the sutured parts united by first intention, and only from that portion of the wound which had been left open did a slight secretion take place. The patient's control over his bowels began to be manifest after the first few weeks, and never after the operation did the prolapse recur. Gradually the muscular closure became more and more energetic, and now, if a finger is inserted into the rectum, a very firm voluntary action of the muscles can be made out. The greater depth of the rima ani is observed, and the fact that it is drawn inward by the action of the levator. I have tried, in a case of extirpation of the rectum for melanotic tumor (I show the specimen), to secure muscular closure by uniting the levator ani. The result is not absolutely perfect, but the patient, a woman of about forty years, has more control over her bowels than these patients usually have. Only about three inches and a half of the gut, including the sphincter, were removed in this case. Of course, in more extensive operations, where the gut can not be sufficiently pulled downward, this plan can not be executed."

Dr. SANDS said that he inferred from Dr. Lange's paper that the operation described was designed for cases in which a considerable amount of prolapse existed.

Dr. LANGE replied that it was.

Dr. SANDS said that several operations had been devised for the cure of ordinary forms of prolapse, among others that of stroking the mucous membrane longitudinally with the cautery. He had known this method to succeed, but he had also seen it fail. It was not safe to produce a very deep eschar, because the peritoneal cavity might be opened. When the prolapse was of moderate extent, it could usually be cured by the ordinary operation for hemorrhoids—*i. e.*, by seizing the mass with forceps, drawing down, and ligating it; the contraction which followed would cure the prolapse. This simple procedure, the speaker added, had been very successful in his hands, and he preferred it to more serious operations. However, in aggravated cases, Dr. Lange's operation would, doubtless, be of benefit.

Dr. LANGE remarked that the operation which he had described was not dangerous if antiseptic precautions were observed. The operator should be careful not to pass his sutures into the lumen of the gut. In operating for cancer of the rectum it was not necessary to introduce the finger into the bowel. The speaker had sometimes encircled the tumor with an elastic ligature, and then removed the growth. By stitching the gut to the skin before the ligature was removed, loss of blood was avoided.

Dr. ABRE asked how long the patient had been under observation since the operation, to which Dr. Lange replied four months.

In reply to questions from Dr. BIRNBOIM, Dr. Lange said that he removed the coccyx in order that the action of the levatores ani might be less impeded; and that both the anterior surfaces and the posterior borders of these muscles were brought together, because otherwise the ring would not be sufficiently narrow.

Dr. ABRE thought that, as none of the rectal tissue had been removed, but the lumen had been simply narrowed, it seemed as if there was nothing to prevent the gut from eventually distending until it reached its former size.

Dr. LANGE called attention to the fact that there were several buried sutures of silk-worm gut which might cause suppuration and subsequent cicatricial contraction of the parts.

Dr. ABBE suggested that the tendency to redistension might be obviated by overlapping instead of simply approximating the divided muscles; it would not impair their contractile power. They would not be so likely to slide apart as they would to pull apart when merely brought in contact. He thought that four months was too short a time in which to judge of the success of a plastic operation.

Dr. LANGE admitted that the future must decide as to the usefulness of the new operation. He promised to observe his cases carefully and to report the results.

Book Notices.

The Principles and Practice of Medicine. By the late CHARLES HILTON FAGGE, M. D., F. R. C. P., Physician to, and Lecturer on Pathology at, Guy's Hospital, etc. Including a Section on Cutaneous Diseases, by P. H. PYE-SMITH, M. D., F. R. C. S., Lecturer on Medicine at Guy's Hospital; Chapters on Cardiac Diseases, by SAMUEL WILKES, M. D., F. R. S., Physician to Guy's Hospital, etc.; and Complete Indexes, by ROBERT EDMUND CARRINGTON, M. D., Assistant Physician to Guy's Hospital, London. Volume II. Philadelphia: P. Blakiston, Son, & Co., 1886. Pp. 883.

THE second volume of the late Dr. Fagge's work opens with an excellent discussion of the functional affections of the heart. The chapters on dilatation and hypertrophy, on pericarditis and on valvular cardiac diseases, while they advance nothing new, are most carefully written, and in the author's agreeable and fascinating style. Then follow chapters on diseases of the alimentary canal, including intestinal entozoa. The author divides peritonitis into four classes: acute, chronic, tubercular, and cancerous. He emphasizes the extreme rarity of idiopathic acute general peritonitis.

Diseases of the liver get their full share of attention. The five pages devoted to functional disorders of the liver, including lithæmia, give one of the best discussions, in a condensed form, that we remember to have seen. The author decidedly favors the use of Pullna, Friedrichshall, and Carlsbad waters in lithæmia, especially the Friedrichshall.

The discussion of jaundice, its significance, causes, and treatment, is very complete and satisfactory. The author constantly shows that thorough familiarity with the literature of all the subjects of which he treats which we referred to in our notice of the first volume.

Dr. Fagge makes frequent reference to the views and labors of Dr. Murchison in connection with diseases of the liver, and pays marked tribute to those views. He even follows Murchison's classification to a great degree.

About one hundred and fifty pages are devoted to diseases of the urinary organs. Some very interesting discussions are given in these chapters. We would especially direct attention to those on albuminuria and its significance, and on functional disorders of the urinary organs, urinary calculi, and gravel. The author tries to make a clear division of Bright's disease, first dividing it into acute and chronic, and the chronic forms into parenchymatous nephritis, lardaceous disease, cirrhosis of the kidney, consecutive Bright's disease (such as follows stricture of the urethra, stone in the bladder, etc.), and cystic disease of the kidney.

The chapters on gout, rheumatism, and allied affections can not fail to be of interest; especially is this true of the one on gout. An English physician has more opportunities of observ-

ing gout in all its manifestations than the physician of almost any other country. It can not be long, however, before the American physician will have as good opportunities.

Dr. Fagge accepts the views of Garrod as to the distinction between a state of lithæmia and one of gout. He discusses the ætiology in a most interesting way, and especially as to food and drink. He inclines to the opinion that an excess of animal food is likely to cause gout, while the saccharine and starchy foods, although not so likely directly to produce gout, yet do produce the hepatic disturbances which increase the liability to gout in those who have the tendency.

He quotes with approval Sydenham's expression of comfort: "Gout kills more rich men than poor, more wise men than simple." Rickets, mollities ostium, and scurvy next receive attention, and there are interesting chapters on the various forms of anæmia.

Dr. Pye-Smith, to whom was left by Dr. Fagge the task of editing the work, has added the remaining chapters, 160 pages, devoted to skin diseases, which to the American reader seems almost out of place in a work on the practice of medicine, yet it adds to the general scope and value of the work.

A general and complete index to both volumes adds great value and usefulness.

One is gratified to find in the two volumes reference to no fewer than thirty American authors. Certainly these two volumes make a complete work on practice, whether as a book of reference or even as a text-book. It is in style worthy of a place second only to the classical work of Sir Thomas Watson.

La goutte; sa nature et son traitement. Par le Dr. W. EBSTEIN, Professeur de médecine et Directeur de la Clinique médicale à l'Université de Goettingue. Traduction du Dr. E. CHAM-BARD, ancien Interne des Hôpitaux de Paris. Introduction du Professeur CHARCOT, membre de l'Institut. Ouvrage orné de 12 chromolithographies. Paris: J. Rothschild, 1887. Pp. xii-198.

LAST September we published a notice of an English translation of a smaller work on gout by Professor Ebstein, in which the author dealt with the regimen to be observed by the subjects of the disease.

We have read this more extensive work, in its excellent translation into French, with great interest. Although at first sight the pathological anatomy seems to occupy too much space, yet on further reading we find the portion devoted to the clinical aspect of gout equally thorough and satisfactory. The experiments carried out by the author with the care so characteristic of him go to show that necrotic changes in the tissues are brought about by the uric acid, with the subsequent production of neutral urates. The practical teaching is that the quantity as well as the quality of the food must be carefully regulated. Aside from the great value of this volume from a scientific standpoint, the beautiful chromo-lithographs in which important facts are portrayed, its substantial binding, and its excellent typographical work call for commendation.

GENERAL LITERARY NOTES.

AMONG recent foreign publications we note the following:

F. ALCAS, Paris.—A. Binet et C. Féré, "Le magnétisme animal." (6 fr.)

J. B. BAILLIÈRE ET FILS, Paris.—J. J. Cornilliac, "Recherches . . . sur l'origine et la propagation de la fièvre jaune dans les Antilles et sur la côte occidentale d'Afrique." (8 fr.) — P. M. Dechaux, "La saignée d'Hippocrate." (3 fr. 50.)

A. DELABAYE & E. LECROSMIER, Paris.—J. Bertier et J. Pouchet, "Traité de médecine légale." (27 fr.) — H. Thulié, "La femme, essai de sociologie physiologique." (7 fr. 50.) — Peugniez, "De

l'hystérie chez les enfants." (4 fr.) — Sarda, "Des migraines." (3 fr. 50.) — H. Saury, "Étude clinique sur la folie héréditaire." (4 fr.)

O. DOIN, Paris.—Chavasse, "Nouveaux éléments de petite chirurgie." (9 fr.)

G. MASSON, Paris.—M. Leven, "La névrose. Étude clinique et thérapeutique. Dyspepsie, anémie, rhumatisme et goutte, obésité, amaigrissement." (6 fr.) — G. Hayem, "Leçons de thérapeutique. Les grandes médications." (8 fr.) — J. J. Peyrot, "Manuel de pathologie externe," vol. iii. (10 fr.)

F. SAVY, Paris.—C. Bouchard, "Leçons sur les auto-intoxications dans les maladies." (8 fr.)

BOOKS AND PAMPHLETS RECEIVED.

Officers and Members of the Medical Society of the State of New York. Also of the County Medical Societies of New York. Part II, "Transactions," 1886.

A Text-book on Surgery: General, Operative, and Mechanical. By John A. Wyeth, M. D., Professor of Surgery in the New York Poly-clinic; Surgeon to Mount Sinai Hospital; Consulting Surgeon to the Yorkville Dispensary and Hospital for Women and Children, etc. New York: D. Appleton & Company, 1887. Pp. viii-777. [Sold by subscription. Price, \$8.]

Follicular Amygdalitis. By A. Jacobi, M. D., President of the New York Academy of Medicine. [Reprinted from the "Medical Record."]

Diseases of Women. A Hand-book for Physicians and Students By Dr. F. Winckel, Professor of Gynecology, and Director of the Royal University Clinic for Women in Munich. Authorized Translation by J. H. Williamson, M. D., Resident Physician, Alleghany General Hospital, Alleghany, Pennsylvania. Under the Supervision and with an Introduction by Theophilus Parvin, M. D., Professor of Obstetrics and Diseases of Women and Children in Jefferson Medical College, Philadelphia. Philadelphia: P. Blakiston, Son, & Co., 1887. Pp. xxix-25 to 674. [Price, \$3.]

The Year-book of Treatment for 1886. A Critical Review for Practitioners of Medicine and Surgery. Philadelphia: Lea Brothers & Co., 1887. Pp. viii-304. [Price, \$1.25.]

A Raiva. Relatoris apresentado a sua Excellencia o Presidente do Conselho de Ministros e Ministro do Reino Conselheiro Jose-Luciano de Castro por Eduardo Abreu. Lisboa: Imprensa Nacional, 1886. Pp. 3 to 301.

Note preventive sull' Antifebbrina pel Prof. G. Cesari e Dott. C. Burani. Modena: G. T. Vincenzi e Nipoti, 1887.

Leçons sur les maladies du système nerveux, faites à la Salpêtrière par J. M. Charcot, Professeur à la Faculté de médecine de Paris, etc. Recueillies et publiées par MM. Babinski, Bernard, Féré, Guinon, Marie et Gilles de la Tourette. Tome troisième (deuxième fascicule). Paris: aux bureaux du "Progrès médical," 1887. Pp. 129 to 518.

Vesical Irritation in Women. By Virgil O. Hardon, M. D., Lecturer on Operative Gynecology, Southern Medical College, Atlanta, Ga. [Reprinted from the "Atlanta Medical and Surgical Journal."]

An Outbreak of Cerebro-spinal Fever. By T. J. MacLagan, M. D., M. R. C. P., Physician in Ordinary to their Royal Highnesses Prince and Princess Christian, of Schleswig-Holstein. [Reprinted from the "Edinburgh Medical Journal."]

A Reference Handbook of the Medical Sciences, embracing the entire Range of Scientific and Practical Medicine and Allied Science. By Various Writers. Illustrated by Chromolithographs and Fine Wood Engravings. Edited by Albert H. Buck, M. D., New York city. Vol. IV. New York: William Wood & Company, 1887. Pp. 816.

Pocket Medical Formulary, arranged Therapeutically. By Alexander Hazard, M. D., and Bernard M. Goldberg, M. D. Revised and enlarged by Abraham S. Gerhard, A. M., M. D., Professor of General Pathology, Medical Jurisprudence, and Clinical Medicine, at the Medico-chirurgical College, Philadelphia, Pa. With an Appendix containing Formulae and Doses of Hypodermic Medication; a Table of Eruptive Fevers; and Poisons, their Symptoms, Antidotes, and Treatment. Pp. xi-333.

The Treatment of Vaginismus. By Thomas More Madden, M. D., F. R. C. S., etc. [Reprinted from the "Dublin Journal of Medical Sciences."]

Reports on the Progress of Medicine.

DISEASES OF CHILDREN.

By L. EMMETT HOLT, M. D.

The Bronchial Catarrh of Children.—Carmichael's views ("Edinburgh Med. Jour.," Oct. and Nov., 1886) on the pathology and symptomatology do not differ essentially from those generally held on this subject. His treatment deserves to be noted, as he speaks from a large experience. Moisture in the air of the room is an important thing, especially in cases of a severe type. This is most easily obtained by hanging wet towels about the bed upon a cord. It has none of the disagreeable features of the steaming by a kettle, and is quite as efficient. Alcoholic stimulants are not to be too readily or too frequently used. They are necessary, generally, only in prolonged and unusually severe cases, the effects being carefully watched. Moderate counter-irritation to the chest should be kept up by stimulating liniments, or by the occasional use of mustard cataplasms. Poultices in general are to be rejected on account of the inherent difficulties connected with their proper preparation and application. Much to be preferred for common use are the oil-silk and cotton-wool jackets. When the cotton is wrung out of warm water before application, the best sort of poultice is obtained. Emetics may be used to empty the tubes under the following circumstances only: A constant, dry cough, deficient secretion, high fever, strong pulse, and deficient action of the skin. The routine use of expectorant mixtures—such as those of squills, ipecac, etc.—is strongly deprecated.

In the early stages, when the temperature is elevated, antimony, apomorphine, or ipecac may be used. Afterward saline expectorants are the most valuable—the alkaline carbonates, citrate of potassium, and iodide of sodium. In the more chronic cases the author gives a high place to turpentine compounds, particularly terebene and eucalyptus. The former may be used with great advantage in acute cases, where the dryness of the mucous membrane and spasm are present. The latter is best used by inhalation.

Amygdalitis and its Relation to Scarlatina and Diphtheria.—R. H. Fox, in the "Lancet" for July 31st, advances a new theory of these diseases. His remarks apply to follicular or "septic" amygdalitis, the suppurative form, or true quinsy, being excluded. It is well known that outbreaks of amygdalitis sometimes occur in connection with insani-tary conditions of drainage and water-supply. The disease then seems to be infectious. Many cases are hard to differentiate from scarlatina and diphtheria. He advances the proposition that scarlatina and diphtheria may be regarded as forms of amygdalitis which have acquired infective characters. They differ from the simple form by having the power of infecting the system generally and producing the phenomenon of a specific disease. The poison probably reaches the system by means of the lymphatic system from the tonsils. In ordinary amygdalitis the poison goes no farther than the gland.

Duration of Infection in Certain Infectious Diseases.—Raven ("Brit. Med. Jour.," July 24, 1886) states in general that a long incubation is followed by a sharp, well-defined illness and by a short period of infection, and, conversely, diseases characterized by a short incubation have a long period of infection. Measles has a long incubation and short period of infection, usually only three weeks, though this may last during the persistence of the catarrh—a fact often overlooked. Scarlet fever has the shortest incubation. A case is mentioned and well authenticated where the disease began almost immediately upon exposure. Infection may be prolonged almost indefinitely. It may arise from late desquamation, from the discharge from the ears or nostrils, or even from the urine in cases of nephritis. Diphtheria has usually a mild infective power, and of short duration; in exceptional instances this may be prolonged. A case is related where, after "many weeks," the disease was conveyed, only diphtheritic paralysis remaining.

Infant Feeding; the Early Use of Farinaceous Foods with Milk.—Thurstan ("Lancet," Sept. 10th) believes the objections to the use of these substances in young infants are more theoretical than real. They should be used with cows' milk, and are superior to all other substances—lime water, barley gruel, etc.—for preventing the coagulation of the

milk in firm curds. This is the chief end they subserve, and it does not matter much which one is used. A case of a premature child is cited, which began to gain immediately upon this plan being followed out, where the usual regulation dietetic rules had signally failed, and it was wasting steadily.

The Frequency of Tuberculosis and its Principal Localization in Infancy.—W. Froebeli (Jahrb. f. Kinderheilk., 1886, Bd. xxiv, H. 1 and 2) states that among 18,569 deaths under four months occurring in the Foundling Asylum of St. Petersburg between 1874 and 1883, 416, or about four tenths per cent., were from tuberculosis. The writer concludes that it is not so large a factor in infant mortality as is generally held. Sixty-five per cent. of these cases were in well-nourished infants. The lungs were found affected in every case, the bronchial glands in 99.2 per cent., the liver in 88 per cent., spleen in 86.5 per cent., intestine in 26.9 per cent., meninges in 24.5 per cent., kidney in 22.6 per cent., mesenteric glands in 16.1 per cent., heart and pericardium in 3.4 per cent., pleura in 4.5 per cent., upper respiratory passages in 2.4 per cent. This is held to show that tuberculosis by inhalation is more frequent than tuberculosis by alimentation. Among the pulmonary lesions, caseous pneumonia was found in 34.8 per cent., peribronchitis and pneumonia in 46 per cent., cavities in 7 per cent., and miliary tuberculosis without other pulmonary changes in 12 per cent.

Constipation in Childhood, and its Sequel, Atony and Distension of the Colon.—W. B. Cheadle, M. D. ("Lancet," Dec. 4 and 11, 1886), says that the factors concerned in its production are: 1. Deficient fluid in the intestine from deficient supply in the food, or insufficient secretion. 2. Deficient peristalsis, especially in the large intestine, from defects in diet, over-stimulation by drugs, or atony. 3. Inhibitory influences of the brain and cord affecting both 1 and 2. 4. Insufficient exercise. 5. Dilatation of the intestine.

In children the important influences are food leaving but little residue—*e. g.*, milk, the fecal matter being too small to excite peristalsis. The faces may be too dry when not enough water is allowed. Uniformity in food is likewise unfavorable. Deficient biliary secretion and intestinal secretion cause unstimulating or dry faces. Over-stimulation may come from coarse foods by the too frequent use of drugs or enemata. The dread of an evacuation from the pain produced by it is frequently an important factor. Where constipation has long existed, the indications are to clean out the intestine by a brisk purge, like calomel and jalap, and then secure a daily movement by some unstimulant aperient. Those recommended are carbonate of magnesium, a mixture of strychnine, iron, and sulphate of magnesium, or strychnine, belladonna, and sulphates of magnesium and sodium, in all cases the dose being gradually reduced. In the second lecture are reported several exceedingly interesting cases of long-standing constipation, in which atony and great dilatation of the colon resulted. In one case this was so extreme that the abdomen, in a delicate boy of five, measured twenty-two inches and three fourths in circumference. Tympanic resonance extended to the nipple line. The apex of the heart was crowded up to the nipple. There were dyspnoea, impeded circulation, and great prostration; puncture of the colon with a fine trocar was then made and an immense quantity of gas drawn off. Under the use of abdominal bandages, strychnine, belladonna, and a mixture of the sulphates of sodium and magnesium, recovery finally took place. The condition had been brought about by the use of larger and larger enemata, which had been continued for months, together with the administration of stronger purgatives by the mouth. In conclusion, the writer advises the salines as the most valuable in treating constipation in children. Carbonate of magnesium, gr. x-xx in milk, for infants; the mixture of the sulphates of magnesium and sodium to older children, with massage and iron, strychnine, and belladonna, whenever atony occurs, as it does in almost all cases of long standing.

Intussusception treated with Inflation and Massage.—Cheadle ("Lancet," Oct., 1886, p. 766) reports three successful cases. A boy of five months began on July 4th to have constipation and vomiting; the bowels were moved on the 8th by magnesia, and again on the 10th by some other cathartic. On the 11th screaming pains began, with persistent vomiting and great restlessness. On the next day he passed blood and was then admitted to the hospital. The characteristic sausage-shaped tumor was present in the umbilical region and extended toward

the left side. The rectum was empty. A small quantity of water only could be injected, so that air was substituted, retained by pressing the anal folds tightly together over the tube. The abdomen was kneaded gently at the same time. In a few minutes the tumor was gone. It recurred in the right hypochondriac region a few hours later; the injection of air and massage were repeated under chloroform and the tumor rapidly disappeared. Four hours later a natural movement from the bowels occurred, and the patient made a complete recovery. Two other similar cases are reported with equally good results. Elliott ("Lancet," Jan. 8, 1887) adds another case which was finally cured, although two relapses occurred on the fifth and twenty-fifth days respectively. The same method was employed as by Cheadle.

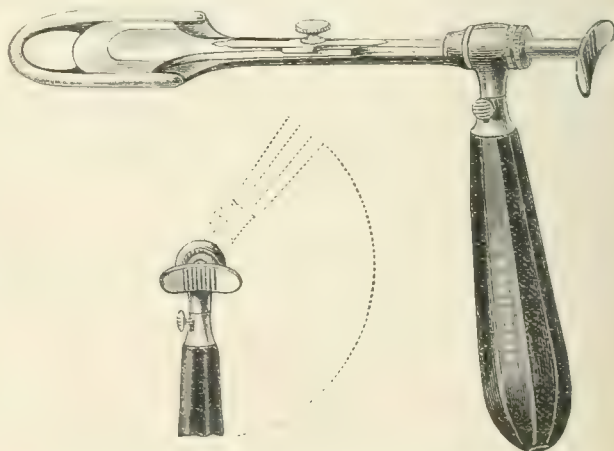
Duration of the Infectious Period of Scarlatina.—Ashby ("Brit. Med. Journal," Oct. 30, 1886) states that the rule adopted at the Manchester Fever Hospital is discharge at the end of six weeks in uncomplicated cases. Yet statistics, collected as carefully as was possible from the nature of the cases, showed that from 2 to 4 per cent. of the patients have given the disease even after this time. He summarized his experience as follows: 1. If desquamation is complete, patients may be discharged at the end of the sixth week, though, to secure absolute immunity, it is wiser to delay this until the eighth week. 2. In complicated cases, such as those with otitis, empyema, nephritis, and glandular abscesses, the patients should be considered as likely to convey the disease until these are cured. 3. While it is important that desquamation should be as complete as possible, should this continue beyond the eighth week upon the palms and soles, further detention in the hospital is unnecessary.

New Inventions, etc.

A NEW REVERSIBLE AMYGDALOTOME.

BY F. A. MANDEVILLE, M. D.,
ROCHESTER, N. Y.

SEVERAL years ago Mackenzie devised a modification of Physick's amygdalotome, which allowed the handle to be applied to either side of the shank, thus enabling the operator to use the instrument with the right hand for the removal of either tonsil. In the endeavor to still further improve upon this instrument, I have devised an amygdalotome which can be reversed more easily and much quicker than Mackenzie's, without the necessity of unscrewing the handle. As time is an important item in some cases, especially with children, when it is necessary to amputate both tonsils, it is desirable to reverse the instrument as quickly as possible, and complete the operation while the patient is under control.



As will be seen by the accompanying cuts, the handle is attached to the instrument so that it will revolve around it, a spring bolt stopping it at the desired point. This bolt is controlled by the thumb of the operator drawing a slide, which is placed in the shank of the handle. The smaller cut shows the operation of the handle, as well as its relative position, when adjusted for either the right or left side. An-

other point: when the instrument is reversed from the right tonsil, the handle is dropped a little below the level of the mouth, so that the hand of the operator will not interfere either with the illumination or with a view of the throat.

Miscellany.

The Electrolytic Destruction of Hairs.—The Paris correspondent of the "Journal of Cutaneous and Venereal Diseases" writes: "During the past few months I have been experimenting in Paris with the methods which the American dermatologists employ to destroy hairs growing upon regions where they should not exist. In June last I communicated my first results to the *Société méd. des hôp. de Paris*. I operate with very fine platinum needles, soldered to little metal cylinders, which make it easy, held between the thumb and index, to move in any direction. So as to know the depth to which the needle has penetrated, I place, at five millimetres from the point, a mark with sealing-wax. I have also had some platinum needles with a metallic index at this point. The patient constantly holds in his hand a cylinder, covered with chamois skin, attached to the positive pole. The needle attached to the opposite pole is introduced along the course of the hair down to its bulb, and the follicle is, so to speak, catheterized. An assistant now slowly turns on a current of from eight to ten millampères, which I usually find sufficient. In operating in this way, the patient does not suffer from the painful shocks of the current, and the pain seems to be less severe. I pass over the thousand details of the operation, on which it is not necessary to dwell, since it is especially in America that this method has been studied. The results which I have obtained have been quite satisfactory. It is incontestable that in this way the hairs can be destroyed, and, indeed, without leaving cicatrices to any appreciable extent, especially if care is taken not to operate at any sitting upon hairs which are close together. The inconveniences of the method consist especially in the multiplicity of operations necessary, for we can scarcely destroy more than from forty to fifty hairs at a sitting; in the intense pain which certain patients suffer, but which can, up to a certain point, be modified by interstitial injections of cocaine; and, finally, in the slight deformity which the inflammatory action causes, an inevitable result of the destruction of the bulb."

The New York Academy of Medicine.—At the meeting of the Section in Neurology, on Friday evening, the 11th inst., Dr. Edward D. Fisher will read a paper on "Headache; its Varieties and Treatment."

At the meeting of the Section in Surgery, on Monday evening, the 14th inst., Dr. J. A. Wyeth will read on "Exsection of a Portion of the Small Intestine, with reunion of the Divided Ends."

At the meeting of the Section in Theory and Practice of Medicine, on Tuesday evening, the 15th inst., Dr. C. E. Billington will read on "Local Treatment in Diphtheria."

The Section in Orthopedic Surgery will meet on Friday evening, the 18th inst. The order of business is to be announced.

The Health of Boston.—During the week ending Saturday, February 26th, there were reported to the Board of Health 23 cases of diphtheria and 6 deaths; 25 cases of scarlet fever and no deaths; 62 cases of measles and 1 death. There were also 27 deaths from consumption, 14 from pneumonia, 10 from heart disease, 12 from bronchitis, and 5 from marasmus. The total number of deaths was 157, against 136 in the corresponding week last year.

The Health of San Francisco.—According to the Health Department's "Condensed Statement of Mortality" for the month of January, the whole number of deaths was 522, including 1 from cholera infantum, 49 from croup and diphtheria, 1 from dysentery, 1 from erysipelas, 13 from typhoid fever, 5 from pyæmia and septicæmia, 1 from syphilis, and 1 from scarlet fever.

Health Reports from Abroad.—By direction of the Secretary of the Treasury, Dr. John B. Hamilton, Surgeon-General of the Marine-Hos-

pital Service, has issued the following abstract of sanitary reports received from foreign countries during the week ending February 24th:

England and Wales.—The deaths registered in twenty-eight great towns of England and Wales during the week ending February 5, 1887, corresponded to an annual death rate of 19.6 in a thousand of aggregate population, which is estimated at 9,245,099. The lowest death rate was recorded in Nottingham, viz., 13.5, and the highest in Plymouth, viz., 28.4 in a thousand.

London.—One thousand four hundred and eighty-five deaths were registered during the week ending February 5th, including 48 from measles, 11 from scarlet fever, 16 from diphtheria, 40 from whooping-cough, 1 from typhus fever, 14 from enteric fever, and 12 from diarrhoea and dysentery. There were 364 deaths from diseases of the respiratory organs. Different forms of violence caused 54 deaths, and 5 suicides were registered. In greater London, 1,817 deaths were registered, corresponding to an annual rate of 17.5 in a thousand of population.

Ireland.—The average annual death rate represented by the deaths registered during the week ending February 5th, in the sixteen principal town districts of Ireland, was 26.4 in a thousand of population. The lowest rate was recorded in Lisburne, viz., 9.7 in a thousand, and the highest in Cork, viz., 34.1 in a thousand.

Dublin.—Two hundred and one deaths were registered during the week ending February 5th, including 15 from zymotic diseases. In thirty-two instances the cause of death was uncertified, there having been no medical attendant during the last illness. The deaths from all causes corresponded to an annual rate of 28.8 in a thousand.

Scotland.—The death rate in eight principal towns during the week ending January 29th was 24.7 in a thousand of estimated population. The lowest mortality was recorded in Perth, viz., 14.6, and the highest in Paisley, viz., 30.8 in a thousand. The death rate during the week ending February 5th was 19.8 in a thousand. The lowest mortality was recorded in Leith, viz., 12.2 in a thousand, and the highest in Glasgow, viz., 23.7 in a thousand.

Germany.—The deaths registered in fifty-two cities of Germany, having an aggregate population of 6,763,843, during the week ending January 22d, corresponded to an annual death rate of 23.4 in a thousand. The lowest rate was recorded in Mannheim, viz., 19.6 in a thousand, and the highest in Altona, viz., 42.4 in a thousand.

Netherlands.—The deaths registered in twelve cities of the Netherlands, having an aggregate population of 1,080,895, during the month of December, corresponded to an annual death rate of 24.7 in a thousand. The lowest death rate was recorded in Leeuwarden, viz., 15.2 in a thousand, and the highest in Dordrecht, viz., 29.5 in a thousand.

Calcutta.—Two hundred and forty-six deaths were registered during the week ending January 1st, including 31 from cholera, 79 from fevers, 34 from bowel complaints, and 27 from tetanus.

Guayaquil.—Seventy-two deaths were registered during the week ending January 28th, including 22 from yellow fever, 9 from small-pox, and 13 from enteric fever.

Pana.—Forty-two deaths were registered during the week ending January 31st, including 3 from yellow fever.

Havana.—The United States Sanitary Inspector reports 3 deaths from yellow fever during the week ending February 17th.

Kingsston, Jamaica.—One hundred and forty-four deaths were registered during the month of January, including 34 from small-pox.

Paris.—One thousand one hundred and sixty-eight deaths were registered during the week ending February 5th, including 2 from small-pox, 12 from measles, 13 from whooping-cough, 16 from enteric fever, 4 from scarlet fever, and 34 from diphtheria.

Rhems.—Fifty-six deaths were registered during the week ending February 5th, including 1 from small-pox, 2 from whooping-cough, and 1 from diphtheria.

Genoa.—Fourteen cases of small-pox were registered during the week ending February 5th, and 1 death from that disease.

Rome.—One hundred and twenty-six deaths were registered during the week ending December 25th, including 6 from small-pox, 3 from enteric fever, and 6 from diphtheria.

Leghorn.—Two cases of small-pox were registered during the week ending February 6th, but no deaths.

Trieste.—One hundred and seventeen deaths were registered during the week ending January 29th, including 3 from diphtheria. One case of small-pox was reported.

Warsaw.—Two hundred and thirty-two deaths were registered during the week ending January 29th, including 6 from small-pox.

Bordeaux.—One hundred and seventy-one deaths were registered during the week ending February 5th, including 2 from enteric fever.

Edinburgh.—Ninety-three deaths were registered during the week ending January 29th, including 2 from diphtheria, 1 from measles, and 1 from whooping-cough.

Amsterdam.—One hundred and sixty-four deaths were registered during the week ending February 5th, including 3 from typhus fever, 3 from scarlet fever, and 3 from diphtheria.

Leipzig.—Sixty-seven deaths were registered during the week ending February 5th, including 3 from scarlet fever and 1 from diphtheria.

Queensdown.—Five deaths were registered during the week ending February 12th, including 1 from typhus fever and 1 from enteric fever.

Bristol.—Eighty-four deaths were registered during the week ending February 5th, including 4 from scarlet fever and 1 from diphtheria.

Belfast.—Ninety-nine deaths were registered during the week ending February 5th, including 1 from typhus fever, 2 from enteric fever, and 1 from scarlet fever.

Glasgow.—Two hundred and thirty-nine deaths were registered during the week ending February 5th, including 5 from enteric fever, 3 from scarlet fever, 4 from diphtheria, and 17 from whooping-cough.

Calcutta.—Sixty-seven deaths were registered during the week ending January 29th. Diseases of the throat and measles prevailed.

MORTALITY TABLE, FOREIGN CITIES.

CITIES.	Estimated population.	Week ending	Total deaths from all causes.	Annual rate of mortality in 1,000.
Calcutta.....	433,219	January 1.	246	29.6
Guayaquil.....	35,000	January 28.	72	107.2
Para.....	30,000	January 31.	42	73.0
Paris.....	2,269,945	February 5.	1,160	26.7
Rheims.....	98,083	February 5.	56	29.7
Rome.....	355,026	December 25.	126	18.5
Leghorn.....	101,172	February 6.	57	29.3
Trieste.....	150,157	January 29.	117	40.6
Warsaw.....	431,572	January 29.	232	28.0
Bordeaux.....	240,582	February 5.	171	37.0
Vera Cruz.....	23,800	February 10.	19	41.6
Edinburgh.....	258,629	January 29.	93	18.7
Amsterdam.....	378,969	February 5.	164	22.5
Rotterdam.....	190,521	February 5.	97	26.5
Leipzig.....	170,000	February 5.	67	20.5
Bristol.....	223,695	February 5.	84	19.5
Belfast.....	224,422	February 5.	99	23.0
Glasgow.....	545,678	February 5.	239	22.8
Cádiz.....	65,028	January 29.	67	53.7
Leith.....	72,297	January 29.	33	23.7
Frankfort.....	155,000	January 29.	46	15.4
Mannheim.....	65,000	January 22.	18	14.4
Bremen.....	119,000	January 29.	58	25.4
Antigua.....	15,847	February 6.	14	46.0
Gibraltar.....	23,731	January 30.	10	21.9
Pernambuco.....	111,000	January 19.	62	29.1
Toronto.....	120,000	February 12.	27	11.7
Matanzas.....	12,000	February 5.	10	43.4
Stuttgart.....	125,510	February 5.	44	18.2
Havre.....	112,074	February 5.	52	24.1
St. Thomas.....	15,000	January 28.	6	20.8

The Sixth German Medical Congress (*Congress für innere Medizin*) will be held in Wiesbaden, on the 13th, 14th, 15th, and 16th of April, under the presidency of Dr. Leyden, of Berlin. Dr. Dettweiler, of Falkenstein, and Dr. Penzoldt, of Erlangen, will report on "The Treatment of Phthisis"; Dr. Nothnagel, of Vienna, and Dr. Naunyn, of Königsberg, on "The Localization of Brain Diseases"; and Dr. A. Vogel, of Munich, and Dr. Hagenbach, of Basel, on "The Pathology and Treatment of Whooping-cough." In addition, the following papers are announced: "Pernicious Anæmia," by Dr. Lichtheim, of Bern; "The Pathological Anatomy of Tabes Dorsalis," by Dr. Rindfleisch, of Würzburg; "Experimental Epilepsy," by Dr. Unverricht, of Jena; and

"The Physiological Significance of Wandering Leucocytes proceeding from the Tonsils and the Sebaceous Glands of the Tongue," "Chyluria," and "A Respiratory Chair for Emphysematous and Asthmatic Subjects," by Dr. Rossbach, of Jena. The secretary of the Congress is Dr. Emil Pfeiffer, of Wiesbaden.

In the Pharmacy.—Mr. Oppendorf: "Rachel, haf ve got mooch of dot gholera migscher auf der sheluf?" Mrs. O.: "Yaw, Isaac, dere is two grosses of bottles of der migscher." Mr. O.: "Vell, send Schakey out for a parrel of green apples, und ve vill gif dem away to der small poy's der neiporhooht in. Hast du gesehen? Ve must dot peeziness poom alretty."—*British and Colonial Druggist*.

THERAPEUTICAL NOTES.

Phosphates in the Treatment of Typhoid Fever.—Dr. William W. Reese, of Brooklyn, writes to us of his satisfactory experience for some months past in the treatment of typhoid fever with the phosphates, particularly those of calcium, iron, and sodium. After slight mercurial and saline purging, he uses these salts together with the cinchona alkalis and some aromatics. He especially commends a preparation of these phosphates made by Dr. T. B. Wheeler, of Montreal, known as "compound elixir of phosphates and calisaya." He has seen no untoward effects from its use, and his impression has been that the patients to whom it was given were less liable than others to delirium, serious diarrhœa, hæmorrhage, and certain other unfavorable manifestations of the disease. He usually repeats the purgation every week, thinking it important to prevent the accumulation of foul secretions in the intestine.

Cannabis Indica in the Treatment of Dysentery.—Staff Surgeon S. J. Rennie, of Cawnpore ("Indian Med. Gaz.," Dec., 1886), publishes brief histories of four cases of dysentery, acute, subacute, and chronic, treated successfully with tincture of cannabis. He prescribes it according to the following formula:

Tincture of cannabis..... 15 minims;
Bismuth subcarbonate..... 5 grains;
Mucilage of gum arabic..... 30 minims.

Mix and add:

Tincture of ginger,
Compound tincture of cardamom, } each.... 20 minims;
Spirit of chloroform,
Cinnamon water..... to 1 oz.

This quantity to be taken after each meal. The administration requires to be kept up for several days after all symptoms have ceased.

Guaiaicum as an Emmenagogue.—Sir James Sawyer ("Birmingham Med. Rev.," Jan., 1887; "Med. Chron.," Feb., 1887) states that his observation has led him to regard guaiaicum as an efficient remedy in a large proportion of cases of amenorrhœa, especially where there is no obvious spanæmia to account for the defect of menstruation. He gives ten grains of the powder, in a wineglassful of milk, every morning, before breakfast. It occasionally causes a little abdominal pain and purging, but may be given for some weeks with safety.

Apomorphine as an Ocular Anæsthetic.—Dr. Stocquart ("Jour. de sci. méd. de Lille," Jan. 14, 1887; "Lyon méd.," Feb. 13, 1887) has repeated Bergmeister and Ludwig's experiments with apomorphine hydrochloride, and has found that from six to twelve drops of a one-per-cent. solution produce an anæsthesia of the conjunctiva closely resembling that effected with cocaine and lasting from five to ten minutes. It is accompanied with dilatation of the pupil, slight nausea, and then dryness of the conjunctiva.

Liquid Vaseline for Subcutaneous Injections.—At a recent meeting of the Paris *Société de thérapeutique* ("Prog. méd.," Feb. 12, 1887), M. Dujardin-Beaumetz referred to the irritating character of many substances which it would otherwise be advantageous to use subcutaneously, and stated that liquid vaseline (*huile de Bakoek*) had been found by M. Meunier to be an excellent solvent for many such substances, while it overcame their acidity—even that of carbon sulphide—and was itself innocuous.

Lady Students in Paris.—"Lyon médical" states that there are 108 ladies studying medicine in Paris this winter, 83 of whom are Russians, 7 French, 3 American, 2 Austrian, 1 Roumanian, and 1 Turkish.

Original Communications.

A HOSPITAL EXPERIENCE;
OR, FOUR MONTHS' OPERATIVE WORK AT THE
NEW YORK HOSPITAL.*

By ROBERT F. WEIR, M. D.,

ATTENDING SURGEON TO THE NEW YORK HOSPITAL, PROFESSOR OF CLINICAL
SURGERY IN THE COLLEGE OF PHYSICIANS AND SURGEONS, NEW YORK.

It is with some hesitation that a surgical paper in this form is now brought before the members of this society, but it is believed that, beside the details of interesting and important operations which are here presented, the opportunity that is thus afforded of making short comments on both major and minor points in surgical practice may be productive of value, if not in the paper itself, at least in the precedent that may be established. Personally I feel that much which is hardly worthy of a separate paper must be continually developing in the practice of my hospital *confrères* that I should be glad to hear about. The city is so large and time so valuable that we have but little chance of visiting one another's wards, and, unless some specified mooted topics are deliberately announced for discussion and comment, I do not know how better such can be considered, or the experience of our hospitals grouped, than in the way I have this evening ventured upon. It is easy, also, for me to see that this can be done in a much more satisfactory manner than is now attempted, and time will quickly prove this should my example be justified by an imitation.

It is known, I think, to all the members of this society that the majority of our hospitals are conducted upon what myself and others consider the erroneous plan of allotting to each of the attending surgeons terms of service ranging from two to six months, depending upon the number of surgeons connected with the hospital. Lately an improvement has been made in several of the hospitals, of which the New York Hospital is one, by which the term has been increased to an average of six to eight months. It is anticipated that in a short time a further beneficial change to a continued service (such as is resorted to as a rule in England and on the Continent) will be fully established. The foregoing remarks are intended to be explanatory of the statement that my last assignment to service has extended from August 1, 1886, to February 1, 1887, but, by reason of my absence from the city, it has only embraced a period of four months, beginning October 7, 1886. From that time until the present, having under my charge wards comprising 55 beds, I have had out of 339 cases of all kinds 105 operations to perform, a large number of which were of importance. Of these there were 19 on the head and neck, 53 on the trunk (of which 23 were on the genito-urinary apparatus), and 33 on the extremities. This is a division which, while not strictly scientific, allows of ready grouping of cases, and it is on this account adopted.

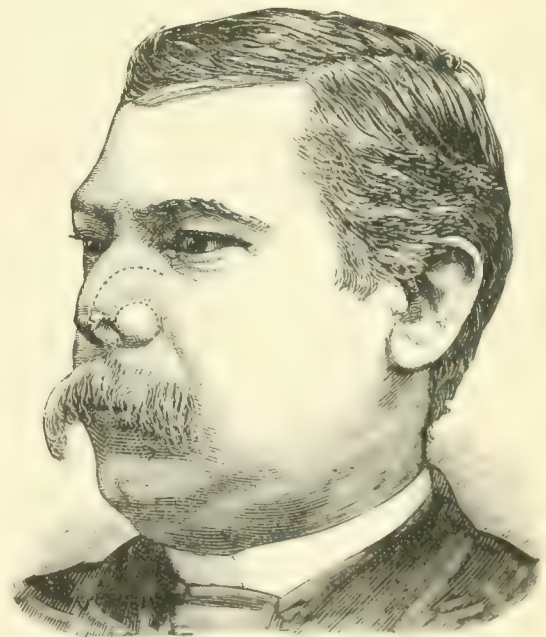
THE OPERATIONS ON THE HEAD AND NECK were principally as follows: Two were done for the relief of deformity

of the nose, which are well shown in the accompanying casts. The points in each case are worthy of brief mention:

Deformity of the Nose from a Fall.—C. F. P., aged nineteen, was admitted January 4, 1887, with the history that fifteen years before he fell into an area, a distance of seven feet, striking on his nose, and flattening it by apparently crushing in the cartilaginous septum. The nose is now increased in breadth at the lower part and is sunken in, and the bony plate of the nasal process of the maxillary bone is unduly prominent, as is seen in the cast. The septum is much thickened for half an inch below the skin, but is not deviated. On January 7th Dr. Weir, with a fine wood-engraver's chisel, cut through the nasal processes from without and forced them inward and toward each other, holding them *in situ* by a needle passed transversely across the nose, the ends being prevented from pressing against the skin by pads of iodoform gauze. At the tip of the nose from within the nares the thick skin was separated from the cartilage for a considerable distance by subcutaneous dissection, and was pulled forward and held in place by a silver wire clamped at each end with a shot over little cork plates, so that the broad freshened under surfaces of the skin should be brought together.

The upper pin was removed on the fourth day, as some sloughing was apprehended on account of pressure; this was immediately relieved. The lower wire was kept *in situ* for twenty-four hours longer, no ulceration having occurred under the cork pads. Lateral compresses were retained for a few days longer. The result was excellent in this case, as will be seen by the patient himself, who is submitted for inspection.

The second patient had the end of his *nose bitten off* in a fight; the operation consisted in replacing the parts lost (see wood-cut). It is best shown in the accompanying cast, on



which the outline of the flaps made for closing the defect is also represented. The result was fully satisfactory, though it was subsequently necessary to utilize a portion of the columna in order to fill up a slight gap in the edge of the nostril.

Besides the operations on the external nares, there were two others of more importance. One was for a *peculiar bony tumor of the nose*, met with in a young woman of twenty-two,

* Read before the New York Surgical Society, February 9, 1887.

who had had since her tenth year difficulty in breathing through the right nostril, which had lately increased, and which has been associated with hemicrania on the corresponding side. At the orifice of the nostril is seen a fleshy growth, beneath which is a firm, bony mass. Nothing could be passed into the nose by the side of it. Although no swelling of the cheek existed, it was determined at the operation, after the exposure of the bone by the usual incision carried from the middle of the lip around the nose, to open the antrum in order to see if the growth invaded that cavity. This was done with a small gouge, and it was found to be free from disease. The bony growth, which apparently consisted of the greatly hypertrophied inferior turbinate bone, was removed with a forceps, and the operation was thought to be completed; but it was noticed that the blood which collected in the nose did not run down the throat, and this was found to be due to the fact that the posterior portion of the bone shut off the posterior nares, only permitting a fine probe to be passed into the naso-pharynx. This part of the bone was thereupon removed, when the passage was found to be quite clear. The patient has since been free from all unpleasant symptoms, except the annoyance due to collections of mucopurulent crusts.

The remaining nasal case was one of *fibro-sarcoma of the nose, removed by Chassaignac's operation; recurrence in the brain*. The patient, a man aged forty-two, had been troubled for over a year with a stuffy feeling in the right nostril, associated with hæmorrhage. Two months before his entrance into the hospital a tumor appeared in the right naris, and an unsuccessful attempt was made to remove it by means of the snare. On his entering the hospital, his nose was examined by means of the rhinoscope, and the naso-pharynx was found to be free from disease, the posterior limit of the growth reaching not quite to the posterior nares. An attempt was made to remove it by cutting across the nose at its attachment, on a level with the eyes, and sawing through the nasal bones, carrying the cut downward on the right side of the nose along the labio-nasal junction to the left ala. This allowed the whole nose to be tilted to the left side, and gave free access to the entire tumor. After removal of a quantity of a soft growth by means of the curette and wire loop, it was found that the neoplasm extended so far into the ethmoidal and sphenoidal cells that it would be unsafe to follow it farther. The cavity was packed with iodoform gauze, and the patient made a speedy recovery, leaving the hospital two weeks later much relieved. Six weeks after, he began to have slight divergent strabismus and amblyopia in the right eye; soon there was total loss of vision in this eye, and the other eye also began to be affected, showing plainly that the neoplasm had extended to the brain, or at least beyond the cranium. By the aid of the rhinoscope its recurrence in the nose could also be perceived.

Irrespective of the cerebral extension, it would have been better in this case to do the usual partial resection of the jaw, according to Maisonneuve's suggestion, as this would not only have allowed a more thorough extirpation of the growth, but would have enabled one to detect and to treat early any recurrence.

In addition to the foregoing operations on the face, there were one for necrosis of the upper and one of the lower jaw, one for hare-lip, closed by Mirault's method, and one for the removal of an extensive mushroom epitheliomatous growth, four inches in diameter, on the side of the face in an old man of seventy-three, the operation being performed for the arrest of hæmorrhage, which was becoming profuse and frequent. The growth contained

scattered epithelial cells. [This specimen and a photograph of the patient were shown.]

Another operation was performed for the removal of epithelioma involving the entire lower lip, a V-shaped incision being made, and a new lip formed, after Burow's method. The interesting point in this case lay in the fact that, although the clinical appearances of epithelioma were typical, neither the mass removed nor an enlarged gland (extirpated from beneath the right side of the jaw) showed any microscopical evidences of epithelioma until more than thirty slides had been examined by the pathologist. This may serve as a lesson not to trust too much to the microscope in cases of small sections of suspicious growths, especially those of the mouth, tongue, and similar localities. There was one operation for the relief of neuralgia of the inferior dental nerve, the details of which are as follows:

Intra-buccal division of the inferior maxillary nerve was done for severe neuralgia, affecting the right side of the face, but principally the lower teeth, and associated with flashes of pain along the course of the auriculo-temporal nerve. This had existed at intervals for over three years, but during the past ten months the pain had been more or less continuous. All the usual internal and local treatment—such as with quinine, arsenic, aconitine, morphine, electricity, etc.—had been tried, but without giving relief. On October 11, 1886, the patient was etherized, and, his mouth being held open by a gag, an incision was made, extending from the upper to the lower jaw, along the inner edge of the latter. The spine of Spix was exposed, and the nerve was seized with a strong, slender forceps at the point at which it enters the dental canal, and divided with scissors above and below the forceps. The small mass removed, however, did not plainly show nerve-tissue, whereupon a blunt hook with a short curve was introduced two or three times, until finally it was passed well back and drawn forward, when it seized a cord which was supposed to be the nerve. This was divided with scissors, when quite a severe hæmorrhage took place, which could only be controlled by rapidly packing the wound with iodoform gauze. The hæmorrhage recurred the same evening, several ounces more being lost, but it was checked by additional compression, the jaws being firmly bound together so as to force the compress against the wound. The gauze was removed from the wound piecemeal, the last being taken away by the tenth day. The patient has been free from pain from the time of the operation up to February 1st, when she was last heard from, and has gained greatly in flesh.

Whether the hæmorrhage came from the inferior dental artery or, as I feared at first, from the internal maxillary, I can not positively determine, but, since I have heard of a similar mishap in an operation conducted in a much simpler manner than mine, I am led to think that it arose from the former vessel. I have performed this operation now three times. In the first case it was readily completed by the removal of a small portion of the nerve, grasped by the slender forceps which were used, and the success was permanent. In the second a good deal of difficulty was encountered, and, although the nerve was finally divided, the pain recurred after an interval of three months.

Of the surgery of the brain, two interesting examples can be given, the first being

A case of *cerebral abscess* following an old injury. The patient in 1880 received an injury of the left frontal region, just

above the eyebrow, by his gun exploding and lodging its breech-pin in his brain. When it was extracted at the hospital, the anterior clinoid process of that side could be felt by the finger. A number of bone-fragments were removed, together with some brain-substance. No cerebral symptoms followed until four months later, when occasional epileptic fits appeared; but none have occurred during the last two years. Last summer he had a painful pulsating swelling over the site of the old injury, which passed away under treatment with large doses of iodide of potassium and local blistering. About ten days ago he began to have much pain and headache on the left side of the head, over the brow. When sent to the hospital by Dr. Seguin, on November 7, 1886, there was some œdema of the left upper lid and great sensitiveness over the region of the old cicatrix, and there was a feeling of deep fluctuation. There was no paralysis of motion or sensation. Under ether a V-shaped incision was made, the old scar being raised, when an opening in the skull of the size of the thumb-nail was exposed; this was filled by a dense membrane, which pulsated visibly. A puncture with a hypodermic needle revealed the presence of pus, whereupon the membrane was incised and nearly two teaspoonfuls of pus were evacuated. The abscess-cavity extended nearly an inch beyond the level of the skull. It was at first thought that it might be the original frontal sinus, but its depth and the evident pulsation showed that it was within the cranial cavity, although shut off from the brain by a thick layer of inflammatory material. It was packed from the bottom with iodoform gauze.

During the evacuation of the pus the patient's respiration wholly ceased, and only by practicing artificial respiration, lowering the head, and administering whisky hypodermically, could it be started again. It was a question whether this was due to the ether, to the interference with the brain, or to both factors.*

[The patient was presented.]

The second case was an unsuccessful attempt at removal of a sarcomatous tumor from the brain. Spurred by the brilliant, though unsuccessful, result of operative interference in cranial growths at the hands of Godlee in 1884,† whose case was followed by another reported by Hirschfelder and Morse,‡ and by a third and fourth by Horsley § (the latter's paper, rich in suggestions, was received too late to be of use in the case to be described), surgeons will undoubtedly be led to widen their domain, and exploratory operations in this region of the body will soon become numerous. The history of an unsuccessful case will, however, serve an important purpose, and it is now intentionally brought strongly forward in order to illustrate the difficulties that surround the subject, not only for the surgeon, but for the neurologist who guides his knife.

A Case of Trephining for Sarcoma of the Brain; Temporary Relief from the Operation, but Death Ten Weeks Later; Tumor of the Cerebellum and Cord.—Mary R., aged twenty-six, was admitted into the hospital September 16, 1886, with the following history: The patient has had four operations in this hospital for sarcoma of the neck, the first two years ago, the last six months ago. During the last operation the brachial plexus

was freely exposed, and the patient afterward suffered from paralysis of the left upper extremity, from which she has only partially recovered. For two months or more she has been annoyed by precipitate micturition and defecation. Six weeks ago she first noticed cramps in the calf of the left leg, which usually occurred at night and prevented her straightening the limb. About the same time she noticed that the left knee frequently gave way under her while she was standing, and once she fell in consequence. During the last week she has had occasional clonic spasms of the left leg. Frequent cramps and numbness in the left hand have been noted during the past six weeks; during the past two weeks the right has been similarly affected. For three weeks she has suffered from frontal headache, generally confined to the right side, and always worse on walking. Besides this, she often "feels as if her head was being hammered."

On examination, no tenderness is found at any part of the scalp, or over either supra orbital nerve. There is no paresis of any muscle supplied by the cranial nerves. The right hand is perhaps a little weaker than normal, but the old paralysis of the left hand prevents any comparative test. Paralysis of the left sympathetic is shown by narrowing of the left palpebral fissure (from sinking in of the eyeball) and contraction of the pupil. The left biceps, triceps, and deltoid muscles are paralyzed, and there is paresis of the left leg below the knee. The left patellar reflex is exaggerated. Ophthalmoscopic examination shows slight optic neuritis on the left side, the disc at the point of exit of the large blood-vessels being indistinct.

September 26th.—The paralysis of the left leg has gradually increased, and at times there is twitching of the right side.

October 11th.—While waiting for further developments she became rapidly stupid, and, after consultation with Dr. Amidon, who had had the patient under observation prior to her entrance into the hospital, an operation was advised, and was performed under his directions.

Operation.—The position of the fissure of Rolando having been previously marked out, and the tumor located at the upper limit of this fissure, one inch from the median line, the scalp having been shaved at this point, a crucial incision was made, the longer cut being just in front of and parallel with the fissure. The scalp was dissected up, and with a large trephine a button of bone was removed from a spot one inch and a half to the right of the median line; this opening was enlarged with a double gouge-forceps to the size of an inch by an inch and a half. The dura mater was found to be very tense and bulging; a crucial incision was made through this membrane, whereupon the deeply congested brain-substance projected into the wound. Nothing was felt by the finger, and a needle carried in several directions encountered no resistance. As the brain now projected above the level of the skull, a piece half as large as a hen's egg was excised and reserved for microscopical examination. Its substance was deeply pigmented and very vascular. The bleeding was quite profuse, but it was checked by pressure and by Paquelin's cauterity lightly applied. The flaps of dura mater were laid over the cut surface of the brain and covered by a strip of iodoform gauze, one end of which was allowed to protrude from the posterior angle of the wound. The scalp was sutured closely up to the latter point, and a dressing of bichloride gauze was applied. The iodoform gauze was drawn out forty-eight hours later. The wound healed rapidly, but within six days the brain bulged through the cranial opening beneath the healed scalp, and the hernia gradually increased until it reached the size of a hen's egg.

No unfavorable reaction followed the operation. The following signs of improvement were observed and were attributed to the lessened cerebral tension, viz., the headache disappeared

* This phenomenon has been noticed by others in cases of abscess of the brain. See Nancrede, "Trans. of the Am. Surg. Association," vol. ii.

† "Lancet," vol. ii, 1884, p. 1090, and vol. i, 1885, p. 13.

‡ "Pacific Med. and Surg. Journal," April, 1886, p. 210.

§ "Brain-Surgery," "British Med. Journal," October 9, 1886. Four cases are given, two operations being undertaken for tumors, with satisfactory results.

immediately and did not recur. The spasms of both limbs also ceased, and a temporary improvement in the impaired muscular power of the left side was likewise observed. The portion of brain excised from its gross appearance suggested the possibility of its being infiltrated with a soft sarcomatous growth, but the microscope showed nothing abnormal. About three weeks after the operation more decided evidence of analgesia and paresis of the right side appeared more clearly, and the same phenomena were increased on the left. It was evident that the neoplasm, or a second one, was situated at the upper portion of the cord, or in or near the medulla. The patient gradually became more paralyzed, and died December 25th, nearly two months and a half after the operation. The report of the autopsy, as made by Dr. Amidon and Dr. Vought, together with the description of the tumor by the pathologist, Dr. Peabody, is appended.

Autopsy.—The hernia cerebri, so prominent during life, had entirely collapsed. On removing the scalp, it was necessary to divide some connective tissue between the scalp proper and the more intimate covering of the hernia. There were slight adhesions around the trephine-opening, between the dura and the pia. On removing the calvaria, a considerable protrusion of apparently disorganized cerebral substance appeared at the site of the operation. The blood-vessels of the pia and the pia itself over the entire brain were normal. On making a transverse section through both hemispheres, nothing abnormal was found except a slight diffuse hardening (probably inflammatory) in the *centrum ovale* beneath the site of the operation. The ventricles were normal. At the base of the brain there was seen a grayish, translucent tumor, springing from the lower surface of the left lobe of the cerebellum and compressing the subjacent medulla, the latter being displaced forward and to the right side. The medulla was compressed at a point below the calamus, where it was much flattened. On dissection, the substance of the medulla proved to be entirely uninvaded by the growth, the connection of which with the cerebellum was very intimate. An incision through the antrum of the left cerebellar lobe showed no diffuse infiltration of that body. The fourth ventricle was invaded by the growth, but was apparently out of the line of direct pressure. Starting from the cerebellum, as described, the tumor extended down the left posterolateral region of the spinal canal, between the dura and pia for a distance of at least ten ctm., the cord being naturally much displaced to the right side and anteriorly. The tumor was grayish, translucent, and non-vascular, and presented no evidences of inflammation at any point. It had no connection with the cerebellum, having apparently originated in the pia. Small portions of the fourth, fifth, and sixth spinal nerves were removed and were found to be normal. A small subcutaneous fibrous tumor was excised from the back, just below the right scapula.

Microscopical Examination.—Sections of the tumor of the cerebellum and cord were examined, and the growth was found to be an ordinary spindle-celled sarcoma, containing many round cells. It was not very vascular, and the stroma was not abundant. [The specimen was shown.]

Another case of supposed tumor of the cerebellum now in my wards illustrates the diagnostic difficulty of such cases, as four neurologists, after an examination of the patient, have assigned different cerebral localities to the growth. In this, and in fact in all points bearing on this subject, the admirable collection of one hundred cases of cerebral tumor, with their analysis, by Dr. W. Hale White, lately published in "Guy's Hospital Reports,"* will be of

great service to the investigator. Of the tuberculous growths (forty-five in number), more than half occurred in children under ten, and when found in adults, there was usually tuberculous disease elsewhere; like the carcinomatous tumors, five in number, all multiple and secondary; all these are unsuitable for surgical consideration. Out of the twenty-four gliomata and ten sarcomata (the cysts being only four in number and too rare to be considered), which alone offer a reason for surgical interference, there were only four growths that could have been removed with any certainty, two of which were gliomata, and situated in the cerebellum. Only one of the ten sarcomata was removable. Aside from the fact that the situation often precludes the operation, the frequent occurrence of infiltration in connection with sarcomatous growths will have the same effect. This infiltration existed in the case reported by Hirschfelder, in which only a portion of the neoplasm could be removed, the patient dying eight days later from suppurative encephalitis. White's other cases included five gliomata, two glio-sarcomata, one lymphoma, one myxoma, and three which were of a doubtful nature. Taking into consideration the question as to whether these tumors could have been sufficiently localized during life to warrant surgical interference, White found from this clinical standpoint that three tuberculous tumors might have been removed, and that four gliomata, one sarcoma, two cysts, one myxoma, and two of the three doubtful growths, or 10 per cent. of the number, might have been operated upon, *provided a correct diagnosis* could have been made, a condition that is sadly nullified by his just statement that the best diagnosticians so frequently make mistakes, that a certain number of cases suitable for operation might be unsuccessful, because the position of the growth was not exactly defined. For further information concerning this interesting though somewhat obscure and difficult subject I would heartily refer to this article *in extenso*. For the special points in the operative technique, the best yet given is by Horsley, and is briefly summarized as follows: In addition to a strict antisepsis, he makes an oval scalp-wound and a very large cranial opening, using a trephine two inches in diameter, and replacing the bone when possible. The dura mater is incised in a circular manner, and is turned back like a large flap. In incising the brain, the cuts should be vertical and directed into the corona radiata to avoid damage. Hæmorrhage should be checked by pressure; drainage of the wound is also urged. Stress is laid by him on the immediate bulging out of the brain as indicative of a tumor. It was noted in all three of his cases and in my own; it is not met with, he says, in healthy animals on which he has tested this experimentally. This is, therefore, a symptom of intra-cranial pressure of high importance.

On the neck seven operations were performed, viz.: two for sarcomatous tumors, one for removal of a huge secondary glandular epithelioma (thought to be sarcoma until the microscope corrected the diagnosis; time subsequently showed what had escaped previous detection—primary trouble in the œsophagus at the level of the cricoid), one for keloid of the neck, and two for papillomata of the larynx. The latter can be summarized in a few words.

* Vol. xxviii, series 3, 1885-'86.

The first case was one of *crico-laryngotomy*. The patient was a girl, eight years of age, who had lost her voice a few months previously, and had recently had frequent attacks of dyspnoea. Since Dr. Lefferts was unsuccessful in his attempts to extract the growth through the mouth, in spite of the courageous assistance of the patient, she was sent to the hospital to have thyreotomy performed. This was done under ether, November 6, 1886. A preliminary tracheotomy below the isthmus having been done, the cricoid cartilage was divided unintentionally, and then the thyreoid, so that the whole larynx was thus laid open, a perfect view of the growth being obtained. It was attached anteriorly to the left side just below the cord; after its removal with slender scissors, its base was touched with chromic acid; the thyreoid and cricoid cartilages were accurately sutured with catgut, as well as the entire wound. The tube was kept in until the next day, when the breathing became rapid and signs of broncho-pneumonia appeared. As the larynx was pervious, the tube was removed, as being a possible source of irritation. The patient passed through a prolonged convalescence, and during the first week of her illness, in consequence of the coughing and the catgut which I now think was wrongly selected for sutures, the wound in the lower part of the thyreoid and the cricoid gaped widely, necessitating the use of two wire sutures to close them, at the expense of exact coaptation. The patient's voice was restored, but when she left the hospital (December 20th) she was still hoarse. The wound had healed perfectly. The risk of voice impairment led in the second case to a change in the operative procedure, at the cost, however, of thoroughness of the removal of the growth.

Cricotomy for Papilloma of the Larynx.—A girl, aged two years, was sent to me by Dr. Lefferts as unsuitable for surgical treatment *per vias naturales*. She had been hoarse since she was a few months old, breathed with difficulty, and had lately had several severe paroxysms of dyspnoea. On November 20, 1886, by an incision two inches long, the cricoid cartilage and crico thyreoid membrane were divided, and the edges of this wound in the air-passages held apart, thus giving a very good view of the papilloma, which was removed in numerous small masses by means of slender forceps, fine scissors, and a small sharp spoon. The larynx above was readily explored by holding the cords open with a forceps. The wound in the cricoid cartilage was closed with catgut, and rapid recovery followed, so that by December 8th the incision had closed and the patient left the hospital breathing easily, although her voice was not restored. Subsequently it was learned that phonation became intermittent, showing that a portion of the growth had probably been left *in situ*.

In addition to the foregoing there was one operation for the removal of an *adenoma from the substance of the thyreoid gland*, after Socin's method, which has already been reported to this society, and, beside this, a rather pleasing result in the treatment of an intractable affection was obtained by the

Extirpation of a Sub-hyoid Bursa.—The tumor had existed for fifteen years in a young man of twenty-two (whose photograph is shown), and had attained the size of a small egg. It had been tapped and injected with iodine at another hospital four months before. Appreciating the difficulty of dissecting out these troublesome thin-walled cysts satisfactorily, I emptied this one with a trocar and cannula, and then injected into it melted paraffin (which liquefies at a point much below boiling-heat), and subsequently cooled it with a small bag of ice. The whole procedure did not occupy five minutes, and by its aid I was enabled, after exposing the cyst by dividing the skin and

thyreo-hyoid muscles, to remove with great ease the entire sac, even up to its attachment at the posterior border of the hyoid bone, which part would undoubtedly have escaped me had the cyst remained flaccid instead of being rendered a hard, dense mass.

This method has in other instances served me well, and is to be commended, because it avoids the persistent fistula which so often results from this bursal inflammation.

Of the 52 OPERATIONS ON THE TRUNK, 5 were for tumors of the breast—viz., one simple and one cystic adenoma and three carcinomata, two of which were primary and the third a recurrent growth. In *amputating the breast for cancer* I adhered to the custom of removing not only the entire gland, but also the contents of the axilla, even though no enlarged glands were felt through the skin, or even after the axilla was opened. In doing this, the directions first given, I think, by Bickersteth, of Liverpool, have been followed—viz., to carry the incision well on to the arm on a level with the insertion of the pectoralis major, and then to tear or to cut lightly through the layer of fascia there present, when, with the aid of blunt scissors or the finger-nail, the axillary vein can be isolated throughout nearly its whole extent, especially if the pectoral muscle is drawn upward by means of a broad retractor. If it can not be so exposed, and it is necessary on account of glandular enlargements, the pectoralis major and minor are divided without hesitation. After the vein has been duly cleared, the deposit of fat in the axilla is easily peeled away from the chest-wall, any veins of considerable size being tied before being divided. On account of the size of the cavity thus made and its extension toward the angle of the scapula, it is sometimes necessary to make the drainage-opening for the axilla well below the line of incision. More important, because it is little known, is the fact that, in addition to the infected glands near the axillary vein, there is frequently found an enlargement of a lymph-vessel, together with several minute glands, which run under the pectoralis minor in a line extending toward the sterno-clavicular articulation. I have so often found these since my attention was accidentally directed to them a few years since, that now I never fail to hunt for them, and frequently find them. One patient with tuberculous axillary glands was also operated on in whom the infection had apparently come from a slight wound in the hand. There were 6 cases of hernia, 2 being strangulated, 2 irreducible, and 2 reducible, and all of the inguinal variety. The radical operation was performed of tying off the sac and sewing up the ring by Czerny's method in one case, and in the five others by tucking up the sac and sewing up the canal and ring, as suggested by Macewen. The latter operation has been simplified* by exposing the external abdominal ring and then pulling apart the tissues over the sac with forceps until the latter is reached, when it can be readily lifted out of its bed with much less disturbance and more certainty than if reached first at a point lower down. There is also less chance of suppuration, on account of the slight disturbance of the cellular tissue.

* See a paper on "Reducible and Irreducible Hernia," by the writer, read before the New York State Medical Society, February 3, 1887. "Medical Record," March 5, 1887.

When the omentum is found in a hernia, whether reducible or irreducible, it is carefully tied off with multiple and a final encircling ligatures; where there are omental adhesions plugging the internal ring, they are detached with the finger, so as to allow the omental stump to drop back into the abdominal cavity. I am able to show here a specimen removed from a patient who died from pneumonia and kidney disease three weeks after a radical operation for a huge incarcerated omental hernia, which, after removal, weighed about twelve ounces, the sac being tied off and removed, but the ring was not closed. Everything has healed up solidly, and adhesions have formed in the vicinity of the internal ring, which shut it off entirely from the influence of intermittent abdominal impulses. I may remark here, as of some possible interest, that of the six cases recorded by Ségond, in which a post-mortem was held after tying off the sac, in only three instances was the internal ring satisfactorily closed. My individual preference (my experience in this operation being limited as yet) is for Macewen's operation, as it accomplishes better not only the closure of the peritoneal funnel at the internal ring, but also the more perfect occluding or narrowing of the inguinal canal. I have, however, discussed this question elsewhere, and shall not dwell further upon the numerous interesting points connected with the radical operation for non-strangulated hernia. The percentage of success in this operation is about 60 per cent., and from the interannular injection of Heaton, of which one case is reported, about 30 per cent. of cures can be expected in inguinal herniæ of small size, in which the oblique canal still exists as such. Chromicized catgut is used in the radical operation for sewing up the canal and ring, in preference to silk or wire.

Among the cases is one in which, after the lapse of eight months, a silk ligature caused an abscess and fecal fistula, which closed promptly after removal of the offending body. I have for over two years endeavored to secure healing of the wound by granulation, at least in that portion of it which is situated immediately over the external abdominal ring, as this, to my mind, affords an additional barrier to the recurrence of the hernia.

On and about the rectum ten operations were performed, three for ischio-rectal abscess of unusual size, which accounts for their being included in a report from which abscesses and minor operations have been omitted, save when some point of interest could be elicited. Such an instance is shown by the four cases of *fistula in ano*, which were divided in the ordinary way. I had had some eight cases in which this affection was treated by Jenks's* method of excising the fistula, and sewing up the fresh surfaces from the bowel to the original skin-opening. In three of these eight cases, in which the fistulæ were not deep and were of moderate extent, the patients did well; in the other five the fistulæ had deeper internal orifices, and their tracts were either longer or deeper, and in two instances there were diverticula, so that it was difficult to dissect out the suppurating tract itself, and the final introduction of the sutures was not easy, especially as regarded the closure of the rectal

end of the incision. After all this had been done, failure was met with in four out of the five cases. As the last trial was as unfortunate as the first, I could not attribute it all to inexperience in the operation, and hence my faith in the method has been much diminished. In the four cases of *hemorrhoids* I have likewise returned to the so-called method of Allingham, after trying in five cases Whitehead's* plan of cutting off the pile, tying the main vessels, and then sewing together the divided mucous membrane. There was in nearly every one of these cases so much troublesome venous oozing from the divided tissues (which had been cut somewhat as in Allingham's method) that the little operation was rendered unduly prolonged and annoying, and neither was there a rapid cure nor a subsequent diminution of the pain and other discomfort often encountered in operations for *hemorrhoids*. I have also, in six cases, tried the crushing off of the pile after partial section, as practiced by Mr. Allingham, and with a fairly satisfactory result; but I have at all times the feeling that the patient would be safer from the risk of *hemorrhage* when the vessels are tied, and sufficient advantage has not accrued so far to warrant me in incurring this possible danger. Two cases of *stricture of the rectum* were operated upon; in one the stricture resulted from an operation performed a year before for *imperfect anus* in an infant two days old.

By an incision carried from the dimple of the anus to the coccyx, and gradually deepened, to the extent of an inch and a half along the sacral curve, until a moderately distended rectum was reached and opened. The mother was instructed how to keep the opening patent by the use of plugs and the oiled finger. However, contraction gradually took place, and in December, 1886, the child was brought to the hospital for further help, it being in good condition but suffering from obstinate constipation. The opening had contracted to the size of a pencil. Under ether this was enlarged by nicking it, and principally by a cut posteriorly, so as easily to admit my finger. A bougie is still used occasionally, but the relief is complete.

The second stricture, which was in a woman and was apparently due to parturient causes, was situated from an inch and a half to two inches from the anus; it was a fibrous stricture, with a moderate amount of ulceration, and admitted only the little finger. Instead of resorting to Verneuil's proctotomy, or the modification of the same in which the knife was used in lieu of the galvanic or wire *écraseur*, I adopted a plan which I have used four times during the last three or four years, with excellent results. I had found on eight occasions that, in making a free posterior incision of the rectal stricture, extending back to the coccyx, the subsequent healing of the external wound was often very tedious, frequently occupying more than a year, and was also followed by more or less loss of sphincter power. I have, as before stated, changed this incision, especially in the case of strictures situated two inches and a half from the anus, to one extending posteriorly to the coccyx or sacrum, previously stretching the anus without dividing the external sphincter. To avoid the collection and retention of secretions in this wound pouch, a puncture is made with a knife, from the tip of the coccyx to the wound in the bowel, and through this is car-

* "New Method of Operating for Fistula in Ano." "Trans. of the Am. Gynecological Society," p. 136, 1883.

* "On Hemorrhoids." "British Medical Journal," February 4, 1882.

ried a drainage-tube; in other words, a traumatic fistula in ano is made. The wound in the bowel is then packed with sticky iodoform gauze and an antiseptic dressing is applied over the anus. The bowels are kept quiet for several days, and, if the temperature shows that all is going well, the rubber drainage-tube is withdrawn on the third or fourth day. In every instance in which this plan has been tried, the tube opening has closed promptly, so that no fear need be entertained, I think, that a permanent fistula will be established. A large bulbous or rubber bougie is subsequently introduced at regular intervals according as one's judgment directs. The results as regards the recurrence of the stricture have been equally satisfactory with those obtained with the major operations, and more so as regards the rapidity of the cure. For strictures situated higher up, the open method is preferable, as it allows the surgeon to recognize and to repair any damage that may possibly be done to the peritonæum.

One case of *spina bifida* in a child eight months old was treated by injection; the tumor was of the size of a large orange, and was situated over the upper part of the sacrum. Cutaneous outgrowths extended from its base nearly to its apex, where they were lost in a thin, pellucid cyst-wall. Puncture had been tried some weeks previously, causing aggravation of the existing paralysis of the legs. The child was in robust health. A needle was thrust through the adjacent sound skin into the tumor, and about one drachm of a clear, colorless fluid (subsequently found to be free from sugar) was withdrawn, after which an equal quantity of Morton's fluid was slowly injected into it. This fluid consists of ten grains of iodine and thirty grains of iodide of potassium, dissolved in an ounce of glycerin. No special reaction followed its use, but a month later the swelling was decidedly smaller, though it is probable that a repetition of the injection will be necessary.

In the "Transactions of the Clinical Society" for 1884-1885 fifty cases were reported which were treated in this way, forty-one being successful, as opposed to twenty with five deaths after the use of simple tincture of iodine.

(To be concluded.)

THE USE OF TRACTION IN THE TREATMENT OF CLUB-FOOT,

*With a Consideration of some of the Mechanical Points involved,
and a Description of the Antero-Posterior and Lateral
Traction Apparatus.*

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(Concluded from page 261.)

LET us now briefly study the conditions found in equino-varus, and attempt to demonstrate some of the mechanical points involved, before describing the "lateral-traction shoe."

As before stated, I formerly used the simple "lateral pusher" in treating the lateral malpositions of equino-varus, and I reproduce the original engraving that was used in my first paper on "Traction." It is shown in Fig. 22. Applied to the inner side of the foot and leg, it was intended to overcome the lateral deformities of equino-varus by a *pushing* force. It is, so far as I know, the only apparatus based

upon the, strictly speaking, *pushing* principle (acting from a point above the tarsus) introduced for the treatment of the lateral deformities of talipes, though I inadvertently described it in my first essay as a "modification of Taylor's ankle support." In the "Hospital Gazette and Archives of Clinical Surgery" for January 9, 1879, about seven weeks after my first article appeared, I called attention to my error, and claimed the apparatus as my own.

After a good deal of experience with this simple "pusher," I felt that it represented a correct principle of mechanical treatment, and that a lateral *pushing* force possessed many advantages over the lateral *pulling* force ordinarily employed. And, after many experiments, I have at last perfected a lateral *pushing* and *traction* apparatus, which enables the operator to apply a positive traction force to the deformity known as equino-varus.

But this term *equino-varus* is really a misnomer. There is some equinus present, for the heel is raised. There is some varus present, for the tarsus is turned in. If these conditions were all that marked the deformity known as equino-varus, the artificial mechanism devised for its relief need not be very comprehensive. But simple, uncomplicated equino-varus is rare in my experience.

Fig. 23 represents a sectional outline (reduced) of the normal (right) ankle of a boy of eight years. A represents the outer malleolus, B the inner malleolus. The line C D E

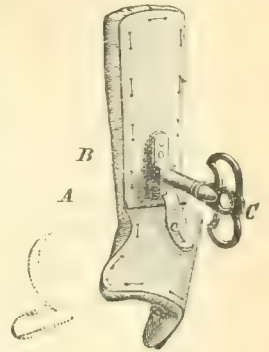


FIG. 22.

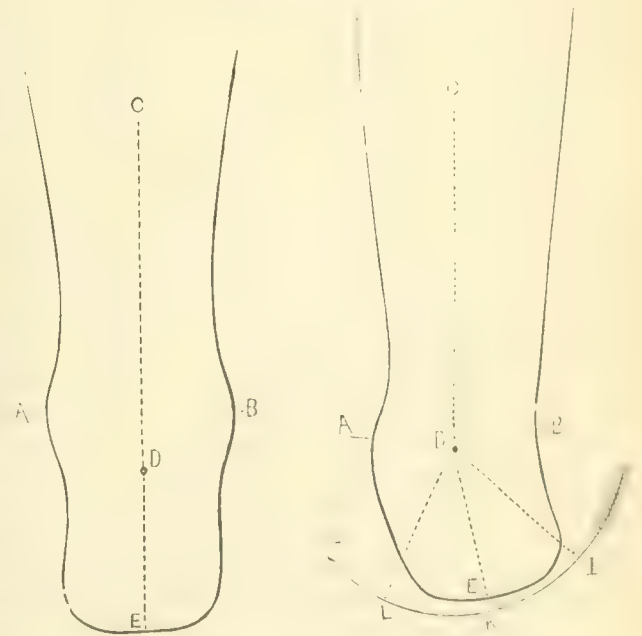


FIG. 23.

FIG. 24.

passes through the ankle joint to the heel, E, E representing, in a diagrammatic sense, the center of the antero-posterior rotation.

In Fig. 24 we have the same sectional view of the right ankle of a child of the same age with an ordinary equino-varus.

The outer malleolus, A, is very prominent and apparently thrown backward; the inner malleolus is not perceptible, and can not be found at the point B.

When found by palpation, the inner malleolus is discovered to be apparently in front of its normal position. The straight line C D E, of Fig. 23, changes its direction at D, in Fig. 24, and it is deflected toward the mesial plane of the body. In short, the os calcis is not only drawn up by gastrocnemius contraction, but is rotated inward on an antero-posterior axis. This is a marked feature of the deformity.

But this is not all, nor is it the worst feature of equino-varus. The anterior part of the tarsus, and to a considerable extent the astragalus, are rotated inward on a vertical axis, thus accounting for the apparent loss of relation between the two malleoli. The malleoli are normal, or nearly so, but the astragalus is turned in, and much of the deformity is due to this rotation of the astragalus.*

This can be better understood by showing with illustrations the location of the malleoli in equino-varus.

Fig. 25 represents the normal outline (reduced) of the right foot of a boy of eight years old. The relation of the two malleoli to the sole of the foot is shown at A (the outer) and B (the inner). The line C D E passes through the long diameter of the sole of the foot from "heel to toe," through the point located diagrammatically at D.

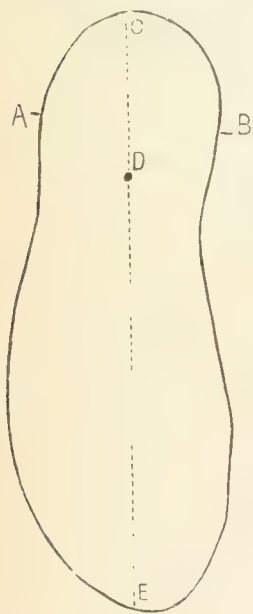


FIG. 25.

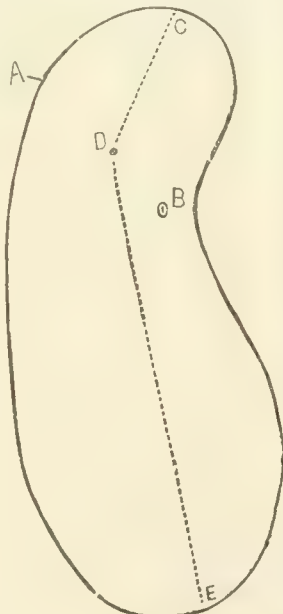


FIG. 26.

Fig. 26 is taken from the right foot of a boy, aged eight years, with equino-varus. The outer malleolus is at A. The inner is at the point corresponding with B, and the

* I am aware of the fact that rotation of the astragalus has been pointed out by several writers on club-foot. But I feel that sufficient attention has not been paid to the important part it plays in the production of the deformity, or to the obstacles which this rotation presents in treatment.

straight line C D E, in Fig. 25, becomes a crooked line, the part anterior to the point D (D E) forming an obtuse angle with that which passes from D to C.

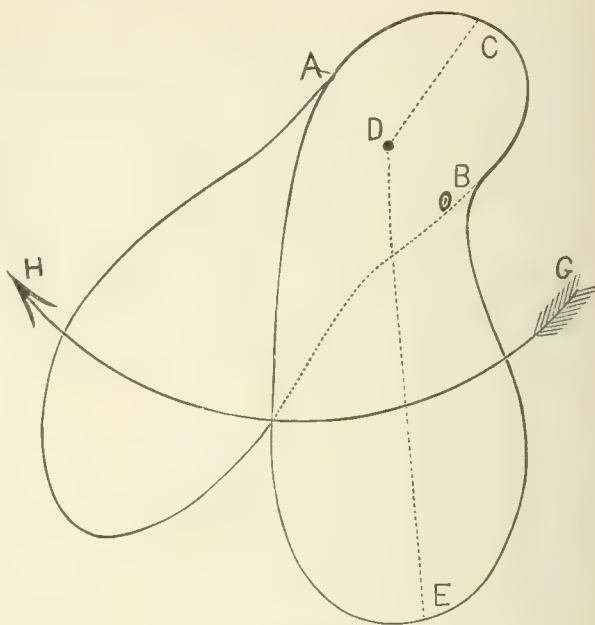


FIG. 27.

From a standpoint of mechanical treatment, the indications, so far as rotation of the tarsus, and especially the astragalus, upon a vertical axis is concerned, are plainly shown by combining these two diagrams in one. And this has been done in Fig. 27. Using the heel as a fixed point, the effort should be made to throw the anterior part of the foot in the direction of the curved arrow, G H, until the normal position, or an exaggeration of the normal position, is reached. When this is done, the two malleoli will be found in their proper positions as shown in the diagram (Fig. 27); the rotation of the astragalus and the anterior part of the tarsus upon a vertical axis will be overcome, and the leg and thigh will be found to occupy a normal relation to the tarsus.

In equino-varus (I speak especially of the congenital type) there is ordinarily no deformity or perceptible deviation from the normal in the tibia or fibula. The real deformity occurs at and below the ankle joint, the rotation of the astragalus inward, upon a vertical axis (with the ankle in extension), making an apparent outward rotation of the leg and thigh.* Under these circumstances, if the leg and thigh are placed in normal position, the malleoli are found in their proper positions. It will then be readily appreciated that the deformity occurs at a point below the inferior articulating surface of the tibia. The really difficult "lateral" deformity is not at the medio-tarsal joint, as so many teach, but is found in the rotation upon an antero-posterior and a vertical axis of all the important bones of the tarsus.

Comparing, again, Figs. 25 and 26, it will be found that the inner border of the foot is greatly curved. It is also raised, so that the cuboid bone presents in walking. This

* Rotation of the leg and thigh, with the knee in extension, has its seat at the hip joint.

is due to the rotation upon both an antero-posterior and a vertical axis of the whole tarsus. In brief, there are three principal deformities in equino-varus: First, rotation of the ankle upon a transverse axis (extension); secondly, rotation of the os calcis upon an antero-posterior axis (inversion of the os calcis); and, thirdly, rotation of the tarsus upon both an antero-posterior and a vertical axis, including rotation inward of the astragalus and anterior portion of the tarsus. These three deformities are each met by a specially devised movement in the lateral-traction shoe.

As in lateral curvature, it is not the simple lateral deformity that is so difficult to remove as the rotation of the vertebral bones which emphasizes it, so in equino varus it is not the simple lateral and uncomplicated antero-posterior displacements that present the greatest difficulties. It is the compound rotation of the tarsus, and especially the rotation of the astragalus and os calcis, that makes the problem of relief so difficult.*

The first indication, from a mechanical standpoint, in the treatment of equino-varus is to overcome the inversion of the os calcis (see Fig. 24) so that a fixed point may be secured upon which to apply a rotating traction force in the direction indicated in Fig. 27. The curved arrow, I K L H, of Fig. 24 shows how this force should be applied, and a glance is sufficient to show that a *pushing* force, purely lateral, is indicated. The hinged lever and screw of the simple lateral pusher (Fig. 22) meets this indication perfectly.

The second indication is to find a center of motion (the first lateral push having been applied to the os calcis) which will permit the application of a traction force that will remove the rotation of the astragalus and carry the anterior portion of the tarsus with it. The direction of this force should be *forward* and *outward*, and a study of Fig. 28 will demonstrate that this center is at a point located at or outside of the outer border of the foot in the region of the articulation of the os calcis with the cuboid bone. This point is indicated at the letter C (Fig. 28), and the curved arrow, I P E F G H J, gives the direction required, viz., forward and outward. This is the second indication.

But the heel is raised, and, unless this malposition can be removed, the lateral push to the os calcis and the rotat-

ing (traction) force applied to the tarsus will amount to little or nothing.

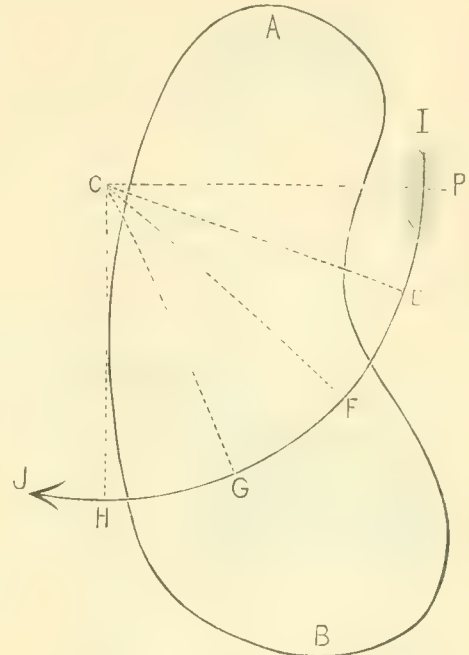


FIG. 28.

As demonstrated in the first part of this paper, the heel should pass *downward* and *forward*. By attaching the heel traction strap to the traction rod which carries the anterior part of the apparatus *forward* and *outward* upon the center C (Fig. 28), this movement may be readily accomplished. This is the third indication.

While it is necessary to restrain the astragalus by an astragalus strap, the same as in the antero-posterior traction-shoe, in order to execute all these movements—viz., the lateral push, the rotating push, and the direct traction—the movement of the apparatus when applied to the conditions of equino-varus concentrates the counter-pressure at the dorsal portion of the articulation between the os calcis and the cuboid, and the acquired position of the apparatus, when all these three movements have been applied, represents the exact reverse of the deformity. In short, as in the antero-posterior traction-shoe, the apparatus being applied exactly to the deformity, the foot is forcibly drawn into a reverse position by means of a direct rotating traction, and all the resisting tissues are reached, including the ligaments and fasciæ as well as the muscles.

The lateral-traction apparatus is based upon these three indications (the three varieties of rotation mentioned above), and I will now describe it in detail.

It consists (Fig. 29) of a calf band, A, to which is attached a single upright of annealed steel, A'. This upright is always placed on the side toward which the deformity looks; in varus on the inside, in valgus on the outside of the leg, the instrument being a *pusher*. At a point just above the center of motion of the ankle joint is placed a *lateral joint*, C, which is acted upon by a hinged lever and screw; B', being a worm and screw, and O an arm which pushes the lower part of the apparatus toward the deformity to any desired extent. The distal end of this arm is

* It is impossible for any one to voluntarily place the foot, by muscular action, in the position of confirmed equino-varus, with rotation of the astragalus; just as it is impossible for any one to place the vertebral column in the position of confirmed lateral curvature with rotation by voluntary muscular action. These facts have, it seems to me, a peculiar significance, and bear directly upon the question of etiology. They are both exaggerated positions, not induced by simple malposition, or simple muscular action, or both. Both of these conditions present their worst features in the rotation of the small bones, which possess very limited movements in the direction of their exaggerated, deformed position.

It seems to me that both these and other allied conditions are due primarily to unilateral muscular action of the nature of a contracture or a localized arrest of muscular development, and that the exaggerated position of these small bones, their rotation, the contracture of ligaments, fascia, skin, and all the subcutaneous tissues, are the result of *rapid growth* in the acquired position. In no other way can I explain the exaggerated rotation, and the other phenomena observed.

free, and, as the arm is turned away from the deformity by key B¹, the foot part of the apparatus takes any lateral po-

draws the foot into this acquired plane and stretches all the resisting tissues.

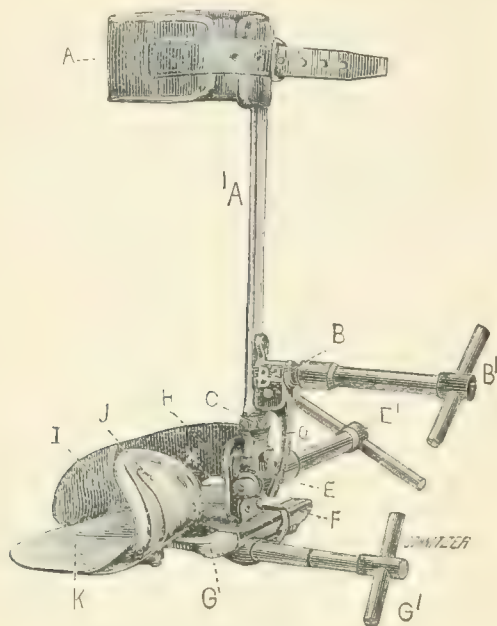


FIG. 29.

sition required. All of the keys—B¹, E¹, and G¹—are removed, of course, after the desired lateral position is obtained and traction has been applied.

This lateral hinge, with its lever and screw, is intended to meet especially the inversion of the os calcis. It antagonizes, when traction is applied, the tibialis posticus muscle contraction as well as the shortening of the internal lateral ligament, which is frequently more troublesome than the muscular contraction. This first lateral push is important and essential.

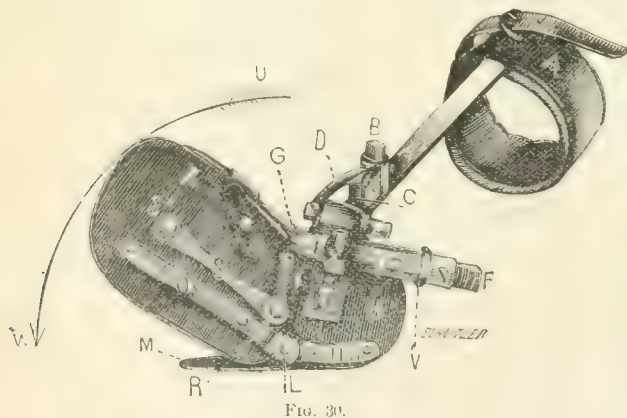


FIG. 30.

Just below this hinged lever and screw is an antero-posterior joint, E, similar in all respects to that used in the antero-posterior traction apparatus described in the previous pages. It is a simple worm and screw controlled by the key E¹. Like the worm and screw in the antero-posterior apparatus, it enables the operator to secure any desired angle of flexion and extension, and to create a plane different from that of the deformity. The traction executed by this apparatus, like that in the apparatus first described,

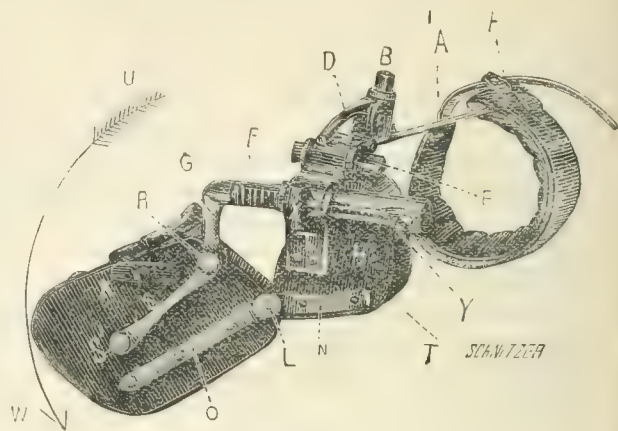


FIG. 31.

Still lower and acting upon the anterior part of the foot-plate (which is divided transversely at a point corresponding with the medio-tarsal joint) is the traction rod placed upon the inner side of the apparatus and moving in the cylinder F. It is controlled by the key G¹. This will be more fully dwelt upon when we study the under surface of the foot-plate.

There is the customary heel-cup (though this is not necessary any more than in the antero-posterior apparatus, X, Fig. 29, and H, Fig. 32) with the openings (K K, Fig. 32) through which the restraining astragalus strap is passed. The outer part of this heel-plate (M, Fig. 30; L, Fig. 32; and I, Fig. 33) is extended quite well forward at the outer border of the foot-piece to form a resistance to the rotating movement imparted to the foot by the traction rod G upon the center L. And the inner border of the foot-plate is curved over the dorsum of the foot (J, Fig. 32) in order to grasp it as it moves upon the center of motion at the outer border of the foot, as shown in Figs. 30 and 31, L. The heel-plate part of the heel-cup has the semicircular opening (P, Fig. 32) to permit the descent of the heel when the traction is applied, the same as in the antero-posterior shoe.

Figs. 30 and 31 show the lower surface of the foot-plate. In the former the traction rod is closed in the position of deformity; in the latter it is extended or thrown open, showing by the arrow, U W, the direction of the force applied, viz., forward and outward (compare with Fig. 28). At K, Figs. 30 and 31, is an arrangement by

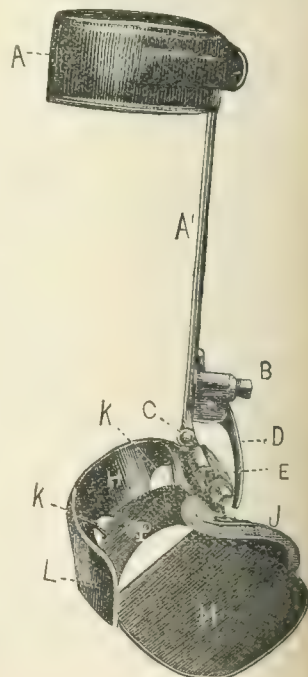


FIG. 32.

which the curved part of the foot-plate (J, Figs. 29 and 32) can be adapted to any position required.

Fig. 32 pictures the apparatus in a position of slight equino-varus. The lateral hinged lever and screw has been turned to meet the inversion of the heel. The antero-posterior worm and screw has been used to drop the foot into a position of equinus, and the traction rod is closed in a position of varus. By using the three movements described as being controlled by keys B¹, E¹, and G¹, in Fig. 29, a direct antagonizing traction force can be applied to almost any degree of deformity of the equino-varus type.

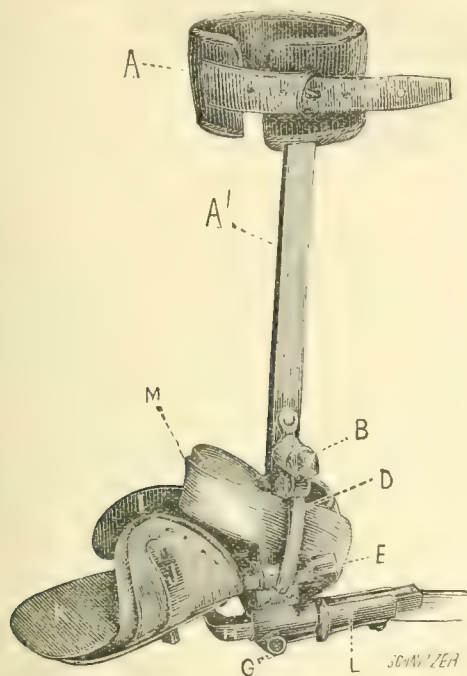


FIG. 33.

In Fig. 33 the astragalus strap, M, is shown. (The artist has made this webbing strap fully one half too wide.) It is passed through the openings in the heel-plate K K, Fig. 32, and is reflected upon itself and buckled.

The foot is prepared for this apparatus as pictured in Fig. 14. A soft pad of Canton flannel or other soft material is placed over the neck of the astragalus under a simple retaining bandage, and a traction heel-strap, with, however, a buckle attached to one end, is passed around the heel low down and the ends brought forward. The foot is now placed in the apparatus, which is made to exactly fit the deformity. The astragalus strap (M, Fig. 33) is then buckled tightly and the heel traction strap, not lettered in Fig. 14, is brought directly down, inside the heel-cup, and buckled underneath the foot-plate just anterior to the right-angled bar, P, of traction rod F (Fig. 30). This traction heel-strap is buckled tightly. (It seemed impossible to show this traction heel-strap in the engraving.) The astragalus strap (M, Fig. 33) is now loosened slightly to accommodate the upward movement of the astragalus when the ankle is forcibly flexed. All being in readiness, key B¹ (Fig. 29) is used to turn the hinged lever and screw which everts the os calcis. Key E¹ (Fig. 29) is then used to raise the foot-plate to the desired extent toward or above the right-angled position.

When these two movements are satisfactorily executed, key G¹ is made to turn the foot-plate outward and forward upon the center (C, Fig. 28, and as in Figs. 30 and 31), into a valgus position, the traction heel-strap drawing the heel downward and forward as in the antero-posterior traction apparatus, while the anterior portion of the tarsus is rotated outward. All the movements indicated are accurately fulfilled. The traction heel-strap is especially necessary to carry the heel downward and forward, while the tarsus is being thrown forward and outward by the traction rod. If the heel is not controlled in this manner, the lateral rotating traction is rendered useless.

The location of the center of motion at the outer border of the foot-plate must be determined by the degree of lateral deformity. I have for years placed it at different points; at the very edge as in the engravings, or farther out or back, as the case demanded.

Having described briefly the two forms of apparatus used to obtain traction, I may now speak somewhat in detail regarding their use in practice, and refer to the rules which should govern the employment of the traction.

When we have to deal with the confirmed deformity of especially congenital equino-varus, it must be apparent that, in order to remove the malposition, the force applied should exceed the resistance. No one, I think, would maintain that the skin and subcutaneous tissues could tolerate a force of this nature for any considerable length of time. And experience proves that this is not necessary.

In a lecture on "Knock-knee and Bow-legs," delivered by me in 1879 and published in the "American Journal of Obstetrics and Diseases of Women and Children" (July, 1881), I called attention to the fact that the superficial tissues would tolerate a greatly exaggerated pressure for a few seconds or even moments without any unpleasant consequences, and I made this fact the basis for the mechanical treatment of the conditions there described. And this is the basis of the "Treatment of Club-foot by Traction," whether tenotomy is used or not.

The manner in which the traction apparatus should be used may be briefly described.

The first step is to adjust the apparatus, whether the antero-posterior or lateral, so that it will exactly fit the deformity. Then apply the heel traction and astragalus retention straps as described in Fig. 14, and secure the foot firmly in the heel-cup of the apparatus by buckling the astragalus and heel-traction straps. Apply a moderate amount of traction at first, always being sure that the astragalus retention strap is loosened (after the heel-traction strap has been made tense) to permit the upward movement of the astragalus when the ankle is drawn into flexion. Determine at the first application how much traction can be tolerated by the patient without causing pain. Proceed easily and gently at first, and after a few interviews the pressure may be increased to the desired extent without any difficulty or trouble.

After the patient is accustomed to the apparatus, keep the traction-shoe applied most of the time, using gentle traction at first, and removing the apparatus only when the patient goes out of doors for necessary exercise, or at night,

when in both instances the proper passive, or retention, support is worn. When this point is gained, commence a systematic application of the momentarily exaggerated traction.

My method is to apply the exaggerated traction at intervals of one half hour or hour for the period of toleration, be it five seconds or five minutes. During the intermission little or no pressure is used, and the patient walks about with the traction shoe applied. Experience proves that what is gained during these seconds or minutes of exaggerated traction is not lost during the intermission, and a frequent repetition of "intermittent treatment" will be followed, as a rule, by a lengthening of the foot, showing that the plantar tissues are yielding; a visible lengthening of the gastrocnemius muscle soon becomes apparent, and the deformity yields to the traction.

Always insist upon careful attention and intelligent home care, and always see the patient once a day for the first few days, after which, in many cases, the mother or nurse can carry out the treatment at home, with occasional visits from the surgeon.

Under these circumstances, and with the use of proper prophylactic measures, as applied to the skin and subcutaneous tissues, excoriations will not occur. In private practice I have never seen any excoriations that interfered with progressive treatment, and in no case have I seen even slight excoriations, except as the result of neglect on the part of the attendant. The traction is tolerated well, the tissues yield, the deformity grows less marked, the muscles increase in circumference, as well as in length, under the influence of the traction, and in very many cases the knife will be unnecessary. We can, in short, restore the muscles and fasciæ, as well as the ligaments, to their normal length, and the ultimate result is a foot more nearly approximating the normal than any which I have ever seen after the usual procedure of tenotomy.

But there are some cases which do not readily yield to traction alone. They are not common, but when they occur it is an easy matter to perform tenotomy and remove the element of muscular resistance. But the patients upon whom tenotomy has been performed complain of pain much more than do those who have been treated by simple traction. In by far the greater majority of cases the pain inflicted by properly applied traction is so slight that neither the patients nor their parents complain. Adolescents and adults bear it without any complaint whatever.

I know of no rule by which any one can determine whether a given case will yield to traction, or whether it will require both tenotomy and traction. It will be a very exceptional case that does not yield to the two combined. My rule is to apply traction first, and, if it fails after a fair trial, to perform tenotomy also. And I know of no apparatus that answers so good a purpose after tenotomy as these traction-shoes. They are readily adjusted, easily applied, and the force can be regulated to any degree of indicated pressure. If tenotomy has been performed, I make a vigorous traction while the patient is still under ether, and gain all I can while the patient is still unconscious. I have even proposed to place a patient under ether and make vigorous

traction without tenotomy as a substitute for this operation. But I have not done this yet. The apparatus can be made to exert a great degree of force, and I think I can say that both the antero-posterior and the lateral apparatus are constructed upon correct mechanical principles. Certainly the results obtained by their use warrant me in saying that the prediction I made nine years ago, that the use of traction would "make the necessity for tenotomy much less frequent," has been fulfilled.

I do not oppose tenotomy when necessary. I prefer, as the result is so much better, to obtain the result with traction alone if possible, even if a longer time is taken to produce it. The elongated, freely moving, and symmetrical foot obtained by traction more than compensates for the apparent loss of time. And I have seen no relapse after the tissues are once elongated by traction, as there frequently is after tenotomy.

I have had some failures with this apparatus, without tarsotomy, just as I have had many successes. But I am very certain that most, if not all, of the former were due to causes beyond the control of the surgeon, just as I am equally certain that many cases, both among adolescents and children, which have been condemned to tenotomy or even osteotomy by prominent surgeons, have been absolutely restored without operative measures by simple traction, intelligently and perseveringly applied.

In conclusion, I wish to tender my thanks to Dr. Samuel Ketch, of New York, and Dr. A. Sydney Roberts, of Philadelphia, for their courtesy in calling attention to my apparatus in articles recently published by them.

A METHOD FOR THE SURGICAL TREATMENT OF SERO-FIBRINOUS PLEURISY.*

By BENJAMIN F. WESTBROOK, M. D.,

PHYSICIAN-IN-CHIEF TO THE DEPARTMENT OF THROAT AND CHEST DISEASES, ST. MARY'S HOSPITAL; PRESIDENT OF THE BROOKLYN PATHOLOGICAL SOCIETY; FELLOW OF THE AMERICAN LARYNGOLOGICAL ASSOCIATION, ETC.

AMONG many cases of chronic pleurisy which I have seen in hospitals and in consultation, I have occasionally met with some in which the fluid had remained in the chest for several weeks or months, and in which it was impossible to withdraw it by means of the aspirator. They are usually neglected cases, occurring in persons past forty years of age, in whom the chest-wall has become rigid through partial calcification of the cartilages. There are always dyspnoea, cough, muco-purulent expectoration, and a general failure of nutrition. Though it is a well-known fact that serous effusions may sometimes remain for months without giving rise to any serious disease, yet it has been my experience to find that these cases have generally eventuated in tuberculosis, the deposit beginning almost simultaneously at both apices. The lung has become collapsed, carnified, and, where not adherent to the chest-wall, covered by a firm layer of inflammatory lymph. In order that the fluid may be withdrawn by aspiration, three things are necessary. In the first place, the lung must expand partially or complete-

* Read before the Brooklyn Pathological Society, February 10, 1887.

ly; in the second place, if the expansion of the lung is not complete, which it rarely can be, the mediastinum must be displaced toward the affected side; and, in the third place, the diaphragm must ascend and the chest-wall sink in. With the lung in the condition alluded to, it is often impossible by the force of the aspirator to secure any considerable expansion. The mediastinum has usually been spontaneously displaced toward the affected side by the attempts at expansion of the chest-wall in breathing. The diaphragm has ascended as far as the weight of the abdominal viscera and its anatomical structure will permit; and the chest-wall, on account of its rigidity, will not fall in. We obtain, perhaps, a few ounces of serous fluid, but this soon ceases to flow, and any further attempt is simply productive of extreme pain referred to the region of the diaphragm and lower intercostal spaces. The intercostal spaces can be seen to sink in under the pressure, but this can occur to only a limited extent, and but a small quantity of fluid can be extracted. In one instance, thinking that the fluid was confined in the meshes of the coagulated lymph, I made an incision, resected a rib, and, passing a sound into the pleural cavity, broke up the bands of fibrin which were running in every direction. By so doing I obtained a few ounces more of fluid, but did not benefit the patient. It then occurred to me that the only method which promised any success in these cases was to diminish the extent of the thoracic wall by shortening the ribs, and this suggestion was made in a lecture delivered before the Aesclepiion Club, and published in the "New York Medical Journal" for September 11, 1886. I have since had an opportunity of testing its practicability in the following case:

P. B., aged sixty, a native of Ireland, laborer, was admitted into St. Mary's Hospital, September 10, 1886.

The patient stated that he was first taken ill the previous June, when he noticed a difficulty in breathing, fatigue from very slight exertion, and cough. He gave no account of any chill or fever. Since that time his condition had gradually grown worse, and of late he had frequently had night-sweats. He was considerably emaciated, and, upon examining the chest, it was found to be large and rounded, as is seen in the slight general emphysema of approaching senility. The left side was super-resonant throughout. On the right side, below the third rib anteriorly and below the spine of the scapula posteriorly, there was no resonance upon percussion, and the respiratory and vocal sounds were absent. There was no inspiratory expansion below the third rib, and very little above it. The respiratory movements on the left side, though limited, were good for a man of his age. Below the right clavicle, on deep inspiration and coughing, there were occasional fine subcrepitant râles, and the expiration, though somewhat prolonged, was not more so than is common in this situation. There was no elevation of temperature; the pulse was strong—about eighty beats a minute. The sputa were not examined microscopically. Aspiration was attempted, and the needle, upon being introduced through the sixth intercostal space in the axillary region, could be moved freely in every direction, even when introduced its entire length. After the evacuation of four or five ounces of a yellow serous fluid no more could be obtained, but the continued use of the aspirator was productive of great pain, and the intercostal spaces were visibly depressed. The patient's condition was otherwise so good that, though there were slight signs, as before stated, which led us to fear the beginning of a

tubercular deposit at the apex, my colleague, Dr. Glentworth R. Butler, and myself thought that it would be justifiable to attempt to relieve the patient by making a resection, in accordance with the plan I have already described.

On the 4th of October the patient was anesthetized, and we made an incision about three inches long, over the sixth rib, the middle of the incision corresponding to the mid-axillary line. The periosteum was separated for the distance of about an inch and a half, and a piece of the rib of that length removed with the chain-saw, care being taken not to wound the periosteum on the inner side of the rib. A catgut drain was introduced, and the wound closed with a continuous catgut suture. A similar incision was then made over the seventh rib, and a portion an inch and a half long removed, and the wound treated in the same way. The whole was then sprinkled with iodoform and dressed with the manilla-paper dressing of Dr. George R. Fowler.

On the 9th of October, five days after the operation, the dressings were removed, and primary union was found to have occurred in both wounds. There had been no elevation of temperature or other bad symptom. On the 18th it was observed, on palpation, that the cut ends of the ribs had come in contact; there was still some pain in the neighborhood of the cicatrices, but only on coughing or deep inspiration. A strip of strong adhesive plaster was placed on the chest to relieve the pain. The patient's general condition was apparently much improved. His appetite was better and cough diminished. He was allowed to get up and go about the ward.

On the night of October 24th he became very restless and delirious. On the 25th he was more quiet, but his speech became incoherent and he passed into a condition of mental hebetude and became very feeble. The pulse was rapid and weak, and the respiration corresponded. There was no elevation of temperature.

On the 27th the delirium increased in violence so that constant restraint was necessary in order to keep him in bed; still no elevation of temperature; pulse very feeble. On the 29th the bladder and rectum became paralyzed, and it was necessary to use the catheter. The restlessness and delirium progressed until 10 p. m., when he died.

On the post-mortem examination, which was made on the following day, I found that the union of both wounds was complete throughout. The cut ends of the ribs were in contact and firmly united by fibrous tissue without any ossification. On removing a portion of the thoracic wall, the lung was found firmly contracted and carnified, adherent down to the third rib and to the mediastinum as far down as the diaphragm, leaving a space between the lung and the ribs about one inch in depth, which was filled with serous fluid, traversed by many strong, fibrinous bands, some of them apparently in the process of conversion into connective tissue. The upper portion of the lung contained numerous milium granulations, without any patches of lobular hepatization or caseation; it was crepitant throughout, and when thrown upon water floated buoyantly. The lower portions were carnified, but still pervious to air—that is, they did not sink in water. The apex of the left lung also contained milium granulations corresponding in appearance to those in the right, all in the first stage, but they were not numerous enough in either lung to give rise to any marked physical signs. Neither the lower portion of the upper lobe nor the lower lobe of the left lung presented any pathological appearances. The heart showed nothing beyond some dilatation of the right side. The abdominal organs showed no lesions except in the kidneys, where there were fine gray and grayish-yellow granulations. I was not permitted to examine the brain. A microscopical examination of the lungs and kidneys, made by Dr. J. M. Van Cott,

Jr., in the pathological laboratory of the Long Island College Hospital, showed that the miliary granulations were tubercular.

Death was undoubtedly due to tubercular meningitis, as there was no lesion found in any other organ which would account for the symptoms during life, or for the fatal termination.

To this accident we owe the opportunity for investigating the results of the operation.

The points which would seem to be proved by the post-mortem examination are:

1. That in a person beyond middle life, who has suffered for several months from a debilitating disease of this kind, the operation of resection of the ribs can be performed with a reasonable hope of obtaining primary union of the wound.

2. That the operation, if carefully performed, without wounding the internal periosteum or pleura, can be done without the fear of converting a serous into a suppurative inflammation.

3. That it will result in a great diminution in the extent of the cavity, as was shown by the difference in depth of the cavity at the time of aspiration and at the post mortem.

4. That it may be followed by diminution of the cough and expectoration.

Had the operation been done earlier in this case, the patient would probably have made a good recovery. On this account it would be well, when any such case is encountered, where the fluid is not reabsorbed and where its extraction by aspiration is not practicable, to operate at once with a view of allowing the side to fall in and come in contact with the lung, so favoring the absorption of the fluid and the adhesion which would subsequently result in re-expansion. It would probably be better, where the cavity is as large as in this case, to resect at least three or four ribs. Whether it would be advisable, immediately after the resection, to withdraw the fluid with the aspirator, is a question that remains to be determined by future experience; but it might be wiser to trust to its spontaneous absorption than to inflict the additional injury of a puncture upon the patient.

COMPLETE LACERATION OF THE PERINÆUM INVOLVING THE SPHINCTER ANI.*

By P. F. CHAMBERS, M. D.

UNLIKE many and in fact most of the ailments which fall to the gynecologist for treatment, laceration of the perinæum, especially when it extends through the sphincter ani and involves the recto-vaginal septum, is not only susceptible of diagnosis to the specialist, but to any general practitioner, and even to the patient herself. Though one of the most difficult to cure, this is, of all the injuries treated by the gynecologist, the one in which his failure is most easily detected and for which he will receive the severest censure. The anatomy of the perinæum is so thoroughly

described in works on anatomy, and the necessity for the repair of a lacerated perinæum so ably demonstrated in works on gynecology, that it would simply be a recapitulation of a perfectly familiar subject did I now attempt anything of the kind, and, as it is, I may be bringing forward a subject which is perfectly familiar to most of you and an operation which was performed by some of you long before I began to study medicine. I will preface my remarks, however, by saying that I claim nothing original, but simply wish to call the attention of the association to an operation and its methods of procedure which I have had the good fortune to perform eight times within the last eighteen months, and to meet with success in each case with my first attempt. There are none of us, who have had experience in trying to close a lacerated perinæum involving the sphincter ani and recto-vaginal septum, who are not obliged to recall with chagrin cases in which either we have had a failure in the union of the sphincter muscle or in which a few days after we had removed the sutures—supposing that we had been so fortunate as to have a perfect result, and in many cases having been so rash as to tell the patient and her friends that the result was satisfactory—we have found to our horror that there was just above the sphincter a recto-vaginal fistula. A failure in the first—that is, a failure on the part of the sphincter or the perineal body to unite—can readily be relieved by a second operation; but with a failure of the second, or in the formation of recto-vaginal fistula, we are compelled to confess that our patient is not only no better, but in an infinitely worse condition than before we had touched her. The parts being naturally of a delicate organization, their reparative powers are impaired by the operation, and the rule is failure after failure, whoever attempts to close the fistula. With the fistula open the fecal matter passes into the vagina instead of by the sphincter through the anus. And, while before the operation the patient could, by exercising great care, keep herself cleanly, now she will find it an impossibility, and thereby not only be debarred all sexual obligations, but also, on account of the odor, ostracized from society and made repulsive to herself and friends.

Although, as stated above, I claim nothing original, still, from my successes, I feel warranted in taking up the time of the association to the extent of a slight description of my methods of procedure, and a comparison of the methods with those still adhered to by some of the surgeons at the Woman's Hospital, and, in fact, all over the country by those who attempt the operation at all. A very important factor in the case, but which, I believe, is adopted by all, is the preparatory treatment, which does not consist simply in giving a cathartic the night before, but in a thorough evacuation of the intestinal canal by a cathartic pill night and morning for several days before the operation, and the morning of the operation an enema, so as to entirely empty the rectum and sigmoid flexure. A warm vaginal douche is also given just before operation. The patient being etherized and placed upon her back, the legs fixed upon the chest in the lithotomy position, the operation is performed in the following manner: The torn end of the sphincter muscle, on one side, is caught up by a tenaculum, and another, in

* Read at the third meeting of the Alumni Association of the Woman's Hospital.

the upper angle of the laceration, catching a slight hold of the rectal mucous membrane, a strip of tissue of about one eighth of an inch in size—a small part of which is rectal muscle—is removed very carefully with a pair of scissors. The same is repeated upon the other side. Then, before continuing further with the denudation, the rectum is closed in the following manner, using for sutures silk-worm gut: The worm gut is cut into pieces of about ten inches in length, and a needle threaded on each end. With the tenaculum fastened in the angle of the laceration as a fixed point, and held so by an assistant, a needle is passed from the vaginal surface to the rectal, entering on the vaginal surface in the denuded portion, but coming out in the rectal undenuded tissue about one sixteenth of an inch below the denuded edge. The needle on the other end of the suture is passed in a similar manner, and the suture then tied. The tenaculum is then removed, and in its stead the assistant holds the ends of the worm gut, which are purposely not cut off until the next suture is passed and tied; the long ends of the first suture are then cut short, the cut ends being in the rectum, and the long ends of the second suture are then held in a similar way until the third is passed, and so on, the same process being continued throughout, the inner fibers of the sphincter ani being caught up in the same way.

The appearance of the parts is then similar to that of an old laceration down to but not through the sphincter. The second part of the operation consists in the denudation and stitching of the vaginal surface, and that is governed, to a great extent, by the amount of redundant tissue in the vagina. My preference is a repetition of the method adopted upon the rectal surface; but the denudation is, of course, very much more extensive, the denuded surface varying from one fourth to three fourths of an inch on each side of the line of rectal sutures, and, instead of worm gut, silver wire is used. The sutures are passed deeply, the needle entering the undenuded vaginal tissue one eighth of an inch from the denuded edge, just catching up the ridge made by the rectal sutures, and coming out in the undenuded tissue upon the opposite side the same distance from the denuded edge. Instead of twisting the wires, they are held together by forcing over them a little spiral of silver wire and above that a shot. The advantage of the spiral and shot is that, when you wish to remove the sutures, instead of having to insert the point of the scissors into the tissue to cut the wire below the twisted portion, all that is necessary is to remove the shot, the spiral will fall off, and then one end of the suture can readily be caught by the forceps and removed. The silver sutures are removed on the ninth day; the worm gut is allowed to take care of itself, unless it disturbs the patient, when it can be removed any time; but, if allowed to remain, it will disappear in from two to three weeks. The patient is kept upon low diet, and the legs are tied together. At the expiration of from four to seven days the bowels are moved by giving a saline cathartic, and, just before they act, an injection of warm water and oil; the bowels are then kept open. Should hard scybala present and threaten to do damage, it is better for the surgeon to pass his finger very gently, and thoroughly break them up. My chief

motives for preference of this operation over the others are:

First.—The parts are easily brought together, and, as a consequence, there is little if any cutting in the sutures.

Second.—The parts are brought together in their proper anatomical relations.

Third.—There is very little if any pain attending the operation.

Fourth.—The operation is easily performed.

Fifth.—I have never had it fail.

In one of the eight cases I had to perform a second operation for the restoration of the perinæum, as I did not consider the perinæum I had made sufficiently deep and broad. None of the others required any subsequent treatment. I prefer the silk-worm gut over silk, catgut, or silver on the rectal surface for the following reason: The silk-worm is much more reliable than catgut, is not so quickly absorbed, and, being more inflexible, holds the parts in better apposition. It is also more easily tied, and the knot always holds. Its advantage over wire is that it is not absolutely necessary to remove it, and, being kept moist by the secretions of the rectum, its ends are soft and do not pierce the rectal wall as silver wire would. My attention was attracted to the method of first closing the septum by rectal sutures and then the vaginal, by seeing Dr. Thomas adopt it in our private hospital, and I was at once so thoroughly convinced of its superiority over all other methods that I expressed my wish to try it, which met with his hearty approval, and he has kindly given me the cases mentioned, with instructions to work up the operation into a definite system.

ON THE IMMEDIATE TREATMENT OF LACERATION OF THE PERINÆUM.

By F. E. BECKWITH, M.D.,

PROFESSOR OF CLINICAL GYNECOLOGY IN THE MEDICAL DEPARTMENT OF YALE UNIVERSITY; GYNECOLOGIST TO THE NEW HAVEN HOSPITAL.

THE consequences of laceration of the perinæum are subinvolution of the vagina, followed by prolapsus vaginæ, and sometimes by cystocele or proctocele; and prolapsus uteri secondary to these.

In cases in which the sphincter ani is torn through, in addition to the foregoing, prolapsus recti and incontinence of feces and intestinal gas, and sometimes chronic inflammation of the rectum.

Until recently patients failed to complain of beginning proctocele and cystocele, or prolapsus uteri, in conformity with the false tradition universally prevalent among physicians as well as midwives that these ills were the natural results of child-bearing.

This error has been perpetuated by surgical indifference and a desire to escape unfavorable criticism. Fortunately, women have learned that this accident is both frequent and unavoidable, that it causes much suffering, and that it is easily and safely remedied by surgical means.

It is almost impossible to understand how a general practitioner can fail to become familiar with the anatomy and functions of the perinæum, and the results of its rupture when of considerable extent.

It is impossible to understand how, having gained such knowledge, he can doubt the advisability of an immediate operation for its repair.

Although this subject has been hammered into foil by numberless writers, there are still to be met with practitioners who never see a case of rupture; others who do see it, but so rarely that they doubt their senses when they do; and others who regard the perinæum as of no more consequence than the hymen, and its absence after the first delivery as quite normal.

Extent of Laceration requiring Operation.—If the tear extends only to the center of the perinæum, it is unnecessary to close it by suture, although it is good practice to do so. All tears beyond this point to the sphincter ani should be immediately closed, except when, as is rarely the case, the edges of the tear are in a bruised and œdematous condition. Such ruptures are called partial, in distinction from complete, in which the sphincter ani is torn through, and in which immediate closure is inadvisable.

The question naturally arises, Why, in the latter class of injuries, is an immediate operation inadvisable? The answer lies in the fact that the operation for complete rupture, properly performed, is both difficult and tedious, and frequently fails in skillful hands, while that for partial rupture is easy and almost certain to succeed.

After the lapse of twenty-four hours an operation should not be done, but should be postponed until two months after delivery, when involution of both vagina and uterus is complete, at which time only is the operation for complete rupture certain to succeed.

When the patient shrinks, as is natural, from an immediate operation, its advisability at the close of the puerperal period should be insisted upon.

An immediate operation sometimes fails from weariness, haste, or nervousness upon the part of the attendant, with lack of surgical experience; from injurious effect of the urine and lochial discharge upon the wound; from the use of sutures in a superficial way, bringing together the margins only of the skin and leaving a deep pocket behind, in which the discharges collect.

Such an operation restores the surface only of the perineal body.

By means of *serre-fines* this thin veil can be created, but no more. A few practitioners are satisfied with this filmy result, and therefore continue to resort to their use.

Some operators use silk, others catgut or silk-worm gut, but, upon trial, all have been found inferior to silver wire of good size, either No. 27 or No. 26.

I can not add anything to what Thomas has written upon this subject in chapters ix and xi of his work upon "Diseases of Women." Who would "add another hue unto the rainbow"?

"Its rupture furnishes one of the most fruitful sources for the absorption of septic elements, and I do not hesitate to say that thousands of women suffer throughout their lives from uterine displacements, engorgements, and vesical and rectal prolapse in consequence of injuries inflicted upon it during the parturient act. To an imperfect comprehension of the anatomy and functions of the perinæum I attribute, in great degree, the

impression entertained by many practitioners that, in spite of all that is said, its rupture, so long as it does not involve the anal sphincter, is a matter of little moment.

"This dangerous dogma—which, in my mind, renders him who entertains it an unfit person to be intrusted with the grave responsibilities of the lying-in chamber—is always based upon the fact that such a practitioner has seen many perinæums ruptured during labor, and even without interference on his part has, to use the common phrase, 'heard nothing of them afterward.'" (Thomas, chap. ix, p. 165.)

To justify the statements made in this paper, I should present some original evidence tending to prove—

1. That laceration of the perinæum is a frequent accident of parturition.
2. That it is not always spontaneously repaired.
3. That by immediate operation a good result is usually obtained, and almost always a better one than without operation.

I therefore offer a brief summary of the records of 200 cases of labor in primiparæ in which delivery was natural, and which were observed with the object of throwing light upon the subject before us, the immediate treatment of the ruptured perinæum:

Whole number of cases observed, 200; number in which laceration occurred, 124 (62 per cent.); number in which laceration occurred to the sphincter ani, 50 (25 per cent.); number in which no laceration occurred, 76 (38 per cent.); number of cases in which examination and record were made one month after delivery, 102; number in which such examination could not be made, and therefore excluded, 22; (a) number of lacerations left to nature, 73; (b) number operated upon, 29; (c) number of lacerations to sphincter ani left to nature, 21; (d) number of lacerations to sphincter ani operated upon, 20.

a. Results in 73 cases left to nature (all degrees of laceration):

In 5, 1 inch or more united, classed very good (6·8 per cent.); in 25, from $\frac{1}{2}$ inch to 1 inch, including $\frac{1}{2}$ inch, classed good (34·1 per cent.); in 18, less than $\frac{1}{2}$ inch united, classed bad (24·6 per cent.); in 25 no union took place, classed failure (34·2 per cent.).

b. Results in 29 cases of lacerations operated upon (immediately), all degrees of lacerations:

In 11, 1 inch or more united, classed very good (37·9 per cent.); in 12, from $\frac{1}{2}$ inch to 1 inch, including $\frac{1}{2}$ inch, good (41·3 per cent.); in 6, less than $\frac{1}{2}$ inch united, classed bad (20 per cent.); in 0 no union took place, classed failure (0 per cent.).

c. Results in 21 lacerations to sphincter ani left to nature:

In 2, 1 inch or more united, classed as very good (9·5 per cent.); in 10, from $\frac{1}{2}$ inch to 1 inch united, not including union of $\frac{1}{2}$ inch only, classed good (48·3 per cent.); in 6, $\frac{1}{2}$ inch or less united, classed bad (28·5 per cent.); in 3 no union took place, classed failure (14·2 per cent.).

d. Results in 20 lacerations to sphincter ani operated upon (immediately):

In 11, 1 inch or more united, classed very good (55 per cent.); in 8, from $\frac{1}{2}$ inch to 1 inch united, not including union of $\frac{1}{2}$ inch only, classed good (40 per cent.); in 1, $\frac{1}{2}$

inch united, classed bad (5 per cent.); in 0 no union took place, classed failure (0 per cent.).

I believe these statistics tend to establish the truth of the three propositions above made, namely—

1. That laceration of the perinæum is a frequent accident of parturition.

2. That it is not always spontaneously repaired.

3. That by immediate operation a good result is usually obtained, and almost always a better one than without operation.

It is interesting to note that among the 76 cases in which no rupture occurred there were 27 perinæa classed as elastic, and therefore not liable to rupture; and among the 124 in which rupture took place there were 6 classed as friable, and therefore certain to rupture.

The existence of such conditions should be borne in mind when the value of measures to prevent rupture is to be determined.

Correspondence.

LETTER FROM VIENNA.

Primary Abdominal Actinomycosis treated with Curetting and a Dressing of Sublimated Siliceous Guhr.—The Infectiousness of Syphilis in the Absence of Lesions.—The Porro Cæsarean Operation.—Nephrectomy.

VIENNA, February 12, 1887.

AN interesting case of primary abdominal actinomycosis came under observation some time ago at Professor Albert's clinic. The patient, forty-three years old, had sustained a blow from a heavy hammer, which fell on his hypogastric region. In a short time he seemed to have recovered, but, nine months subsequently, a swelling appeared in the lower part of the abdomen, and he was unable to work. When he was examined at Professor Albert's clinic, a fistula was discovered in the umbilical region, which was secreting pus, and in which the characteristic granules of the *Actinomyces* were found. No swelling was disclosed in any other part of the body, and the sputum was free from the fungus. It was suggested at the clinic that the injury might have given rise to an adhesive peritonitis, and this to the formation of a solid callosity into which the *Actinomyces* had made its way from the intestine. Dr. Hoehenegg, Professor Albert's assistant, who had mentioned the case at the Imperial-Royal Society of Physicians before the operation, recently communicated to the same society the result of the operation which was performed by Professor Albert. The abdominal wall was divided in the median line, from the umbilicus to the symphysis pubis, disclosing three fistulae, differing in length, but about as large as a finger, imbedded in a solid callous tissue. The whole tumor, which was of about the size of a child's head, consisted of this colossal callosity. The fistulous tracts were laid open and scraped vigorously with a sharp spoon, after which both they and the abdominal incision were filled with sublimated siliceous guhr (*Sublimat-Kieselguhr*, a paste of siliceous earth and corrosive sublimate). At the very first change of the dressing, there were no longer any *Actinomyces* to be found, and recovery took place in the course of a month, the callosity having wholly disappeared. Dr. Hoehenegg ascribed the good result chiefly to the dressing.

At a recent meeting of the Society of Physicians, Professor Neumann made an important communication concerning the doctrine of syphilis. He read a paper on the different centers

of reproduction of the syphilitic virus, and said, among other things, that he had before shown, in 1884, that, after the visible manifestations of syphilis had passed away, histological changes were still to be recognized in the skin. In such cases he had found numerous exudation cells, round and spindleshaped, in the skin and the mucous membranes. These cells were very infectious, in the early stage of syphilis they increased and proliferated very rapidly, and they were capable of infecting healthy individuals through a lesion of the epidermis. From the presence of these residua of syphilis it was clear how infection from persons apparently healthy was possible. The formation of moist papules in situations commonly exposed to friction, to high temperature, and to maceration in sweat was explained in the same manner, also psoriasis membranæ mucosæ, effluvium capillitii, psoriasis plantaris et palmaris, and so on. In the tertiary stage the exudation cells increased much more slowly, and were less infectious and less irritating to the neighboring tissue. At a later stage, they inclined toward the formation of connective tissue and toward hypertrophy, and at last underwent a caseous destructive process. They were always present during the latent stage of syphilis, and were a continual source of danger to the health of the individual.

At the General Hospital, Professor Breisky recently performed the Cæsarean operation, in a case of narrowing of the pelvis from osteomalacia. The woman, thirty-six years old, was pregnant for the fifth time. In her first labor, delivery was spontaneous; in the second, manual aid had to be rendered, owing to a presentation of the pelvic pole; in the third, the forceps had to be applied, on account of narrowing of the pelvis; and in the fourth, which took place April 6, 1885, it seemed at first that there was no hope of delivery *per vias naturales*, but a yielding of the pelvis was suddenly manifested, which made it possible to turn and extract. On the present occasion, in the fifth labor, the pelvis was found contracted to such a degree, owing to the progress of the osteomalacia, as to demand a resort to the Cæsarean operation.

At a recent meeting of our all-absorbing Imperial-Royal Society of Physicians, Dr. Ullmann, an assistant of Professor Albert's, gave an account of the good result of a nephrectomy for carcinoma of the kidney, performed by Professor Albert. It appeared that, a year ago, the woman suffered with pain in micturition, but that the urine remained clear and yellow. Since then, a solid, smooth, movable tumor had developed in the right hypogastric region, which could be pushed back into a fossa of the right lumbar region. On injecting liquid into the rectum, the intestines became inflated and covered the swelling. There was nothing abnormal about the urine, except that blood-corpuscles were found in the sediment. Well-developed trabeculae interfered with attempts to sound the ureters. Although there was no decisive evidence of disease of the kidney, Professor Albert made the diagnosis of tumor of the right kidney, and performed nephrectomy on the 21st of November. He made an incision from the eleventh rib downward and toward the median line. Although care was taken to avoid it, the parietal peritoneum was torn during this manipulation, whereupon the operator considerably lifted the tumor, and worked both within and without the peritoneum. After the ligation of the ureter and the vessels, there was no great trouble. The peritonæum was now sutured, a roll of iodoform gauze was applied in the neighborhood of the liver, and the abdominal wound was brought together with sutures. No fever occurred, and the patient recovered promptly. The tumor proved to be an adenocarcinoma, weighing 840 grammes. There were little knobs on its surface and little cavities in its interior; there was also a process of healthy tissue which, as was to be seen with the microscope, was continued into the carcinoma.

THE

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THE PROGNOSIS IN VALVULAR AFFECTIONS OF THE HEART.

PROBABLY in nothing else is the young practitioner so much at sea as in the matter of prognosis, or so frequently the subject of derision at the hands of the laity. The importance of prognosis as an element of medical knowledge is often overlooked by authors and teachers, yet scarcely a day passes that a physician is not met with questions as to prognosis that demand for their solution a deep knowledge of the probable course, the effects, and the duration of some disease, and this is particularly true of diseases of the heart. A lad is brought to us, for example, with a damaged heart, and our advice is asked as to what course of life he ought to pursue. Shall we entail upon him a life-long course of idleness and incapacity? Another desires to marry. Shall we dissuade him from taking this step? A third is leading an active business life. Shall he be advised to retire and perhaps live in obscurity and comparative poverty the rest of his days—which may be longer than we predict? In view of the importance of such questions, the profession can but feel grateful to Sir Andrew Clark for presenting, at the last meeting of the British Medical Association, the results of his vast observation, as is to be found published in the association's "Journal." What makes his remarks of particular value to the general practitioner is the fact that they treat of cases observed in private practice for a long term of years. More than this, they throw a ray of hope and encouragement into the darkness of despair brought about by the teaching of Laennec and the subsequent pathological school. The very title under which they are grouped is comforting—"Cases of Valvular Disease of the Heart known to have existed for over Five Years without Causing Symptoms." He has tabulated *in extenso*, with great care and precision, all the cases of which he has notes, occurring between 1873 and 1886—684 cases in all. Apart from the cardiac symptoms, the persons applied for advice on account of the most varied manifestations. In selecting his cases, the author excluded all instances of mere "murmurishness," all of murmurs that were inconstant and intermittent, all of murmurs occurring within the pulmonary and tricuspid areas, and all of murmurs, of whatever kind, in patients who, independently of cardiac examinations, had subjective or objective symptoms of heart disease. Attention is drawn to some "afternoon" cases, as the author styles them (eleven in number, not included in the tables), which very graphically illustrate the long duration of cardiac disease without characteristic symptoms. We can refer only to two of them.

In one instance, in 1842, the house-governor of one of the

largest hospitals in London was rejected by a life insurance company on account of a damaged heart, and was told that he might not live longer than six months. In consequence of this he was superannuated, on full pay, by the hospital committee. In 1854 this person consulted the author for indigestion, and at that time a loud, rasping systolic murmur was heard, not only in the mitral area, but all over the left side of the chest. Beyond the symptoms of indigestion, due to the patient's indiscretions, the murmur was the only evidence of cardiac disease. Without being particularly careful, he continued to live, work, and enjoy life until 1874, when, at an advanced age, he died of an acute bronchitis.

In another case, that of a lad sixteen years old, there was enlargement of the heart, a loud systolic bruit was heard in the mitral area, there were direct and regurgitant aortic murmurs, the impulse of the heart was diffuse and heavy, the cervical veins were rather full, and the pulse was somewhat jerking and collapsing. The boy said he suffered nothing, but felt quite well. The family had been told that he was the subject of grave heart disease, and the consultation had been sought for merely to ascertain by what means his life could be prolonged as much as possible. They were advised to follow out their intention of giving the lad a university education, which they did. This was fifteen years ago, and now the subject of the consultation is the incumbent of one of the largest parishes in England, and continues to pursue an active, useful, and comfortable life.

Sir Andrew Clark expresses himself to the effect that organic murmurs of the heart, although firmly established and lasting for some years, may eventually disappear, and cites several cases illustrating the fact. What are the conditions which justify a favorable prognosis in a given case of valvular heart lesion? According to the author, they are the following: (a) good general health; (b) proper habits of living; (c) no essential liability to rheumatic or catarrhal affections; (d) an origin of the valvular lesion independent of degeneration; (e) an existence of the valvular lesion for over three years without change; (f) sound ventricles of moderate frequency and general regularity of action; (g) sound arteries, with a normal amount of blood and tension in the smaller vessels; (h) a free course of the blood through the cervical veins; (i) freedom from pulmonary, hepatic, or renal congestion. To these must be added obedience to properly adjusted rules of health, which, however, need not interfere with the performance of the usual duties of life.

The author sums up as follows: 1. There are many persons with long-standing disease of the heart engaged in the active business of life, who, without any symptom of heart disorder, have enjoyed good health and have reached an advanced age. 2. The mitral regurgitant murmurs so often encountered in chorea disappear for the most part within eight or nine years of the attack. 3. Valvular inflammations and their effects arising in the course of rheumatic fever, do sometimes disappear and leave behind no clinical evidence of their former existence; this occurs, for the most part, in the young, but also

sometimes in the middle aged. 4. The signs of valvular defects arising out of degenerative changes of middle life do also, on rare occasions, disappear, and, when circulatory and respiratory disturbances accompany their beginning, they sometimes subside and admit of apparently complete readjustment. 5. As there must be, in the histories, habits, occupation, and surroundings of patients with valvular disease, conditions which in one case bring about secondary disorders, and in another exempt from them, these differences should be searched for and made capable of application in practice. 6. Any systematic and critical study of the subject, likely to lead to practical issues, could be undertaken only by the Collective Investigation Committee, and not by it unless actively assisted by experienced general practitioners who possess in a special manner the knowledge necessary to the end in view. 7. A joint inquiry of the kind proposed, conducted with due patience, discrimination, and accuracy, would greatly extend our knowledge of the natural history of diseases of the heart, and largely increase our means of assisting those who suffer from them.

MINOR PARAGRAPHS.

THE POLITICAL STATUS OF THE MEDICAL PROFESSION IN ENGLAND.

THE "Saturday Review" having lately expressed apprehension of the growing political influence of medical men, the "Lancet," while it admits that some improvement has been made during the last fifty years, declares that, far from there being any danger that the medical profession will constitute a political organization by itself, the deficiency of its influence in public matters is astounding. "The affectation of superiority on the part of the commercial sections of the community," it says, "tolerated by the common sense of the people, is one of the most convincing proofs that we of England have as yet no solid ground for the pretension to a front place in the intelligence of nations. In no other of the more enlightened nationalities are medical men so lightly esteemed or so grudgingly recognized as a power in the state as in our own country."

THE CITY BOARD OF HEALTH.

THE Governor has at length taken action in the matter of Mayor Grace's attempt to remove General Shaler from the office of president of the board, and has ratified Mr. Grace's action. It is to be hoped that whoever is appointed as the new member of the commission will prove to be a capable and public spirited man, but the chance of his proving to possess the requisite qualifications as to sanitary knowledge is awkwardly narrowed by the absurd provision of the law which requires that the president of the board shall not be a practitioner of medicine. It has been rumored that the place has been offered to Professor Chandler, and that he has positively declined to accept it, which is very much to be regretted.

THE STABLE REFUSE BILL.

It is gratifying to observe the energy with which an organization of ladies is protesting against Senator Cullen's bill providing a place of storage for stable refuse within the city. At a recent meeting of the society's directors, Dr. Alexander Hadden and Dr. John C. Peters appeared on the part of the Medical Society of the County of New York, and very properly coincided with the ladies in their estimate of the provisions of the

Cullen bill. The impression is gaining ground that the bill has but a slender chance of becoming a law, but that impression should not be allowed to repress the wholly justifiable opposition of those who have the sanitary interests of New York at heart.

THE ACADEMY OF MEDICINE'S SECTION IN PRACTICE.

THE section is to be congratulated on what we may assume will be the character of the discussion which will follow the reading of Dr. Billington's paper on "Local Treatment in Diphtheria," next Tuesday evening. In addition to the gentlemen whose names are printed on the card of announcement, we learn that three others, including Dr. J. Solis-Cohen, of Philadelphia, are expected to take part. Dr. Billington's previous papers on diphtheria proved of exceptional interest, both to the audiences before which they were read and in their published form. It is not to be wondered at, therefore, that the announcement of another contribution from him should secure the presence of a number of the busiest members of the profession.

THE APPROPRIATION FOR THE INTERNATIONAL MEDICAL CONGRESS.

IN another column will be found a statement of the reduction of the appropriation made by Congress from \$50,000, the sum asked for, to \$10,000. We now learn that it is provided that the amount appropriated is to be expended under such regulations as the Secretary of the Treasury may prescribe, also that no part of the appropriation shall go toward paying the personal expenses of any delegate, and no money shall be expended except upon vouchers to be approved by the Secretary of the Interior.

THE "MEDICAL STANDARD."

THIS is the title of a new monthly journal the first number of which, dated February, 1887, has recently reached us. It is a large octavo of thirty-two pages, very handsomely printed and having an attractive table of contents, including original contributions, editorials, abstracts, society reports, book notices, and miscellaneous items. It is published by Messrs. G. P. Engelhard & Co., of Chicago. We do not find the editor's name mentioned, but it is abundantly evident that his work has been done with unusual ability.

THE "SACRAMENTO MEDICAL TIMES."

THE first number of a new monthly journal with this title, dated March, 1887, has been received by us. It is an octavo of forty-two pages, edited by James H. Parkinson, L. R. C. S. L. The first issue contains a judicious arrangement of original articles, reports on the progress of medicine, society proceedings, and editorials. The "Times" makes a creditable appearance, and will doubtless prove a valuable addition to the list of our periodicals.

ITEMS, ETC.

The Medical Microscopical Society of the City of Brooklyn.—A meeting of physicians interested in microscopy was held at the house of Dr. Herbert Fearn, 196 Clermont Avenue, Brooklyn, on Wednesday evening, February 16th, and a society with the foregoing title was organized, having medical microscopy for its object. The society is to meet on the first Wednesday evening of each month. Officers were elected as follows: President, Dr. William H. Bates; vice-president, Dr. Arnold Stub; secretary, Dr. Frank M. Hoyt; corresponding secretary, Dr. Henry D. Bliss; treasurer, Dr. Albert Brinkman.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Fourth Division of the Health Department for the following statement of cases and deaths reported during the two weeks ending March 8, 1887:

DISEASES	Week ending Mar. 1.		Week ending Mar. 8.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever.....	8	4	6	5
Scarlet fever.....	63	15	54	15
Cerebro-spinal meningitis....	5	5	2	2
Measles.....	250	34	213	17
Diphtheria.....	55	38	93	39
Small-pox.....	20	3	15	1

The Medical Department of Howard University, of Washington, held its eighteenth annual commencement exercises on Wednesday evening, the 9th inst., when degrees were conferred in medicine, in dentistry, and in pharmacy. An address to the graduates was delivered by Professor Thomas B. Hood.

The Medical Department of the University of the City of New York held its forty-sixth annual commencement exercises at the Academy of Music on Tuesday evening, the 8th inst. The degree was conferred on a hundred and fifty-one candidates.

The Wakley Convalescent Home.—The "British Medical Journal" announces that the late Dr. Wakley bequeathed to the University College, of London, his residence at Longcross, together with eight acres of land, for the purposes of a convalescent home for patients from the hospital, as a memorial of his father, the founder of the "Lancet"; also £1,000 to be expended in the maintenance of the home, at the rate of £200 a year.

The European Faculties.—According to the "Lancet," Dr. H. J. Meier has been given temporary charge of the late Professor Schroeder's clinic at the University of Berlin; Professor Zweifel, of Erlangen, has accepted the chair of obstetrics at Leipsic; and the chair of chemistry at Bordeaux is advertised as open to competition.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from February 20, 1887, to March 5, 1887:*

TESSON, LOUIS S., Captain and Assistant Surgeon. Ordered for duty as attending surgeon at Headquarters, Division of the Missouri, and examiner of recruits at Chicago, Ill. S. O. 44, A. G. O., February 24, 1887.

BARROWS, CHARLES C., First Lieutenant and Assistant Surgeon. Resignation accepted by the President, to take effect February 17, 1887. S. O. 42, A. G. O., February 19, 1887.

BLACK, CHARLES S., First Lieutenant and Assistant Surgeon. Ordered from Fort Clark, Texas, to Fort Davis, Texas. S. O. 23, Department of Texas, February 18, 1887.

MASON, CHARLES F., First Lieutenant and Assistant Surgeon. Resignation accepted by the President, to take effect March 25, 1887. S. O. 44, A. G. O., February 24, 1887.

GREENLEAF, CHARLES R., Major and Surgeon. Ordered for duty in the office of the Surgeon-General of the Army. S. O. 41, A. G. O., February 18, 1887.

HUNTINGTON, D. L., Major and Surgeon. Will be relieved from duty in the office of the Surgeon-General, to take effect March 1, 1887. S. O. 41, A. G. O., February 18, 1887.

HUNTINGTON, DAVID L., Major and Surgeon. Ordered for duty at San Diego Barracks, California, and granted leave of absence for one month from March 1, 1887. S. O. 45, A. G. O., February 25, 1887.

WHITE, ROBERT H., Captain and Assistant Surgeon. On being relieved by Major Huntington, to proceed to Angel Island, California, and report to commanding officer for duty at that post. S. O. 45, A. G. O., February 25, 1887.

GRAY, WILLIAM W., Captain and Assistant Surgeon. Leave of absence for seven days is extended twenty-three days. S. O. 13, Department of Dakota, February 21, 1887.

Marine-Hospital Service.—*Official List of Changes of Stations and Duties of Medical Officers of the United States Marine-Hospital Service for the five weeks ended March 5, 1887:*

GUITÉRAS, JOHN, Passed Assistant Surgeon. Granted leave of absence for twenty-one days. February 28, 1887.

PETTUS, W. J., Assistant Surgeon. To proceed to Charleston, S. C., for temporary duty. February 28, 1887.

Society Meetings for the Coming Week:

MONDAY, *March 14th:* New York Academy of Medicine (Section in Surgery); New York Ophthalmological Society (private); New York Medico-historical Society (private); Lenox Medical and Surgical Society (private); New York Academy of Sciences (Section in Chemistry and Technology); Boston Society for Medical Improvement; Gynecological Society of Boston; Burlington, Vt., Medical and Surgical Club; Norwalk, Conn., Medical Society (private).

TUESDAY, *March 15th:* New York Academy of Medicine (Section in Theory and Practice of Medicine); New York Obstetrical Society (private); Medical Society of the County of Kings; Ogdensburg, N. Y., Medical Association.

WEDNESDAY, *March 16th:* Harlem Medical Association of the City of New York; Northwestern Medical and Surgical Society of New York (private); Medical Society of the County of Alleghany, N. Y. (quarterly); New Jersey Academy of Medicine (Newark); Philadelphia County Medical Society (clinico-pathological).

THURSDAY, *March 17th:* New York Academy of Medicine; New Bedford, Mass., Society for Medical Improvement (private).

FRIDAY, *March 18th:* Chicago Gynecological Society.

SATURDAY, *March 19th:* Clinical Society of the New York Post-graduate Medical School and Hospital; Roman Medical Society (private).

Letters to the Editor.

THE OBLIGATION TO OBSERVE OFFICE-HOURS.

NEW YORK, *March 8, 1887.*

To the Editor of the New York Medical Journal:

SIR: If a physician announces certain office-hours, does he not incur an obligation to observe them? And is it not an evidence of moral obtuseness on his part for him to expect the persons waiting to see him to take it as a matter of course that he is generally from one to three hours late in appearing and beginning his morning's business? What, may I ask, do you think of such conduct? AN IMPATIENT PATIENT.

** An occasional failure to keep the appointment implied in a public announcement of office-hours is unavoidable, and we have no doubt our correspondent would overlook it; but habitual laxity in this matter seems to us discreditable, not to say reprehensible, and is pretty sure, we think, to impair the support given by the community to those who are addicted to it.

Proceedings of Societies.

NEW YORK ACADEMY OF MEDICINE.

Annual Meeting, January 6, 1887.

The President, Dr. A. JACOBI, in the Chair.

The Antiseptic Treatment of Summer Diarrhœa.—A paper with this title was read by Dr. L. EMMETT HOLT. [See page 113.]

Dr. R. W. WILCOX had employed naphthalin in thirty-two cases of diarrhœa, chiefly in adults, and he had come to feel as much confidence in its efficacy under certain circumstances as in mercury in the treatment of syphilis or quinine in the treatment of malarial affections. The most frequent cause of failure with naphthalin in the treatment of diarrhœa in adults was the neglect to administer it in sufficiently large doses. He gave sixty grains a day, and had given as much as a hundred and twenty grains. He gave it in capsules, with oil of bergamot. Histories of typical cases were related in which its use had resulted in the cure of chronic diarrhœa of years' duration. He had also given it in two cases of typhoid fever, and thought that it acted as an antipyretic by disinfecting the intestinal tract.

Dr. ANDREW H. SMITH said it had often occurred to him that the best way of managing cases of summer diarrhœa was to treat them antiseptically. He thought the success attending the use of many domestic remedies was due to their antiseptic qualities—such remedies as the mints and essential oils. As far as his experience extended, it corresponded with that of the author.

Dr. R. VAN SANTVOORD had had considerable experience in the treatment of summer diarrhœa in inmates of the Randall's Island Hospital, and he thought the general conclusions of the author should be strongly emphasized—viz., that a diarrhœa was primarily a result of indigestion, and that, when a diarrhœa continued, and there existed inflammatory changes within the intestine, probably caused by putrefaction and fermentation, the indications were to render digestion what it should be by preventing such fermentative and putrefactive changes. With reference to the use of opium, he had been accustomed to employ it only when the passages were watery and frequent, and he administered it subcutaneously, together with atropine. He regarded the effects of bismuth as due to an antiseptic, and not to a mechanical, action. When he employed it he gave directions for taking it after each meal. He had recently used free injections of some astringent solution, to wash out the colon; to remove the mucus which covered the membrane, he combined some alkali with the injection. He had a general impression in favor of the method. Nothnagel's observations suggested the value of adding a little salt.

The PRESIDENT heartily agreed with what Dr. Holt had said regarding antiseptic treatment. Thirteen years ago he had expressed in a paper the view that bismuth was an antizymotic. He thought it was impossible to relieve a severe attack of summer diarrhœa without stopping the ingestion of milk for a number of days. There were plenty of substitutes, and the one which he had used most was raw white of egg mixed with some farinaceous substance, usually barley-water. While raw beef was often beneficial, its use was attended with the danger of developing tape-worm.

Dr. G. L. PEARBODY had, during the last year, come to look upon naphthalin as a very valuable addition to our remedies in the treatment of a variety of intestinal complaints. He was confident he had seen several cases of typhoid fever, in which

the patients had entered the hospital in the early stage, apparently aborted with naphthalin. He gave sixty or eighty grains during the twenty-four hours, in repeated doses. In a man who had had diarrhœa for twenty-one years, with never fewer than seven movements a day, naphthalin was employed, and within ten days he was entirely cured. Other severe cases had been treated with this drug with marked results.

Dr. W. M. CARPENTER said, as bearing on the antiseptic treatment of diarrhœas, that he had seen greater benefit from the regular use of old cider, a glassful three times a day, than from any other remedy in patients who had contracted the diarrhœa in the army. He had also seen chronic cases of diarrhœa, those dysenteric in character, and also some of the tubercular variety, greatly benefited or cured with salicin.

NEW YORK SURGICAL SOCIETY.

Meeting of February 9, 1887.

The President, Dr. CHARLES MCBURNEY, in the Chair.

A Case of Cirroid Aneurysm treated by Simultaneous Ligature of both of the External Carotids.—Dr. T. M. MARKOE presented a patient with the following history: James S., aged twenty, a marine, about five years ago had been struck with a club on the left side of the head near the parietal eminence. A small lump had remained after the injury, which had slowly increased in size, and in the course of two years had become a pulsating tumor. He was admitted into the New York Hospital the last of June, 1886, and then presented a large, soft, fluctuating tumor, situated over the left parietal bone, toward which several large and tortuous branches of the temporal artery converged, and into which they manifestly opened. The same condition existed, though to a less degree, on the right side. The occipitals seemed to be but slightly involved. The pulsation was very marked in all parts of this mass of enlarged vessels, notably so in the central enlargement. A thrill was felt on placing the finger upon the vessels, and also a feeble bruit. The entire series of vessels was easily compressible. The patient had no pain, only a sense of discomfort about the head, and when he stooped, or made a violent effort, he felt a distressing sense of distension. The same was true if he indulged in drink. He was very anxious to obtain relief, as the tumor had grown so rapidly as to cover the entire left side of the scalp, and the vessels were beginning to dilate on the opposite side. It was decided to tie both of the external carotids, a procedure warmly advocated by Bruns, of Tübingen, because it seemed as if the circulation through the scalp could thus be controlled most effectually. The operation was performed on July 9th, and the dressings were not disturbed until the 27th, when it was found that the wounds had healed perfectly except at one small point, which was well in a few days.

It was found at the time of the operation that the central mass consisted of a large ampulla, with which several dilated arteries communicated. The pulsation had ceased after the operation and the dilated vessels had gradually disappeared, but the ampulla still remained, although it no longer pulsated. Although the cure in this case was not perfect, ligation of the carotids seemed to give the best results. Extirpation of the tumor was another alternative, but it was limited to cases in which the mass was circumscribed. It was sometimes successful, but often fatal.

In reply to a question from Dr. Wyeth, the speaker said that the carotids had been tied below the lingual arteries so as to control the circulation through the occipitals. There had been very few cases in which any operation had been performed, successful except those in which extirpation could be accomplished.

He recalled an instance in which the late Professor Van Buren had tied in succession every artery that entered the tumor, without producing any visible effect upon it. If employed in any early stage of the disease, this operation of ligature of both external carotids promised much.

Dr. WYETH remarked that this was the first case that he had seen in which both carotids were tied to cure cirroid aneurysm. Up to within twelve years the external carotid had only been tied about sixty-seven times, but since then the operation had been performed very often, and there had been, so far as he had noticed in the journals, no dangerous secondary hæmorrhage in any instance where animal ligatures had been used. The speaker said that he had tied the external carotid five times below the origin of the lingual (on both sides in one instance), and even at the very point of bifurcation.

Dr. SIMSON said that there still seemed to be marked pulsation in the vessels, and he asked if it might not increase.

Dr. MARKOE replied that the pulsation was certainly diminishing; it was possible now, he added, either to inject some coagulating fluid or to excise the entire mass, if it seemed desirable.

Dr. SIMSON remarked that in the successful cases which had been reported the central cavity itself had been destroyed; tying the arteries was only a preliminary step in the operation, which alone was rarely sufficient to effect a complete cure.

The PRESIDENT doubted if it was possible to effect a radical cure of cirroid aneurysms without encircling the entire tumor. He had produced some benefit by tying the main artery, but the pulsation had eventually returned. His last case had been one of large pulsating orbital tumor, to cure which he had ligated the common carotid artery, when the pulsation had nearly disappeared, but had gradually recurred. He had then dissected out the tumor entire, fifty vessels requiring ligature in spite of the fact that the main artery had previously been tied. When the patient was last seen the pulsation had stopped.

Dr. WYETH referred to a case of Mussey's in which he had tied both common carotids, and had been even then obliged to dissect out the tumor.

Abscess of the Head of the Tibia; Resection of the Knee

—Dr. POORE presented a girl, eleven years of age, who had always had some trouble in her knee. About eighteen months before it had become flexed and ankylosed. Last October he had excised the joint, and had found an abscess in the head of the tibia above the epiphyseal cartilage; this had been thoroughly scraped out and drained. The patient had recovered rapidly, the wound healing under two dressings. There was slight motion and about one inch shortening. The patella had been removed. In reply to a question from Dr. Markoe, the speaker said that he had never seen cases in which the ligamentous union had yielded after a time. In answer to the president, he stated that after scraping out the abscess-cavity he had introduced a drainage tube through the bone. He had drained several joints in this way, and believed that a good deal of bone was thus saved.

Prolapsus Ani.—Dr. LANGE announced that a patient upon whom he had performed the new operation for prolapsus ani was unable to be present. He presented a patient from whom he had removed a sarcoma of the rectum by drawing down the gut and excising it. He had attempted to form a constriction by uniting the muscles in the manner described at the former meeting. The patient had perfect control over her sphincter when her bowels were somewhat constipated, but not when they were loose. She was obliged to wear a napkin, but seldom soiled it.

Dr. SIMSON examined the patient, at Dr. Lange's request, and stated that he found an orifice admitting the index-finger as far as the second joint; beyond this point there was a firm

cicatricial mass which it was impossible to pass. When the patient was told to contract her muscles, the contraction of the levators ani could readily be felt.

A Hospital Experience; or, Four Months' Operative Work at the New York Hospital.—A paper with this title was read by Dr. R. F. WEIR. [See page 281.]

ALUMNI ASSOCIATION OF THE WOMAN'S HOSPITAL.

Third Meeting.

(Continued from page 218.)

Complete Laceration of the Perinæum, involving the Sphincter Ani.—Dr. P. F. CHAMBERS, of New York, read a paper with this title. [See page 294.]

The PRESIDENT (Dr. T. A. Emmet) said that he thought the device of the spiral and its method of application were both ingenious and useful. The operation was essentially that of the interrupted suture which he had been doing for the past sixteen or seventeen years. This method seemed to him the only proper one. He believed that the secret of success in the operation consisted in moving the bowels every day—in other words, in keeping the stools soft. An important point in the operation, in case the sutures were twisted (instead of the method of the reader of the paper), was that they be not twisted too tightly.

Dr. VAN NESS inquired whether, in cases in which sutures of silk-worm gut were used, as recommended by the reader of the paper, the suturing material was absorbed.

Dr. CHAMBERS replied in the negative; a portion of them dropped out after ulceration, and the others remained, to be removed by the surgeon.

Dr. J. D. EMMET inquired as to the originator of the spiral which was used in the operation under discussion.

Dr. CHAMBERS replied that he did not know; that his attention had been called to its usefulness two years ago, while in London, by Dr. Robert Barnes.

Dr. A. F. CURRIER said that he approved of the reader's method of operation, and thought that the primary closure of the rectal rent by interrupted sutures secured within the rectum was the most satisfactory method of operation which had been devised. He agreed with the reader that worm-gut was probably the best material for sutures within the rectum. In operations last year he had used catgut and whale-tendon for the rectal sutures. The former had given satisfactory results; the latter had been unsatisfactory, as it had been dissolved too quickly. The whale-tendon had also been tried without satisfactory result in a case of extensive recto-vaginal fistula just behind the sphincter ani, but in a syphilitic patient. In that case the fistula was first closed *per rectum* by a line of sutures in the long axis of the rectum, and then *per vaginam* by a line of sutures in the transverse axis of the vagina. The result had been a failure, as he feared it must be in most cases in which the tissues had been poisoned by syphilis. His attention had first been called to this fact while in the Woman's Hospital by a case in which Dr. Hunter had operated three times and had always failed of success.

The speaker believed thoroughly in the necessity of evacuating the intestines completely before performing this operation. To accomplish this, the use of cathartics should be begun at least a week before the time of operating. Failure resulted in many cases because large masses of fecal matter forced their way down on the third or fourth day after the operation. The speaker believed with Dr. H. T. Hanks, who had made some excellent observations upon this subject, that the bowels should be moved daily and kept loose.

The PRESIDENT believed that the operation should never be

done in cases in which there was a history of syphilis. He had called the attention of the late Dr. Bumstead to this matter, and the latter had fully coincided with his views, and had expressed his opinion to that effect.

Dr. W. G. WYLIE related the history of a case that had been sent to him by Dr. W. T. Bull, in which there had been laceration through the sphincter ani, with a history of precedent syphilis. He had operated, and, although the result had not been all that could have been desired, he had succeeded in giving the patient a useful sphincter.

The PRESIDENT thought that this case was an exception to the rule. In his experience, operations upon the sphincter had only made the patient worse in such conditions, and, if a stricture was present, it was made worse rather than better.

Dr. E. C. DUDLEY said that he was in the habit of closing the rectal wound with silver wire, beginning to pass his sutures at the angle of the rent, after suitable paring of the tissues. He believed that silver was preferable to all other substances as a material for sutures. Trouble did not necessarily follow if the sutures were not removed, and he admitted that he had formerly had difficulty in removing them. Now he introduced a small Sims's speculum into the rectum, and with its aid had no trouble in removing the sutures. He believed that the best plan in respect to moving the bowels was to begin on the second or third day after the operation, and cause them to be moved daily thereafter.

Dr. A. P. DUDLEY said that it was an important question as to how long the sutures should be allowed to remain. He thought there was often a tendency to remove them too soon after the operation. He had done the operation five times, and had been successful in all cases but one. In that case menstruation had occurred soon after the operation was performed, and the blood had apparently softened one of the catgut sutures. A fistula remained at that point, though all the rest of the wound had healed satisfactorily. He believed that particular pains should be taken to keep the bowels open. His plan was to give citrate of magnesium in doses of a wineglass sufficiently often to keep the feces soft. In one of his cases he had allowed the sutures, which had been shouldered and shotted, to remain twenty-three days, and the result had been a success where failure had seemed imminent.

The PRESIDENT thought that there should always be borne in mind, when passing sutures, an essential difference which obtained between silver and silk, or gut—viz., that the silver was unyielding, and should be passed a quarter of an inch, or more if necessary, from the edges of the wound. If the suture was properly twisted and shouldered, there would be no tendency on the part of the edges either to fold or gape, while, with any of the very flexible suture materials, which must be secured by tying, the sutures must be passed quite near the edges.

Dr. E. C. DUDLEY thought that the method of moving the bowels immediately after, or within a few hours after, operation was objectionable, as it was liable to excite or increase congestion, and might have an unfavorable effect upon the healing process.

Dr. J. B. HUNTER said that he had done the operation under discussion eighteen times within the past six years, had sometimes found it necessary to operate two or three times before being successful, and had failed entirely in two cases. He had tried various methods, but preferred the one which was begun by raising the crest of the proctocece. He used silver for sutures both in the rectum and in the vagina. He thought that twisting the suture gave better control over the wound than the use of the spiral. Perforated shot were sufficient to secure the suture without the use of the spiral. He thought that the silver

wires could usually be removed without trouble. It was important that they should be so twisted that there would be no tension upon the wound.

Dr. CHAMBERS, in closing, said that, in his opinion, the worm-gut was more efficient for suturing purposes than either silk or catgut. He also thought it had decided advantages over silver wire. His plan was to leave the ends of the sutures hanging from the anus. Another advantage over the silver wire was that there was no irritation or pain from the worm-gut during the process of healing.

Book Notices.

Nervous Diseases and their Diagnosis: a Treatise upon the Phenomena produced by Diseases of the Nervous System, with especial reference to the recognition of their Causes. By H. C. WOOD, M. D., LL. D., Member of the National Academy of Sciences. Philadelphia: J. B. Lippincott Company, 1887. Pp. 11-17 to 501. [Price, \$4.]

Dr. WOOD is a prolific writer, and in the past has added much to the literature of neurological medicine. His essay upon sunstroke and his researches in regard to the existence of a heat center have gone far in establishing for him a reputation as a painstaking investigator and able author. It is therefore disappointing to find him the maker of a carelessly and hastily prepared book, no matter what may be its merits in other ways. Perhaps the present unsettled state of the nomenclature of nervous diseases may have something to do with this want of system, and in his desire to be exact Dr. Wood oscillates between ætiological and pathological distinctions, and in consequence we find an eccentric disposition of matter and a want of coherency. We find, however, that what he says bespeaks a familiarity with his subject. There is a looseness of definition, with a straining after differentiation, which amounts to pessimism. This is seen in many places—noticeably on p. 202 and succeeding pages, where he considers vertigo.

Dr. WOOD is an able clinician, and this makes the book valuable notwithstanding these defects of construction. His observations are practical and to the point, and show careful study of the large number of cases which have fallen under his care. In this respect the book reminds one of Wilks's excellent treatise.

The author's diagnostic suggestions are very useful, and we know of no better and more easily understood directions than those which pertain to the use of electricity (though nothing is said of the milliamperemeter), the determination of visual defects, etc.

The book concludes with a chapter upon "Disturbances of Intellection," which is based for the most part upon Folsom's article in Pepper's "System," but lacks the arrangement of the latter, and the author has not adopted the advanced form of "primary" and "secondary delusional insanity," though he loosely describes monomania. Dr. WOOD is at his best in pure neurology, and in the early part of his book he seems cognizant of, and freely refers to, recent continental literature. It would appear, after reading the last chapters, upon psychiatry, that he had either never seen the classical and comparatively recent works of Schüle, Krafft-Ebing, and others, or had preferred to take their views second-hand from an American writer. Though following the fashion of modern writers by advising the medical man of the impossibility of framing a definition of insanity, he nevertheless attempts it with the usual success.

Despite these defects, the work is one that is likely to be of great use, and it certainly marks an advance in our study of neurological medicine.

Wear and Tear, or Hints for the Overworked. By S. WEIR MITCHELL, M. D., LL. D. Harv., Member of the National Academy of Sciences, President of the College of Physicians of Philadelphia, etc. Fifth Edition, thoroughly revised. Philadelphia: J. B. Lippincott Company, 1887. Pp. 76. [Price, \$1.]

If the saying that "true ease in writing comes from art, not chance," is sound philosophy, Weir Mitchell is certainly a Raphael of the pen. His perceptive faculties are acute, his analytical powers are good, and his mode of seeing things is at once quaint and striking. That the result of these psychological attributes should be good readable prose is not extraordinary, but that there should be music as well in words and sentences presupposes something more than a good scientific mind. In truth, as we peruse the glowing pages of this most polished writer, we can not repress the thought that here is something more than a mere scientist. Truly a man who can frame such excellent periods must have an acute perception of form and color—must, in a word, be gifted with an art sense of no mean acuteness. We do not propose to enter into a detailed analysis of the contents of this excellent little book; that has been done often already. Enough that there is sense in the argument, and force, with indescribable elegance of statement.

Gout and its Relations to Diseases of the Liver and Kidneys.

By ROBSON ROOSE, M. D., F. C. S., Fellow of the Royal College of Physicians in Edinburgh, etc. Third Edition. London: H. K. Lewis, 1887. Pp. xii-164.

ALL who have had occasion to study the literature of gout must, very early in their studies, have been struck by the fact of how few really satisfactory contributions there are to the nature of this disease. Nor is the cause for this far to seek, for ninety-nine out of every hundred writers content themselves with stating the prevalent hypotheses regarding the disease, and, as these hypotheses are, in the great majority of cases, purely speculative, or at best based on very insufficient data, the general value of such iteration may easily be calculated.

The number of those who have, by careful experiment or observation, increased our knowledge of the pathology of gout is very small. Garrod, Todd, Ebstein, and, to a lesser degree, Charcot, have been the principal, in fact, almost the sole contributors, and, in spite of the careful work of these investigators, we seem at present still very far from knowing the actual cause of the disease. And what is said here of gout holds equally true of all diseases characterized by perverted metabolism. Nor can we hope for greater accuracy of knowledge until the domain of physiological chemistry has been more thoroughly explored and the metabolic rôles of the various organs and tissues have been more accurately determined.

The work before us is of the usual kind—namely, a repetition of all the prominent theories which have in the last thirty years been put forth to account for the symptoms of gout, together with the author's reasons for supporting the idea that functional disturbance of the liver is an important if not primary causative factor.

The opening chapters, on pathological anatomy and pathology, are marked by numerous small inaccuracies or omissions, which, while not of any great importance, could just as well have been avoided. Nor is the chemistry beyond reproach, as, for instance, on p. 22, where it is erroneously stated that uric acid "exists in the urine partly free and partly combined with alkaline phosphates." In normal urine there is no free uric

acid, and, so far from being combined with the alkaline phosphates, it deprives the basic sodium phosphate of a portion of its base, forming acid sodium phosphate and acid sodium urate, the former giving the urine its characteristic acid reaction. Again, in the chapter on treatment, in speaking of acid articles of diet, it is stated that these render the blood more acid and thus do harm. Now, it is well known that our acid foods consist of salts of the vegetable acids. These, when ingested, are turned into the corresponding carbonates, which render the blood more alkaline, in witness of which we have the constantly alkaline urine of the *Herbivora*.

Much space is given to a consideration of the manifold symptoms of gout, and to the relations of the disease to renal, cardiac, pulmonary, cutaneous, and nervous troubles, all of which are well considered and instructively presented. So, too, the chapter on treatment, though far from being exhaustive, can be safely recommended to the young practitioner, to whom, we presume, the volume is principally addressed.

The make-up of the book—paper, print, and binding—is admirable.

On Antiseptic Surgery and its Application in Military Hospitals and in the Field. By Surgeon-Major JOHN MARTIN, Army Medical Staff. London: J. & A. Churchill, 1886. Pp. 70.

THIS modest little work is divided into three portions: A sketch of the history of antiseptic surgery, and a review of its principles and practice; its application in military hospitals; and its application upon the battle-field. It does not purport to deal with the subject at great length, but rather to present matters which, in the opinion of the author, are of the greatest importance in this connection. Particular attention is called to the application of antiseptic principles in the routine work of military hospitals; to the application of such first dressings as are not likely, upon removal, to disturb the clot; to the fact that dry dressings will not, as a rule, find applicability in the furtherance of this latter; and, lastly, to a new field dressing, to be carried by the bearers, consisting of squares of absorbent lint saturated with carbolized oil.

Reports on the Progress of Medicine.

MATERIA MEDICA AND THERAPEUTICS.

A Study of Solanine.—Dr. A. Geneuil ("Bull. gén. de thérap.," September 30, 1886), in an exhaustive article, discusses the physiological and therapeutical properties of this drug.

Solanine was discovered by Desfosses in 1821 in *Solanum nigrum*, and it has also been found in the sprouts that form on potatoes in the spring. Hydrochloride of solanine can be obtained by dissolving the alkaloid in alcohol to which hydrochloric acid has been added, and precipitating it by ether. It is a gelatinous body, and is very soluble in water.

Physiological Action.—Solanine not having been much employed as yet, there are no instances so far of poisoning by it. In cats and dogs 10 to 40 centigrammes cause repeated vomiting and sleepiness.

Action on the Nervous System.—The bulb and medulla oblongata are more susceptible to the action of solanine than the brain, still in doses of 15 centigrammes and over the brain is influenced by it; the individual suffers from vertigo, weight on the head, and noises in the ears; others are overpowered with sleep. In toxic doses it causes violent headache, delirium, congestion of the face, and, according to Magendie, somnolence and stupor. Its effect on the bulb, medulla, and nerve-trunks is shown by analgesia of the extremities and by paresis. When it is given in toxic doses, the motor paralysis is complete and the posterior

extremities of the experimented animals are always the most affected. If the dose is still further increased, convulsions and tetanic rigidity are evoked.

Action on the Organs of Respiration.—Solanine renders the respirations freer and causes dyspnoea to disappear. This effect is due to two causes: 1. Anæsthesia of the terminal filaments of the pulmonary plexus, in consequence of which the sensibility of the mucous membrane is lessened. 2. Lessening of the excitability of the bulb and the vagus at its origin. With a toxic dose there occurs paralysis of the bulb, followed by hastening of respiration, embarrassment, and finally arrest of that function.

In medicinal doses, solanine has little or no effect upon the pulse; when the dose is large, the pulse is increased in frequency. On the organs of digestion, solanine, in therapeutic doses, exhibits, according to individual susceptibility, a local effect, which is manifest by a bitter taste in the mouth, a dry and burning feeling in the pharynx, anorexia, and sometimes nausea and vomiting. Solanine is a laxative, and, like atropine, produces this effect from its influence on the intestines. The alkaloid is converted into solanidine under the influence of the gastric juice. The author has never observed any ill effects on the urinary organs. The anæsthetic effect of solanine on the skin has already been mentioned.

Local Action.—When the drug is dusted over an abraded surface a burning sensation is experienced in two or three hours, but no anæsthesia occurs. *Dilatation of the pupil* the author has not seen once in the many individuals to whom he has administered solanine, though Vulpian has seen it in children in cases of poisoning by the common nightshade. The alkaloid is eliminated by the kidneys, lungs, and skin, and hence there need be no fear of accumulation. It belongs to the same toxic group as atropine.

Therapeutics.—The author has had remarkable successes with the remedy in sciatica of ten or twenty years' standing. He gave it in doses of 15 to 20 centigrammes ($2\frac{1}{2}$ to 3 grains) daily. Several cases are cited in which a cure resulted in two to three days.

In cases of rheumatic neuralgia in which salicylate of sodium failed, hypodermic injections of hydrochloride of solanine proved efficacious. In a man of fifty with severe neuralgia of the circumflex nerve, which was worse at night, a cure was effected by the following dosage: On the first day, 20 centigrammes (3 grains); second day, 30 centigrammes ($4\frac{1}{2}$ grains); third day, 40 centigrammes; fourth day, 50 centigrammes. Vomiting occurred with the latter dose. Four cases of intercostal neuralgia and several of facial were cured in three to four days. In a case of tic douloureux of four years' standing the attacks were always relieved in twenty-four hours by a dose of 20 centigrammes (3 grains). Solanine is a valuable sedative and a true antispasmodic. It is useful in gastralgia in pills of 1 to 2 centigrammes ($\frac{1}{16}$ to $\frac{1}{8}$ of a grain) half an hour before meals. It proved successful in a case of obstinate vomiting of pregnancy. Asthma, emphysema, muscular and acute articular rheumatism, are all affections in which the author has had good results with the drug. The ordinary dose is from 5 to 30 centigrammes ($\frac{1}{4}$ to $4\frac{1}{2}$ grains) three or four times a day. It is better given in pill form. For hypodermic purposes a solution of the hydrochloride in water can be used. No local ill effects occur. The author's conclusions are:

1. Solanine is a poison to the terminal motor plates of the nerves, it is a narcotic to the bulb, medulla, and nerve-tracts, and hence must take a foremost place among analgesics.

2. It may be given in large doses without danger, and possesses none of the inconveniences of morphine and atropine. It does not accumulate in the system, and should be administered especially in place of morphine.

3. It does not produce cerebral congestion even in old people, and this may be the case also in infant life.

4. In all cases where one has to combat excitation, spasm, and pain, solanine will prove most successful.

The Action of Grindelia Robusta on the Heart and Circulation.—Dr. Dobroklonsky (*ibid.*) has been experimenting, under the direction of Professor Botkine, on animals and clinically with the fluid extract of *Grindelia robusta*. The following conclusions are the results of his investigations: The drug diminishes the number of the heart-beats and increases the blood-pressure in the vessels. This effect is produced by ex-

citation of the moderator of the heart, particularly at its center of origin in the medulla oblongata. The increase of the blood-pressure is in part due to the action of the drug on the walls of the blood-vessels themselves, and in part to the excitation of the vaso-constrictor centers in the cord, medulla, and brain. The excitability of the various nervous or musculo-nervous systems of the heart and vessels is sensibly diminished under the influence of the drug. Diminished excitability is equally noticed in the motor nerves and voluntary muscles. The nerve-centers are sooner influenced than the peripheral nerves, and these sooner than the muscles.

The therapeutic action of *Grindelia robusta* consists in lessening the frequency of the heart's beat, but as a diuretic it has little power and is much less efficacious than digitalis. The author states that he found great difficulty in obtaining a reliable specimen of the drug in St. Petersburg, and that he had to rely in his researches upon specimens obtained from America.

Cold Air in the Treatment of Fevers.—Woitekewitsch ("Thèse de St. Petersburg," *ibid.*) has treated eleven cases of typhoid, three cases of pneumonia, and one case of pleurisy with draughts of cold or refrigerated air. The total number of the *séances* was seventy-one. A special apparatus, similar to that of Dr. Sokolow, was employed to cool the air. Each *séance* lasted from fifteen to twenty minutes. The following results were observed: A slight and temporary diminution of the temperature, a marked lessening of the frequency of the pulse and of the respirations, amelioration of the subjective symptoms, and improvement of sleep. *The inspirations of cold air very markedly diminished the phenomena of bronchial catarrh in the febrile patients.* There were no untoward after-effects. The course of the fevers was very favorably influenced by the cold-air treatment.

These results of Woitekewitsch and those of Sokolow tend to dispel the fear of chilling a fever patient, which, in spite of the success of the cold bath in fevers, is still prevalent to a very great extent.

Sulphate of Sparteine as a Remedy.—Dr. Hans Voigt ("*Urbibl. für die ges. Ther.*," Oct., 1886), influenced by the brilliant results Germain Sée obtained with the sulphate of sparteine in cardiac troubles, has been putting that drug to a further test in Professor Nothnagel's clinic. He employed the remedy first in eight cases of valvular affections, and afterward in cases in which the heart was secondarily affected. The author, following Sée, made use of the sphygmograph to indicate the action of the drug, which was always administered in the form of a powder in doses of 1 milligramme ($\frac{1}{16}$ of a grain). As a result of his investigations he made the following deductions:

1. Sulphate of sparteine, in very small doses, stimulates the heart, the pulse becomes fuller and higher, and the tension of the arterial system is increased. The frequency of the pulse is diminished one or two beats. 2. It manifests its effects in from three quarters of an hour to an hour after administration, which often continues longer than twenty-four hours, during which they may be increased by a repetition of the dose. An interval of two days after the drug has been given several days is advisable, for then it acts more energetically. It may be given daily for a week without any injurious effects. 3. The rhythm of the deranged cardiac contractions is restored in a few cases only; in severe affections of the heart the feeble contractions are rendered stronger, but they do not come up to the strength of the stronger contractions. 4. The movements of respiration are sometimes increased and sometimes diminished. 5. Diuresis is frequently increased. 6. Frequently slight narcosis becomes evident in the form of sleepiness. 7. Manifestations of intoxication—such as dizziness, headache, palpitation, and nausea—are seldom witnessed with small doses, and when they do occur, pass off quickly, even on the continued administration of the drug. The infusion of sparteine can well replace that of digitalis; still its action seems to reach a climax too rapidly and is not long enough maintained to allay the severe disturbances of compensation, but with frequently repeated doses the same results may be obtained as with digitalis. It possesses a great advantage in the precision of its dosage and in its relative harmlessness.

Therapeutically, therefore, it is indicated (1) in valvular affections when compensation is beginning to be disturbed and when the pulse is small and weak, (2) in valvular affections without disturbance of compensation, for its regulating and calming effect, (3) in insufficiency of the

cardiac muscles without disease of the valves, (4) in pericarditis, (5) as a diuretic, (6) and as an auxiliary after the use of digitalis.

Antipyrine Contrasted with Calomel in the Treatment of Croupous Pneumonia.—Dr. S. Posadsky ("*Urbtl. für die ges. Ther.*," Nov., 1886) selected forty-eight cases of croupous pneumonia of about equal severity, occurring in persons nearly of the same age, placed almost in similar circumstances, for the purpose of contrasting antipyrine with calomel in the treatment of that affection. The antipyrine was administered to twenty-five of the patients in doses varying from $\frac{1}{2}$ to 2 grammes ($7\frac{1}{2}$ to 30 grains), and in quantities varying from 1 to 8 grammes (15 grains—3 ij) daily. Applications of ice to the head were made only when there was severe headache. Calomel was given to the twenty-three other patients in doses of $\frac{1}{2}$ gramme (nearly 2 grains) four times daily. As in the patients treated by antipyrine, ice was applied to the head only on the occurrence of severe headache.

As a result of these investigations, it was found that the patients treated by antipyrine retained complete consciousness, but that as early as the second or third day of treatment the strength of the patient decidedly diminished and there was a marked decrease of the heart's activity, the pulse varying from 58 to 120. The respiratory movements varied from 20 to 48; the pulse-respiration ratio was 1 to 2.88. During the whole period of the antipyrine administration the patients perspired slightly, sometimes profusely. They had cough, with moderate expectoration of the characteristic pneumonic sputum. The temperature fell after the first few doses of antipyrine, but the reduction was only temporary, and on the continued administration of the drug there was a reascend of the temperature, and occasionally there was not even a temporary reduction. The average duration of the febrile period was 8.1 days, and of the local phenomena 13.5 days. Complications occurred nearly in all the cases, which often were severe, such, for instance, as collapse. The urine almost constantly contained albumin in considerable quantities, and not infrequently it contained antipyrine, which occasionally existed in large quantities, giving it a cherry-red appearance.

Exanthems from the drug were noticed in two cases, and when the dosage was frequent vomiting often occurred.

The patients treated by calomel were during the fever often in a typhoid condition, which occasionally was attended with delirium. In two of these cases antipyrine was given with the result of removing the typhoid state for a time, but heart debility set in, which was never observed when calomel alone was administered. The cough was troublesome, but expectoration was slight. Usually the patients did not perspire, and the temperature remained high until the crisis set in. The pulse-rate varied from 60 to 122, respirations were 16 to 48, and the pulse-respiration ratio was 2.93 to 1. The crisis occurred on an average on the 7.1 day, and was for the most part attended with profuse perspiration. The local phenomena continued only for nine days. Though the reduction of bodily weight during the fever was greater than in the cases treated by antipyrine, the increase in weight during convalescence was much more rapid. Albumin was detected in the urine but seldom, and then only in small quantities. Complications were much less frequent, and those resulting from the drug, such as vomiting, exanthems, etc., did not occur at all. The author, in view of the foregoing results, thinks himself justified in asserting that antipyrine in croupous pneumonia does not deserve that appellation, and that on account of its influence on the general system it should not be administered in that affection, even when a reduction of the temperature is desired. This can be accomplished by other means which do not have a deleterious influence upon the course and termination of the disease. Therefore he would not agree with those authors who assert that antipyrine has only an antipyretic and hence *not* an injurious effect.

Salicylate of Sodium giving rise to Mental Disturbances.—Dr. Julius Krueg (*ibid.*) remarks that in susceptible persons, on the continued daily administration of 3 to 5 grammes (45–75 grains) of salicylate of sodium, a condition obtains resembling the slight delirium of fever. Drinkers form particularly susceptible individuals. In large doses, or in markedly susceptible persons, the resulting symptoms may reach a threatening height. The patients are confused and delirious, and suffer from a continued series of hallucinations, attended with shouting and a desire to move about. The condition recalls the severe delirium of

fever, and resembles other forms of mental disturbances following intoxication, particularly that by alcohol. In severe cases the symptoms continue for some days after the use of the drug has been stopped. In one case observed by the author the symptoms did not stop at delirium, but passed into systematic fixed delusions. The history of the case, briefly, is as follows: In 1884, toward the end of May, a man, aged fifty-eight, was attacked with pleurisy, and was ordered by his physician 15 grammes (3 iij, 45 grains) of salicylate of sodium daily in 1-gramme doses. On the 29th of May, 9 grammes only were taken, on account of the violent effects, which were manifest by nausea and very severe noises in the ears. He took during the three following days 3 grammes daily. On the night of the 29th of May the noises in the ears took on the character of hallucinations; he heard singing, piano-playing, etc. On the 1st of June the figures of a drawing hanging on the wall appeared to him as living beings, who were approaching and threatening him with violence. In addition, he fancied he saw dogs and cats in the room, ready to spring upon him. On account of the severity of the mental symptoms the patient was taken to an insane asylum. Here, under the use of digitalis, he fully recovered in about three weeks. The author, therefore, warns against giving large doses of the salicylate in nervous persons and in those who indulge in alcohol. In these he thinks the danger is considerable of producing a permanent affection of the mind, corresponding to the sad experience that has been gained in the administration of iodoform. He is also of the opinion that the recovery was hastened by the employment of digitalis. This drug has often proved of service in severe ringing in the ears following the use of salicylate and quinine, and also in that habitual form witnessed in many nervous persons. Krueg has employed digitalis in fresh cases of hallucinations of hearing, and has often obtained good results.

Arsenic in Certain Forms of Anæmia.—Dr. William Osler ("Ther. Gaz.," Nov. 15, 1886) quotes from Dr. Wilks "that in therapeutics we do not so much need new remedies as a fuller knowledge of when and how to use the old ones." Bramwell was the first, in 1877, to extol arsenic in certain cases of pernicious anæmia. For the present purpose anæmia is divided into primary and secondary forms. Dr. Osler has found arsenic useful in three of the secondary anæmias.

1. *The Anæmia of Heart Disease.*—Anæmia often obtains in valvular affections, and materially aggravates the cardiac distress. Arsenic is useful in these cases, particularly in children, and where iron does not agree. The clinical notes of a case of a lad aged fourteen are given, which bear out the foregoing.

2. *In Malarial Anæmia.*—The author merely adds his testimony to the well-recognized value of arsenic in chronic ague poisoning.

3. *Certain Anæmias of Gastric Origin.*—Arsenic finds its special use in the anæmia of chronic gastric catarrh, particularly in patients addicted to alcohol.

The primary anæmias are subdivided into the (1) *cytogenetic*, in which the impoverishment of the blood is associated with evident changes in the hæmatogenous tissues—the spleen, lymph-glands, and bone marrow, (2) chlorosis, and (3) pernicious anæmia. These primary anæmias are interesting from a therapeutic standpoint. Chlorosis is easily curable, while leukæmia, splenic anæmia, when not malarial, and Hodgkin's disease are considered incurable affections, and very many cases of pernicious anæmia prove obstinate to all treatment. Arsenic has occasionally been followed with temporary success in leukæmia and Hodgkin's disease, but the author's experience with it in the former disease has been unfavorable; but two patients with Hodgkin's disease made marked improvement under the long-continued use of Fowler's solution. It is a mistake to consider the remedy a specific in pernicious anæmia; that it is of benefit in some cases is undoubted, but, until more is known of the pathology and causation of that disease, it will require to be administered empirically in all cases.

Mode of Administration.—Dr. Osler usually gives the liquor potassii arsenitis, beginning, in an adult, with five minims three times a day. Occasionally this is found too much, and the dose is reduced to two or three minims. After ten days, if it is well borne, he orders an increase of a minim each day, so that by the end of the second week the patient is taking ten or twelve minims three times a day. This is kept up for a week, and then gradually increased until the physiological effects are obtained. The amount which will induce

these varies with different individuals, and those who bear it best seem to improve the most rapidly. The author thinks that sometimes the small doses are not so well borne as the larger ones, and are more likely to cause gastric irritation. Young people bear it remarkably well. It is very important that the use be continued for weeks and months, with a cessation for a few days if unpleasant effects arise. It should be continued for some time after apparent recovery.

When this preparation is not well borne, arsenious acid in pills may be tried, or the solution may be given hypodermically, but ecchymosis of the tissues is likely to follow the hypodermic injections in severe anæmia. The remedy may also be given by the rectum, by which it is usually well borne.

The author would indicate three points in the further study of this subject:

1. In what secondary anæmias is arsenic beneficial? Under what conditions is it preferable to iron?

2. In pernicious anæmia, what cases are benefited by arsenic? What by iron? How shall we frame rules for our guidance in the matter, or must we still work empirically?

3. In the administration of arsenic, what is the best form and method?

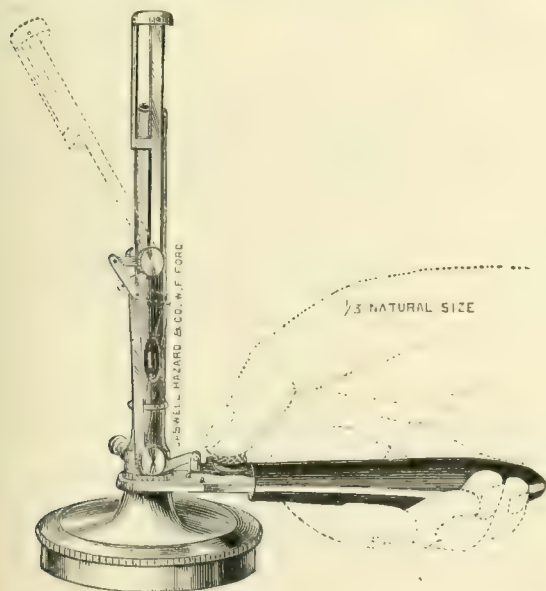
Inhalations of Pure Carbolic Acid in Pertussis.—Dr. R. Piek ("Deut. med. Zeit.," 1886, No. 75), acting on the theory that whooping-cough is due to bacilli, has employed inhalations of pure carbolic acid, by means of a peculiarly constructed mask, in five cases of that affection. From fifteen to twenty drops of the acid were used on a piece of cotton-wool attached to the mask, and inhalation was kept up the whole day when possible, and in every case at least eight hours daily. The course of the disease was decidedly modified and shortened in all the five cases. A cure ensued in about fourteen days. There were no unpleasantness or symptoms of intoxication in any of the cases. The urine was examined daily.

New Inventions, etc.

A NEW THERMO-CAUTERY.

By GRÈME M. HAMMOND, M.D.

THIS cautery, of which an illustration is given, was made with the intention of supplying an instrument which would be about as effective



as, and at the same time much less expensive than, the Paquelin cautery. Its simplicity of construction and the facility with which it can be op-

erated make it an instrument which can always be depended upon. It consists of an ordinary Bunsen's burner over which a platinum button is held by steel arms which are pivoted to the sides of the burner. A lever, attached from a spring in the handle to the steel arms, enables the operator, by pressing upon this spring, to throw the button at right angles to the burner. The cautery attachment does not interfere with the utility of the burner for general heating purposes. There is a slide-catch on the spring in the handle which, when in use, holds the button firmly at right angles from the burner, and thus allows any other objects, such as test-tubes, etc., to be heated in the flame. The instrument is manufactured by Mr. W. F. Ford, of Caswell, Hazard, & Co. For the benefit of physicians who live in towns where gas is not supplied, Mr. Ford will make an instrument in which an alcohol lamp is substituted for a Bunsen's burner.

Miscellany.

Scientific Terms.—"It has sometimes been questioned," says the "Lancet," "whether the use of Latin or Latinized Greek as the language of scientific nomenclature is not open to the accusation of pedantry. Some would prefer a system like the German, which to a large extent employs, besides the usual classical expressions, a set of names belonging to the native tongue. This plan has no doubt some value with a view to popular instruction; apart from this consideration it is needless and cumbersome. On the other hand, the revival of the dead languages for the same purpose has distinct advantages. Possessing a vocabulary copious, definite, and familiar to educated persons, they afford to all such the easiest means of arriving at a common understanding as to scientific facts. It can not be denied, however, that the wish for precision does sometimes lead to wordiness. Natural history, botany, medicine even, but above all organic chemistry, can show instances in which a term has so excelled in lengthy conciseness of learned description that its fitness for general use is absolutely gone. Such terms in combination would almost constitute a new language in themselves. It is needless to say that their proper place is in purely technical records. Thus placed they actually assist the expressions and understanding of the erudite. They have no convenient place in every-day life, and we find accordingly that as soon as they have to travel beyond the precincts of the laboratory they are superseded by terms which, if less fully descriptive, convey some definite idea in a simpler form."

The Alumni Association of the Long Island College Hospital.—At the recent annual meeting, officers were elected as follows: President, Dr. John Harrigan; vice-president, Dr. Robert L. Dickinson; secretary, Dr. A. H. Buckmaster; treasurer, Dr. C. N. D. Jones.

The Memphis Hospital Medical College, of Memphis, Tenn., held its seventh annual commencement exercises on Tuesday, the 1st inst., when the degree in medicine was conferred on forty-three candidates.

An Anatomical Society is likely to be formed in England, according to the "Lancet," to meet quarterly for the consideration of subjects bearing on human anatomy, embryology, etc.

The American Veterinary College.—The annual commencement exercises of this institution were held on Friday evening, the 4th inst., at Chickering Hall.

A Medical Centennarian.—The "St. Petersburg medicinische Wochenschrift" states that there is a physician in Legron, Spain, Don Rosendo Recondo, who, although a hundred years old, is in the best of health and still engaged in practice.

The International Medical Congress.—The bill making an appropriation for the congress, which when it first came before the House Committee named \$50,000 as the sum to be given, has finally been passed with amendments that cut the amount down to \$10,000.

Erratum.—In the article entitled "The Sixth German Medical Congress," on page 280 of last week's issue, the expression "sebaceous glands of the tongue" was given by mistake in the title of one of the papers to be read. We should have said *follicular glands of the tongue*.

The Health of the State of New York.—According to the State Board of Health's "Monthly Bulletin," for the month of January, the whole number of deaths was 7,671, including in each thousand 10.16 from diarrhoeal diseases, 9.48 from typhoid fever, and 52.93 from croup and diphtheria. It is added that the relative mortality from zymotic diseases has not been so low since the spring months of last year, and that there has been a material falling off in the deaths from diphtheria.

The Health of Michigan.—According to returns to the State Board of Health for the four weeks ending February 26th, as summarized by the secretary, Dr. Henry B. Baker, diphtheria was reported from thirty-four places, scarlet fever from forty-two, typhoid fever from sixteen, and measles from twenty-four.

Health Reports from Abroad.—By direction of the Secretary of the Treasury, Dr. John B. Hamilton, Surgeon-General of the Marine-Hospital Service, has issued the following abstract of sanitary reports received from foreign countries during the week ending March 3d:

England and Wales.—The deaths registered in twenty-eight great towns of England and Wales during the week ending February 12, 1887, corresponded to an annual death rate of 19.5 in a thousand of the aggregate population, which is estimated at 9,245,099. The lowest death rate was recorded in Nottingham, viz., 14.9 in a thousand, and the highest in Huddersfield, viz., 30.1 in a thousand.

London.—One thousand four hundred and eighteen deaths were registered during the week ending February 12th, including 24 from measles, 15 from scarlet fever, 17 from diphtheria, 37 from whooping-cough, 2 from typhus fever, 7 from enteric fever, and 15 from diarrhoea and dysentery. There were 373 deaths from diseases of the respiratory organs. Different forms of violence caused 77 deaths. In greater London, 1,761 deaths were registered, corresponding to an annual death rate of 17 in a thousand of population.

Scotland.—The death rate in eight principal towns during the week ending February 12th was 22 in a thousand of the aggregate population, which is estimated at 1,283,977. The lowest mortality was recorded in Perth, viz., 13 in a thousand, and the highest in Paisley, viz., 27.4 in a thousand.

Germany.—The deaths registered in fifty-two cities of Germany, having an aggregate population of 6,763,843, during the week ending January 29th, corresponded to an annual death rate of 24.8 in a thousand. The lowest rate was recorded in Frankfort, viz., 14.9, and the highest in Dortmund, viz., 36.7 in a thousand.

Guayaquil.—Sixty-six deaths were registered during the week ending February 3d, including 28 from yellow fever, 6 from small-pox, and 13 from enteric fever.

Lima.—The United States minister at Lima, Peru, in his dispatch to the Department of State dated January 24, 1887, states that "the latest news yesterday from the Peruvian minister at Santiago, and consul at Valparaiso, announcing prevalence of cholera in both places, and of the Peruvian consul at Guayaquil, announcing increase of yellow fever there, only excites greater anxiety here, and further complicates mail matters both ways. The health, thus far, of both Callao and Lima is good."

Callao.—The United States consul at Callao, in his report dated February 5th, made the following statement: "No advance of the cholera from Chili north. It seems to have a southwestward tendency."

Montevideo.—Three hundred and fifty-five deaths were registered during the month of November, 1886, including 6 from measles, 1 from scarlet fever, 12 from small-pox, 40 from diphtheritic croup, and 4 from enteric fever. In 24 instances the cause of death was unknown, there having been no medical attendant during the last illness.

Genoa.—One hundred and eighteen deaths were registered during the week ending February 12th, including 3 from small-pox, 1 from scarlet fever, and 1 from diphtheria.

Rome.—One hundred and twenty-eight deaths were registered during the week ending January 1st, including 14 from small-pox, 2 from enteric fever, and 1 from diphtheria.

Paris.—Ten hundred and seventy-three deaths were registered during the week ending February 12th, including 32 from measles, 4 from small-pox, 17 from whooping-cough, 20 from enteric fever, 3 from scarlet fever, 39 from diphtheria, 198 from consumption, 53 from pneumonia, and 107 from diseases of the cerebro-spinal apparatus.

Reims.—Sixty deaths were registered during the week ending February 12th, including 2 from whooping-cough, 1 from scarlet fever, 2 from diphtheria, 6 from consumption. Two cases of small-pox were reported, but no deaths from that disease.

Trieste.—Ninety-seven deaths were registered during the week ending February 5th, including 4 from diphtheria. Four cases of small-pox were reported.

Warsaw.—Two hundred and twenty-two deaths were registered during the week ending February 5th, including 4 from small-pox.

Havre.—Sixty-two deaths were registered during the week ending February 12th, including 1 from enteric fever, 3 from diphtheria, and 3 suicides.

Palermo.—One hundred and nine deaths were registered during the week ending February 5th, including 5 from scarlet fever and 6 from diphtheria.

Leghorn.—Sixty-three deaths were registered during the week ending February 13th, including 1 from enteric fever.

Munich.—One hundred and nine deaths were registered during the week ending February 5th, including 1 from scarlet fever and 7 from diphtheria.

Stuttgart.—Forty-one deaths were registered during the week ending February 12th, including 1 from diphtheria.

Bremen.—Forty-one deaths were registered during the week ending February 5th, including 3 from scarlet fever, 2 from diarrhoeal diseases, and 2 suicides.

Leipzig.—Seventy-nine deaths were registered during the week ending February 12th, including 6 from diphtheria and 10 from dysentery.

Pernambuco.—Fifty-three deaths were registered during the week ending February 2d, including 2 from enteric fever.

Toronto.—Thirty-eight deaths were registered during the week ending February 19th, including 1 from enteric fever and 2 from diphtheria.

Three Rivers.—Six deaths were registered during the week ending February 19th, including 1 from diphtheria.

MORTALITY TABLE, FOREIGN CITIES.

CITIES.	Estimated population.	Week ending—	Total deaths from all causes.	Annual rate of mortality in 1,000.
Guayaquil.....	35,000	February 3.	66	98.3
Genoa.....	179,416	February 12.	118	34.2
Rome.....	355,026	January 1.	128	18.7
Paris.....	2,260,045	February 12.	1,073	24.7
Reims.....	98,083	February 12.	60	31.8
Trieste.....	150,157	February 5.	97	33.6
Warsaw.....	431,572	February 5.	222	26.8
Havre.....	112,074	February 12.	62	28.8
Palermo.....	250,000	February 5.	109	22.7
Leghorn.....	101,172	February 13.	63	32.4
Munich.....	262,000	February 5.	109	21.6
Stuttgart.....	125,510	February 12.	41	17.0
Bremen.....	119,000	February 5.	41	17.9
Leipzig.....	170,000	February 12.	79	24.2
Pernambuco.....	111,000	February 2.	53	24.9
Toronto.....	120,000	February 19.	38	16.5
Three Rivers.....	10,000	February 19.	6	31.2
Kingston, Canada...	15,109	February 25.	5	17.2
Matamoros.....	12,000	February 12.	7	30.4
Laguayra.....	7,428	February 12.	6	42.0
Cape Haytien.....	10,000	February 5.	7	36.5
Curaçoa.....	25,000	February 12.	6	12.4
Port au Prince.....	40,000	February 16.	12	15.6
Gibraltar.....	23,731	February 6.	4	8.7
Cadiz.....	65,028	February 5.	47	37.5
Mannheim.....	65,000	January 29.	27	21.6
Fayal.....	7,446	January 1.	7	49.0

Original Communications.

LAPAROTOMY AND INTESTINAL SUTURE.

*Excision of a Portion of the Ileum, with Restoration of Function of the Alimentary Canal by Suture.**

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LEAH R.,† Russian, fifty-six years old, housewife, was admitted to Mt. Sinai Hospital on October 9, 1886, with the following history: For ten years she had had a swelling in the left groin, which would disappear when she lay down and return when she was standing erect. She had not worn a truss. Two weeks before admission she discovered that the tumor no longer disappeared upon going to bed, but became painful, tender, and more swollen. She had not vomited up to the time of arriving at the hospital, but there had been no evacuation of the bowels for six days prior to her admission.

On admission, a swelling as large as an ordinary fist was found occupying the inner aspect of the left groin and thigh. The skin over the tumor was red in color, tender and doughy to the touch, and fluctuation was evident. The tissues around were slightly emphysematous. The patient's appetite was gone; she was emaciated, having lain in her present condition ten days in a tenement-house without proper care. The temperature was normal.

A diagnosis of strangulated femoral hernia was made, ether administered, and the tumor incised. Several ounces of foul pus mixed with intestinal matter were discharged. No trace of a hernial sac or of intestine could be discovered, such was the gangrenous condition of the mass. Upon introducing the little finger into the femoral canal, a slight opening into the intestine could be felt. Into this a closed dressing forceps was introduced, and the opening dilated by separating the jaws of this instrument. This was intended to secure the freer exit of ingested matter from the upper portion of the occluded gut.

A loose dressing of iodoform gauze was laid over the wound. The patient improved in condition after this operation, under mild stimulation and liquid diet (milk, beef-tea, beef-juice, whisky, sherry, etc.). Only a small quantity of ingested matter escaped when the gauze dressing was changed on every second or third day.

On October 22d, thirteen days after the first operation, with ether narcosis laparotomy was performed. The patient was placed upon the back with the pelvis elevated upon a firm cushion. With Volkmann's spoon the granulation tissue was first scraped from the walls of the abscess, the hole into the intestine plugged with a pellet of iodoform gauze, the cavity of the abscess irrigated with 1-to-1,000 sublimate, and then tightly packed with iodoform gauze.

The integument about the femoral canal was washed thoroughly with soap and warm water, cleanly shaved, washed with ether, and finally with 1-to-1,000 sublimate solution. Towels wrung out of hot sublimate solution (1-to-3,000) were laid over that portion of the body near the groin, leaving only a spot exposed measuring six by four inches.

An incision four inches in length was made parallel with the outer border of the rectus muscle, the lower end being over the femoral ring. All bleeding was arrested, so that before the peritonæum was opened the wound was absolutely dry. Juniperized catgut ligatures were employed. Great care was observed to keep to the inner side of and away from the epigastric vessels which were exposed in the dissection. The parietal layer of the peritonæum was picked up with a fine forceps, opened, and further divided upon the finger as a director.

Upon looking into the abdominal cavity, one or two loops of normal small intestine were seen, and, upon displacing these upward, a third loop was seen to be imprisoned in the femoral opening. That part of this loop above the constriction was slightly distended, while the part on the side nearest the rectum was contracted until it was about two thirds of the diameter of the upper segment. The obstruction of the intestinal canal at the ring was complete. A soft flat sponge taken from a warm Thiersch solution (boric acid, gr. iv; salicylic acid, gr. j; water, 3j) was placed beneath the imprisoned loop in such a manner that it held the loose loops of small intestine back, and was ready to receive any foreign matter which might escape from the gut when it was divided.

Two long-jawed scissors-forceps (used as clamps) were then placed so as to close the loop of gut which was caught in the ring. One of these rested against the inner surface of the ring, and the other only sufficiently removed from this to permit of a division of the intestine between the forceps.

As soon as this was effected, the loose end, with one pair of forceps attached, was brought out through the abdominal wound and placed in a warm Thiersch towel. As the forceps which

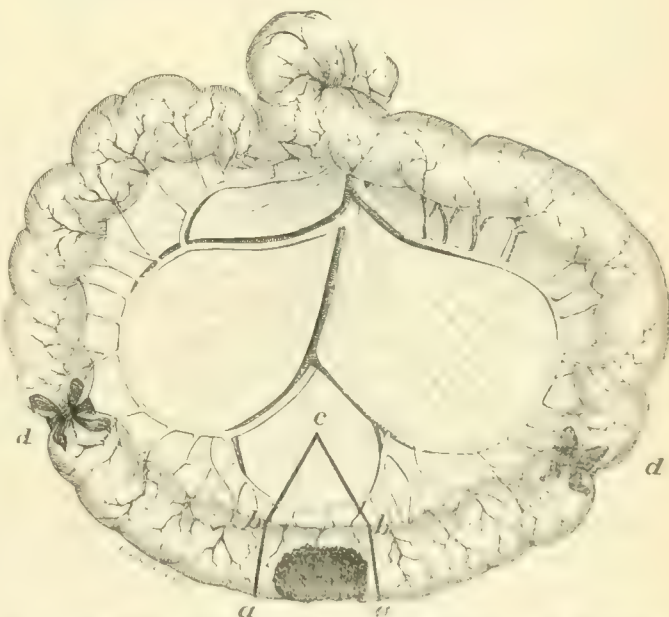


FIG. 1.—Loop of small intestine. *a b*, lines of section through the gut, removing the gangrenous portion; *b c*, same through the mesentery; *a a*, gangrenous portion of ileum; *d d*, occlusion of the afferent and efferent tubes by tape ligatures.

constricted the ring of gut attached to the femoral canal was removed, a tuft of sponge was tightly packed into this ring to prevent any infection from the abscess with which it communicated.

Of the loop which had been liberated, about ten inches (five above and below the point of occlusion) were drawn out of the abdomen, flat Thiersch sponges carefully placed so as to close the wound and prevent any escape of matter into the peritoneal

* Read before the Section in Surgery of the New York Academy of Medicine, March 14, 1887.

† I am indebted to Dr. Rich, of the house-staff of Mt. Sinai Hospital, for the notes of this case.

cavity, and the exposed gut protected by covering with warm towels. A piece of cotton tape one fourth of an inch wide was then tied four inches above and below the limits of the gangrenous opening, so as to completely occlude the lumen of the gut (*d d*, Fig. 1). These tapes had been well soaked in a 1-to-3,000 sublimate solution. When the forceps-clamp was removed, the opening into the intestine was seen to occupy two thirds of the circumference of the canal. The gut was then cut across at a right angle to its axis by a single stroke with the straight scissors (*a b*, Fig. 1). These lines of section were well out in sound tissue. The piece of intestine removed measured two inches and a half. A triangular piece of the mesentery was also removed (*b c b*, Fig. 1).

The bleeding from the mesentery was profuse, requiring a dozen catgut ligatures. From the ends of the intestine only a slight oozing occurred. The cavity of the gut from the tapes to the openings was carefully emptied of all matter and washed out with Thiersch's solution. Nothing escaped from the lower end.

The edges of the divided mesentery were first united by eight interrupted catgut sutures about one fourth of an inch distant from each other. When the intestine was reached, the mesenteric attachment of each end was carefully brought into apposition and the work of stitching the ends of the cylinders to each other begun.

In doing this, three forms of suture were employed: 1. A suture through the mucous membrane alone, or *Czerny's suture*. 2. That through the peritoneal coat alone, or *Lembert's suture*. 3. One which pierces the peritoneal coat and, passing along with the muscular layer, comes out on the free border of the divided gut, the *intermediate suture*.*

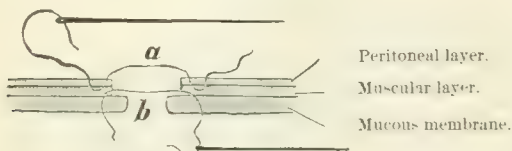


Fig. 2. Schematic. *a*, Lembert's, and *b*, Czerny's sutures.

In Fig. 2, which represents a longitudinal section through the ends to be approximated, is shown at *b* the Czerny suture as it is passed through the mucous layer of the gut from the inner surface of the canal, while at *a* the method of introducing the Lembert suture through the peritoneal layer is shown.

When a gut is cut across, the longitudinal muscular layer retracts, carrying the peritoneal layer with it and leaving the thick mucous membrane projecting about one eighth of an inch. The object of the Czerny suture is to bring the mucous membrane and the connective tissue upon which it rests together, and thus strengthen the line of union after adhesion occurs. If this is not done, the slight adhesion between the peritoneal surfaces obtained by the Lembert suture might give way under the strain of distension of the intestine by gas or ingested matter. The objection to pass-

ing a suture entirely through the wall of the gut and thus approximating all the coats at once is the danger that the perforation may be followed by escape of gas or other contents to either side of the line of adhesion between the ends. The inversion of the mucous membrane by Czerny's suture and of the peritoneal layer by Lembert's suture after the threads are tied is shown in Fig. 3.



Fig. 3.—Schematic. Showing the inversion of the peritoneal layer by tying Lembert's suture, and of the mucous membrane by Czerny's suture.

The mechanism of the intermediate suture is well shown in Fig. 4. This suture adds strength to the union by taking in the muscular layer and connective tissue of the mucous membrane together with the peritoneal covering. Applied after the Czerny suture, there can be no danger of escape of intestinal contents through the wound.

In suturing the intestine, the very finest black (iron-dyed) silk, and a delicate, perfectly round needle, should be used. The straight needles are preferable to those which are half or full curved. The thread should be made aseptic in sublimate solution (1 to 3,000), and it and the needle taken from a 1-to-20 carbolic-acid solution as they are used.

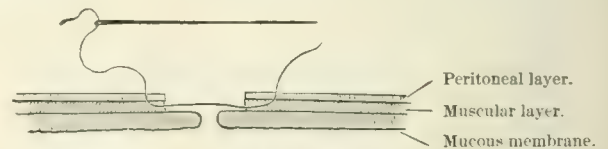


Fig. 4. Schematic. Showing the route of the intermediate sutures.

In commencing the sutures, first insert one Czerny suture just over the mesenteric or attached border of the intestine, and tie this, the knot, of course, coming within the lumen of the gut. The needle should pass from within through the mucous layer at a distance of about three sixteenths of an inch from the free border (Fig. 2), out along the free border of the same end, and, being carried across to the



Fig. 5.—Wyeth's needle-holder.

opposite end, should be made to enter below the muscular and mucous layer, and to emerge through the mucous layer three sixteenths of an inch from its cut edge. A Lembert suture should be next inserted just at the edge of the mesenteric attachment as follows: * The needle is made to

* Dr. Sutton, of Pittsburgh, employed this suture in a case which ended in a good recovery. I saw the line of union in this patient about two years after the operation, through the courtesy of Professor J. B. Hunter, who was performing a second laparotomy.

* When the peritoneal surfaces of the intestine are held in apposition by this suture, adhesion occurs in remarkably short time. In January, 1887, I was called in consultation in a case of suspected volvulus. Upon opening the abdomen, it was found impossible to untwist the loop without puncture and evacuation of the contents of the greatly distended gut. The opening, one fourth of an inch long, was closed by four Lembert sutures at 11.30 A.M. At 3 P.M. the patient died. On autopsy, not only had well-marked adhesion taken place, but the silk threads were with difficulty recognized, being hidden beneath the inflammatory exudation.

enter the peritoneal coat one eighth of an inch from the edge, and, passing between the serous and mucous coats, is again brought through the peritoneal layer about one twenty-fifth of an inch from the edge (Fig. 2, a). At a point exactly opposite, the same stitch is passed through the peritoneal layer of that side for the same distance, and this thread is tied. In knotting all of these sutures it is a wise precaution to use the *double* or *friction* knot for the first tying, for by so doing there is no danger of the suture slipping and the parts separating as the second turn is being made. A second Lembert suture should now be inserted on the other side of the mesenteric attachment, and an *intermediate* suture passed between these, through the substance of the mesentery and down into the strip of intestine which here is uncovered by peritonæum. Extra care must be taken to see that this part of each end of the cylinder is in perfect coaptation. The sutures are now inserted for the remainder of the apposing surfaces. The Lembert and intermediate sutures alternate through the entire circumference, and should be one eighth of an inch apart. The mucous or Czerny sutures should be from one fourth to three eighths of an inch apart. The relative proportion of these sutures is shown in Fig. 6. It is evident that while the Czerny suture is tied leaving the knot within the cavity of the intestine for the first part of the operation, the last few threads must be tied leaving the knot imbedded between the mucous and muscular layers of the wall. In applying

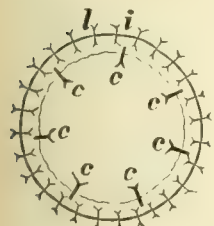


Fig. 6.—Schematic. Section of intestine. Showing the proportion of each form of suture, and their distance apart. *l*, Lembert; *i*, intermediate sutures alternating; *c*, Czerny sutures. (Natural size.)

the sutures the plan followed was first a Czerny, then a Lembert about over this, next an intermediate, another Lembert, and after this a second Czerny suture, and so on. In other words, it was necessary to insert the mucous suture before the superficial sutures had quite reached that point.

All of the threads should be cut off close to the knot.

In this operation I had to leave the space between the sutures on the upper end of the gut a little wider than on the lower, for the diameter of the efferent tube was considerably smaller

than that of the afferent portion. The intervening space was a flush one eighth of an inch on one side and a scant one eighth of an inch on the other. When the sutures were all in, the constricting tapes were removed. The gut immediately filled with gas. To the surprise of all present, the intestine below the line of suture instantly expanded to a size equal to that of the portion above the line of union. That the wound was tightly closed was demonstrated by forcing the contents of the intestine from opposite directions toward the sutures. No gas escaped.

The appearance after the tapes were removed is shown in Fig. 7. At intervals of about five minutes during the operation a small quantity of warm Thiersch solution was poured over the exposed intestine. The warm Thiersch towels upon which it rested were changed every ten or fifteen minutes. No fluid was allowed to get into the abdominal cavity. Finally the intestine

was carefully washed with this solution, and returned into the cavity of the peritonæum.

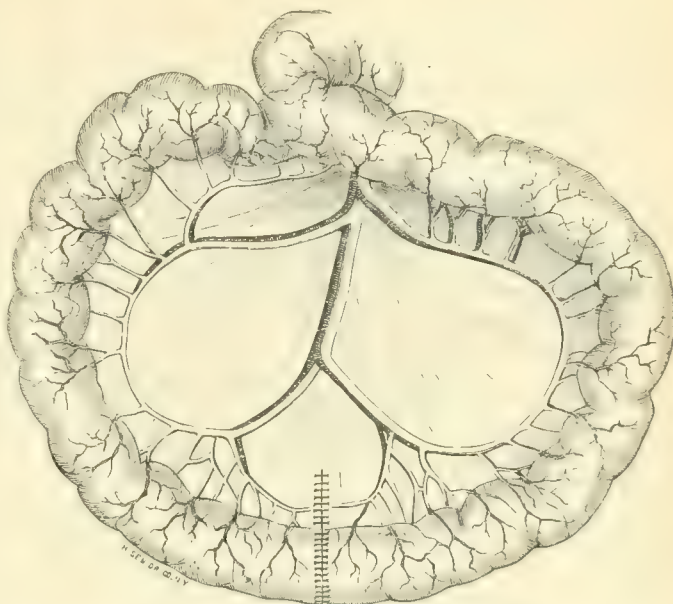


Fig. 7.—Showing the line of sutures in the mesentery and around the intestine.

It was now necessary to deal with the ring of intestine which occupied the femoral opening, and which led from the abscess into the abdominal cavity. Two strong silk threads were passed entirely through the opposing walls of this rim of intestine and tied so as to bring the edges well together. I then passed a silver probe from the hernial abscess cavity up through the femoral canal, and through the ring of adhering intestine between the two silk threads, until the end of the probe projected a half-inch into the cavity of the abdomen. The ends of both threads were tied to the probe, and this withdrawn, bringing the sutures out through the saphenous opening. By making strong and continuous traction on these, the mucous membrane was everted, the peritoneal surfaces brought in contact, and the femoral opening closed. This procedure effected a radical cure of the hernia.

The wound in the parietal layer of peritonæum was closed by catgut sutures, introduced as in the Lembert suture. The abdominal incision was closed with silver sutures, which included all the tissues down to (but not touching) the peritonæum. For the prevention of ventral hernia after laparotomy, it is very important to include the fascia and aponeuroses of the muscles in the silver sutures. A Neuber's bone-drain was inserted. The abscess and sinus were packed with iodotormized gauze.

The operation lasted four hours. The patient rallied well, and was kept quiet with suppositories of opium. She was kept on the back, and was not permitted to move body, legs, or arms for ten days. The diet was milk, beef-tea, and whisky in small quantities.

October 23d, 6 A. M., fourteen hours after operation, temperature 99° F. Patient vomited at 4.30 A. M.

24th.—Pulse 120, temperature 99° to 100°.

25th.—Pulse 100, temperature 99.6°. Patient comfortable. Slept well.

26th.—The pulse and temperature were the same.

27th.—Pulse 80 to 100, temperature 98.4° to 99.6°.

28th.—Pulse 100, temperature 99° to 100°.

29th.—Pulse 100 to 106, temperature 99.2°.

On this the sixth day the silk threads came away under the continuous traction of the elastic ligatures attached to them. The wire sutures were also removed. Wound of incision united throughout. Bowels moved; stool of normal consistence.

30th.—Pulse 94 to 100, temperature 99.2° to 100.2° F. Bowels moved again; stool normal. Opium discontinued.

The subsequent history contains nothing of interest. The patient steadily gained her strength. On November 20th she sat up in bed, and on December 3d was walking about the ward. She is now fully restored and attending to her duties. There is no sign of obstruction or interference with the functions of the alimentary canal, and the hernia is at this date radically cured. The great emaciation of the patient at the time of operation, and the fact that within half an inch of the opening into the abdomen there was a large abscess-cavity, may be mentioned as the two conditions which rendered the prognosis grave.

The treatment of strangulated hernia with gangrene of the intestine may be considered under three methods:

1. Establishing a permanent faecal fistula at the seat of gangrene.
2. Immediate exsection of the gangrenous portion of the gut, reunion of the ends by suture, and return of the loop.
3. Temporary fistula, followed, after an interval of some days, by laparotomy, excision, and suture.

To the first method may be consigned subjects so feeble that no operative procedure is justifiable.

As to whether exsection should be made at once or postponed after a free discharge through the fistula has been established must be determined by the condition of the individual at the time of operation. If the patient is well nourished, and if the anæsthetic is well borne, it will be advisable to relieve the strangulation, and through the hernial opening draw out the gut until five or six inches of sound intestine above and below the gangrenous spot are in sight, remove the dead portion, and unite the ends at once. This is a much simpler operation than when an additional opening through the abdominal wall is required.

In most cases, however, it will be found that the condition of the patient is not favorable for immediate exsection. Shock is almost always severe, and not infrequently fatal, when the constriction has been so severe or lasted long enough to produce gangrene. In such cases the plan carried out in the case just detailed should be followed.

Finally, the subject of intestinal suture is one of such vast importance that too much stress can not be laid upon the necessity for a thorough preparation for the operation. In the careful application of this procedure to penetrating wounds of the intestines, to exsection of gangrenous portions of the canal as the result of hernia, volvulus, intussusception, and in the removal of malignant neoplasms and strictures, many lives may be saved which, under the teaching of former years, were left to die without surgical interference. The difficulties of the operation are great, and the time required in exsection dangerously long, unless the surgeon has had sufficient practice to enable him to work rapidly and safely. I would advise those who are willing to undertake this procedure to perfect themselves in the various sutures upon the cadaver, or preferably upon living animals. I was deeply impressed with the importance of

this in my own case, for, notwithstanding that I had done this operation upon the cadaver about ten times, four hours were occupied in the case which forms the subject of this paper.

In penetrating wounds of the abdominal wall, the argument in favor of operative interference may be briefly stated as follows: 1. The enlargement of a wound sufficiently to demonstrate that it does or does not open into the cavity of the peritonæum is a simple procedure, and practically without danger. 2. A wound of the peritoneal cavity left without surgical interference is always attended with great danger, either from hæmorrhage immediately or from peritonitis at a later period. 3. If the alimentary canal is opened, death is almost inevitable; the few recorded cases of recovery form such an infinitesimal proportion of the whole that they should carry no weight against interference.

A HOSPITAL EXPERIENCE; OR, FOUR MONTHS' OPERATIVE WORK AT THE NEW YORK HOSPITAL.

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(Concluded from page 287.)

IN the GENITO-URINARY SUBDIVISION OF OPERATIONS on the trunk there were twenty-four cases. Among these was one of *varicocele*, treated by a method which has been suggested by me elsewhere as suitable for varicoceles of large size—that is, by ablation of the scrotum and subsequent ligation of the veins, which are then exposed and easily accessible, care being taken not to tie the venous plexus accompanying the vas deferens.*

Besides this, two cases of *double hydrocele* were treated by Volkmann's method, as they were considered too large to be cured by the carbolic-acid injection of Lewis, which is still considered the best treatment for a hydrocele of ordinary size, or even for one of large size, if it is first diminished by a preliminary tapping.

Double castration was performed in one instance for tuberculous disease of both epididymes and testes, which had resisted the usual treatment (including scraping with the sharp spoon and subsequent packing with iodoform), and the patient insisted on being relieved of them. Enough of the diseased scrotum was preserved to give the parts a semblance of their original condition. Notwithstanding the fact that pains were taken to excise them as high as possible, it was found that the vas deferens on the left side was filled with cheesy pus. No deposits existed in the prostate, nor were there any renal or pulmonary symptoms.

Amputation of the penis for epithelioma was performed once, in a man aged sixty, the organ being removed close to the scrotum by a single sweep of a long knife, the incision running obliquely so that the corpus spongiosum was left longer than the rest of the structures. The portion of the urethra that remained was divided in a downward direction for a distance of half an inch, and the mucous membrane and skin were sewn together. All bleeding vessels in the corpora cavernosa, and elsewhere, were ligated with catgut, and then the edges of the sheath of the

* On "Varicocele." "Med. Record," March 20, 1886.

penis were united by several catgut sutures, the skin being also sutured over this. A catheter was introduced into the bladder (as the man had been in the habit of using one on account of his having an enlarged prostate), and the stump of the penis, covered as it was by skin, was inclosed in an iodoform dressing secured by a firm bandage, through which the catheter projected, to end in a glass urinal.

Primary union was obtained. This was unusual and was to be attributed to two things: the easy retention of the catheter, and the compression, as well as the final arrest of the usual persistent oozing, by the union of the edges of the fibrous sheath of the penis. A row of glands in the left groin were also extirpated, as advised by Küster, but under the microscope these were found to be enlarged simply from inflammation. Their removal, however, added nothing to the difficulty or risk of the operation, and should in my judgment be undertaken in every case.

Internal urethrotomy for deep and tight urethral strictures was practiced in nine cases, in two of which a single perineal fistula existed. In two other cases, in which multiple perineal fistulae were associated with a urethral stricture, *external urethrotomy* was performed, and in one instance, where a fistula communicated with the rectum, about one inch and a half from the anus, the perineal wound was purposely extended so as to divide the bridge of rectal tissue, with a satisfactory issue. In all the urethral operations it is the custom to smear the hair of the pubes and perinaeum with iodoformized oil (four grains to the ounce of fluid cosmoline), and to inject a small syringeful of the same into the urethra before any instruments are introduced into the canal. All these latter are greased with iodoformized vaseline (a drachm to the ounce), which is less subject to chemical change than the oil. For the division of deep and even tight anterior strictures I rely on Maisonneuve's urethrotome, the blade of which (cutting upward) I have had enlarged to a breadth of eleven millimetres; even with this a cut made in the usual manner will enlarge the canal only enough to admit a No. 26 French sound, but, by twisting the handle of the instrument as it is withdrawn from beyond the already divided stricture, a second incision may be made in the roof of the urethra. By this means enlargement to 32 or 34 of the French scale, and sometimes greater, can be attained. If any considerable anterior obstructions are met with, they are removed by Otis's urethrotome.

After everything has been divided, including the meatus urinarius, the urine is drawn, and the bladder is washed out several times with a 1-to-10,000 bichloride solution, and the urethra is also freely irrigated with the same as the catheter is withdrawn. If any anterior strictures have been divided, the penis is firmly bandaged, and the patient is given two or three times during the first twenty-four hours one eighth of a grain of morphine with from three to five minims of tincture of aconite root. No instrument is passed until four to seven days have elapsed, and not even then if there is any elevation of temperature. In this way urethral fever has been practically abolished, and for this reason this method of procedure has been detailed at length. Before leaving the hospital every patient with stricture is provided with a proper sound and is taught its use.

External urethrotomy was performed in a case of recent *rupture of the urethra*, which was caused by the patient's falling astride of a step-ladder, by cutting into a mass of extravasated blood, in which were found the torn, jagged ends of the membranous urethra. The proximal end of the urethra was more clearly recognized after the prolonged use of a hot-water douche, which stopped the oozing of fresh blood and also washed away the obscuring clots, etc., when the urethra appeared white and sharply defined.

This expedient I had found useful in several other cases in which difficulty had previously been experienced in distinguishing the position of the urethra. The prompt employment of an incision in cases of ruptured urethra is well recognized as one of the decided modern improvements in surgery.

The patient in question did well.

Lateral cystotomy was performed once for the relief of an obdurate cystitis (not of tubercular origin, as shown by frequent microscopical examinations for bacilli), which followed a stricture, and had been unrelieved by an internal urethrotomy which had satisfactorily widened the urethra. This is to be preferred to the median cystotomy, as the drainage of the bladder is more thorough. In the median method, a tube carried into the bladder to continuously drain it is not always well borne, though I have had better luck when the tube has been passed in on the third or fourth day after the first traumatic effects had passed off, than when inserted and left in at the time of the operation. This case is not yet completed, though the improvement is marked; at the end of three weeks a tube was inserted, as the wound was rapidly closing.

One case of *litholapaxy* for a phosphatic stone, weighing one hundred and ninety grains, with a uric-acid nucleus, can be reported in a youth of sixteen. Bigelow's large lithotrite was used. Recovery was rapid.

Of more interest was a case of *suprapubic cystotomy for supposed tumor*, which operation was done in a young man of twenty-four, who had been passing bloody urine for eight months previous, with moderate pain and increased frequency.

There was no enlargement of the prostate nor renal tenderness detected. A searcher in the bladder failed to touch a calculus. No renal elements were found in microscopically examining the urine, nor was any portion of a tumor cast off, though repeated search was made among the many small clots passed. His pain in the bladder on sudden motion became more marked, and he was early in December last placed under ether, and the bladder thoroughly examined by the bimanual method, also by the sound and lithotrite, and also by Bigelow's aspirator. No calculus was found, nor were evidences of a tumor obtained. One mass removed showed a small collection of shapeless epithelial cells, but no stroma. It was decided to explore the bladder by the supra pubic incision; this was done December 23d, after the rectum had been distended with a bag holding eight ounces of water,* and then the bladder was first filled with six ounces and a half of 1-to-100 carbolic-acid solution but, as no distinct elevation of the bladder above the pubes could be felt, three ounces and a half more were slowly introduced, when the top of the bladder was lifted one

* See remarks on this point in "Medical News," December 4, 1886.

inch and a half above the bone. The bladder was reached by the usual incision, and was opened with but little hæmorrhage. The exploring finger did not find any calculus nor any tumor, as was expected. Inspection of the bladder was rendered difficult by the great rigidity of the strongly developed recti muscles, acting as they did more than usual, owing to the difficulty in maintaining perfect anæsthesia. By introducing blunt retractors into the bladder wound, and by raising the heels of the patient over an attendant's shoulders, as suggested by Trendelenburg, I was enabled to secure, with the additional aid of a small portable electric light, a very good view of the bladder. Only an intensely congested and easily bleeding mucous membrane was seen. No attempt was made to sew up the wound, which was packed lightly with sticky iodoform gauze, after a drainage-tube had been inserted; the patient was turned on alternate sides for three days, when the tube was also removed. No reaction followed the operation, but bloody urine continued to be passed, and two weeks later, the wound still admitting a finger, the patient was again etherized with the idea of isolating the mouths of the ureters, and thus ascertaining whether the hæmorrhage came from the kidneys or not. This was soon proved to be a difficult affair; the use of various endoscopic tubes and mirrors, and even a long but narrow glass speculum, was inefficacious in furnishing the desired view, and the insertion of, and dilatation by, Peterson's rectal bag with seven ounces and a half of water, while it brought the base of the bladder one inch nearer the surface and closer to the pubes, did not serve to permit the recognition of the orifices of the ureters. The hindrance was, as before, mainly due to the difficulty of overcoming by ether the strong resistance of the well-developed recti muscles. It was, however, seen that the lower part of the bladder was studded over with a number of elevations the size of hemp-seed, which bled freely when rubbed by an instrument. Three weeks later the supra-pubic opening closed, and the patient's urine is becoming less bloody, but the diagnosis of the case can hardly be considered as made. He still remains under observation.

On the *kidney* a series of important operations have been resorted to. The first case of the number to which your attention is asked is one of

Laceration of the kidney, with perinephritic abscess and renal fistula, which occurred in a youth of twenty, who, three years before coming under my care, had fallen a distance of six or eight feet, and struck his right side heavily on an iron bar. He had following this severe hæmaturia for three weeks, when fever, local pain, swelling, etc., showed that suppuration was progressing in the right lumbar region. An incision was then made by my colleague, Dr. W. T. Bull, and a large amount of pus was evacuated. A sinus persisted for a long time, which healed at times, but would break out again and freely discharge matter. Since July last he has been unable to get about by reason of the pain in the flank and also in the rectum. In the left iliac fossa was found much inflammatory hardness and tenderness, running upward to a large fistulous opening between the middle of the iliac crest and the ribs. Through the opening a probe could be passed nine inches downward to the iliac fossa. Above the opening, nearer the spine, was another, through which a probe entered four inches toward the kidney. From four to six ounces of pus were daily discharged. The patient was pale, but in fair condition, and was anxious to have relief from the persistent suppuration. By the rectum nothing could be felt. The urine was slightly albuminous, but otherwise the examination was a negative one, with the exception of a few pus-cells. The amount discharged per diem was between fifty and sixty ounces. No urinary salts were found in the pus dis-

charged from the fistulæ. A curved incision, starting from the upper fistula and running through the lower one, and anterior to it (somewhat like the one advised by Koenig), was used to expose the parts; but the tissues were so matted together by old inflammatory action as to yield but little room for manipulation. Instead of finding myself (as the way was finally enlarged by stretching and cutting) in the expected cavity of a suppurating kidney or thickened perinephritic abscess, I came down upon a thin-walled cavity, larger than my fist, through which could be easily felt the movements of the abdominal viscera beyond. Moderate bleeding occurred from the cavity, and it was temporarily stopped with sponges, while the fistulous tract in the groin was opened at its terminus, just above Poupart's ligament. A second tract was then found, running from the first downward to the pelvis, but too far back to be tapped. A drainage-tube was placed in each of these tracts, the sponges were removed, and the cavity was inspected with the aid of the electric lamp. This disclosed to me that a rent three inches long had been made through the membrane, so that the liver and gall-bladder were plainly exposed. This probably would not have been detected had it not been for the lamp. It was sewed up by catgut sutures. Careful examination by myself and my colleagues failed to find any remains of the kidney, which I also sought for through the peritoneal opening before it was closed. The exposed cavity was packed partly with iodoform gauze, but mainly with sublimate gauze, and the usual peat-bag and other antiseptic dressings were placed over all. Death took place four days later, with marked rise of temperature about forty-eight hours after the operation, followed by persistent vomiting and almost total suppression of urine. At the autopsy there were no signs of peritonitis; the left kidney was in a condition of acute suppurative interstitial nephritis, and on its surface, underneath its capsule, pus was diffusely distributed. At the upper border of the tenth rib on the right side, surrounded by dense connective tissue, was seen the upper third of the right kidney, its lower two thirds having been destroyed. This kidney-stump formed the upper limit of the abscess-cavity, which had been opened at the operation. In it were found two sponges which had been left *in situ*, one of which was firmly adherent. It should be stated that on the day of his death, the date of the last dressing, the wound was in an odorless condition. This cavity was bounded internally by the duodenum and spine, anteriorly by the ascending colon and hepatic flexure, and below it communicated by a tortuous sinus with a pus-cavity in the true pelvis, behind and alongside of the bladder and rectum, and it extended also through the right sacro-sciatic notch, and terminated exterior to this in a cavity the size of a hen's egg.

The second case of renal surgery was one of huge suppurating kidney, for which *nephrotomy* was done.

The patient, a man aged thirty-seven, had, strangely enough, had symptoms of trouble in his side for only four weeks, and these were of moderate severity, but were associated with great weakness and rapid emaciation, but no chills nor any special urinary manifestations. In the right flank was a painful tumor the size of a cocoa-nut, half way to the ilium, with a deep sense of fluctuation, which the corroborative use of a hypodermic needle proved to be from retained pus. An incision was made (under the idea that the swelling was more probably a perinephritic abscess) from the distal end of the twelfth rib downward, and, instead of reaching evidences of inflammatory thickening as the cut was deepened, only the translucent peritonæum came into view, through which was seen the tumor moving perceptibly up and down under the action of the diaphragm. An incision at right angles to the first, and running toward the

spine up to the quadratus muscle, soon exposed the tumor more safely in another place, when its purplish color proved it to be a hugely distended kidney. On opening this with a scalpel, over eight ounces of foetid yellow pus were discharged, and the finger, in exploring, could feel sundry depressions corresponding to cavities in the cortical portion of the kidney. It was not washed out, but two large rubber drainage-tubes were inserted, and the wound was dressed antiseptically. Though the discharge at first was very free, and required frequent changes of the dressing, it has of late rapidly diminished, and the patient's condition has correspondingly improved, though at times a strong urinous odor is perceived in the discharge. The cavity was washed out afterward with Thiersch's boro salicylate solution, as being safer than a carbolic or sublimate solution.

The case, however, that excited the most interest in the whole of the present operative group, from its nature, treatment, and result, has been one of *abdominal nephrectomy* for a huge *adenoma*, a disease which has necessitated removal of the kidney in only one (Czerny) of Gross's collection of forty-nine cases of nephrectomy for neoplasms. Another has since been published by Albert. In Czerny's* case the right kidney was involved in a child eleven months old. Death took place from peritonitis on the second day. In Albert's† the patient was a woman of forty-one, who, two years before, had had a fall, followed by frequent hæmaturia. Pawlik catheterized the ureters, and made the differential diagnosis. The tumor, as large as a child's head, was extirpated by a posterior incision, and the patient recovered. A third successful case is also reported by Schönborn‡ in a child aged two years.

My own case has the following history :

A burly man, aged thirty-five, a butcher, was suddenly seized, two years since, with cutting pain in the left lumbar region, and at that time passed a quantity of bloody urine; this was probably an attack of renal calculus, for other paroxysms came on with not very long intervals, and he frequently noticed that gravel was passed, and indeed he showed me some fifteen or twenty calculi, principally phosphatic in character, when he was first brought to me by his physician, Dr. Maynard, of this city. In the past year, however, these intermittent attacks have culminated in a persistent pain in the left lumbar region, which is aggravated by sudden motion—by riding, etc.; jolting will, moreover, bring on or increase his hæmaturia. He has lost flesh in the last six months, and he has become blanched from suffering and loss of blood. In the left flank is to be felt a tumor, running from three inches external to and on a level with the umbilicus, upward and backward under the ribs. This is slightly movable on bimanual examination; the mass seems to be nearly seven inches thick. The amount of urine passed varied from thirty-five to sixty ounces *per diem*, and, on examination, showed nothing beyond what might be due to the blood mixed in it. Under the idea that the kidney enlargement might be due to retained calculi, an exploratory vertical incision, as for *nephrotomy*, was made in the left loin December 11, 1886, and the kidney, covered only by a thin layer of its fat-capsule, was exposed by tearing through this. No calculus could be felt, though the posterior surface was pretty thoroughly palpated, and the anterior surface only to a limited degree.

A puncture with a needle was made in several places, but did not discover any calculus nor any cavity. The bleeding from the punctures was free, but was soon checked. The examination also showed that the kidney was too much enlarged to be removed by the usual lumbar incision.

It was determined to do nothing further for him at this time, but when the lumbar wound should have healed it was decided that the tumor (for the diagnosis made was that of probable sarcoma) should be extirpated by abdominal section. And in the meanwhile, as a corroborative diagnostic means, the quantity of the urea daily passed was estimated a number of times, as had been suggested by Thiriar, who had noticed that in malignant growths this secretion was materially lessened. It was found in the patient's case to have fallen to between 219 and 240 grains *per diem*. On the twentieth day of January, 1887, the patient was again etherized, and by an incision five inches and a half long, to the outer side of the left rectus muscle, and starting from the free edge of the ribs, the abdomen was opened, and, after palpating the other kidney, the intestines were pushed aside with large, flat sponges, the peritonæum covering the tumor was incised to the inner side of the descending colon, and the affected kidney was exposed. A few minutes' dissection with the finger allowed the root of the kidney to be reached, when this was easily surrounded with a heavy silk ligature, by means of Mott's aneurysm needle, and the vessels and ureter were tied off *en masse*. A heavy clamp was then applied between the ligature and the kidney, and the latter was cut away, and, after some tedious tearing of cicatricial adhesions on its posterior surface resulting from the first incision, it was finally removed. The clamp was found to have slipped, and to have allowed a vein, which had entered the kidney above the ligature, to bleed freely. This showed most happily the control the anterior incision gives in this respect. The bleeding vessel was distinctly seen, and was in a moment controlled by a fresh clamp and ligated. Very little blood was lost, though during the stripping process, which was conducted between the capsule and its fibro-adipose envelope, for a short time quite a smart oozing of venous blood took place. A long dressing-forceps was then forced from in front through the old cicatrized track to the loin, and a large-sized rubber drain was carried in from this point to the cavity left after the extraction of the kidney. The divided and torn edges of the peritonæum which had covered the kidney were united by numerous Lembert sutures, thus inverting the edges, and, after a final toilette of the peritoneal cavity (but only so in name, as nothing had entered it, it having been so thoroughly protected by the sponges), the parietal peritonæum was sewn together with catgut and the abdominal wall was closed by silver-wire sutures, supplemented by additional ones of catgut. As some oozing of blood persisted from the drainage-tube, several yards of sublimate and iodoform bandage were stuffed into the posterior cavity, and over all peat-bags and other antiseptic dressing were applied. The patient's progress was extremely satisfactory; there were no peritoneal symptoms, and only a persistent gulping for seventy-two hours. No attempt was made to introduce food into the stomach, and for a week nourishment was administered by the rectum. The highest temperature by the mouth was 101.7°. The urine for the first twenty-four hours amounted to but eight ounces, and it was very bloody, due probably to the operation on the removed kidney. In the second twenty-four hours it was twenty ounces and was of a dark amber-color, with only traces of blood in it; urea 1.01 per cent., specific gravity 1.020. On the third day it amounted to forty-nine ounces, and on the fourth to eighty-eight ounces, after which it gradually subsided, and about fifty ounces are now passed, but the urea still keeps lower than normal, but there is more than before the operation.

* "Deutsche med. Wochenschrift," 1882, No. 32.

† Brodeur, "De l'intervention chirurgicale dans les affections du rein," 1886, p. 222. Also "Wiener med. Presse," 1885, No. 9.

‡ De Jong, "Beiträge zur Nieren-Extirpation," Heidelberg, 1885. Also "Centralblatt f. Chir.," 1885, S. 24, Beilage.

On the sixth day the dressings were changed, and the wire sutures were removed from the anterior wound, which had healed primarily, and from the posterior opening the gauze was pulled out, everything being sweet and aseptic. To-day (February 8th) the patient is sitting up out of bed, is eating heartily, and is on the road to health.

An episode occurred at the termination of the operation that excited some anxiety. On telling the nurse to count her sponges at the close of the operation, she reported that there were two flat ones missing, there being seven instead of the nine original ones; on a second count the same result was had, and this original number was corroborated by the superintendent of the training-school, who was present. The wound, which was then partially closed, was opened, the hand was introduced, and the abdominal cavity was explored, and Dr. Bull, who was assisting me, was requested to verify the search. No sponges were found in these examinations, and the closure of the wound was proceeded with. The means for caring for the soiled towels, etc., and for washing the sponges, seemed to be so exact, and there seemed to be so little possibility of the missing sponges being lost anywhere else than in the patient's belly, that I felt much concern during the first three or four days on this point, being prepared, on the first symptom of peritonitis fairly manifesting itself, to reopen the abdominal cavity and resume the search. This feeling was present because, though an examination was found to be negative when made by two surgeons, yet I was conscious of the difficulty of absolutely excluding their presence, as I could not be certain of such regions as beyond the lesser omentum and behind the liver. Events proved, however, that the sponges went elsewhere, although the possibility of the organization of aseptic sponges may be insisted upon by some.

The kidney, when removed (the specimen is here shown), weighed twenty-one ounces and measured nine inches by five and a half. Its shape was rendered irregular by several projections from its surface, which were more marked on its posterior aspect. While the kidney itself is much enlarged, there can be seen after section that its substance has been invaded by a neoplasm of the size of a fist, encroaching upon, but not bursting by ulceration into, the pelvis. The mucous membrane of the latter is thickened, and up to the point where it was severed from the ureter, numerous miliary granules are found beneath it. Uninvolved kidney-tissue was found between the ligature and the tumor. On examination by the microscope, made by Dr. Peabody, the pathologist, the tumor seemed to be nowhere continuous with the kidney tissue, but to be separated from it by a well-defined capsule. In the more recently developed portions of the tumor an indistinct stroma of connective tissue may be made out, inclosing alveoli that are lined with cuboidal cells. The stroma itself is very rich in young cells, and its vessels are large and thin-walled. Older parts of the tumor show very delicate fibrous stroma, and also contain many round and spindle cells inclosing alveoli, some of which are large enough to be seen with the naked eye, while others are of microscopic size. The alveoli are lined regularly with flat epithelium, and occasionally contain colloid material. They are nowhere filled with cells. From the sides of many of these alveolar walls buds of connective tissue covered with epithelium project into the alveoli, and there either terminate freely or effect a union with similar buds projecting from an opposite wall. Not many vessels are seen in the fully developed parts of the tumor. In sections from different parts of the kidney, not actually invaded by the lumen, the effects of prolonged pressure are seen; also small, round cells occur abundantly in sharply defined aggregations of various sizes, evenly distributed throughout the kidney-tissue. Diagnosis: adenoma."

To be added to this eminently satisfactory case is another of *laparotomy for perforation of the appendix vermiformis*, done on probably the fourth day after the faecal extravasation, with a fatal result, and already reported to the society.* A third case of *laparotomy*, in a married woman of thirty-five, is also to be reported. It was performed for the arrest of severe hæmorrhage due to a *uterine fibroid* reaching nearly to the umbilicus. The uterine appendages (normal tubes and ovaries) on each side were tied off and removed, and the operation was completed smoothly and quickly, and under all antiseptic precaution. Peritonitis, however, carried off the patient on the fourth day.

A fourth case of *laparotomy* has much more interest, as it was performed upon a married woman of forty who had had a centrally situated abdominal tumor for several years, which she had been told by a distinguished gynaecologist was a fibroid, who added that she should never let any surgeon touch her.

Five days prior to entering the hospital she had been seized with severe abdominal pain, with fever and slight vomiting; when seen there was dullness running up from the pubes to the umbilicus, which rounded out, apparently a fibroid; *per vaginam* the lower part of the uterus could be mapped out, but the upper part could not. It was thought unwise to introduce the uterine probe. Pulse, 120; temperature, 102°; and belly moderately tympanitic, except over the tumor and toward the right iliac fossa, where, however, no fullness could be felt. A fine exploring needle was passed in by the house physician, Dr. Vought, and a small quantity of sero-pus was drawn out. The patient was accordingly transferred to the surgical division for operation, as it was supposed to be suppurative peritonitis with a large uterine fibroid. The patient, however, adhered to the injunction given her, and refused to have any surgical interference until twenty-four hours later, during which time her pulse rose to 140 and her temperature to 104°, and her general condition was much deteriorated. After the antiseptic washings had been done, a median section, running from the umbilicus to the pubes, showed that a suppurating cyst, rising nearly to the transverse colon, of the size of a muskmelon, containing horribly foetid gas and pus, existed, the origin of which could not be made out, it being lost in the uterus, nor could both of the ovaries be located. Whether there was a suppurating ovarian cyst or a fibro-cyst of the uterus could not be distinguished. The treatment was clear—*i. e.*, to fasten it to the lower angle of the wound, after drawing out as much as could readily emerge, and to close up the remainder of the abdominal wound. This was done, securing the sac not only with sutures to the peritoneally lined abdominal wound, but also with two transverse pins, and then the sac, which had only been previously tapped to empty it of its gas, in order to allow easier handling, and then had been tied up again, was freely opened with the patient on her side, and was thoroughly washed out with 1-to-40 carbolic solution, and drained by a large glass tube carried through a mass of iodoform gauze. By washing out the sac-cavity with 1-to-100 carbolic solution every three hours, the patient went along smoothly, with falling temperature and pulse, until the fifth day, when from a normal temperature it quickly rose to 103°. This was thought to be due to a mural abscess on each side of the wound, which was freely opened, cleaned out, and packed with iodoform gauze. The edges of the sac seemed to be adherent, but had sunk, after removal of the pins on the third day, quite deep in the wound. Some foul-

* "Medical News," January 15, 1887.

smelling gas came out during this washing out of the suppurating cavity, and the next morning the vagina was found filled with fæces. The patient rapidly succumbed forty-eight hours later, with signs of general peritonitis. The autopsy showed that the operative diagnosis was wrong. The cyst was Fallopian, and communicated by old openings with the rectum and bladder. The drawing up of the sac into the wound apparently made these openings more direct and patent. Peritoneal infection was probably late, for at the operation none was recognized. The size of this pyosalpinx was much beyond my previous knowledge.

THE SURGERY OF THE EXTREMITIES comprises thirty-two operations. Among these, eleven were for necrosis, five of the femur, two of the tibia, one of the fibula (external malleolus), one of the os calcis, one of a beautiful central necrosis (accidentally omitted in the foregoing pages) of the sacro-iliac synchondrosis, where a large mass of separate dead bone was taken away by extensive chiseling. There was one of the lower end of the humerus, involving the elbow, which was *resected*, resulting in good motion. One case of *resection of the entire tibia* was made in a boy of thirteen, who had suppuration progressing in the leg for over six weeks, and in whom the tibia had been largely exposed by incisions made for his relief in another hospital.

On his admission to the New York Hospital the knee joint was found to be involved, and, as an amputation was declined, the joint was opened and drained and the tibia found to be loosened in its sheath, so that but little chiseling and cutting sufficed to remove it from one epiphysis to another. The ankle joint was also involved in the suppuration. The patient's weak condition did not bear the shock of this operation, more severe, however, in appearance than in reality. The sawn bone showed several separate purulent depots and extensive infiltration of acute inflammatory processes.

I venture, notwithstanding the length that my paper has assumed, to make a remark concerning the subject of *necrosis of the lower end of the femur*. I have made myself, and have seen others make, an error in treating this affection, that I think I have now learned to avoid. The point is, when much thickening exists at the lower end of the femur, not to be content with the removal of the piece of exposed dead bone that may be seized and extracted, but to boldly chisel into the thickened end of the bone, even though no opening is found running into it. In very many instances further trouble may be found existing, either in the shape of minute spiculated necrosed pieces, as was shown by Dr. Lange at our last meeting, or of larger pieces surrounded by a spongy suppurating involucrum, or even central spongy necrosis, with or without bone abscess, running dangerously near the joint-line. All of these I have found when least expected. I feel warranted, therefore, in urging this point. In five cases where extensive openings had been made into bone, recourse was had to the suggestion made public by Schede in 1885, and also, in 1884, by Dr. R. T. Morris, of this city, but originated several years earlier by Neuber, of allowing the cavity to fill up with blood, in order that this may organize under the antiseptic dressings applied. Either the wound of the soft parts must be closed with the exception of a small slit, or it must be left entirely open and covered with a layer of

gutta-percha tissue, with a hole in it; this is intended to allow the surplus to flow out, and also to prevent the dry bandage from entirely soaking up the clot. In three out of my five cases (which can be increased to five out of seven, counting two private cases) success was obtained in the prompt organization of the clot and the rapid healing of this wound, which under the old plan of packing heals but slowly from the bottom.

A peculiar painful *enlargement of the internal condyle of the left femur*, with old joint disease, was found in a young man upon which an osteotomy was done with a gouge and chisel, in the expectation of finding a bone abscess; but, though the mass was cut into to a depth of three inches (it being larger than a big apple), nothing abnormal was seen, nor did the microscope show any change in the osseous structure. Nevertheless, the pain ceased and the patient was cured.

Arthrotomy for the removal of a floating sarcoma of the knee was performed in one instance; the case, together with the result of the microscopical examination, was reported to the society at a previous meeting.

A *recurring sarcoma of the groin*, the size of a large orange, encountered in a middle-aged man, was removed, the common femoral artery and vein being exposed, but not disturbed by the dissection.

Antiseptic irrigation of the knee joint with 1-to-20 carbolic solution, for chronic hydrarthrosis of the knee, can be reported as successfully treated. Likewise a quite extensive *chronic tendo-synovitis of the peroneal tendons* was treated by making an opening above and below, and establishing drainage without a very satisfactory outcome, the reason being microscopically shown to be (as Koenig has taught us) owing to tubercular infection of the sheath. It will require opening throughout its whole extent, and thorough dissection, scraping, and cleaning, with subsequent iodoform packing, in order to effect a cure.

Beside the elbow-joint resection, practiced for necrosis involving the articulation, and already noticed, there was one *resection of the shoulder joint* in a young adult by Ollier's anterior incision, which was an unwise selection of an operative method, as it allowed only a very imperfect cleaning out from the joint of the tuberculous synovial membrane. Even the more usual cut across the deltoid would have hardly permitted this to be done satisfactorily. As the patient had then slight (and now more advanced) signs of phthisis pulmonalis, amputation at the shoulder joint will soon be demanded for his relief.

A *resection of the wrist joint* after Lister's method was done for early tuberculous arthritis. In this instance more than usual trouble resulted from the hæmorrhage so often induced by the use of Esmarch's rubber bandage. The case promises well, though the long pressure to control the bleeding caused a slight cellulitis of the forearm. I have since in one instance put into use, with gratifying effect, the suggestion made at this society by Dr. Lange, that, when producing rubber anemia, one should control the rush of blood into the limb after the removal of the constricting band by the pressure of an assistant's finger on the main artery above the wound, so that the full blood-supply is only gradually admitted to the limb, and in this

way contraction of the temporarily paralyzed vessels is permitted.

Resection of the astragalo-scaphoid articulation was performed four times in two patients for *aggravated flat-foot*. In three of these operations adherence to Ogston's original plan was followed of shaving off, after opening the joint, the articular cartilages with a chisel, and then fastening the bones together by ivory pegs driven through the scaphoid bone into the astragalus. In the remaining operation a little more than the articular cartilage was taken away, and the use of pins was omitted, according to Stokes's method. The rectified position was maintained easily by a plaster bandage without the support of pegs. The result in the first case, now over four months old, is excellent; the last case is too recent to be quoted. I did this for the first time in 1885 in one foot, following, without intending it, Stokes's method—that is to say, removing more than I started to do—and in the second foot I conducted the operation more strictly after Ogston's directions. Only I found that my ivory pegs had been soaked all night in sublimate solution, which rendered them so friable that I could not use them, and so I drove in two gilt nails which had been cleaned by scrubbing and immersion in carbolic solution, but were stained by a previous employment in a compound fracture. Whether it was from this or from some other cause, the foot went sadly wrong, the other, without a peg, progressing happily. Severe tarsal inflammation ensued, and the young man only got off with a total resection of the scaphoid and astragalus and parts of the cuboid and os calcis, leaving him, however, in the end a serviceable foot, but prolonging his convalescence for months.

Amputation of the leg was done for recurring cancer of the heel by Stephen Smith's method, and gave a beautiful stump. The patient at first declined amputation, and consented only to my doing the Wladimirow-Miculicz operation. She acted wisely, I think, in coming to the decision she finally did, for she was past fifty-five, and the chances of the more complicated operation would have been thereby lessened, and a relapse would have been more likely to occur.

The rather rare operation of *amputation at the hip joint* was performed by the long anterior and short posterior flap, in a man aged forty-six, for huge recurring sarcoma of the soft parts of the left thigh. Besides a large mass reaching nearly to the trochanter on the side and behind, there were several small growths lower down on the face of the thigh. The original removal had been done three years ago by the late Dr. Post, of this city. Recurrence took place within six months after this operation. The main tumor is now some ten inches in diameter. The hæmorrhage at the hip-amputation was admirably controlled by Lloyd's method, which is to fasten a doubled rubber bandage tightly around the hip, so that it rests on the inner side of the tuberosity of the ischium, its ends being secured above the ilium at about its middle. Pads are placed under the compressing band, over the lower end of the external iliac artery, and over the sciatic notch. It appears to be the best and least hazardous of the many methods advised to control the blood-supply in this high amputation. Next to it I should place

Davy's rectal rod. Not more than two or three ounces of blood were lost in this case.

The patient did well without any temperature-elevation for forty-eight hours, when signs of gastritis and tympanites came on, without diarrhœa, and he died, four days after the operation; at the autopsy the stump was found to be progressing satisfactorily. A large aortic aneurysm was found, and the stomach was studded with patches varying in size from a silver quarter to a silver dollar, in which the mucous membrane was blackened and destroyed; their edges were sharply defined and they were of embolic origin, and were supposed to have originated from the aneurysm. The intestines were distended and much congested in defined areas.

My own impression is, that the toxic effect of the bichloride can probably be blamed. At least I am conscious that I committed an error, which I had in other instances sedulously kept in view. After the stump had been finally closed, to make certain that the two drainage-tubes were free from coagula, I allowed a 1-to-5,000 sublimate solution to flow in through one tube, distend the stump, and to flow out through the other tube, when the dressings (also of sublimate and quite freshly made, *i. e.*, damp) were applied in large quantity. I speak of this injection of a closed wound as faulty, since I can attribute the production of carbolic-acid poisoning to a similar method several years since. The gastric appearances somewhat resembled those shown in the case of the death after the operation for removal of the uterine appendages, although there frank peritonitis existed. In this case, to cleanse the vagina after the use of a tampon, a rather strong sublimate solution was directed by the house surgeon. It is well known that absorption of this drug goes on with special aptitude in the genital passages of the female.

I must here confess that, in spite of the many advantages of corrosive sublimate as an antiseptic, more mishaps have occurred to me in using it than were met with in the days of carbolic acid, and that with iodoform, since I have learned to use it discreetly, no harm has come at all beyond an occasional local irritation.

The few remarks that need to be made concerning the *antiseptic methods* usually employed in operations at the New York Hospital can appropriately be set forth here.

All fresh wounds are irrigated lightly with 1-to-5,000 or 1-to-10,000 sublimate solution. Catgut, either sublimated or Kocher's, is used. Iodoform, when used, is either dusted on the line of union of a wound, or on the sublimate gauze or peat-bag, which is first placed over the wound. No iodoform gauze (made by rubbing iodoform into a sticky gauze of any kind) is employed except to stuff cavities. Where primary union is sought, it will, if used, often shut up the secretions and provoke trouble. Where special promptness of union is desired, I much like to place over the wound a layer of sublimated, matted spun-glass, a device of Künmel's. Over the antiseptic gauze is laid a heavy layer of absorbent cotton, and pressure is made with gauze and Canton-flannel bandages. Drainage-tubes are of rubber and are kept in sublimate solutions; they are dipped in iodoform dissolved in ether just before being inserted into a wound. They are removed as early as possible, from the second to the fifth day.

As to the surgeon himself and his assistants, thorough scouring of the hands with soft soap and subsequent immersion in a 1-to-1,000 sublimate solution or a 1-to-20 carbolic-acid solution is resorted to.

The instruments are scrubbed and boiled, and are then put into carbolic solution. Sponges are washed in soft soap, and are kept in strong sublimate solution (1 to 2,000); all those which have been soiled with bad pus or discharges are at once destroyed.

To return and complete in a few words the list of operations that have taken so long to detail, I beg to speak of two cases of popliteal aneurysm treated by *ligature of the femoral artery*, with primary healing of the wound in each instance, but with a slight phlebitis in the leg in one case, and an enormous femoral abscess in the second, from suppuration of the sac due to the patient's leaving the house one month after the operation. I had in the first case reverted to ligature after successfully managing seven cases of aneurysm of the lower limbs by Esmarch's bandage, with one failure. The later successes by the ligature and its greater certainty, and increasing trust in antiseptic measures, led me to change my views from the bloodless to the cutting operation. It is too slight an experience from which to arrive at conviction, but it carries home, like my unfortunate Ogston's operation, the feeling, as Dr. Hunt, of Philadelphia, banteringly says, that "antiseptic surgery is *not* cock-sure surgery."

One case of *ununited fracture of the femur*, where the treatment of rubbing the ends together till pain was produced, and then putting the man up in plaster and getting him about on crutches, bearing light weight on the limb, had failed, was *bored by Brainerd's drills*.

A case of a nine-weeks-old *dislocation of the femur into the thyroid foramen* came under my notice in October in a woman weighing over two hundred and fifty pounds. In making efforts to reduce the dislocation under ether, the neck of the femur gave way and allowed ready restoration of the limb to a position parallel to its fellow. I had accidentally done what I proposed to do more exactly with a chisel, had I failed to reduce the dislocation. When the patient left the hospital, the case gave promise of a very satisfactory result.

By mentioning, in closing the list, one case of the very small operation of Cotting's for an *ingrowing toe-nail*, it is hoped that the artistic diminuendo will be appreciated. Minor operations have purposely been omitted, save in one or two instances, where their introduction would justify a remark. This operation of Cotting's often fails, and I have learned from my clinical assistant, Dr. Hartley, how to do it better than I formerly did. I now cut off much more of the swollen flesh alongside the nail, plunging the knife downward, and sometimes inclining it toward the center of the toe, so that a generous lump can be taken away; the incision should run well back beyond the matrix. An iodoform dressing is applied, and over this cotton and a snug bandage, and with this the patient can keep on walking, with the toe exposed in the shoe. In a week, usually, the dressing is changed. Lastly, of the three hundred and ninety-nine patients treated, there were seven deaths (or

1.75 per cent. mortality), and in each of these an operation had been done. In five of the seven, death occurred soon after the operation; in two other cases death resulted some time later, as in the case of the patient with tumor of the brain, who lived two and a half months after the operation, and the patient with hernia, who died, three weeks after the operation, from pneumonia and Bright's disease. In the one hundred and five operated on, the mortality was 6.66 per cent.

FOUR CASES IN PRACTICE.

By ROBERT T. MORRIS, M. D.

Hydrocephalus responding to Surgical Treatment.—Gall-Stones in the Peritoneal Cavity.—Two Cases of Recovery from Traumatic Paralysis.*

CASE I.—Rosie L. was ten months old when I first saw her, on June 15, 1885, in consultation with Dr. Onofrio Abruzzo, of this city. She was born a strong child of healthy parents, and all went well with the baby until she was six months old. One day the parents noticed a peculiar facial appearance, and shortly afterward saw that her eyes were squinting and rolling, and that her muscles contracted spasmodically. The first attack lasted only a few minutes, but the convulsions came on three or four times daily after that, and became more and more severe. In a few days the mother found that the child's head was increasing rapidly in size, and that it felt hot to the touch. Gradually the limbs became paralyzed. The child would no longer cry or smile, and her eyes began to protrude from their sockets and to remain rolled upward. The child continued to nurse, and she remained in very fair physical condition—a condition undoubtedly due to the medical attention which Dr. Abruzzo had given the case.

The disease had lasted for four months when I first saw the case. At that time the greatly enlarged head (forty-nine centimetres in circumference about the forehead and occiput, and fifty-eight centimetres in circumference about the chin and occiput) was further deformed by a marked protuberance of the right parietal bone. This protuberance had previously been much greater, until Dr. Abruzzo partially restored the symmetry of the head by means of a rubber bandage. The anterior and posterior fontanelles were very large, and the parietal bones were widely separated from each other and from the frontal and occipital bones. Percussion at any one point on the tense scalp sent a wave of transmitted force to the opposite side of the head, and, as the ventricles of the brain were presumably not distended with fluid, the hydrocephalus being post-congenital, I thought the case a proper one for surgical interference.

With the aspirator and a small needle I withdrew two ounces and a half of a beautifully limpid, non-albuminous fluid from the left side of the anterior fontanelle. The child improved almost immediately, smiled when spoken to, and moved the legs a little. This improvement remained, and a week later I drew off three ounces and a half of fluid, with the effect of bettering the child's condition still more. She began to move all her limbs, and the eyes lost the fixed stare. On the following week I drew off a few drachms of fluid from the left side of the cranial cavity, and injected half a drachm of Morton's fluid iodine, gr. x; iodide of potassium, gr. xxx; glycerin, f ʒ ij. At the end of the fourth week I again drew off a few drachms of fluid from the left side, and injected half a drachm of Morton's fluid.

* Read before the Section in Surgery of the New York Academy of Medicine, December 13, 1886.

In the intervals between the tapping the cranial walls would become tense, but the general improvement remained. The mother noticed that the tense feeling existed only at intervals during each day.

At the end of the fifth week I injected forty minims of Morton's fluid to the left of the longitudinal sinus, and twenty minims to the right of the sinus.

At the end of the seventh week I injected fifty minims of Morton's fluid into the right side of the cranial cavity, and this injection caused a sharp attack of meningitis, marked by rigors and febrile reactions, vomiting, and sleeplessness. At the end of eight days the child had recovered from the meningitis. The head increased in size for a few days after the attack, and then decreased again. I did not see the case again until four months later. At that time the child was exceedingly fat and well. She used her limbs like any other child of her age. The eyes did not protrude and her body was catching up to the enlarged head. The cranial walls were not tense. Eight months from the time when the first measurement of the head was taken, the circumference about the forehead and occiput was fifty-one centimetres, and about the chin and occiput sixty-one centimetres—figures representing natural growth, I think, in correspondence with the general growth of the body. The child continued in excellent health until July, 1886, when, according to Dr. Abruzzo, "she suddenly died in rapidly recurring convulsions, the attack beginning on the day on which she died."

The effects of surgical treatment in this case were most decided, carrying the child, with paralyzed limbs, protruding eyes, and abnormally enlarging head, to a condition of excellent health, with no symptoms of brain pressure, and limiting or stopping the dropsy of the arachnoid.

CASE II.—In June, 1886, Dr. M. A. Dumond, of West Danby, N. Y., asked me to see the following case with him and to operate if advisable.

A brief history of the case is as follows: *

Mrs. T., fifty-two years of age, began to have pain in the right pelvic region several years previously, and Dr. Dumond found, on examination a year ago, a tumor occupying the region of the right ovary and tube. The tumor increased in size, and the patient suffered several attacks of circumscribed peritonitis.

A few weeks before I saw the case the tumor, which had been movable, seemed to become attached to the abdominal wall. Shortly afterward an abscess of the abdominal wall appeared at a point two or three inches below the navel, and when this abscess was opened a fistula remained which discharged pus and a clear viscid fluid.

Inquiry subsequent to the operation reveals the fact that the patient had pain in the hepatic region thirteen years ago, with attacks of colic. She had several attacks of colic during the next few months, and thus there was a long interval of relief. She has had sick headaches frequently, however, and a year ago they came on once or twice weekly.

The patient has never been jaundiced, and has not of late years had pain which would point to trouble in the region of the gall-bladder. The peritonitis, however, which appeared to arise from the tumor in the pelvic region, has extended over the entire abdomen.

On examination, I found the left ovary and tube and the uterus to be in a normal condition. I could not find the right ovary and tube, nor could I find any sign of a morbid growth in

that region. The abdominal wall, on inspection, showed a bulging in the middle line between the navel and the pubic region, and a fistulous opening, situated about three inches (two inches and three fourths) below the navel, was discharging a clear viscid fluid. On percussion, I found tympanitic resonance along the course of the colon and immediately above the symphysis pubis, but the region inclosed by these boundaries gave a dull or flat percussion-note.

On palpation, I found an immovable tumor involving the anterior abdominal wall between the navel and a point just above the mons Veneris. The tumor was irregular in outline, not painful on pressure, and not causing pain except during an attack of peritonitis. A probe would not follow the fistula.

On June 27, 1886, assisted by Dr. Dumond, Dr. Beckwith, and Dr. Kirkendall, I prepared the abdominal wall for an anti-septic operation, and then made an opening into the peritoneal cavity in the middle line just above the mons Veneris. I found the right ovary and tube enveloped in a fibrinous deposit and drawn upward, but, much to my surprise, they had no apparent connection with the tumor. I then enlarged the opening sufficiently to allow my hand to enter the peritoneal cavity, and found that the tumor had no close connection with anything except the abdominal wall and the intestines, which latter were firmly attached, as a result of peritonitis.

I then made a cut directly into the substance of the tumor and found a peculiar fibrous mass, honeycombed, with little pockets containing brownish pus.

Utterly at a loss to know what kind of a growth I was dealing with, my dilemma can be imagined. If the tumor were removed, a large piece of the entire thickness of the abdominal wall would have to go with it. If the tumor remained, the attacks of peritonitis would soon carry off the patient. I decided to remove the growth. Extending my line of incision clear to the xiphoid bone of the sternum, I cut away the involved portion of the abdominal wall, and then spent an hour in the most tedious work of dissecting away matted intestines and separating matted loops from each other. The exposed tissues were kept covered with cloths wrung out in hot bichloride-of-mercury solution while this was being done. The intestines and the tissues on either side of the tumor having been freed from it, I made a last cut at the upper extremity of the mass and opened a little cavity, exposing a gall-stone. Six gall-stones lay together in that cavity, two of them an inch long and an inch in diameter each, another about as big as a chestnut, and three little ones which were not larger than kernels of corn. There was neither pus nor bile in the cavity with the gall-stones.

With the end of my little finger I followed the line of a small closed canal along the site of the obliterated gall-bladder and cystic duct, until the tip of my finger entered the common duct. I wish that I had not done this, because a continuous flow of bile followed the withdrawal of the finger, and the peritonæum in the vicinity was soiled before I could plug the canal. I dissected up the margins of the canal, sutured them to the skin above so that bile would escape externally, sponged off the soiled intestines, washed out the whole abdominal cavity with 1-10,000 bichloride-of-mercury solution, and closed the immense wound reaching from the sternum to the pubes with catgut sutures prepared according to Kocher's method. It was not easy to get the margins of the wound together. I had removed a complete segment of the anterior abdominal wall three inches long and two inches and a half broad. The skin and subcutaneous fat could be united all along the line, but the muscular margins of the wall were certainly three inches apart at one point, although strong, deep sutures, stretched across the chasm beneath the skin, furnished temporary support.

Iodoform was sprinkled along the line of sutures, Lister pro-

* Briefly noted in "Annals of Surgery," December, 1886.

tective applied, and a wad of bichloride gauze and cotton held in place by the binder, which was applied over all.

The patient had very little shock, and made as fine a recovery as any one could wish for. She sat up in bed eleven days after the operation; walked to a chair eighteen days after the operation; five days later walked to the next room and ate dinner with the family, and twenty-eight days after the operation walked a quarter of a mile to the office of Dr. Dumond. The patient is now well, although a tiny opening still allows the passage of bile to the skin. The wound united completely by primary union, and there is no sign of danger from hernia.

I suppose that it is unnecessary to say that the patient would have died if the antiseptic system of work had not been followed with the greatest care in the case. The shock was unimportant in degree, because the patient had a full dose of morphine before the ether was given, because the exposed tissues were kept covered with hot cloths while I was at work, and because microbes had no opportunity to overwhelm the patient, as they used to do in the good old days.

Cases III and IV represent accidents of a common sort, but, although these accidents are of the deepest interest to the surgeon, they are almost never reported. When I had the first case of the kind to treat I sought eagerly but in vain for literature which would help me in giving a prognosis, and a well-known pathologist to whom I turned for relief thought that several months of treatment might help the case, but he was not at all certain about it.

CASE III.—R. H., aged seventeen, was sent to me by Dr. F. H. Whittmore, of New Haven, in February, 1884. The patient was suffering from necrosis of the head and neck of the left os brachii. In order to have the operation a bloodless one, I wound rubber tubing firmly about the shoulder and axilla. The operation was a trifling one, as it was only necessary to chisel a little canal in the os brachii and remove a few spicula of dead bone; but when the patient had recovered from the effects of the ether it was found that the rubber tubing had injured the nerves of the axilla, and the muscles of the arm were paralyzed. There was paralysis of motion at least, but my notes do not state whether or not any sensation remained at any point in the extremity. At the end of two or three days the patient could move his fingers slightly. Galvanism and massage were then employed daily, and at the end of a month all the muscles of the extremity acted fairly well by volition. It was nearly a year, however, before the arm had fully recovered its power.

It is not uncommon to see paralysis of the arm follow attempts at reducing the common dislocations of the os brachii when the heel of the surgeon is placed in the axilla of the patient for purposes of counter-extension, but I have never seen any such cases reported. Kocher's method of manipulation proves that it is not necessary to place a heel in the axilla in order to reduce a dislocated os brachii, and consequently we shall have fewer cases of paralysis from that cause in the future.

CASE IV.—In June, 1886, Dr. D. White, of Ithaca, N. Y., asked me to remove a fibro-cystic tumor from the neck of a thirteen-year-old patient of his. The tumor, which had been growing for about four years, involved the sheaths of the left parotid gland and masseter muscle, and extended from a point in front of the lobe of the ear downward and backward toward the angle of the jaw. The branches of the facial nerve on that

side were involved in the substance of the tumor, and it was necessary to dissect them out with the utmost care—a line at a time—and to put them on the stretch in order to avoid injuring them with the scalpel. The wound healed by primary union, but there was almost complete paralysis of the muscles supplied by the disturbed branches immediately after the operation. The paralysis was complete in twenty-four hours, and this condition remained for about seventy-two hours longer. A slight recovery of the buccal and supra-maxillary branches was then noticed, and at the end of two weeks the malar and infra-orbital branches began to recover.

The galvanic current has been employed regularly in the case by Dr. White, and at the present time, six months having elapsed, the patient is practically well. The left lower eyelid is still weaker than its fellow, and when the patient laughs it is noticed that the orbicularis oris is not so well supplied by the left facial nerve as it is by the right one.

SYMPATHETIC EYE-TROUBLE.

A PECULIAR CASE.

By J. L. MINOR, M. D., MEMPHIS, TENN.,

LATE ATTENDING SURGEON TO THE NEW YORK CITY HOSPITALS ON RANDALL'S ISLAND.

Miss I. L., aged twenty-six years, contracted purulent conjunctivitis in May, 1878. Ulceration of the cornea, with prolapse of the iris, occurred, and this was soon followed by general inflammation of the globe (panophthalmitis), from which the eye was lost, leaving an atrophied bulb, which was enucleated in June, with a view of furnishing a socket for an artificial eye, free beyond peradventure of any influence tending toward sympathetic trouble in the other eye. This precaution was taken at the solicitation of the patient, who anticipated an extended and lengthy tour, during which time she desired to wear an artificial eye without fear of further trouble. In August the *permanent* artificial eye was obtained, which was worn with ease and comfort until April, 1879, when the socket became irritable, painful, and inflamed, with a purulent discharge. The wearing of the artificial eye was discontinued, and in three weeks all symptoms of irritation had subsided. A point in the center of the socket remained tender to the touch, however, and there was slight prominence of the tissue here. With the disappearance of inflammation in the socket, signs of irritation in the left eye manifested themselves. The globe became *blood-shot*, there were tenderness on pressure in the ciliary region (upper portion) and photophobia. Use of the eye caused pain. Near objects, when looked at, soon became indistinct or were blurred at all times, distant vision remaining unimpaired. In a week, warm-water bathing and disuse of the eye resulted in a cure. The tenderness in the socket above referred to remained permanently, but caused little inconvenience further than anxiety on the patient's part about the remaining eye, which, in itself, was not valueless, entailing as it did greater care of this organ. The artificial eye was again introduced and worn, but near work was practically abandoned, and no further trouble was experienced until September, when the stump became painful and inflamed, and the left eye injected and tender to pressure in the upper part of the ciliary region, with photophobia and limitation of the accommodation. The artificial eye was not entirely discarded, but its use was restricted to a few hours each day. The ordinary local remedies were employed, and complete rest of the left eye was ordered, but, in spite of these precautions, the condition continued to

changed until November, when she reached the United States and placed herself again in the hospital. The only additional facts then ascertained were, that there was apparent myopia of $\frac{1}{30}$, this glass being required to bring vision to $\frac{2}{30}$; that there was limitation of the accommodation amounting to $\frac{1}{30}$, and that the retinal vessels looked a little full. The old artificial eye, being a little rough, was discarded for a new one, which was worn for a few hours daily. Rest of the left eye and confinement in a darkened room were enjoined, and in two weeks all signs of irritation in the left eye had subsided. Vision was $\frac{2}{30}$ without a glass, and the accommodation was normal. Tenderness of the prominent center of the stump continued, and it was decided to remove it. The mucous covering and underlying tissue were divided, and a small cyst, of about the size of an English pea, revealed itself in the extremity of the optic nerve. The optic nerve was severed at a higher point, and the tumor thus removed. The cyst-contents was a clear, serous fluid. The parts were allowed to heal by granulation, which was practically complete in three days, when the patient left the institution. The stump continued sensitive to pressure, but no trouble was experienced until a month later, when it became inflamed. The left eye also became implicated; there were pain on use, photophobia, and lacrymation. The artificial eye had not been worn constantly, nor was its use, for cosmetic purposes, discontinued during this or subsequent attacks of irritation. The treatment consisted in the use of warm water and soothing washes, with confinement in a darkened room. She was well in a week.

I was kept informed as to the condition of this patient for the following two years, after which she passed from my observation. During this time she was never able to use the eye for near work for more than half an hour at a time. Over-use of the eye, or its exposure to bright light, invariably brought on a return of the irritative symptoms previously experienced, both in the stump and in the good eye. And this had nothing to do with the artificial eye, for its use was free from annoyance, and its presence or absence during near work did not influence the behavior of the left eye. The use of the artificial eye was comfortable and pleasant, yet its continued use would bring on trouble in the good eye, as would also much use of the eye, whether the artificial eye was worn or not.

The features of interest presented by this case I would summarize as follows:

1. Sympathetic trouble arising from an eye lost from panophthalmitis—a condition occasionally but exceptionally seen. Indeed, it is so rare as to have given rise to the law that an eye lost from panophthalmitis never causes sympathetic trouble.
2. Enucleation before sympathetic symptoms occurred, and their development afterward—a condition almost as rare as that just considered, and governed by much the same rules.
3. Trouble in the optic nerve, giving rise to sympathetic symptoms in the ciliary region of the other eye. Tenderness in the ciliary region seemed to be dependent upon the cyst in the end of the optic nerve, for it was never noticed after the cyst was removed. It is held by so high an authority as Mauthner that the transmission of the sympathetic process is through the optic nerve of the exciting eye to the optic nerve and retina of the sympathizing eye, and

through the ciliary nerves of the former to the uvea of the latter.

4. Limitation, with spasm, of the accommodation. This is by no means exceptional, but it shows very prettily irritation, with excitability and weakness, of the accommodative muscle, all of which disappeared when the exciting cause in the optic nerve was removed.

5. Sympathetic trouble arising in the one instance from the use of the artificial eye, and, in the other, from use or undue exposure of the good eye.

This patient was treated at the Brooklyn Eye and Ear Hospital during my house-surgeonship in that institution. She was in Dr. Rushmore's service, and it is through his courtesy that I report the case.

Correspondence.

LETTER FROM PARIS.

The Medico-legal Aspect of Hypnotism.—Hysteria and "Possession."—The Sanitation of Cholera Ships.

PARIS, March 1, 1887.

You have frequently noticed the study of what is called hypnotism by Professor Charcot and his *chef de clinique*, M. Babinski, at the Salpêtrière Hospital here. The Nancy school has done much to unravel as far as possible these unexplained mysteries which, under the name of mesmerism, remained so long the objects of simple curiosity and amusement, but the phenomena of hypnotism are now being submitted to rigid scientific investigation, and it is seen how vast the field is and how many medical and social problems the study raises. Whether or not the use of magnets for transferring such symptoms from one patient to another will ever amount to anything of real value only time can show. At any rate, hypnotism, or "suggestion" to the hypnotized patient, is a subject of medical investigation that has attracted a great deal of attention for the past week or so among all classes here, owing to the fact that its medico-legal aspect is now under examination. It is easy to see that it is possible for an individual to acquire an unlimited power of action upon another, so as to be able to impose his will upon him and cause him to do whatever he likes. If this can be proved, the sphere of legal responsibility will be greatly modified. Public opinion in France has been much moved by these matters, and the Government was urged to appoint a committee to examine into the question. This has been done, and the committee is holding sittings every Thursday at the Salpêtrière Hospital. The committee is composed of magistrates and professors of mental medicine, with Dr. Brouardel, the Paris professor of legal medicine. The principal questions so far examined into are the following: Can a person cause another, when in a state of hypnotism, to sign receipts for money not received? Can a person, in the same state, be forced, against his or her will, to draw a will in favor of anybody?

The mode of experimentation is as follows: A female patient, Mademoiselle A., is forced into the lethargic sleep by pressure on a suggested hypnotic point, when, by slight friction on the forehead, she passes into the somnambulistic state. Professor Brouardel then approaches her and asks her if she will accept a loan of fifty francs. At first she refuses, but, on the suggestion being forced upon her, she gradually weakens, and

finally consents to accept the offer. A stamped receipt is then drawn up with every possible legal precaution, and the patient herself is quite anxious that there should be no mistake about it. She then signs it, and Dr. Brouardel puts it into his pocket, but does not offer to give her the money. She is then awakened, and acknowledges that the receipt was signed by her, but can not remember under what circumstances she was induced to sign it, or whether or not she got the money. Legally the receipt is quite valid, and, according to the present law, the holder of it could collect payment if the signer had any property or means of payment. In regard to the second matter, that of compelling a person to draw up a will in a certain way, the experiment was equally successful. Mademoiselle B. is plunged into the hypnotic state, and Dr. Babinski then tells her that it is absolutely necessary for her to make her will at once, and in his favor. She objects at first, saying that she is too young to die, etc. This lasts about ten minutes, and she goes on to say also that she wishes to give her property to her mother and other relations, but, after persistent persuasion and keeping up the suggestion that it is better to give everything to Dr. Babinski, she at last begins to weaken, and finally accepts the proposition, saying that her property consists of about thirty francs that she has saved, and that she has a ring, a brooch, and a pair of ear-rings. All this, her sole property, she then agrees to bequeath to Dr. Babinski, and the next Thursday is appointed for the signing of the will. A notary is to draw up the document, and she will sign it. Moreover, Dr. Babinski suggests to her to say nothing about it to any one in the mean time, and to say when asked that she acted of her own free will and consent, and that she was not forced to the act by anybody. The appointed day arrives, and it is noticed that the girl has been rather fidgety and nervous since early morning and says she has something to do, but does not remember exactly what it is. On being put into the somnambulist state, however, she remembers her promise, and, when one of the bystanders is introduced as the lawyer, she immediately draws up her will and gives all that she has to the doctor. This is duly witnessed, and then the lawyers of the committee question her as to whether she is acting with complete freedom, and as to whether she has been urged to the act. She replies that she has done it all of her own free will; that she knows she has a poor family, but she would rather give everything she has to Dr. Babinski. She says, however, that she is obliged to do so, but when asked for what reason, can not tell. When she is awakened she repeats the same story.

These experiments prove the legal irresponsibility of these patients, for it is obvious that they can be made to commit many acts without knowing why it is that they are compelled, as it were, to do them. The researches are still going on, and I shall report further on them if any important facts are presented. In his faculty lectures, this year, on rape, etc., referring to the question of the bearing of hypnotism on his subject, Dr. Brouardel said that he was not disposed to believe that suggestion could be used in the commission of criminal acts against the person. To be sure, the possibility of criminal connection in the mesmerized state was not exactly denied, but it must be taken into account that the female subjects must be entirely consenting parties before they are put into the sleep, and that it is probably impossible to get them into the sleep without their consent. Besides, there is no evidence that coitus can be accomplished without the patient's knowledge; indeed, it is often astonishing how much they do know and hear when in the trance-like state, as is frequently proved in the hospital when some one is rash enough to make depreciating remarks, and is told of it pretty sharply when the patient awakes.

One of the curious sides of this matter is shown in the re-

ligious journal "L'Univers," which seems to see a terrible heresy in the study of hypnotism, and denounces the new science as "dangerous to morality." In his studies, M. Charcot called in the aid of instantaneous photography, and he has "taken" his patients in every phase and attitude of their complaints. Afterward, when the history of these maladies was hunted up, it was found that these attitudes were precisely those represented in certain ancient works of art. All who know Professor Charcot well know that he is something of an artist himself. He has a great taste for art, and every year, when traveling, he has visited old churches and museums. He has been struck at finding that old church paintings portraying the lives of saints and those who were supposed to be "possessed," represented exactly the appearances that instantaneous photography revealed in his hysterical patients. This idea was followed up, and long search proved that paintings by Andrea del Sarte, Rubens, Roselli, Van Noort, and many others of the old masters were simply copies from nature, faithfully representing the convulsions of hysterical men and women. Some very curious examples of these "miracles" were certainly only manifestations of St. Vitus's dance or hysteria. So we fear that another of the world's cherished ideas is being decidedly undermined—whence the wrath of the pious sheet against M. Charcot and his fellow-workers.

Dr. Proust, the professor of hygiene at the Paris faculty, lately gave an account of the results of the measures he had proposed to the recent congress at Rome for disinfection on board ship. They included large steam ovens to sterilize clothing, boilers for linen, bath-rooms, with enforced bathing, and strict cleanliness in all parts of the ship by frequent washing with chlorinated lime—all under the direction of a physician on board. The case is cited of a French transport, the "Mytho," which has just brought home some nine hundred souls from the East without any deaths from cholera, owing to the rigorous disinfection on board. Dr. Proust thinks that, if such decided measures are taken on board ship, infectious diseases will not be imported as they are now, and that quarantines of observation will be rendered unnecessary as well as useless, for, notwithstanding the usual number of days a ship is detained, it can not be made wholesome. The longer the voyage the better, as disease, taken on board, can be crushed out *en route*, particularly if a careful inspection is made of ships and passengers *when they leave*, and not when they arrive.

The Value of Vital Statistics.—In a supplemental report to the Governor of West Virginia, Dr. T. A. Harris, the secretary of the State Board of Health, says:

"The value of vital statistics is hard to estimate, for it must necessarily furnish the foundation of sanitary science, and many other interests make it desirable that we should know the births, marriages, and deaths of our people, with the cause of the deaths. . . . I would suggest that, under the general direction of the Secretary of State, the secretary of the State Board of Health be made Registrar of Vital Statistics. That he should collect these statistics and prepare and publish a report of them in connection with the report of the State Board of Health, and that he should receive such compensation for his services as the State Board of Health may fix, said compensation to be paid out of the money now appropriated for the State Board of Health. That it be made the duty of the clerks of the county courts to make returns to the secretary of the State Board of Health of the births, marriages, and deaths annually on the 1st of July, and that such returns be made on forms to be supplied them by the Secretary of State. . . . That it be made the duty of every physician, coroner, and undertaker to report every case of death to the clerk of the county court within thirty days thereafter. To insure the performance of these duties, I think some compensation should be given for the performance, and some penalty attached to the failure to do so."

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THE MANAGEMENT OF VALVULAR AFFECTIONS OF THE
HEART.

A STUDY of Sir Andrew Clark's paper on heart disease, which formed the basis of an article published in our last issue, calls up some interesting questions as to the treatment of cardiac affections. It will be remembered that the cases observed by that author had run a favorable course for a term of years independently of any treatment or of obedience to any particular rules of diet or mode of life. A natural inference from the facts is that a person suffering from heart disease of that character had better be let alone and allowed to follow his usual pursuits and habits. A close analysis of the paper, however, reveals an instructive lesson, and furnishes a valuable clue to the management of these affections. It was ascertained that all the patients had been in fair circumstances, that they were not given to worry, and that they used tea, coffee, alcohol, and tobacco in moderation. The ideal life that the author depicts for a person suffering from valvular disease may seem impracticable and unnecessary in the light of his own cases. But every such person can and should be enjoined to take but small quantities of the articles mentioned, and especially to be cautious in the use of tobacco. The latter precept can not be too strictly enforced, particularly if the heart is inclined to be irritable. Recent observations have shown that the immoderate and long-continued use of tobacco may of itself bring about organic changes in the muscular substance of the heart.

Within the past few years almost a complete revolution has taken place with regard to the admissibility of exercise in cardiac affections. To Oertel, of Munich, must the credit be given of having dispelled the fear of allowing patients with valvular lesions a moderate degree of exercise. This clinician looks upon exercise in these conditions as a valuable therapeutical agent, but one requiring the same strict watch and carefulness as any powerful drug. But the rules he lays down could be carried out only at a regular establishment under constant medical supervision. In general practice it may be thought safe, unless the person is given to very arduous physical labor, to make no restrictions on the exertion necessary in his employment. But it must be well understood that not every person with a damaged heart may go about his customary work and follow his ordinary habits with impunity; in a certain number of cases such a course would be extremely injudicious, and might terminate life abruptly. When, according to Sir Andrew Clark, the heart is irritable, frequently intermitting, or irregular, when the murmurs vary in character and intensity, when there is any suspicion that recent changes have been occurring in the interior of the organ, and more especially

when there is any febrile disturbance of the system, it is necessary that the patient be kept at rest and fed upon the lightest food.

GASEOUS MEDICATION BY THE RECTUM.

In a letter published in our issue for December 18, 1886, our Paris correspondent gave an account of a novel method of treating phthisis broached by Dr. Bergeon, of Lyons. The method proposed has evoked considerable mirth and an amount of levity that the members of so grave and serious a profession as that of medicine are seldom credited with. In a recent number of the "British Medical Journal," Dr. J. H. Bennet, of Paris, communicates his observations on this mode of treatment. He confesses that at the outset he was very dubious as to the results to be obtained by Dr. Bergeon's method, but he says he was induced by the well-known honesty and professional standing of its author to give it a trial. He cites a case of advanced phthisis, in a girl of sixteen, in which rectal injections of sulphureted hydrogen certainly ameliorated the symptoms—all that could have been expected from any treatment in that instance. One of the drawbacks to the treatment, Dr. Bennet remarks, is that it is most painful to the feelings of the patient, and not less so to those of the medical attendant. It seems that the bacilli do not entirely disappear from the sputa, even in the cases most completely mitigated. This circumstance, says Dr. Bergeon, goes to imply that the bacilli are not the *fons et origo mali* of phthisis. He says he does not propose his plan as one of antimicrobial treatment, but merely as one that succeeds. Dr. Bennet states that he has spoken to several physicians who are trying it, and that they all report unexpected good results. In his "Notes and Comments," in the last number of the "Canada Medical and Surgical Journal," Dr. William Osler says that the method is being applied in phthisical cases in the wards of the Philadelphia Hospital—with what success is not stated.

MINOR PARAGRAPHS.

THE "TUBE-LENGTH" OF A MICROSCOPE.

We are glad to observe that Professor Gage, of Cornell University, has lately issued another of the concise and exceedingly clear working manuals that he seems particularly clever in producing. The one in question is entitled "Notes on Microscopical Methods," and is designed as a companion to the author's "Notes on Histological Methods." As an example of Professor Gage's attention to details that are often overlooked by authors, and also as a piece of information that may prove useful to many of our readers, we may mention his summary of the different meanings attached by various opticians to the term "tube-length." The Gundlach Optical Co. says that it includes both the ocular and the objective. Carl Zeiss is quoted as saying that it is "measured from the upper surface of the setting of the objective to the upper margin of the body-tube, on which the eye-piece rests." J. Grunow defines it substantially in agreement with Zeiss. H. R. Spencer & Co. understand it as the distance from the front of the objective to the field-bar of the eye-piece. J. Green (Tolles's successor) agrees with Spencer & Co. as to the upper limit, but fixes the lower limit at the front shoulder of a three-system objective or a point about midway between the systems of a two-system objective. The

Bausch & Lomb Optical Co. places the upper limit at the same point as Spencer & Co., but consider the lower limit to be the focal plane of the objective. The "Notes" are replete with such practical information, and, in our opinion, they will prove of the greatest value to students of microscopy.

POST-GRADUATION HINTS TO NURSES.

WHAT the ordinary graduate of a nurses' training school most needs, when she emerges from the hospital and undertakes private nursing, is to have her technical training supplemented, and perhaps to some extent rectified, by sound advice on the ethical and prudential aspects of her calling. For lack of this, many a woman has made herself a nuisance in place of a treasure among those who have been unlucky enough to employ her. The time is rapidly approaching when these women of excellent attainments will be forced by competition either to train themselves anew or give place to their better-advised rivals. To those who are wise enough to choose the former course we would commend the careful study of an address delivered at the Boston school, connected with the Massachusetts General Hospital, by Dr. William L. Richardson, published in the form of a pamphlet at the request of the directors of the school. Dr. Richardson's sound and wholesome admonitions are so pervaded with kindness that, pointed as they are, no woman at all worthy to be a nurse can fail to be favorably influenced by them.

PAST AND PRESENT METHODS OF TREATING WOUNDS.

DR. W. A. M. WAINWRIGHT, of Hartford, Conn., lately read a brief paper before the Hartford County Medical Society, entitled "The Modern Treatment of Wounds." In its published form, it is an excellent guide to the essentials of the antiseptic method, the importance of which as an advance in surgery is sharply and irresistibly enforced by a newspaper item taken by the author, as he puts it, as the text of his little sermon. The item recounts the case of a railway brakeman who had one of his fingers nearly torn off, and, blood-poisoning following, had his hand and forearm "lanced twenty-four times," but was at last "slowly gaining." This sequence of events, as Dr. Wainwright aptly reminded his hearers, was almost of constant occurrence twenty years ago, and its sharp contrast with the way in which wounds are now made to heal ought to silence the last anti-Listerian skeptic.

THE CITY BOARD OF HEALTH.

THE announcement that the Mayor has appointed Mr. James C. Bayles, of Orange, N. J., to be president of the board seems to have brought out little that is not purely speculative in the way of comment. The appointee is said to be the editor of a trade journal and to have written on subjects connected with house sanitation. The great point in his favor is that his appointment is understood to be received with disfavor by the politicians, and we must take it for granted that so public-spirited a man as Mayor Hewitt would not have appointed a non-resident to such an important office in the absence of good specific reasons for doing so.

MILK AS A MEDIUM OF INFECTION.

THE spread of disease through the medium of milk has often been demonstrated, but seldom more strikingly than by an investigation lately pursued by the Massachusetts State Board of Health, for the purpose of discovering the cause of an outbreak of typhoid fever that occurred last autumn in a certain district in Cambridge. It was found that all the milk supplied to the district came from one farm in New Hampshire; that on the

farm there was a well into which a privy vault drained, the water of the well being used to wash the milk cans; and, finally, that last summer a person lay sick with typhoid fever on the farm. The conclusion was unavoidable that the fever germs were carried in the milk, and thus the disease disseminated among the people of Cambridge.

TWO NEW FORMULARIES.

FORMULARIES of non-official preparations we by no means regard as among the productions that an enlightened physician can properly look upon as too trivial to command his attention. Indeed, it seems to us that the contempt of them sometimes expressed betokens either affectation or a strange misconception of the diversity of resources with which a practitioner of medicine ought to be provided. Taking this view of the matter, we are glad to note the recent appearance of the American Pharmaceutical Association's committee's "Preliminary Draft of a National Formulary," reprinted from the association's "Proceedings" for 1886, and a revised edition of the "Hospital Formulary," issued by the Department of Public Charities and Correction of the City of New York. The scope of these two publications is quite different, the first one giving formulæ of preparations which, although for the most part not official, are intended to be official, while the second includes many formulæ that probably originated in extemporaneous prescriptions. Both are of decided value, and it is our impression that both may be studied with profit by physicians as well as pharmacists.

ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Fourth Division of the Health Department for the following statement of cases and deaths reported during the two weeks ending March 15, 1887:

DISEASES	Week ending Mar. 8.		Week ending Mar. 15.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever.....	6	5	6	3
Scarlet fever.....	54	15	43	8
Cerebro-spinal meningitis....	2	2	3	3
Measles.....	213	17	155	27
Diphtheria.....	93	39	96	48
Small-pox.....	15	1	11	0

The Woman's Medical College of the New York Infirmary.—A public meeting was held in Chickering Hall on Monday evening, the 14th inst., in aid of a movement to obtain funds for providing the institution with a new building. Several well-known physicians, including Dr. W. H. Draper, Dr. J. West Roosevelt, and Dr. M. Putnam Jacobi, were among the speakers. The Mayor and a number of prominent citizens were constituted a committee to solicit contributions to the building fund.

Bellevue Hospital Medical College.—The twenty-sixth annual commencement exercises were held at the Carnegie Laboratory on Monday evening, the 14th inst. The degree in medicine was conferred on 134 candidates.

The Police Medical Corps.—It is announced that Dr. Lucien Damainville has been appointed surgeon, in place of the late Dr. Purroy.

The Society of the Alumni of Bellevue Hospital was organized last June, its objects being the consideration of medical and surgical topics in their clinical and therapeutical aspects and the promotion of social intercourse among its members. Its meetings are held on the third Wednesday of each month, except July, August, and September. Any physician in good

standing, being a graduate of Bellevue Hospital, is eligible to membership. The initiation fee is five dollars.

Bellevue Hospital.—Dr. Austin Flint has been appointed visiting physician to the hospital, in place of the late Dr. Austin Flint, Sr., the position having been occupied provisionally during the past year by Dr. H. M. Biggs.

The Disposal of Stable Refuse.—The city Board of Health has amended the Sanitary Code so as to provide that in future stable manure must be baled or removed as soon as a cartload has accumulated, and that no receptacles for its storage outside the stables can be used without a permit.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from March 6, 1887, to March 12, 1887:*

ALDEN, C. H., Major and Surgeon. Ordered for duty at U. S. Military Academy, West Point, N. Y., August 28, 1887, relieving Lieutenant-Colonel Andrew K. Smith, surgeon, who will then report by letter to the Surgeon-General. S. O. 52, A. G. O., March 5, 1887.

CARTER, WILLIAM F., Captain and Assistant Surgeon. Granted leave of absence for one month on surgeon's certificate of disability. S. O. 25, Department of Texas, February 24, 1887.

MC CREERY, GEORGE, Captain and Assistant Surgeon. Leave of absence extended one month. S. O. 52, A. G. O., March 5, 1887.

JOHNSON, R. W., Captain and Assistant Surgeon. Ordered for temporary duty at U. S. Military Academy, West Point, N. Y. S. O. 51, A. G. O., March 4, 1887.

EDIE, GUY L., First Lieutenant and Assistant Surgeon. Granted leave of absence for one month, to take effect about March 1, 1887. S. O. 27, Department of Texas, February 28, 1887.

Naval Intelligence—*Official List of Changes in the Medical Corps of the United States Navy for the week ended March 12, 1887:*

BRADLEY, GEORGE P., Surgeon. Detached from the Naval Hospital, Philadelphia, and granted six months' leave.

STEELE, JOHN W., Passed Assistant Surgeon. Ordered to the Naval Hospital, Philadelphia, without delay.

Marine-Hospital Service.—*Official List of Changes of Stations and Duties of Medical Officers of the United States Marine-Hospital Service for the week ended March 12, 1887:*

BANKS, C. E., Passed Assistant Surgeon. To proceed to Chicago, Ill., and assume temporary charge of the service. March 10, 1887.

Society Meetings for the Coming Week:

MONDAY, March 21st: New York Academy of Medicine (Section in Ophthalmology and Otology); New York County Medical Association; Hartford, Conn., City Medical Association; Chicago Medical Society.

TUESDAY, March 22d: New York Dermatological Society (private); New York Academy of Medicine (Section in Laryngology and Rhinology); Buffalo Obstetrical Society (private); Medical Society of the County of Lewis, N. Y. (quarterly).

WEDNESDAY, March 23d: New York Surgical Society; New York Pathological Society; American Microscopical Society of the City of New York; Medical Society of the County of Albany; Philadelphia County Medical Society (conversational).

THURSDAY, March 24th: New York Academy of Medicine (Section in Obstetrics and Diseases of Women and Children); New York Orthopædic Society; Brooklyn Pathological Society; Roxbury, Mass., Society for Medical Improvement (private); Pathological Society of Philadelphia.

FRIDAY, March 25th: Yorkville Medical Association (private); New York Society of German Physicians; New York Clinical Society (private); Philadelphia Clinical Society; Philadelphia Laryngological Society.

SATURDAY, March 26th: New York Medical and Surgical Society (private).

OBITUARY NOTES.

Edgar L. Andrews, M. D., died at his residence, in the West Farms district of the city of New York, on Saturday, the 12th inst., in the twenty-seventh year of his age. The deceased was a graduate of the Medical Department of the University of Vermont.

Letters to the Editor.

A SIMPLE METHOD OF TREATING EPISTAXIS.

SHELDON, ILL., March 7, 1887.

To the Editor of the New York Medical Journal:

SIR: Having seen the statement in various medical journals that it is better not to plug the posterior nares in cases of epistaxis, but that the patient should be instructed to breathe through the mouth until clots form, etc., it occurs to me that a better and safer way should be made known. At least I think I have found it to be better. The method is not new as applied to other forms of hæmorrhage, and its application to the control of nose-bleed may not be new, but I have not heard of its being used for that purpose. It consists in tying a piece of bandage around each thigh, close to the body, and, if necessary, around each arm also, just tight enough to prevent the venous circulation without interfering with the arterial. Thus a large amount of blood will be retained in the extremities, the tension of the bleeding vessels will be relieved, and the bleeding will almost instantly cease. I have used this simple expedient a good many times, and have always succeeded almost instantly in stopping the hæmorrhage. I believe the case to be rare that will require anything more to be done. Of course, the ligatures should be left in place long enough to allow clotting to take place; then they should be removed gradually and one at a time, so that a sudden return of a large amount of blood to the circulation may not remove the clots.

Z. E. PATRICK, M. D.

Proceedings of Societies.

CLINICAL SOCIETY OF THE NEW YORK POST-GRADUATE MEDICAL SCHOOL AND HOSPITAL.

Meeting of February 5, 1887.

Dr. T. E. SATTERTHWAITE, Chairman.

New Drugs.—Dr. G. W. HAYS presented specimens, among others *agaricine*, an alkaloid used with decided success in checking the per-piration of phthisis and that caused by antipyrine. It was given in the Bellevue Hospital in solution with atropine, the combination being $\frac{1}{16}$ grain of agaricine, $\frac{1}{120}$ grain of atropine, and ten minims of aromatic sulphuric acid. The action of

agaricine was realized a few hours after its administration. It was given with antipyrine; in other cases, such as those of phthisis, it was given several hours before the sweating was expected to occur. Agaricine was also administered hypodermically, but this use of it was very painful except where cocaine was simultaneously used.

Solanine, another alkaloid comparatively new, was used in the place of morphine, in doses of from one to five grains by the mouth, or hypodermically in a dose of half a grain.

Coumarin, the active principle of the tonka-bean, was used to disguise the odor of iodoform.

Colocynthin, a glucoside obtained from *colocynth*, had been recently presented by Merck to the Medical Congress at Berlin. It might be given by enema or hypodermically. Formerly there was no cathartic which could be hypodermically administered. This was also, however, painful, while the rectal injection was said to be equally effective. The hypodermic dose was $\frac{1}{16}$ grain; by rectum, one to six grains. A specimen of *pancreatin* of peculiar beauty was shown, resembling a scale salt of iron; also a specimen of osmic acid, recommended for the cure of peripheral neuralgias and epilepsy.

Sparteine was an alkaloid from broom-tops, long known but only lately used as a cardiac tonic.

A New Polypus Snare.—Dr. GEORGE B. HOPE presented a modification of Schroetter's snare designed by himself, and having certain advantages over Jarvis's snare. Added to the écraseur movement it had a screw attached to the thumb-piece, enabling the operator to remove harder tissue than was possible by ordinary manipulations; also to remove hypertrophied tissue not full enough to be caught in the net. The head was flat, thus allowing a close approximation to the tissues, and the wire was prevented from being withdrawn too far into the cannula, while in the Jarvis snare it was almost impossible to release the wire without re-threading. An old Schroetter instrument might be altered into this one, but it was better to have a new steel instrument which would not bend.

An Improved Amygdalotome.—Dr. HOPE showed also Dr. Mackenzie's latest improvement on his amygdalotome, which now had an arrangement so that the handle could be transferred from one side to the other. With the old instrument the operator had to change the instrument from one hand to the other, or twist the hand so as to bring it in the way of the light.

Bacteria, and their Relation to Disease.—A *résumé* of a paper on this subject that had been read at the January 15th meeting of the society was given by the CHAIRMAN, who, in introducing the subject, said that he thought it advantageous to quote from a paper he had read ten years before at the International Medical Congress, held in Philadelphia, because he believed a fair representation of the topic had been given at that time, and because he wished to note the conclusions that were accepted by the Congress. The germ theory was there characterized as embracing three subordinate hypotheses, each of which had its adherents. There was (1) the vegetable germ, (2) the bioplasm, and (3) the physico-chemical or physical. The vegetable germ theory, which then, as now, was of the most engrossing interest, was born of Schwann's labors, for he detected minute vegetable organisms in fermenting fluids, though it was Pasteur's province to ascribe the fermenting process to these self-same organisms, while later still it began to be assumed that infective diseases might have an analogous origin.

The conclusions adopted by the Congress were as follows:

1. That, as far as inquiry had been made as to the nature of the active principles in infective diseases, it was probable that in a certain number the matter was particulate, or molecular in form.

2. That in regard to the causes of septicæmia, pyæmia, puer-

peral fever, erysipelas, and hospital gangrene, and those of cholera, vaccine-disease, the carbuncular diseases of men and animals, typhoid and relapsing fevers, and diphtheria, there was not satisfactory proof that they were necessarily connected with minute vegetable organisms.

3. That the real nature of these causes was still uncertain.

Nor was there proof wanting to substantiate this view, for Schoenlein's discovery of a microphyte in *favus* was instanced as a proof in point, and it might now be said that almost all dermatologists maintained the microphytic origin of this disease. But the second-named theory had not been without vigorous and able exponents. It was linked with the name of Lionel Beale, one of England's best-known microscopists, and the well-known Jonathan Hutchinson, of London, had also supported it—at least in so far as to believe that the contagious element in gonorrhœa, puerperal fever, and septicæmia was due to the living matter of the animal body.

The third theory had for its ablest champion the brilliant Bastian, who did not hesitate to take his stand boldly and maintain Liebig's theory in modified terms, alleging that, "though minute organisms may act as ferments, they do so by virtue of chemical actions set up by them, while minute particles of the human body have almost an equal capacity for setting up diseased action under suitable circumstances." In either case, he added, bacteria were apt to be engendered as correlative products.

The speaker then added that any discussion as to the germ theory at the present time should be in full view of these disease hypotheses. In taking up the subject of fermentation it was stated that it might take place without the intervention of microphytes, and he stated at some length the older views as maintained by Liebig, Kahl, and others, and further affirmed that Pasteur had been compelled to make an admission to this effect. In allusion to Dr. Hermann Knapp's interesting paper, read before the Academy of Medicine, where fermentation had been defined as "the decomposition of hydrocarbons into simpler compounds under the influence of microbes," he asked whether this statement was not a broad one, and then called attention to a special group of phenomena in which fermentation was produced by chemical agencies, such, for example, as hydrochloric acid, the acid suffering no alteration in its chemical constituents. Among other substances acting in this way were pepsin and the diastase of malt. Again, cane-sugar was changed into grape-sugar, not by the yeast, but by a ferment, which could be separated from it. Furthermore, the speaker stated that there were those who maintained that bacteria could occur without putrefaction. Dr. Knapp had maintained that suppuration and putrefaction were the same process, and his experiments with pyrogenetic cultivations were strong proof of the attitude he had taken. But there was still a difference of opinion on this very topic, as would be admitted on all hands. Allusion was then made to laboratory researches which led one back to the "physico-chemical" theory of Bastian, and more particularly to the report from the Bureau of Animal Industry in Washington by Dr. Salmon and Dr. Theobald Smith, where these gentlemen, after several years spent in searching for the contagion of hog cholera, had come to the conclusion that the poison was not in the microphytes, but in the product of their growth; that this substance could be produced as well in the laboratory as in the body, and that immunity from the disease could be secured by introducing this substance into the animal.

The speaker then referred to the following postulates that should govern those who were searching for the virus of an infectious disease if its bacterian theory were to be maintained in a rigid sense:

1. The microphyte should be found in the products of the disease.
2. It should be capable of isolation.
3. It must retain its properties as a destructive morbid entity when isolated.

4. It should be shown that the poison was not a chemical substance that was associated with the growth and development of the microscopic plant.

He asked: "Are there many of the so-called disease germs that can stand these tests?"

The speaker said, in conclusion, that he coincided with Cornil and Bates, who, in their admirable treatise on bacteria, had admitted that animal experimentation was a delicate matter; the size and shape of bacteria in special diseases a matter of contention; the methods of study new; the technique difficult even for an experienced worker; while the chemical substances linked with the evolution of bacteria had as yet received no satisfactory analysis. The speaker then briefly alluded to the higher powers necessary for bacteriological work, and called special attention to the new Zeiss apochromatic lenses and compensative eye-pieces made at Jena, with a new species of glass, under the supervision of Professor Abbé. He also exhibited the full plant for his bacteriological laboratory, made for him by Messrs. Eimer & Amend, of New York city, and finally exhibited a series of colored illustrations showing typical examples of the recognized pure cultivations in test-tubes and on glass plates.

Dr. HERMANN KNAPP said that his remarks would be confined to what he had seen in laboratory work. He never had taken so high a flight as the determination of the products of bacterial activity. He was, however, aware that bacteria had a certain action in connection with disease, and he was not prepared to say that their secretions did not count. He said that our knowledge of suppuration was more fragmentary than that of fermentation, and that was fragmentary enough, yet we could avail ourselves of the history of the yeast plant in explanation of other phenomena. Pus resembled a simple leucocytic fluid, and yet practically behaved in a very different way. If, with proper precautions, croton-oil was introduced into the anterior chamber and a glass cover was put over the eye, in six or eight days the globule of oil would be found to have disappeared, and after a while there would come in its place a white fibrinous mass, which looked like pus, but contained not one microbe. If inoculation was practiced, no growth occurred. If, after operating for cataract, the wound was infected with this matter, it would heal by first intention. On microscopic examination, this product was found to consist only of leucocytes and fibrin. In syphilitic iritis there was, on the contrary, a true suppuration, a destructive process, a decomposition of animal tissue similar to the decomposition of cane-sugar by the yeast plant. The pyogenic product of this inflammation would infect the culture medium. Where a foreign body, such as a piece of iron or croton-oil, was introduced into the anterior chamber, a fibrinous lymphatic discharge was produced, but no suppuration. The product looked like pus, but was not pus. Where pyogenic material was inoculated with, if the conditions were favorable, suppuration was produced, and suppuration was never produced without it. To get suppuration there must be a favorable soil and a favorable condition of the pyogenic organism. The younger the cultivation, the more virulent it was. The commencement of an epidemic was the most fatal. Then the disease gradually died out. The pyogenic poison also in three, four, or five weeks became inert. What, he asked, was the chemical difference between these two forms of matter? The substance which stamped the one as infectious was the microbe. Not every microbe was capable of producing suppuration. For

instance, the yeast plant did not produce suppuration. The speaker had half filled the anterior chamber with the yeast plant, and after some congestion the whole of it had disappeared. The pyogenic product acted differently. If a very little of this was introduced, the eye was gone. Not every species of microbe, then, would produce suppuration. Some said that those which produced general fermentation would produce suppuration, and others that pyogenic microbes were those which curdled milk, but many organisms which produced fermentation had no influence upon milk. All that could now be said was that they were a morbid entity, a living formed substance, not simply a chemical compound, but a plant or an animal. The same was true of specific diseases. We had no tubercle without the bacillus. Ptomaines would not produce it; we must have the living organism itself. The jequirity poison was in contrast with this principle. The berries were crushed and covered with water, which then swarmed with micro-organisms, and an injection produced the inflammation sought. This emulsion could be filtered, however, until not a microbe remained in the filtered substance. If, then, the microbes remaining on the filter were cultivated and inoculation made with them, this inoculation would fail; while, if the eye was brushed over with the liquid, a croupous inflammation would be obtained, and it was doubtful whether from this product another eye could again be infected. The irritant acted chemically, just as croton-oil or sulphuric acid would do, producing a lymphatic inflammation. Those who said that a new infectious disease had been introduced by jequirity made a mistake.

In internal diseases, the speaker believed each variety dependent upon a distinct species of microbe. So far as examination had been made it confirmed this view. The secretions of scarlet fever never produced cholera, those of cholera never produced measles, while the typhus bacillus was a thing apart, never connected with another disease. In Europe, bacteriology was being thoroughly studied. Every young physician had his cultivations. Even if he discovered nothing, he thus obtained an interest in and an understanding of the subject. Here, on the contrary, it was a matter of curiosity, and regarded as a transcendental study at the best. Its value, however, could not be exaggerated. The history of disease showed that it grew like a plant. The soil was prepared, the seed was sown, and it reproduced itself. The more this matter was studied the more fruitful did it become, explaining many of the phenomena seen in practice in a simple and practical way. In conclusion, the speaker referred to the diseases of plants, which were pretty well understood, and which were almost exclusively parasitic.

Dr. HAYS had been asked, Was fermentation always produced by germs? One theory was that of Liebig and the other that of Schwann and his followers. Fermentation could occur by oxidation—that was, by chemical and physical forces, or by the agency of germs which used up carbon and thus liberated oxygen. There was no chemical difference between putrefaction and fermentation. Putrefaction was accompanied by odor, and fermentation was not. The action of the two varieties of ferments was very different. Pepsin was a ferment, changing albumin to albuminose, and the yeast plant was a ferment, changing cane-sugar to alcohol; but the pepsin was not altered by its activity, while the yeast plant was multiplied a million-fold. Blood, bile, milk, and urine would decompose without the presence of germs, at least for a long time. Again, microbes would not produce disease in healthy organisms, according to Klebs, but only in those which were below par. In reply to the question, he would say, then, that it was uncertain whether fungi were necessary for fermentation, especially in the beginning of the process.

Dr. KNAPP said, in reply to this remark, that, if the fermenting microbes were withheld from grape-sugar, fermentation would not occur whatever was done with it. If we first washed the air passing over a sterilized solution of grape-sugar, according to the method of Schultze, the liquid would remain unfermented through eternity. The speaker had specimens of urine which had been kept for three or four months, and were still fresh. Schwann's method by heating, or any way in which the air was sterilized, might be used. In his laboratory he had flasks of boiled milk preserved for a long time. The Pasteur flask with the bent neck was used. Microbes were not gaseous; they were heavier than air. To get into these flasks they would have to go up, and they would no more go up than water would travel up hill.

Dr. HAYS considered the microbe not the cause but the accompaniment of fermentation. This should no longer be said. It was possible to obtain a pure cultivation of the tubercle bacillus. Material was taken from the joints or lungs, and cultivated in blood-serum. It was a distinct plant, with distinct morphological products. It could be carried to the sixtieth generation, when not a particle of morbid substance remained, nothing but the microbes, and when, if even the smallest particle on a needle was introduced into the anterior chamber, or even into a stitch canal, in four weeks there would be tubercle of the iris, and in two months the animal would die of general tuberculosis. In sterilizing, the different resistances of the rods and spores had to be considered. Many fallacies had resulted from the neglect of this principle. The French method of sterilizing was insufficient. A receptacle, containing chicken-broth or other culture medium, was placed within another receptacle, and was subjected to steam heated to 130° Celsius. The spores of the tubercle bacillus were not destroyed in a temperature of less than 100°. If in this receptacle the thermometer was sunk at the side, it would be found to indicate 100° to 110°, while in the center it would not rise higher than 70°. This imperfection in this method of sterilizing had given rise to many controversies. The correct way to sterilize was by streaming steam. It was well known that circulating air cooled more rapidly than still air of the same temperature. If streaming steam was used for from one half to three quarters of an hour for several days, the sterilization would be sure to be perfect. But the tubercle bacillus was fastidious; it would not grow upon anything but blood-serum, and blood-serum could not be heated to 100° without coagulating it. Recourse was therefore had to Tyndall's partial method. A test-tube containing blood-serum was heated to 57°. The serum then became firm, but not coagulated, and the spores of the tubercle bacillus at once germinated, forming new rods. These rods would not stand a temperature of 57°, hence, if for six, seven, eight, or nine days the tube was subjected to a temperature of 57° for three or four hours at a time, there would not be a spore left; all would have germinated, and all been destroyed. It had been said that microbes in living organisms did not always produce disease. Certainly they must have food. Pyogenic germs would not produce an abscess in the anterior chamber without some injury of the iris or some irritation such as was afforded by croton-oil; they would simply be absorbed. Even Liebig gave into this theory before he died, and chemical objections were losing every day as biological science was coming to be better understood.

Dr. KEARNEY referred to Dr. Knapp's paper in the "Medical Record." He understood that Dr. Knapp defined putrefaction as the decomposition of living matter, and fermentation as the decomposition of dead matter.

Dr. KNAPP did not know any better definition than this.

Dr. KEARNEY asked whether this was a definition which he had himself deduced.

Dr. KNAPP replied that it was. He did not know how it would stand the test of experience, but, so far as his observations had extended, he considered it correct. The pus of suppuration was again entirely different from the products of putrefaction.

Dr. SATTERTHWAITHE said, in concluding, that he thought there was no issue as to statement between himself and Dr. Knapp. The fact that fermentation might not always be produced by microbes, and the fact that it might be produced by certain acids, should not be regarded as irreconcilable with the germ theory. Both were logically possible and probable, if not certain. Nor did he wish it to appear that he was a disbeliever in the old and classical experiments of Schwann, Schroeder, Von Dusch, and others. He accepted them as satisfactory demonstrations that the air might contain certain minute molecules that would initiate fermentation. So far as bacteria were concerned, however, he would emphasize the discovery of Pasteur with relation to chicken cholera, and of Smith and Salmon in hog cholera, that a peculiar product of the specific bacteria might reproduce the disease, as well as the bacteria themselves. But this discovery was not opposed to the vegetable germ theory. It simply carried us in a measure back to the physical or physico-chemical theory of Bastian, already alluded to. Though a great deal of the work done in the study of bacteriology had been necessarily imperfect, still he thought that in at least seven of the diseases often called infectious—viz., anthrax, tubercle, erysipelas, osteomyelitis, glanders, Asiatic cholera, and hog cholera—there was excellent evidence to show that the virus was associated with a microbe. The weight of argument at present lay heavily on the side of the germ theorists in these regards. In these diseases the microbes had been separated, cultivated, and inoculated or introduced into the system in some way, and the disease had been reproduced. Beyond this rather small array of diseases we could hardly affirm anything with certainty, and yet it would be improper to omit that these appeared to be genuine pyogenic fungi, such as had been described by Dr. Knapp. With these suppuration would almost inevitably follow. Without them operations would, as a rule, be strictly non-suppurative.

The points that he thought satisfactorily brought out in the discussion were that neither the morphology of bacteria nor their behavior in the presence of coloring reagents should be held to have prime diagnostic value. Efforts should be made in all cases to separate, cultivate, and inoculate.

NEW YORK SURGICAL SOCIETY.

Meeting of February 23, 1887.

The President, Dr. CHARLES MCBURNEY, in the Chair.

Ligation of the External Carotid Artery; a Synopsis of Five Successful Cases.—Dr. JOHN A. WYETH read the following paper:

Prior to 1878 there were recorded only sixty-seven cases in which the external carotid artery alone was tied. Three of the patients died, and these fatal cases were from gunshot wounds in military practice. One died on the table from the effect of hemorrhage before the ligation could be applied. In the two others the cause of death is not given. Of the sixty-seven cases, hemorrhage after deligation occurred in five, none of which proved fatal. In four of these cases the bleeding was noted as at the seat of lesion, beyond the ligation, and in one the point where the hemorrhage occurred is not stated. The artery was tied on both sides in six patients, and all recovered.

Since the demonstration (by myself in 1878) of the comparative regularity of origin of the branches of this vessel, together

with the great mortality following deligation of the common carotid, as shown by an analysis of seven hundred and ninety-four cases, the application of the ligature to the common trunk for a lesion in the distribution of the external carotid, beyond the origin of the lingual branch, has been abandoned and deligation of the external trunk has become the accepted operation.

The introduction of the catgut ligature has added an element of safety to this freedom which has, in my opinion, almost entirely removed the danger of secondary hemorrhage. Without further discussion of its merits, I wish to add to the record the following cases:

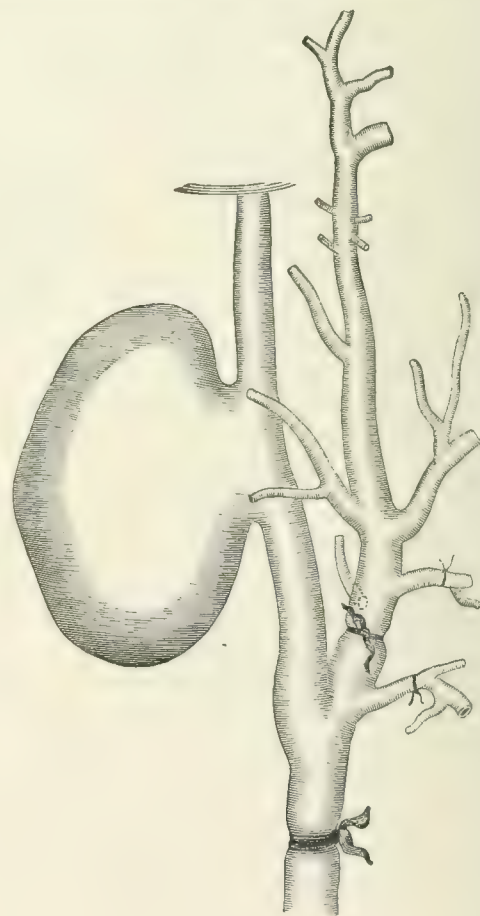
CASE I.—M. M., a carpenter, fifty-six years old, married, American, came under my care through the courtesy of Dr. Boyley, of this State, on January 6, 1885. The patient's history contained nothing of interest, with the exception that he had been a constant chewer of tobacco until one year before, when he stopped on account of a painful sore which appeared on the left buccal wall, at the point where he was in the habit of holding the tobacco as it was being saturated with saliva. The ulcer and induration gradually spread, and when I first saw him there was an evident epithelioma involving the buccal wall and a limited portion of the alveolus of the lower jaw. The lymphatic glands of the left upper carotid and submaxillary triangles were enlarged and indurated. On January 9th, under ether narcosis, I dissected out the glands, and, partly in order to prevent bleeding, but chiefly to retard the recurrence and further development of the neoplasm, placed a catgut ligature around the left external carotid artery below the lingual and about a third of an inch above the bifurcation. As is my rule of practice, I also tied the superior thyroid artery about a quarter of an inch beyond its origin. Antiseptic dressing, a bone drain, and silk sutures were used. I then excised the epithelioma, cutting well away from the margin of the disease. The patient recovered without hemorrhage or any unfavorable symptoms, and on the 31st, twenty-one days after the operation, he left the city for his home.

CASE II.—P. H. W., American, thirty-seven years old, a journalist, married, came to me, through the kindness of the late Professor Frank H. Hamilton, on June 26, 1886. He had for years been a confirmed smoker of cigars and cigarettes, and, fifteen months before I saw him, a painful ulcer had appeared on the lower surface of the left side of the tongue, near the tip, just where the end of the cigar rested while he held it between his teeth and lips. When I examined him, the anterior portion of the tongue was indurated and swollen in part and in part occupied by the characteristic ulcer of epithelioma. The posterior limit of the induration crossed the tongue obliquely, being about an inch from the tip on the right side and two inches along the left border. The glands of the left side of the neck were infiltrated. On the 29th, the patient being anesthetized with ether, I dissected out the glands of the neck (left side) and tied the external carotid a quarter of an inch above the bifurcation of the primitive trunk. The superior thyroid was also tied. Catgut ligatures were employed, also a bone drain and catgut sutures. I then extirpated the tongue and floor of the mouth. The organ was divided an inch behind the line of induration. The patient recovered without a bad symptom and is now (eight months after the operation) free from all evidence of epithelioma and in active business.

CASES III and IV.—Z. M., forty-seven years old, housewife, a native of Italy, came under observation on June 14, 1886, having been sent to my clinic at the Polyclinic by the kindness of Dr. Abruzzo, of this city. Sixteen months before this date, following the cessation of her menstrual flow, she noticed that the parotid gland of each side was enlarged. The swelling of these organs continued, the mouth became dry from lack of saliva, and deglutition was difficult. Up to the time of the appearance of the tumors of the parotid the health of the patient had been good.

On her admission into Mt. Sinai Hospital, the tumors were of about equal size, extending from the upper level of the ear to the level of the chin. A diagnosis of bilateral sarcoma was made. The patient was told that an operation would very probably not effect a cure, and that facial paralysis would result. She insisted upon an attempt to give her

even temporary relief. On June 14th I tied the right external carotid, between the lingual and the bifurcation of the primitive trunk, preliminary to the removal of the neoplasm. The superior thyroid was then tied. The hemorrhage during the dissection was insignificant. The wound healed quickly, and on September 21st the second operation was performed. On account of the extension of the tumor down the neck, I had great difficulty in getting at the external carotid, which was entirely overlapped by the new growth and was pressed deep into the neck. The bleeding was so troublesome that I threw a temporary loop of catgut around the common trunk, an inch below the bifurcation, which controlled the hemorrhage until I passed the ligature around the external trunk. After removing the neoplasm, I found the ligature had been applied on a level with the crotch of bifurcation. This was nearer the primitive trunk than I had intended, but when it was applied I could not see the exact location of the ligature on account of the tumor. It was left in this position, and the superior thyroid was also secured. No bleeding occurred, and the patient recovered and left the hospital on March 9th. This is probably the only case on record in which the ligature was applied so low, and it well demonstrates the safety and efficiency of the catgut. The microscopical examination of one of the neoplasms proved it to be a round-cell sarcoma.



CASE V.—In this case the common and external carotid artery and the superior thyroid branch were tied for aneurysm of the internal carotid. The internal trunk was affected with atheroma to such an extent that the ligature could not be applied to this vessel. The operation was done on July 24, 1883. The tumor rapidly diminished in size, the patient leaving the hospital on the twenty-third day after the operation. She is now living and well.

Dr. MARKOF asked regarding the cause of the aneurysm of the internal carotid artery, mentioned in the last case. The reader replied that it was due to atheromatous degeneration of the artery.

Dr. SANDS remarked that Dr. Guyon, a French surgeon, had

been one of the first to prove that the arguments against the safety of tying the external carotid were unsound. He showed, in a paper written in 1863, that there was very slight danger to be apprehended from secondary hæmorrhage. The cases then on record, as well as some additional ones, were tabulated by the late Dr. Longworth, of Cincinnati (a former pupil of Dr. Sands's), in a paper published in 1873. In this paper the operation referred to was strongly advocated. The speaker added that he had tied the external carotid three times, the first case being that of a man who had extensive epithelioma of the face. Chloride-of-zinc paste was applied, and caused such deep sloughing that a large vessel was opened behind the jaw, and such profuse hæmorrhage resulted that it was necessary to ligate the external carotid. No anæsthetic was employed, as the patient was extremely feeble. In the second case he removed a tumor of the lower jaw, and had to contend with very severe hæmorrhage, which was found to be due to an accidental wound of the internal jugular vein and to the excision of a piece of the external carotid artery. In the third case the artery was tied on account of an aneurysm about half as large as a hen's egg, which was supposed to involve the posterior auricular artery. The operation was performed five years ago, and, although the patient recovered, he was not completely cured; the tumor became smaller, but continued to pulsate. The practice of tying the external carotid as a preliminary step to the removal of a tumor of the tongue was certainly different from that usually followed, which was to tie the lingual artery *in loco*. The latter seemed to serve the purpose equally well, while the surgeon could usually avoid the placing of a ligature on the vessel close to its point of origin. Removal of the parotid gland would seem to be a formidable operation as regarded hæmorrhage, but the speaker was not aware of any death from this cause; it was better, he believed, in this operation to tie the external carotid artery, when necessary, as near to the tumor as possible—that is, at a distance from its origin. In general, he would always prefer to ligate the external rather than the common carotid.

Dr. STIMSON said that he had tied the external carotid once for epithelioma involving the side of the face. The operation was successful, but the patient succumbed to the disease. In regard to ligature of the artery as a preliminary to the removal of tumors of the parotid, the speaker thought, with Dr. Sands, that it was practicable to secure the vessel higher up, behind the angle of the jaw. In one case he had been able to remove nearly the entire gland without cutting the artery. Dr. Wyeth's last case suggested the interesting and important question whether it might not be proper to place a catgut ligature on an atheromatous artery, meaning by the latter term a vessel the walls of which were softened but not calcified. Could it not be safely tied with catgut? There would, of course, be a greater chance of the subsequent formation of an aneurysm near the ligature, but might it not be reasonably expected that secondary hæmorrhage would not occur? When we remembered how much more rapidly and perfectly tissue healed under our present antiseptic methods, why could we not venture to tie even an atheromatous artery in the continuity?

Dr. SANDS said that he had once assisted Dr. Lange in the amputation of a thigh in an old man. Dr. Lange thought that perhaps he might apply the dressings before removing the tourniquet, but he determined not to do so, and, on loosening the latter, profuse hæmorrhage occurred, which was found to be due to the fact that the ligature placed on the principal artery of the limb had cut through in consequence of the vessel being atheromatous. The speaker himself had amputated a leg for senile gangrene, the arteries of which were so rigid from calcareous degeneration that they did not pulsate; but, on remov-

ing the tourniquet, there was free hæmorrhage. The vessels were tied with catgut, and the patient did perfectly well. The speaker agreed with Dr. Stimson that the danger of tying atheromatous vessels had been much lessened since the treatment of wounds had become more perfect. He would say that it was not unsafe to apply a ligature to such an artery unless the latter was so soft and friable that it would cut through. In Dr. Wyeth's case there would have been no use in tying the internal carotid, as it was so extensively diseased. Simultaneous ligation of the external and the common carotids for aneurysm of the internal carotid produced practically the same effect as the application of a distal ligature.

Dr. MARKOE said that he recalled a unique case, which had become historical, and which threw light upon the subject under discussion. In October, 1845, Dr. J. K. Rodgers tied the left subclavian in the first part of its course, about an inch from its point of origin from the aorta. The patient lived fifteen days, and died from secondary hæmorrhage from the distal part of the artery. The autopsy showed that the ligature had passed directly through an atheromatous plate, yet the artery on its proximal side was firmly plugged, and the usual changes after ligature had occurred normally, and had effectually closed the artery. Shortly before the operation, Dr. Hoffman had exposed the innominate artery in a case of aneurysm with the intention of tying it, but had refrained from applying the ligature, because the vessel was atheromatous. The patient subsequently died of hæmorrhage from the aneurysm; probably, if the artery had been tied, no bad result would have followed, even though it was diseased.

Dr. WEIR said that he had applied catgut ligatures to calcified arteries in two cases of amputation for senile gangrene. It had been shown by English authorities that there was no danger in ligating such vessels, provided the ligature was not tied too tight.

The PRESIDENT thought that Dr. Wyeth had acted wisely in tying the external carotid first, because, if the ligature had been applied first to the atheromatous internal carotid, it would have cut off the possible chance of obtaining a successful result after subsequent ligation of the external carotid.

Dr. MARKOE asked the reader if he found the point of origin of the internal carotid.

Dr. WYETH replied in the affirmative, adding, in response to a question from Dr. Sands, that the diseased vessel was of larger caliber than normal, having undergone a sort of general fusiform dilatation.

The PRESIDENT asked if it had been easy to identify the external carotid. The reader answered that he had experienced no difficulty, after finding the bifurcation, at the upper border of the ala of the thyroid.

Dr. MARKOE said that he had tied the internal carotid, together with the common carotid, three times, and had found the artery without difficulty.

Dr. WYETH remarked, in closing, that the cases which Dr. Sands had said were published by Guyon, had nearly all been reported by Maisonneuve. Several papers on the same subject had appeared previous to the one published by Longworth. The reader did not wish to be understood as recommending ligation of the external carotid as a preliminary measure in all cases of excision of the tongue for cancer. He himself generally tied the lingual artery, but in the case described the muscles and floor of the mouth were so much involved that it was necessary to remove them extensively, and the hæmorrhage could only be controlled by placing a ligature on the main artery. Neither would he tie the external carotid before removing an ordinary parotid tumor. The two growths to which he had referred in his paper were unusually large: on one side

the artery was tied first, but on the other the tumor was dissected out rapidly, the vessel being ligated as soon as it was reached. He had ligated an atheromatous artery in a case of amputation of the thigh, and no hæmorrhage had occurred. In the case described he would not have tied the atheromatous internal carotid, even if he had believed that there was no danger in so doing, because he could accomplish the object desired by placing the ligatures on the sound arteries.

Operation for the Cure of Prolapsus Ani.—Dr. LANGE presented a patient upon whom he had performed the operation which he had described at the previous meeting. He desired to modify the statement which he had made with regard to the condition of the patient, as the latter had become worse during the past few weeks. There was no return of the prolapse, but the patient did not have perfect retention, so that fecal matter was discharged while he was walking. The action of the sphincter and levator ani was pretty good, but it was not perfect. The case in question had been a very obstinate one. Future developments would show if the operation was to possess any lasting value. The speaker called attention to the fact that the anal ridge was situated deeper (nearer to the middle of the body) than normally, and that the posterior anal commissure was carried forward—a change probably due to contraction of the levator ani. In reply to a question from Dr. Sands, as to whether the cure might not be made more complete by contracting the anal aperture still further, the speaker said that the prolapse was already cured, but that the patient had not acquired sufficient control over his bowels. The orifice might be narrowed, as suggested, since the muscular action alone was not enough to cause perfect closure. He feared that an attempt to contract the aperture by excising the mucous membrane alone would not produce lasting results; this had been tried several times before. He intended to use cold-water injections and electricity, with a view to stimulating the parts to contract.

Sarcoma of the Pharynx removed by Partial Exsection and Dislocation of the Inferior Maxilla.—Dr. LANGE showed a patient from whom he had removed a tumor that had occupied the left half of the pharynx, extending upward behind the soft palate, and down the throat so far as to dislocate the larynx. Following Miculicz, he performed preliminary tracheotomy, and then made an incision along the inner border of the sternomastoid muscle, and a horizontal incision along the border of the zygomatic arch, so as to expose the angle of the jaw, which was removed subperiosteally, so as to give access to the tumor. The operation was long and tedious. The patient had intense iodoform poisoning, being at first greatly excited, and then speechless for fourteen days. He was fed by means of a stomach-tube, which he one day swallowed, through the carelessness of a nurse. After being retained for five weeks, the tube (which was eighteen inches and a half long) was passed *per rectum*. The patient finally recovered, with paralysis of the lip on the side of the wound, but there was no displacement of the teeth, and his power of mastication was as good as ever. The operation was performed on the 28th of September.

In reply to a question from the president, Dr. Lange said that all that portion of the angle of the jaw which corresponded to the insertion of the masseter muscle had been removed, and that the jaw had then been dislocated, so as to afford a view of the interior of the pharynx; but, in spite of this, he did not obtain a clear idea of the connections of the tumor, and was obliged to scrape it out piecemeal, so that the operation was not so thorough as he had desired. The growth was of about the size of a goose's egg, so that it interfered with deglutition, and was beginning to cause dyspnoea. It had no bony attachments, and was encapsulated, but broke down readily, so that it was impossible to remove it entire; it was also quite vascular. Mi-

croscopically, it presented the appearances of a mixed round- and spindle-celled sarcoma.

Dr. WEIR asked if it would not have been possible to reach the tumor by Kocher's method through the nose.

Dr. LANGE replied that there would not have been sufficient room.

Dr. SANDS said that Busch had described a variety of fibro-sarcoma of the pharynx that was neither very vascular nor firmly attached. He had had a similar case several years before. Supposing that there would be profuse hæmorrhage on removing it, he introduced a Trendelenburg's tube, but it was not needed, as there was but little bleeding. As soon as the capsule of the tumor was divided, it could be shelled out easily; it seemed to spring from the connective tissue.

Dr. LANGE said that the tumor which he had described extended high up behind the soft palate, and was very vascular.

Renal Calculus removed Post Mortem from a Pyonephrotic Kidney.—Dr. LANGE remarked that he had exhibited at the previous meeting a renal calculus removed by nephrotomy from a woman, who was reported as doing well five days after the operation. Her condition changed suddenly for the worse. An examination of the other kidney showed that it was enlarged. Fourteen days after the operation the patient had a chill, followed by septic symptoms. The kidney was punctured with a needle, and pus was found, while a calculus could be felt. After refusing for five days to allow an operation to be performed, she finally consented. The pelvis of the kidney was found to be dilated and filled with extremely offensive pus, and the specimen shown was also found in it. The patient had complete suppression of urine before her death, which occurred six days later from septicæmia. Within the pelvis of the kidney which was first incised [the specimen was shown] were found numerous fragments of calculi, some of which resembled the processes on the original stone. The septic poisoning was due to the numerous abscesses in the opposite kidney. The patient would have been seriously ill, even if she had survived the second operation, although, if it had been done at the proper time, the result might have been different.

Spindle-shaped Needles for Use in Laparotomy.—Dr. LANGE showed some curved needles which he had devised for sewing the abdominal wound. They were of a fusiform shape near the point, the eye being situated near the largest part of the needle. There was a small indentation in the beak, so that, if caught by the needle-holder, the point would not be spoiled.

Book Notices.

Oxygen in Therapeutics. By C. E. EHINGER, M. D. Illustrated. Chicago: W. A. Chatterton & Co., 1887. Pp. 157. [Price, \$1.]

THE use of artificial oxygen as a remedy in disease is not new. Ever since its isolation in 1774 there have been spasmodic efforts to make it a panacea. Hill, Beddoes, and other early experimenters indulged the enthusiastic hope that in it they had disclosed the philosopher's stone, or at least the one great remedy. But Beddoes at last acknowledged himself discouraged, not by loss of faith in the remedy, but on account of professional opposition and the difficulty of making it generally available. In 1858 Dr. Birch, of the Manchester (England) Medical School, published a thin volume ("On Oxygen," London, 1858), reviving the former estimate as to its great value in chronic ailments. Since that date French, English, German,

and even Russian investigators have given this agent more or less attention, and more recently this country has added her mite to the sum-total of clinical research. The literature of the subject is, however, very scanty.

While we give the author of this book credit for apparent candor, as well as unusual modesty, and while there is no doubt a very respectable audience ready to be enlightened on the therapeutic value of oxygen, we are sorry to note a careless use of scientific terms and a palpably inaccurate statement of chemical data. For example, he confounds the terms "sulphate of iron," "ferrous sulphate," and "copperas." He also gives the fusing and decomposing temperatures of ammonium nitrate as 226° and 329° F., respectively, whereas standard authorities on chemistry place the fusing point at the latter figure, and the evolution of the salt into gas at 365° to 400° F., the "Encyclopædia Britannica" (ninth edition) making it even much higher—viz., 200° to 250° C., which is equivalent to 392° and 482° F.

Considered from a practical standpoint, the descriptions of processes and clinical reports in the volume, while quite interesting and suggestive, yet lack definiteness and intelligible system. If oxygen is to be ranged with other valued and reliable therapeutic agencies it must be studied with more system, less after the haphazard universal dosage methods of the professional charlatans. Dr. Ehinger does not advocate the use of un-mixed and undiluted oxygen; therefore he should not have failed to state exactly what dilution or admixture and what quantity were exhibited in a given case. He should then carefully have traced its effects on the temperature, the circulation, the secretions and excretions, the muscular and nervous systems, the appetite, assimilation, and nutrition. Rational deductions from carefully gathered data of this character will undoubtedly command that attention which is always accorded to painstaking method.

The cuts used to illustrate the text are, in these days of cheap engraving, conspicuously inferior as well as misleading. Simpler and better forms of apparatus than those shown are in vogue; and the one represented on p. 14, except for temporary experiments or the meeting of occasional emergencies, is comparatively worthless, since it has no storage capacity and requires the gas to be used as fast as it is evolved. All authorities agree that the gas should stand for some hours over water before it is in prime condition for inhalation.

Notwithstanding the liberal use of quotation-marks, their occasional omission is noticeable. In several instances reports of cases are quoted verbatim from papers published several years since by other observers. From the frequency of purely typographical blunders, which ought not to have escaped modern proof-reading scrutiny, it is easy to believe that these omissions were not intended by the author.

In spite of its minor shortcomings, the volume fills a certain gap in medical literature. It seems to us a trifle premature, which is but another term for immature; and it is to be hoped its appearance will not deter some of those whose writings our author has so liberally cited from giving us ere long a still more satisfactory, because more mature and original volume.

BOOKS AND PAMPHLETS RECEIVED.

On Fevers: their History, Etiology, Diagnosis, Prognosis, and Treatment. By Alexander Collie, M. D. (Aberd.), Member of the Royal College of Physicians of London, etc. With Colored Plates. Philadelphia: P. Blakiston, Son, & Co., 1887. Pp. viii+288. [Price, \$2 50.]

Refraction of the Eye; its Diagnosis and the Correction of its Errors. By A. Stanford Morton, M. B., F. R. C. S. (Ed.), Surgeon of the Royal South London Ophthalmic Hospital, etc. Third Edition. Philadelphia: P. Blakiston, Son, & Co., 1886. Pp. viii+67. [Price, \$1.]

Researches into the Etiology of Dengue. By J. W. McLaughlin,

M. D., of Austin, Texas. [Reprinted from the "Journal of the American Medical Association."]

On the Treatment of Laceration of the Cervix Uteri, with Histories of Twenty-six Original Cases. By F. E. Beckwith, M. D., New Haven, Clinical Professor of Gynecology in the Medical Department of Yale College. [From the "Proceedings of the Connecticut Medical Society," 1886.]

Transactions of the American Ophthalmological Society. Twenty-second Annual Meeting, New London, Conn., 1886.

Report of the Board of Trustees of the Eastern Michigan Asylum at Pontiac, for the Biennial Period ending September 30, 1886.

Eighteenth Annual Report and By-Laws of the New York Physicians' Mutual Aid Association.

Hand-book of Materia Medica, Pharmacy, and Therapeutics, including the Physiological Action of Drugs, the Special Therapeutics of Disease, Official and Extemporaneous Pharmacy, and Minute Directions for Prescription Writing. By Samuel O. L. Potter, M. A., M. D., Professor of the Theory and Practice of Medicine in the Cooper Medical College of San Francisco, etc. Philadelphia: P. Blakiston, Son, & Co., 1887. Pp. xx+17 to 828. [Price, \$3.]

Transactions of the Massachusetts Medico-legal Society. Volume I, No. 9, 1886.

Contributions to Science and Bibliographical Résumé of the Writings of R. W. Shufeldt, M. D., Captain, Medical Department, U. S. Army.

Address on the Duties and Conduct of Nurses in Private Nursing. Delivered at the Boston Training School for Nurses, June 18, 1886. By William L. Richardson, M. D., Visiting Physician of the Massachusetts General Hospital.

A Case of Pyelitis of Nineteen Years' Duration Caused by a Renal Calculus; Recovery. By Augustus V. Park, M. D., of Chicago. [Reprinted from the "Journal of the American Medical Association."]

Miscellany.

Medical Bulletins.—A correspondent who signs himself "Taverner" says in the "Boston Post" for March 9th: "I think that the medical profession, which is commonly punctilious to a fault, might take some steps to discourage the growing practice of issuing technical bulletins in regard to the patient's condition whenever any prominent person lies dangerously ill. It is, of course, highly proper that the public should be informed from time to time whether the sufferer is better or worse, and if death is imminent. But these facts might be stated very briefly, without going into particulars. Further and more detailed statements are, with very few exceptions, mere concessions to morbid curiosity, and should be avoided as being demoralizing to the public, undignified on the part of the physician who makes them, and, what is of still more consequence, inconsistent with the respect which should be paid to the sick man and to his family. The vulgar custom of making the doctor's bulletin, intended for the general public, just such statements as would be submitted to a professional man whose advice was sought on the facts given, began when President Garfield was shot, and I have observed that it has been practiced ever since, whenever there was any excuse or shadow of excuse for doing so. In the recent case, which has suggested these remarks, there was nothing in the bulletins issued that was offensive, as there has been in many previous cases, but there was much that was extremely superfluous, entirely technical and out of place. Let the medical societies look to the matter."

The New York Academy of Medicine. At the meeting of the Section in Ophthalmology and Otology, Monday evening, the 21st inst., Dr. D. B. St. John Roosa will read a paper entitled "Clinical Observations upon Diseases of the Mastoid Process, with a Sketch of the History of the Operation for their Relief."

At the meeting of the Section in Laryngology and Rhinology, Wednesday evening, the 23d inst., Dr. H. Holbrook Curtis will read a

paper entitled "A Nasal Trephine and its Advantages, with a Consideration of Batteries and Electrical Apparatus used in Nasal Surgery; with Practical Demonstrations."

At the meeting of the Section in Obstetrics and Diseases of Women and Children, Thursday evening, the 24th inst., Dr. Hubbard W. Mitchell will read a paper entitled "Surgical Treatment of Laceration of the Cervix"; Dr. S. D. Powell and Dr. W. Gill Wylie will report cases of tubal gestation, and present the specimens; Dr. J. West Roosevelt will present a specimen; and Dr. Robert A. Murray will report a case of rupture of the uterus, and show the specimen.

At the meeting of the Section in Materia Medica and Therapeutics, Friday evening, the 25th inst., Dr. George Dalton Hays will read a paper on "The Management of Fæcal Retention."

The Practice of Medicine by Apothecaries in Pennsylvania.—The following letter, dated February 28th, and signed by the president of the Philadelphia County Medical Society, Dr. J. Solis-Cohen, and its secretary, Dr. S. Solis-Cohen, has been sent to the Governor of Pennsylvania and to the Philadelphia members of the Legislature:

"At a meeting of the Philadelphia County Medical Society, held February 23, 1887, it was resolved to address to the Senators and Representatives from Philadelphia County, and to the Governor of the Commonwealth, a communication signed by the president and recording secretary of the society, requesting them to oppose and to disapprove of the passage of Section 10 of the proposed Pharmacy Law now pending before the Legislature of Pennsylvania. This section so far repeals the Registration Act as to permit druggists to engage in the practice of medicine, provided that they conduct only an office practice. We respectfully urge that this proposition is unworthy of your approval and support for many reasons, but, above all, because of the danger to which it exposes the lives of individuals and the health of the community. Sometimes the most serious and fatally tending diseases do not confine the patient to bed, and, until the end is near at hand, are manifested by symptoms which, to an untrained and inexperienced person, would suggest but a trifling ailment. In these cases, as in the incipency of typhoid fever, small-pox, and other infectious and contagious diseases, it is highly important both to the individual and to the community that the true nature of the affection shall be recognized at the earliest possible moment. Even did the course of studies pursued by graduates of our excellent colleges of pharmacy include (as it does not) a thorough training in the knowledge of the action of drugs upon the human economy, and in the practical application of that knowledge in the treatment of disease, it most certainly does not afford instruction in the recognition of disease, or in the discrimination between different diseases, one of the most important features of a physician's practical training. The manufacturer of the compass and the sextant is not necessarily a skilled navigator, yet it would be as wise to intrust to him the management of an ocean voyage, or to the manufacturer of rifles the command of an army in battle, as to intrust to the maker of pills and tinctures, however highly educated and skillful in his own honorable and useful profession, the duties and responsibilities which should be assumed only by the educated physician."

Substitution by Druggists.—In an editorial article, the "St. Louis Medical and Surgical Journal" says:

"There was a time when there was no intermediary between the physician and his patient—when every doctor dispensed his own medicines. In cities and closely settled communities this practice gradually became burdensome, and was relegated to a special class, the druggists or pharmacists; but the old-time custom is still adhered to very largely among rural or country physicians. When the 'patent-medicine man' made his appearance, this agent or intermediary of the physician promptly assumed the same position toward the intruder, and united to his honorable calling of pharmacist the less honest but probably more profitable one of vender of nostrums. This anomaly would have adjusted itself in time, and, indeed, has already partially done so, but the druggist has been deflected from the straight and narrow path. Aiding a fraud, what more natural than that he should, in certain instances, become imbued with the spirit of fraud? Seeing the gullibility of the public, and knowing the profits accruing from the trade in nostrums, the less honest and more avaricious members of the guild were thence-

forth but ill content with the comparatively meager profits of their honorable and legitimate calling. The outgrowth of this spirit was the crying evil of substitution—the replacement of high-priced ingredients in prescriptions by others less costly and totally inefficacious. There is scarcely a physician in our cities and towns who has not at some time had good reason to complain of this evil. Of late the rascally practice has taken a wider range, in a direction made possible by the legitimate advances of the art of pharmacy. We refer to substitution as applied to those products of chemical and pharmaceutical skill, aided by abundant capital, known as 'proprietary preparations'—preparations the nature and ingredients of which are made known to the medical profession, for whose use alone they are manufactured, and which are by no means to be classed or confounded with 'patent medicines.' Many of these proprietary medicines are of great value commercially, and as a result they are composed of the purest drugs compounded with great skill. A certain proportion of the medical profession (and some of them men of wide and honorable reputations) have found these preparations good and useful, and their exhibition attended by most satisfactory results, and hence have prescribed them largely, *not the least potent reason for this fact being the feeling of security against substitution induced by the careful and often costly methods of package adopted by the manufacturing chemists.* But as 'love laughs at locksmiths,' so laughs the substituting druggist at seals and wrappers of unique design, at signatures and brands; and the manufacturing chemist who spends thousands and hundreds of thousands of dollars in keeping up the standard of his preparations, finds himself suddenly accused of allowing them to deteriorate, or possibly of sophisticating them for greater gain. Without referring to them by name, we may say that very recently a number of the great manufacturing houses have found themselves in this unpleasant position, and, in every instance where investigation was possible, the fact was disclosed that the apparent deterioration was due to the dishonesty of the retail druggist or prescriptionist, who had substituted his own worthless compounds for those ordered by the physician. Such substitution is not simply dishonest, it is felonious, and displays the same reckless disregard for life that marks the burglar or highwayman, who is prepared to take a life if it stands in the way of his plunder. The man who does it does not simply filch a few cents from the pocket of his customer (frequently poor and needy), nor does he merely jeopardize the reputation of a physician, but he puts in peril the life of the customer who trusts him. The honest members of an honorable profession—and fortunately they are largely in the majority—the reputable pharmacists, owe it to themselves to expose these vultures and drive them from the trade. In doing so they should have the aid and countenance of every physician. In the mean time, let every physician not content himself with shunning the shops of those whom he detects in the nefarious habit of substitution, but boldly denounce them, and warn his patients against carrying prescriptions to them. Concerted action of this sort will soon purge the trade of the offending members."

Hypodermic Injections of Listerine.—Dr. F. A. Rew, of Portia, Ark. ("Med. Bulletin"), says: "It seems strange that at this late day any observing physician should need to be told how to use listerine. There is, however, one mode of its administration to which attention may yet be called. I allude to its hypodermic administration. Keeping in view the fact that it is antiseptic, tonic, non-toxic, its use is indicated in all cases of too rapid retrograde metamorphosis, or of deficiency (or perversion) of vital force. During the past four years I have proved this to my complete satisfaction. For the past four months this section has been scourged with a severe epidemic of dysentery and cholera infantum. I have used listerine, wherever indicated, by the mouth, by rectal injection, and hypodermically, and the latter method has always yielded the best results. One case from many similar ones in my call-book will illustrate: Jessie —, aged six months, suffering with cholera infantum three weeks, has taken many large doses of calomel, quinine, soothing-syrup, etc.; is much emaciated; the dejections have an exceedingly bad smell. Surface cold and clammy, pulse rapid and very weak, stomach very irritable; can not retain the listerine, no matter how much diluted; rectal injections do only temporary good. I apply external warmth, give hypoder-

mically a half-drachm of a 50-per-cent. solution of listerine in rose-water; in an hour word comes that the baby is better; in six hours I repeat the injection; in twelve hours the change for the better is so decided that I can give the remedy by the mouth, diluted with breast-milk. It was made as strong as the child could take it. With this and good nourishment and care the baby rapidly convalesced. In dysentery, typho-malarial fever, chronic 'chills,' phthisis, etc., whenever the pulse is rapid and weak, where a vital tonic and antiseptic is indicated, I have always used it hypodermically with positive good results. Given a case where Nature seems to be overcome by a poison which she can not eliminate with sufficient rapidity, give listerine hypodermically; if needed, aid or stimulate the kidneys, bowels, or skin, and the listerine will soon manifest its power in a very positive manner."

The Health of Boston.—During the week ending Saturday, March 12th, there were reported to the Board of Health 17 cases of diphtheria and 4 deaths; 14 cases of scarlet fever and 1 death; 5 cases of typhoid fever and 3 deaths; 63 cases of measles and 3 deaths. There were also 30 deaths from consumption, 16 from pneumonia, 12 from heart disease, 10 from bronchitis, and 3 from marasmus. The total number of deaths reported was 172, which was an increase of three over the corresponding week of last year.

Health Reports from Abroad.—By direction of the Secretary of the Treasury, Dr. John B. Hamilton, Surgeon-General of the Marine-Hospital Service, has issued the following abstract of sanitary reports received from foreign countries during the week ending March 10th:

England and Wales.—The deaths registered in twenty-eight great towns of England and Wales during the week ending February 19th corresponded to an annual death rate of 21.1 in a thousand of the aggregate population, which is estimated at 9,245,099. The lowest death rate was recorded in Derby, viz., 17.2, and the highest in Preston, viz., 29.6 in a thousand. There were 129,746 deaths registered in England and Wales during the quarter ending December 31, 1886, corresponding to an annual rate of mortality of 18.5 in a thousand.

London.—One thousand five hundred and sixty deaths were registered during the week ending February 19th, including 35 from measles, 13 from scarlet fever, 15 from diphtheria, 41 from whooping-cough, 6 from enteric fever, and 14 from diarrhoea and dysentery. There were 392 deaths from diseases of the respiratory organs. Different forms of violence caused 66 deaths. In greater London, 1,981 deaths were registered, corresponding to an annual death rate of 19.1 in a thousand of population. There were 82,257 deaths registered during the year 1886, corresponding to an annual death rate of 19.8 in a thousand inhabitants.

Ireland.—The average annual death rate represented by the deaths registered during the week ending February 19th, in the sixteen principal town districts of Ireland, was 31.2 in a thousand of population. The lowest rate was recorded in Kilkenny, viz., 8.5, and the highest in Limerick, viz., 37.8 in a thousand. During the week ending February 12th the deaths registered corresponded to an annual rate of 25.2 in a thousand. The lowest rate was recorded in Sligo and Lisburne, viz., 4.8, and the highest in Drogheda, viz., 46.5 in a thousand.

Dublin.—Two hundred and thirty-nine deaths were registered during the week ending February 19th, including 15 from zymotic diseases. In thirty-three instances the cause of death was uncertified, there having been no medical attendant during the last illness. The deaths from all causes corresponded to an annual rate of 35.3 in a thousand. During the week ending February 12th there were 185 deaths, including 18 from zymotic diseases. In 23 instances the cause of death was uncertified, there having been no medical attendant during the last illness. The annual death rate from all causes was 27.3 in a thousand. Nine thousand four hundred and ninety-one deaths were registered in the Dublin registration districts during the year 1886, corresponding to an annual death rate of 26.9 in a thousand of population, as against an average of 29.5 in a thousand for the preceding ten years. In the year 1885 the death rate was 28.4 in a thousand. No deaths from small-pox were registered during the year 1886, nor were there any cases of the disease treated in the Dublin hospitals. Two deaths in the second quarter of 1885 are the only cases of small-pox recorded in the districts since the month of May, 1881.

Scotland.—The death rate in eight principal towns during the week ending February 19th was 24.3 in a thousand of the aggregate population, which is estimated at 1,283,977. The lowest mortality was recorded in Greenock, viz., 13.7, and the highest in Paisley, viz., 28.2 in a thousand. The deaths of 18,288 persons were registered in Scotland during the quarter ending December 31, 1886, corresponding to an annual death rate of 18.4 for every ten thousand of the estimated population, or 18.4 in a thousand.

Germany.—The deaths registered in fifty cities of Germany, having an aggregate population of 6,661,838, during the week ending February 5th, corresponded to an annual death rate of 24.2 in a thousand. The lowest rate was recorded in Mayence, viz., 11.1, and the highest in Posen, viz., 35.3 in a thousand.

Calcutta.—Five hundred and nine deaths were registered during the two weeks ending January 15th, including 38 from cholera, 141 from fevers, 84 from bowel complaints, 50 from tetanus, and 31 from asthma.

Para.—Ninety-five deaths were registered for the two weeks ending February 13th, including 6 from yellow fever and 1 from typhus fever.

Havana.—One hundred and two deaths were registered during the week ending February 24th, including 2 from yellow fever. Four cases of small-pox were reported, but no deaths.

Bahia.—Two cases of yellow fever from on board ship were reported during the week ending February 5th. They were isolated at once.

Santiago de Cuba.—The United States consul, in his report for the month of January, states that, notwithstanding press reports to the contrary, the port has been unusually healthy. Only 1 death from yellow fever was recorded during the month, and only 2 deaths occurred in the military hospital, outside the town limits.

Catania.—The United States consul, under date of February 28th, reports by cable, "Cholera, Catania: 15 cases, 9 deaths."

Buenos Ayres.—The United States consul, in his dispatch dated January 7, 1887, states that "cholera still exists in this city, but it makes but little progress in assuming an epidemic form. The average number of cases a day since my last dispatch (December 6th) has not exceeded 22. The greatest number of reported cases in one day occurred on the 30th ultimo, when the number reached 57, since which time it has steadily declined, and on yesterday the number was only 11 in the city, with its population of 400,000 souls." He incloses a clipping from the Buenos Ayres "Standard," from which it is learned that during the months of November and December there were 871 cases of cholera, and 474 deaths from that disease. The consul also states that "the disease has scarcely made its appearance except in closely packed tenement-houses (conventillos) of the lower classes and in the suburbs, which are without pipe and hydrant water. In the interior of the Argentine Republic, however, the disease has assumed the proportions of an epidemic. In Rosario, during the last month, the daily number of cases averaged 60 to 100, while about 70 per cent. were fatal. In Mendoza the development of the disease has been most remarkable, and the population of that city of 20,000 has been almost decimated; and in the country districts the disease was equally fatal. In Tucuman the number of cases has on some days been as high as 500, of which about one half proved fatal. Indeed, the panic at one time was so great that it was not possible to obtain the requisite assistance to bury the dead. In nearly all the other interior cities the disease has been very virulent and fatal, but, not confining itself to centers of population, it has ravaged entire provinces, and farmers (estancieros) and camp men have in great numbers succumbed to it. I am happy to say that with medical assistance, disinfectants, medicines, and a large supply of good nurses, the disease seems to have greatly abated during the last two weeks, and the hope is entertained that it will soon have run its course."

Rome.—One hundred and seventy-nine deaths were registered during the week ending January 8th, including 11 from small-pox, 1 from enteric fever, and 2 from diphtheria.

Warsaw.—Two hundred and two deaths were registered during the week ending February 12th, including 9 from small-pox.

San Juan del Norte.—Two cases of small-pox were reported during the week ending January 10th.

Amsterdam.—One hundred and seventy-one deaths were registered during the week ending February 19th, including 2 from scarlet fever and 6 from diphtheria.

Copenhagen.—One hundred and thirty-three deaths were registered during the week ending February 8th, including 1 from enteric fever and 5 from diphtheria.

Mayence.—Fourteen deaths were registered during the week ending February 5th, including 1 from typhus fever and 1 from diphtheria.

Palermo.—One hundred and sixteen deaths were registered during the week ending February 19th, including 3 from enteric fever, 3 from scarlet fever, and 9 from diphtheria.

Leipsic.—Seventy-nine deaths were registered during the week ending February 19th, including 3 from diphtheria, 7 from dysentery, and 2 suicides.

Stuttgart.—Thirty-two deaths were registered during the week ending February 19th, including 1 from typhus fever and 2 from diphtheria.

Trieste.—Ninety-eight deaths were registered during the week ending February 12th, including 2 from diphtheria.

Munich.—One hundred and forty-one deaths were registered during the week ending February 12th, including 4 from diphtheria.

Edinburgh.—One hundred and seven deaths were registered during the week ending February 12th, including 1 from enteric fever, 7 from scarlet fever, and 3 from diphtheria.

Glasgow.—Two hundred and seventy-two deaths were registered during the week ending February 19th, including 5 from scarlet fever and 3 from diphtheria.

Toronto.—Twenty-one deaths were registered during the week ending February 26th, including 1 from enteric fever and 1 from diphtheria.

Honolulu.—Seventy-two deaths were registered during the month of January, including 11 from "fever," 2 from enteric fever, and 1 from leprosy. The deaths from all causes were equal to an annual rate of 39.2 in a thousand of population.

MORTALITY TABLE, FOREIGN CITIES.

CITIES.	Estimated population.	Week ending	Total deaths from all causes.	Annual rate of mortality in 1,000.
Calcutta.....	433,219	January 8.	261	31.4
Calcutta.....	433,219	January 15.	248	29.8
Para.....	70,000	February 6.	44	32.7
Para.....	70,000	February 13.	51	37.9
Havana.....	208,000	February 24.	102	25.5
Rome.....	364,511	January 8.	179	25.6
Warsaw.....	431,572	February 12.	202	24.4
Amsterdam.....	378,969	February 19.	171	23.5
Copenhagen.....	289,000	February 8.	133	23.9
Mayence.....	65,701	February 5.	14	11.1
Palermo.....	250,000	February 19.	116	24.1
Leipsic.....	170,000	February 19.	79	24.2
Stuttgart.....	125,510	February 19.	32	13.2
Trieste.....	150,157	February 12.	98	34.0
Munich.....	269,000	February 12.	141	27.3
Edinburgh.....	258,629	February 12.	107	21.5
Glasgow.....	545,678	February 19.	272	25.9
Toronto.....	120,000	February 26.	21	9.1
Cadiz.....	65,028	February 12.	34	27.2
Matamoros.....	12,000	February 19.	6	26.0
Leith.....	72,297	February 12.	20	14.4
Belfast.....	224,422	February 19.	133	30.9
Bremen.....	119,000	February 12.	43	18.8
Mannheim.....	65,000	February 5.	19	15.2
Bristol.....	223,695	February 12.	94	21.9
Gibraltar.....	23,731	February 13.	22	48.3
Laguayra.....	7,428	February 19.	6	40.7
Acapulco.....	4,200	February 14.	2	24.7
Reims.....	97,903	February 19.	38	20.2
Havre.....	112,074	February 19.	65	30.2
Vera Cruz.....	23,800	February 24.	20	43.8
Pernambuco.....	111,000	February 9.	57	26.7
Leghorn.....	101,172	February 20.	60	30.9
Kingston, Canada...	15,109	March 4.	1	3.4

The Minnesota Hospital College.—The sixth annual commencement exercises of the medical and dental departments were held on

Friday evening, the 11th inst. Professor John E. Bradley delivered an address to the graduates.

The Health of Chicago.—According to the Health Department's "Condensed Statement of Mortality," for the month of February, the whole number of deaths was 1,170, including 4 from cholera infantum, 1 from cholera morbus, 113 from croup and diphtheria, 4 from diarrhoea, 1 from dysentery, 1 from entero-colitis, 8 from erysipelas, 23 from scarlet fever, 24 from typhoid fever, 5 from typho-malarial fever, 43 from measles, 1 from pyæmia, 2 from septicæmia, 2 from whooping-cough, and 1 from chicken-pox.

The Manhattan Eye and Ear Hospital and the Manhattan Hospital.—We are informed that the General Term of the Supreme Court has ordered that the Manhattan Hospital, in Manhattanville, formerly the Manhattan Dispensary, shall not use the name of Manhattan Hospital, because there is danger of confusion arising from the use of the two names, Manhattan Hospital and Manhattan Eye and Ear Hospital.

Packer's Tar Soap.—After trying any number of soaps, we have settled down on Packer's Tar Soap as the best of all, whether as a toilet or a surgical soap. It is remarkably pure, cleansing, and healing; it is excellent in a large variety of skin diseases, among which we particularly name seborrhœa of the scalp, dandruff, intertrigo, and winter prurigo—all of them very common and very obstinate. It contains the balsamic virtues of the pine in a high degree, and is soft and refreshing to the skin. It deserves a wide introduction.—*Medical and Surgical Reporter*.

THERAPEUTICAL NOTES.

An Experimental Study of Acetanilide (the so-called antifebrine) has been made by Dr. Weill, whose elaborate account is published in the "Bulletin général de thérapeutique," concluding substantially as follows: Acetanilide exerts a predominant influence on the nervous system, manifested by phenomena of collapse after a short period of excitement; generalized anæsthesia and analgesia; modifications of the cardiac and circulatory action ending in a notable increase of intravascular pressure and in peripheral vaso-constriction; and lowering of the central and peripheral temperature. In toxic doses, it profoundly modifies the normal elements of the blood, particularly the oxy-hæmoglobin, which it progressively reduces and finally changes into methæmoglobin; this results in a considerable diminution of the respiratory capacity and in disorders of the process that lead to death. The mechanism of its action seems to depend chiefly upon its direct influence on the bulbo-medullary cells. The author's therapeutical conclusions are as follows: Acetanilide is a powerful antithermic and a valuable nervine. In the first place, it is of great utility in almost all diseases where there is an indication to combat elevation of temperature. In the next place, it efficiently subdues morbid over-excitability in nervous diseases, and likewise acts well in epilepsy. Its prolonged and uninterrupted administration seems to cause the system to become habituated to it. The flow of urine is often diminished, sometimes unchanged, and never increased.

An Emmenagogue Powder.—"Nouveaux remèdes" attributes the following formula to Potain:

Powdered leaves of *Artemisia vulgaris*..... 45 grains;
Powdered *Achillea millefolium*..... 45 "
Powdered saffron..... 23 "

Mix, divide into five powders; one to be given daily for five days preceding the proper day for the flow, hot poultices being applied to the hypogastrium and the lower limbs. If the amenorrhœa is associated with chlorosis, quinine and iron should be given for the rest of the month.

Antasthmatic Cigarettes.—A writer in the "Union médicale" attributes the following formula to Hirtz:

Extract of stramonium..... 75 grains;
Alcohol..... 750 "
Tobacco leaves..... 1,500 "
Potassium iodide..... 75 "
Potassium nitrate..... 75 "

Make 100 cigarettes.

Original Communications.

PERINEAL ABSCESS AND URINARY FISTULA,

WITH CASES.*

BY FRANK W. ROCKWELL, M. D.,

SURGEON TO ST. JOHN'S AND ST. MARY'S GENERAL HOSPITALS, ETC.,
BROOKLYN.

It is a subject of common remark among surgeons when approaching the operative treatment of certain forms of chronic or long-neglected disease, that, in glancing back over the clinical history of the case, a point can be readily determined where the neglect of some simple precaution, or failure to apply some equally simple surgical treatment, has resulted disastrously to the patient, and become the source of severe and perhaps not unmerited censure of the physician then in charge.

This statement is most especially applicable to the class of cases embraced in the heading of this paper, and it is for that reason that I have thought a running commentary on the causes and treatment of these conditions might be of interest to the society, the more especially as it is during their earlier and least formidable stages that they are usually presented to the general practitioner, and at the very period when prompt and easily rendered treatment should follow an intelligent appreciation of the symptoms complained of. It is such a general impression that the conditions mentioned only exist as complications or results of advanced stricture of the urethra, or injuries in the perineal region, that they often remain undetected in their earlier stages until forced into recognition by the results they have produced. As a matter of fact, however, abscess, and its sequel, fistula, may be produced by causes entirely independent of specific urethritis. For a clear explanation of these we are indebted to Dittel, of Vienna, who first called the attention of the profession to the fact that in certain cases of death following urinary extravasation a post-mortem examination revealed the existence of only a small orifice in the urethral wall, this opening being, in fact, the ulcerated floor of an inflamed urethral follicle. This ulceration and a tendency thereto he associated during the life of the patient with the presence of shreds or filaments of mucus in the urine, and maintained that such appearances might be taken as proving a predisposition to such forms of inflammation.

It was reserved, however, for Otis to demonstrate by means of his urethrometer the existence in all such cases of a stricture just anterior to the affected follicle, which, acting as a slight dam to the outflowing urine, collected at its posterior surface epithelial and mucous *débris*, or urinary salts, thus inflaming and thinning the urethral floor, and setting up the conditions needed for minute or even dangerous urinary extravasations. To produce such effects, a stricture need not be even a noticeable impediment to micturition, since it may easily admit an instrument larger than the meatus itself (a fact which every surgeon has the oppor-

tunity of easily demonstrating for himself), and it is in just such cases that one not familiar with the facts omits the necessary examinations of urethra and urine, and allows the patient to drift on into the serious complications which are almost certain to follow.

What has just been said of stricture following disease is equally true of that following injuries, or even of congenital peculiarities of the meatus, and in the latter we have the explanation of cases like the following:

CASE I.—A physician, of robust physique and regular habits, called upon me in September, 1885, with the following history:

For about two years previously he had been suffering occasionally from lithæmia, and the occasional passage of small calculi. During the previous spring he had developed a mild urethritis following intercourse with a perfectly healthy woman (as proved by the absence of vaginitis and cervicitis on examination, and freedom from further trouble on his part, though their relations were continued for some time after).

This urethritis I assume to have been gouty in its character, and due to the irritating quality of the urine habitually passed, as he soon developed a small abscess near the frænum, evidently due to a folliculitis, which discharged, when opened, lithic sand and pus. A very fine fistulous tract remained for a few weeks and then disappeared, but he had from that time suffered from pain in the glans, and discomfort after micturition. The pain had gradually improved, but the discomfort following urination had become so great that he said he often held his water for hours after desiring to void it, rather than suffer the accompanying distress. *At night and after meals* he could pass water, when desiring to do so, with no inconvenience at all. An examination showed his urethra to be absolutely normal, with one exception. The urethrometer expanded to 33 F., glided easily forward from the bulb until it struck the meatus, which was closed by a thin diaphragm of mucous membrane, admitting only 20 F. On passing a delicate curved probe into the pouch formed by this membrane, tenderness was at once complained of. I assured the doctor that his symptoms were entirely due to the accumulation of urinary *débris* in this pocket, and advised section of the membrane. This he consented to, and the operation was done under cocaine anæsthesia on October 5th, and a bulbous bougie, 33 F., at once passed easily to the bulb.

October 7th.—He called at the office and said that the relief had been positive and immediate, that he had worked hard all the afternoon following the operation, and had "forgotten that he owned a bladder." Micturition was now free and painless. I passed a 33 French solid steel sound with ease. The wound healed readily in a few days, and since that time, notwithstanding the supervention of an occasional outbreak of his lithæmic symptoms, urination has been free and painless.

This case would certainly seem to prove that, under certain not very uncommon conditions, a stricture representing only a value of thirteen millimetres is capable of setting up serious pathological changes, as would certainly have been the case if this gentleman's trouble had been located a few inches nearer his bladder. His is by no means a solitary example, and I have seen several others where a specific origin for the folliculitis and accompanying discharge or ulceration could be fairly excluded.

In the vast majority of cases, however, such an origin is present, and is accompanied by the usual history of chronic

* Read before the Medical Society of the County of Kings, November 16, 1886.

gleet and stricture. The latter, however, need be by no means formidable in its character, as we have seen, and cases of urinary abscess are by no means infrequent where pain and difficult micturition are not mentioned by the patient in enumerating his symptoms. Their ætiology is simple: A urethritis; a slight stricture; urine varying in its character as affected by diet, atmospheric changes, and especially by stimulants; accumulation of *débris* behind the stricture; ulceration of an inflamed follicle, and extravasation of urine into the cellular tissue below.

If slight, absorption and, perhaps, obliteration of the follicle results; but if greater, fresh inflammation, burrowing, and the formation of a true phlegmon occurs. This, as a rule, is not very painful unless the quantity of urine extravasated is enough to set up a general cellulitis, and the patient may only present himself for treatment when the gradually increasing tumor attracts his attention; and I have seen cases of this kind treated as "chills and fever," the rigors and febrile symptoms, combined with absence of decided local pain, conspiring to mislead the physician.

Otis mentions a case where the abscess, small in size and occupying a position near the frænum, had been pronounced by a well-known surgeon an indurated primary lesion, and the patient in consequence treated with anti-syphilitic remedies for a year.

As a rule, however, the symptoms are much more acute, and the swelling and pain, or feeling of weight in the perinæum, or difficult micturition, accompanied by more or less constitutional disturbance, lead to a proper examination, when a perineal swelling and urethral constriction at some neighboring point make the diagnosis clear. The mere passage of a smooth sound as large as the meatus will admit will by no means clear such a case up. In the great majority of them, a bulb, and preferably Otis's expanding bulb or urethrometer, is the only instrument which can give one all the information he should have on these points. In the case just cited a No. 10 English sound could have been passed with ease, yet a stricture equaling in value over one third the circumference of the urethral caliber existed. To pronounce such a case free from constriction would have been to abandon the only means of relief possible.

In deeply seated strictures, the necessity for identifying their seat and relative value to the urethra containing them is of the utmost importance when they are associated with urinary abscess or fistula, as the cure of both conditions can be often achieved at one and at the same time. When the stricture is deeply seated, and the abscess cavity posterior to the deep perineal fascia, any delay in evacuating its contents may be fraught with the gravest results to the patient, as burrowing of matter into the cellular tissue of the pelvis, between the bladder and rectum, etc., is almost certain to occur, and, if complicated by urinary extravasation, to terminate fatally, or end in the most obstinate forms of fistula.

If seated further forward, the stricture is not so immediately dangerous, but abscess connected with it finds in the loose tissues of the scrotum and thigh favorable conditions for the formation of the long and tortuous sinuses with which such cases are afflicted.

Openings reaching back to the nates and upward to the

abdomen are not so very rare, while one case is mentioned by Thompson in which the fistulous tract reached up to, and discharged almost all the urine at the umbilicus. It is in this neighborhood that multiple fistulæ are so often found, one case given by Civiale having developed fifty-two. The inflamed and indurated condition of the tissues through which these tracts pass constitutes the great safeguard of the patient, as the cartilaginous walls of the fistulæ and abscess cavities prevent urinary infiltration to any great extent. When, however, for any reason, urine does escape into the surrounding structures in any quantity, new symptoms, due to this complication, force operative procedures of some kind upon the most conservative. The patient who has perhaps been for years suffering from repeated abscesses, followed by fistulæ, with only occasional interruptions to his ordinary avocations, now develops in rapid succession all the phenomena which accompany the presence of irritating fluids in cellular structures; and fresh suppuration, rapidly spreading and destructive inflammation, and gangrene, accompanied by severe constitutional disturbances, place him at once in a position of extreme danger. The situation is almost identical with that which follows laceration of the deep urethra, and the treatment the same—prompt and free division of the perinæum, evacuation of all irritating fluids, and restoration of the urethral canal, if possible, to its normal caliber. What is true of these extreme cases is even more so of urinary abscess in its simpler forms, and it is just in these very cases that a failure to deal with them promptly and energetically constitutes the turning point spoken of in the opening of this paper.

A mere puncture of such an abscess will not do; a free incision which will thoroughly drain it, combined with careful cleansing of its cavity, and packing it with iodoform gauze or some similar dressing, will promptly result in a cure, and avoid the long succession of symptoms described, always providing that the urethral caliber is at the same time, or as soon after as possible, restored to its normal condition. Too much stress can not be laid upon this point when we consider that the views enunciated, while accepted and acted upon by those who are familiar with these cases, seem radical and unnecessarily severe to many, and are often opposed by the patient himself unless the probable result of non-interference be clearly explained to him. But it certainly can be stated as an axiom that in all acute suppurative diseases of the class just mentioned prompt and free incision is the one and only proper treatment. The incision need not open the urethra necessarily, because in some of the less severe forms of folliculitis and urinary abscess the original opening in the urethra, through which irritating matters have escaped, has been shut off by plastic inflammation; but even in these cases the urine usually breaks through the thin barrier formed by the urethral mucous membrane, and so forms a fistula.

If an opening already exist, it is usually found just posterior to a stricture, and, unless the canal is fully restored to its normal caliber, will persist in spite of all ordinary treatment.

The importance of an *early* opening in these cases is so great that the ordinary rule of waiting for fluctuation

should not be observed, since the deep perineal fascia which generally forms a covering to the abscess is so dense that fluctuation can not be obtained in most cases until after an unwarrantable delay. I have found that in some obscure cases much assistance can be obtained by passing the index-finger into the rectum, with its palmar surface up, when by making counter-pressure with the thumb the size and situation of an abscess can be often accurately mapped out and fluctuation elicited.

But even if *no* defined tumor can be made out, the existence of heat and general swelling in the perinæum of a patient who, the subject of deep-seated stricture, has been suddenly seized with pain in that region, with diminishing stream of urine and general febrile disturbance, is quite sufficient warrant for an incision which shall be of sufficient length and depth to thoroughly open up the deep layer of the perineal fascia in the median line. To quote Sir Henry Thompson: "The importance of speedily evacuating such collections of matter, even at the very commencement of their formation, can not be overrated. It is often no easy matter to decide upon their existence, and we are not warranted in requiring *absolute* evidence of the fact before making the incisions described." The danger of delay arises during the first few hours, and is intensified with every hour lost, and it is at this very period that the golden opportunity of averting disaster is lost by indecision on the part of the physician or patient. Once lost, the patient either passes on into one of the chronic phases of his disease, with which it is not the purpose of this paper to deal, or perishes from urinary infiltration and its results.

The cases appended, while perhaps extreme instances of their kind, since two of them were caused by direct rupture of the urethra or laceration of its floor, show how rapidly grave symptoms may appear when suppuration and urinary extravasation have taken place, and also illustrate the methods of treatment appropriate to both acute and chronic urinary abscess. The fatal termination in one of them was largely, if not entirely, due to the fact that the treatment advised early in the history of the case was declined by the patient, and also to his reckless disregard of orders, when a late operation had so improved his chances that recovery seemed almost assured.

CASE II. Laceration of the Urethra; Urinary Abscess; External Urethrotomy; Recovery.—On January 17, 1886, I was asked by Dr. J. Harrigan to see a man, aged sixty-two, who had been injured by falling astride of an iron grating the day before. The injury was rapidly followed by discoloration and swelling of the scrotum and an indurated swelling in the perinæum, but a No. 16 F. catheter was easily passed into his bladder by his physician and some clear urine withdrawn. The removal of the instrument was followed by a copious hæmorrhage from the urethra.

The patient when I saw him could pass his urine in a fair stream, but with some straining. Hoping that the injury was simply a severe contusion, I advised waiting a few hours and the use of warm fomentations of lead and opium.

Three days afterward I saw him again, and found him still passing a fair stream of urine, but, as the scrotum evidently contained fluid, it was incised at its most dependent point, and several ounces of pus and urine were let out, to the patient's great relief. One week after I saw him again, and found the scrotum

reduced to its natural size, the discoloration rapidly disappearing, and the patient fairly comfortable. A well-marked urinary fistula had replaced the abscess, and, although the patient could still pass his urine unaided, the size of the stream was diminishing, and I found it impossible to pass any instrument beyond the bulbo-membranous urethra. I accordingly advised an immediate external urethrotomy. This was finally consented to, and on January 31st, two weeks after the injury, he was anesthetized and a filiform guide passed into the urethra. It promptly made its appearance through the fistulous opening, and a dozen more followed the same course, showing a large rent in the urethral floor. The next, however, passed a little farther in and became engaged in the proximal end of the urethra, but could not be passed into the bladder. Upon this a catheter staff was passed down to the obstruction. A fine probe-pointed director was then introduced through the fistula, and, having reached the staff, passed, after a little manipulation, into the deep urethra. Upon this the fistula was freely divided, when it passed on into the bladder. A Little's director was then passed upon the first one introduced, and upon this a Teale's gorget, when, as its beak entered the bladder, a gush of urine followed. The estimated size of the urethra, as ascertained by measurement of the flaccid penis (three inches and a half) being 34 F., the meatus was now enlarged to that size, and a solid steel sound of corresponding caliber slipped easily into the bladder, being guided through the ruptured urethra upon the gorget. On the third day I passed a full-sized sound with ease, and from this time the patient recovered rapidly. I did not see him again until March 5th, when he called at my office, in perfect health and about to resume his work. He was at that time passing a full sized sound once a week, but has since increased the interval, and still remains in perfect health.

As a contrast to this case, the following one, in which the early history was somewhat similar, may be given, as it illustrates very clearly the danger of neglecting prompt and efficient evacuation of acute urinary abscess.

CASE III. Laceration of the Deep Urethra; Retention of Urine; External Urethrotomy; Death.—J. K., twenty-six years old, was seen by me June 28, 1884, in consultation with Dr. D. M. Flannery, who gave me the following history:

On the evening of June 21st (just one week previous) the patient, while intoxicated, sprang from a second-story window and struck his perinæum on a fence from which he rolled to the ground, and then, wild with excitement, climbed four other fences, thus gaining a side street, and spent the remainder of the night in a continuance of his debauch.

Early in the morning he returned home, and, as he was complaining of pain and inability to urinate, a physician was called in, who attempted to pass a catheter, but failed, the withdrawal of the instrument being followed by a copious hæmorrhage.

After waiting a day longer, during which time no urine had been voided, Dr. Flannery was called in, who found the perinæum swollen and tender, and evidences of laceration of the urethra, as blood was still oozing from the meatus. After repeated attempts, a No. 6 French olivary catheter was passed and two quarts of clear urine withdrawn, followed by some bright blood. The catheter was left in, but by the following day the patient had developed symptoms of peritonitis, with a temperature of 106° F. and low muttering delirium. In an unguarded moment he removed the catheter, which was not introduced again until next day, when with great difficulty it was passed into the bladder and another quart of urine withdrawn. Under large doses of quinine, opium, and stimulants the temperature fell, but it was found to be impossible to retain the catheter, and

on the following afternoon (June 25th), during a straining effort, the patient "felt something give way," and a hard and painful swelling rapidly made its appearance in the perineum. The catheter was again partly introduced, but did not enter the bladder, and on its withdrawal fetid pus and grumous material clung to the eye and bung in shreds from its end. Dr. Flannery now proposed an operation, but was refused, and for two days longer the patient was kept up with stimulants, opium, and liquid nourishment.

On the 28th of June, as he was beginning to fail rapidly, his friends consented to an operation, and I accordingly saw him. On inspection, I found the scrotum immensely distended with blood, while a fluctuating tumor occupied the perineum from the verge of the anus to the scrotum. In both inguinal regions were extensive patches of urinary infiltration; the penis was turgid and cedematous, and the meatus clogged with offensive debris and blood-clots. On attempting to pass a small olivary catheter, I found that it left the urethra through a rent in its floor, and in the vicinity of the bulb. The extreme gravity of the man's condition was explained to his friends, and his removal to a hospital for operation urged. This being finally consented to, he was promptly taken to St. Mary's, and, ether being administered, I attempted to pass a whalebone guide into the bladder. The urethra being filled with oil after Gouley's method, one filiform guide after another was passed, until at last one apparently entered the bladder. Upon this as a guide, Gouley's catheter staff was passed as far as it would easily enter; this proved to be a point just anterior to the triangular ligament.

As the patient was not bearing the anæsthetic well, and trusting that the guide at least was in the deep urethra, I rapidly made a free incision in the median line, evacuating about two ounces of putrid blood-clots, pus, and urine. On irrigating the cavity left, I found the guide doubled up in it, as it had left the urethra through a rent fully an inch in length, and just anterior to the triangular ligament. The bulb was crushed and macerated, and all the tissues in the vicinity sodden and gangrenous as far back as the rectum. Careful and somewhat prolonged attempts were made to identify the proximal end of the urethra by passing fine guides from the perineal wound, but, although urine now escaped in occasional jets from the canal, the matted and softened condition of the tissues precluded success. As the patient's powers were evidently failing, the attempt was abandoned, and the median incision extended rapidly forward into the scrotum and back toward the rectum. Gas, decomposed materials, and pus were evacuated, and the whole field of operation was irrigated with warm carbolized fluid.

The patient was removed from the table in an apparently moribund condition, pulseless, and with involuntary evacuations from the rectum, but rallied under free and judicious stimulation. As the softened tissues gave rise to considerable oozing, sponges wrung out of hot carbolized water were applied, and two ounces of whisky were given every two hours.

On the following day (June 29th) the patient's temperature had fallen to 100.5°, and his pulse to 100. He had slept some, and was passing urine freely through the wound, with complete control of the bladder. He expressed himself as very comfortable, and began to show desire for solid food.

June 30th.—He improved rapidly. The wound was beginning to clean up, and the urine was passed freely and voluntarily. This improvement continued steadily until July 4th, when the patient (who with returning strength began to manifest his natural stubborn and ungovernable disposition) left his bed at night during the temporary absence of the orderly, and walking to the water-closet, clothed only in his shirt, contracted a severe cold. On the following day he had a sharp rigor, fol-

lowed by fever, pain in the side, the rapid development of chest symptoms, and the supervention of a typhoid pneumonia, which proved fatal in three days, the patient dying on the evening of July 7th, just nine days after the operation.

The next case is given as an illustration of the general history and treatment of chronic abscess, and it can certainly be predicated of it, as of most cases of its kind, that early recognition of the importance of a prompt division of the perineal abscess and restoration of the urethra to its normal size would have restored the patient to health and comfort years ago, and saved him long months of suffering.

CASE IV. *Chronic Perineal Abscess complicating Traumatic Stricture; External Perineal Urthrotomy; Recovery.*—C. R., seventy-three years of age, was referred to me October 1, 1886, by Dr. J. F. Moore, with the following history: Twelve years ago the patient had fallen astride of a step-ladder upon which he was standing and injured the perineum. The injury was immediately followed by the passage of clear blood in some quantity, and its appearance for several days in the urine voided. Slight pain was complained of, but in a few days it disappeared and the patient gradually returned to his ordinary health. A slight induration remained at the peno-scrotal junction for a few months, and was followed by the occasional presence of what the patient described as "hard boils upon the penis which never came to a head, and gradually went away without further trouble."

Two years ago, however, symptoms of urinary obstruction manifested themselves, and a stricture was discovered at four inches, and dilated from No. 2 to 20 F. His symptoms immediately improved, and he neglected treatment until about six months ago, when he again suffered from obstructed micturition and a return of the follicular abscesses. A large phlegmon developed at the peno-scrotal angle, and, after varying experiences and steadily progressing decrease in the size of stream voided until retention was imminent, he was referred to me. An examination revealed the presence of a stricture at four inches, impervious to any but filiform instruments. A phlegmon of about the size of a hen's egg occupied the region of the bulb, but no fluctuation could be detected. I advised immediate operation, and the following day, having passed a whalebone guide into the bladder, introduced a catheter staff, and upon it opened the urethra just anterior to the strictured point. After cutting through the abscess wall, which was over an inch in thickness, a quantity of horribly fetid pus and urine was evacuated, and the urethra discovered to be almost obliterated beyond the strictured point. With great difficulty it was identified and gradually freed from constriction. At one point it was almost separated from the surrounding corpora cavernosa, and resembled a fibrous cord. The method adopted was the last stage of Wheelhouse's operation. The urethra having been first opened at a point anterior to the stricture, the edges were seized with strong nibbed forceps and held apart, while with a fine probe and Gouley's knife a systematic dissection was made toward the bladder till the bulb was reached. At this point I was unfortunate enough, while attempting to divide a deep constricting band, to cut the filiform guide, which I had followed to this point without mishap. Another was, however, soon passed from the perineal wound, and upon this I threaded the catheter staff, and, having reached healthy urethra, passed it upon a Teale's gorget into the bladder. No larger instrument could be passed at the time, and, leaving a guide in the bladder upon which I could pass instruments if necessary for the first few days, I had the patient removed to bed. This precaution was adopted contrary to the general rule, because, as the ure-

thral incision was an unusually long one, I feared my ability to pass instruments easily through its entire length without anæsthetics, and these I feared to use often on account of the patient's advanced age. In the evening the patient had a severe rigor, followed by urethral fever of a mild type. He passed water almost without pain and in full quantity, but removed the guide by a sudden movement during the night. His temperature fluctuated between 99° and 100° until the evening of the second day, when it fell to the normal, and so remained during the progress of the case.

On the ninth day following the operation a filiform guide was passed into the bladder, and upon it a tunneled catheter, No. 18 F., glided easily into the bladder. This operation was repeated at intervals till the fourteenth day, when the patient was beginning to pass water *per urethram*, and was about his room. The size of the sound was gradually increased to 29 F., and by the end of the third week the wound was soundly healed and the patient about the house. He is now attending to his business, and in perfect health.

CASE V. *Perineal Abscess and Fistula; External Perineal Urethrotomy; Recovery.*—E. F., aged twenty-seven years. This patient, a rigger by occupation, I saw in consultation with Dr. J. C. MacEvitt, May 30, 1886. A history of repeated attacks of gonorrhœa since 1876 was given. In 1884 he had been treated for a close stricture of deep urethra, in a hospital at Portland, Me., with temporary relief, but had neglected himself since, and for the last year and a half had been suffering from a perineal fistula, so that he was compelled to micturate in the sitting position always, as most of the urine passed by the fistulous opening. A week previously, after drinking beer to excess and exposure to cold, he had a rigor, followed by perineal pain and swelling. Dr. MacEvitt had only seen him once, and, being unable to pass any instrument into the bladder, explained his danger to him, and urged an operation. This was consented to, and he was accordingly anæsthetized and an examination made, revealing four strictures.

The first, at the meatus, would admit only a 10 F. bulb; the second, at one inch and a half, measured 12 F.; the third, at three inches and a half, 10 F.; and at five inches the urethra was impervious to anything but a filiform guide, which was passed into the bladder. The normal urethra was estimated at 27 F., by examination previous to anæsthesia with the urethrometer. The meatus was now cut to 30 F., when a dilating urethrotome was easily introduced, and the stricture at one inch and a half and at three inches and a half cut to 28 F. A catheter staff, 17 F., was then slid down the guide previously introduced to five inches, but could pass no farther.

The patient was now placed in the lithotomy position, and the perineum opened in the median line by a free incision, giving exit to several ounces of foul pus and urine. The wound was held open, and the cavity of the abscess cleansed, when the urethra was easily opened just anterior to the deep stricture. Gouley's fine probe-director was now cautiously introduced by the side of the filiform guide and pushed toward the bladder, and upon it all strictured tissues divided. As the urethra at this point was converted into a mass of dense cicatricial tissue, and the bladder had been completely emptied through the fistulous opening during the early stages of the anæsthesia, this was no easy task; but, once accomplished, a Teale's gorget was easily slid into the bladder, and the staff passed upon this. The guides were now withdrawn, and a 27 F. bulb passed to five inches, where it was arrested; it was partially withdrawn, and a probe-pointed knife introduced through the perineal wound, cutting a slight band anteriorly, when the bulb glided easily into the bladder. A full-sized steel sound was now passed and left in the bladder until the patient began to show signs of re-

turning consciousness. On its withdrawal there was a gush of clear urine (about $\frac{3}{4}$ ij). The patient was given a full dose of quinine and opium, and expressed himself as feeling very comfortable.

On the following day his temperature had fallen to 99°75°, and he was eating and feeling well.

A slight attack of peritonitis, probably due to burrowing of pus before operation, complicated the first few days of convalescence; but it was readily controlled by full doses of opium, and from the end of the first week a full-sized sound was passed every third day.

The patient rapidly recovered, and a communication from his physician a few days since informed me that he was now passing water but three times a day, and could hardly be made to continue treatment. It is hardly necessary to say that his future health depends absolutely upon his faithful observance of this, as without it a relapse is certain to occur, and in a short time.

THE RELATIONSHIP BETWEEN CARDIO-VASCULAR AND RENAL DISEASE.*

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THE subject of the paper which I have the honor of presenting to this society is of marked interest and importance. It possesses the abstract interest pertaining to debatable scientific questions. It has the additional importance of bearing a close relation to the practical questions of diagnosis and therapeutics. The topic indicated embraces many points for discussion, as, in spite of a vast amount of careful clinical and pathological investigation, there is by no means a consensus of opinion among the workers.

For the sake of orderly sequence let cardio-vascular disease be taken as a starting-point. It is evident that the relationship may be threefold. Cardio-vascular lesions may stand to renal disease either as cause, effect, or concomitant.

There is without doubt one form of renal disease that can be referred to the first class, having cardiac disease as its efficient cause.

When the venous side of the circulation is engorged and its tension increased, owing to valvular or other defects in the cardiac mechanism, the kidneys suffer in common with other viscera. Lesions of the mitral orifice, especially those leading to stenosis, are particularly apt to cause notable venous congestion. Imperfect nutrition of the heart muscle is also sufficient to produce a similar condition. If the engorgement of the renal veins and their radicles is sufficiently great and continued, it gives rise to the condition termed cyanotic induration of the kidney. If the congestion has lasted a comparatively short time, the kidneys are enlarged, red, and filled with blood. They have a peculiarly firm consistence. Delafield† states that injecting the vessels of the normal kidney with water will give this

* Read before the Brooklyn Pathological Society, December 9, 1886.

† Pepper's "System of Medicine," vol. iv, Philadelphia.

characteristic hardness. The capsule is non-adherent and the surface smooth. No special histological alterations can be discovered. If the engorgement is of long standing, the doctrine propounded by Sir William Jenner holds good—viz., that continued congestion of any organ from mechanical causes will produce fibrotic changes of a low grade. In this case the kidneys will not only exhibit induration and redness, but the capsules will be somewhat adherent and the surface finely granular. According to the statistics of Dickinson* and Barclay, one third of the cases in which death resulted from valvular disease exhibited more or less granular kidneys. Delafield† examined 137 cases where death was due simply to cardiac disease, and in which the kidneys were abnormal. Of these cases, 53 exhibited the smooth red indurated kidney due to venous congestion of comparatively brief existence. The remainder, 84 in number, displayed in varying degrees the organic lesions of long-continued engorgement. The microscope reveals a varying increase of the interstitial tissue, and the capsules of the Malpighian bodies may be thickened. The tubal epithelium in long-standing cases undergoes granular or fatty degeneration, doubtless due to imperfect oxygenation.

The clinical symptoms of venous renal congestion differ according to the duration and extent of the primary cardiac lesions. The urine is apt to be diminished and its specific gravity increased, although there are many exceptions to the rule. Albuminuria is slight, sometimes intermittent. Casts are usually absent until the later stages, always scanty, and of the hyaline variety. The condition known as uræmia does not occur as a result of renal venous engorgement. Remembering the conditions which are essential for the production of general venous stasis, it is an obvious deduction that chronic renal congestion does not occur while efficient compensation for valvular lesions continues. It is not until the heart-muscle loses its power from imperfect nutrition that the symptoms of passive engorgement of the kidney supervene, unless due to some other general or local condition. The diminished excretion of urine is reasonably attributed to the fact that as the venous pressure increases the arterial tension is lowered.

It is generally conceded that the indurated kidney can not be classed with the lesions constituting chronic Bright's disease. Frerichs ranges it with the granular kidney, but Traube and others have quite conclusively proved that it constitutes a separate form. Neither the tubal nor interstitial changes attain to the proportions of similar changes which occur in the contracted kidney. The histological argument is weaker than the clinical evidence. The condition in question follows cardiac valvular disease. It gives no sign of existence until there is indubitable evidence of a failing heart, non-compensation of imperfect valves, and general venous congestion. Albuminuria is slight as compared with other forms of chronic renal disease. Uræmia does not occur. Edema, when it exists, betrays its cardiac origin by commencing in the lower extremities. Roberts‡

states that this form of renal disease has no momentum of its own, but oscillates with the intensity of the venous obstruction. Eichhorst* affirms that the symptoms come and go according to the vigor of the heart's action. It is evident from these considerations that the indurated kidney may be placed under the first head—that of renal lesions due to cardio-vascular disease.

In seeking for further forms of renal disease having cardio-vascular lesions as their primal cause, or as a necessary factor in an aetiological chain, we enter upon debatable ground. Two varieties of renal disease are of especial interest at this point. For the sake of completeness they are briefly described. According to the classification and terminology usually adopted in this country, the varieties referred to are known, according to the predominant histological changes, as chronic interstitial nephritis, producing the contracted granular kidney, and chronic parenchymatous nephritis, resulting in the large white or smooth kidney. Both forms are included under the generic term of Bright's disease. In neither of these varieties, if at all typical, is there any notable amount of waxy degeneration.

The granular or contracted kidney is reduced in size and weight to one half or one third of the normal. It is tough and resistant. The capsule is adherent, and when forcibly detached may bring with it portions of the renal tissue. The surface exposed after removal of the capsule is coarsely granular. Small cysts of variable size are seen upon the surface and in the parenchyma. The cortical portion is much reduced in thickness—occasionally to a mere line surrounding the bases of the pyramids. Histologically, in a typical case, the fibrous stroma is found to be greatly increased at the expense of the secreting structure. This increase is not regular, varying in amount in different parts of the kidney. Dickinson states that it is apparently determined by the position of the blood-vessels. By the overgrowth of the interstitial tissue the tubes are compressed, portions may be entirely constricted, and by the accumulation of a serous fluid form the cysts which are seen by the naked eye. The Malpighian bodies are compressed, sometimes to an extreme degree, either directly by the interstitial growth or by fluid accumulating in the capsules from which its exit is obstructed. An important change is found in the walls of the renal arterioles, which are thickened sufficiently to diminish their lumen and elasticity. The tubal epithelium is absent, atrophied, or the subject of granular and fatty degeneration.

The kidney of chronic parenchymatous nephritis, or the large, smooth kidney, is, as its name indicates, usually enlarged. Its surface is smooth, the capsule remaining non-adherent. On section, the enlargement is seen to affect chiefly the cortical portion. Scattered throughout the kidney are patches of tissue where more or less interstitial growth has occurred. In these fibroid patches the tubes and their epithelium are atrophied, and the vessels in the same area show thickening of their walls. The interstitial changes are much less marked than those occurring in the tubes. In all portions outside of the fibroid patches the tubes are dilated and enlarged. The epithelium lining their

* "Treatise on Albuminuria," 2d ed., 1881, New York.

† *Op. cit.*

‡ "Treatise on Urinary and Renal Diseases," 3d ed., Philadelphia, 1879.

* "Hand-book of Practical Medicine," vol. ii, New York, 1886.

walls is increased in quantity, swollen, and granular. In contradistinction to the contracted kidney, in which the predominant changes are interstitial, the alterations in the smooth kidney are mainly tubal and epithelial.

For the purpose of this discussion the waxy or amyloid kidney is excluded.

As in all other pathological classifications, no sharp line of demarkation can be drawn between the granular and smooth kidney. There are kidneys which can not be decisively relegated to either class, owing to an equal intermixture of those histological changes generally considered characteristic of each variety. But by eliminating doubtful specimens it is possible, according to the testimony of competent observers, to obtain two groups which shall closely approximate the typical kidneys as described.

There are other changes which now demand attention. Richard Bright, in his original researches on the disease which bears his name, observed that in a large proportion of cases cardiac hypertrophy existed without valvular lesion. The hypertrophy concerns mainly the left ventricle. Numerous pathological and clinical observations have shown that this hypertrophy is most constant and extensive in connection with the granular kidney. Dickinson states that he has come to regard cardiac hypertrophy as one of the most important signs of renal fibrosis. It occurs also in cases of chronic parenchymatous nephritis, but not to so marked a degree. Even in cases of acute nephritis, if the inflammatory process shows a tendency toward slow resolution or becomes subacute, some degree of ventricular hypertrophy is almost invariably developed.

A further and important pathological event relates to the arteries. This consists in a thickening of their walls, the effect of which is to diminish their lumen and lessen their elasticity. The vascular thickening is found to a greater or less degree, not only in all cases of chronic renal inflammation, but also in the more acute forms of the same disease when tending toward chronicity. This change is not confined to the kidneys. It may be co-extensive with the vascular area, or it may be localized in widely separated organs and tissues, varying much in intensity. It affects mainly the smaller arteries and arterioles. It is found most frequently in the arteries of the kidney, pia mater, liver, spleen, intestines, and skin. No structures are exempt. In addition to the thickening of the smaller arteries, the aorta, from its origin to below its bifurcation, is commonly the seat of areas of atheromatous degeneration variable in size and distribution. This condition is usually most marked at the aortic orifice, and often involves the coronary arteries and aortic cusps, as noted by Dr. B. F. Westbrook.*

The arterial thickening like cardiac hypertrophy is much more frequent and extensive with the contracted kidney than with other forms of chronic renal disease. Indeed, Dickinson states that the thickening is more constant with renal granulation than the ventricular hypertrophy. Loomis† mentions three cases of granular kidney which had been under observation for long periods. After death a minute

and careful examination revealed the walls of the arterioles in the skin and internal organs uniformly thickened. No constant abnormal change was found in the capillaries. Many others have recorded similar observations. It may be admitted that vascular thickening occurs in all forms of chronic renal inflammation, that it is most marked and extensive in subjects of granular kidneys, and that while the process may be widely distributed throughout the arterial system, yet its intensity varies greatly in different parts of that system.

As to the anatomical nature of the thickening there is a diversity of opinion. Bright noticed the thickening of the renal arteries, and, clinically, that the radials were hardened. Of later observers, Dr. George Johnson considered the thickening to consist mainly of an hypertrophy of the muscular coat. Sir William Gull and Dr. Sutton maintain that the increase in thickness is due to a fibroid overgrowth of the outer coats of the arteries, without muscular hypertrophy. Dickinson states that he has found the thickening to involve both coats, the muscular hypertrophy usually antedating the fibroid change. Dr. Saundby, quoted by Raife,* states that in two arteries taken from the same kidney one had well-marked fibroid changes with little or no muscular hypertrophy, while the other was almost entirely made up of muscular fibers. Raife himself thinks that in the early stages of granular kidney the muscular hypertrophy predominates, and in the later stages the fibroid change exceeds and may replace the muscular. Bartels affirms that the fibroid changes of Gull and Sutton are rarely found, and many German observers concur in this view. It is clearly established, however, by numerous reliable observations, that thickening of the vascular walls does occur, that both middle and external coats participate in the increase, and that in the early stages the muscular overgrowth, in the later the fibroid change, predominates.

These points, then, may be taken as proved: that cardiac hypertrophy, fibrotic thickening of the smaller arteries throughout the body, and more or less atheroma are found in chronic nephritis. Moreover, that the cardio-vascular alterations are most intense and wide-spread in subjects of the contracted kidney, although occurring to a smaller degree in subacute and chronic forms of parenchymatous nephritis.

In addition to the vascular changes in contracted kidney, certain lesions of other organs and tissues are found, due to over-development of connective structure elements, as cirrhosis of the liver and spleen, opacity of the meninges, and thickening of the bronchi.

It is now competent to inquire as to the etiology of the cardio-vascular changes, and the relation, whether as cause or effect, that such changes bear to the renal disease. There is and has been a wide difference of opinion in regard to these questions. Bright explained the cardiac hypertrophy in two ways—either that the blood rendered impure by defective renal excretion exercised a stimulant effect upon the action of the heart, thereby leading to muscular overgrowth, or that its circulation through the capillaries was so hindered

* "New York Med. Jour.," October 2, 1886.

† *Ibid.*, February 20, 1886.

* "Kidney Diseases," Philadelphia, 1885.

by the impurity that greater force of ventricular contraction was required for its propulsion. Traube was at first inclined to believe it due to the difficult passage of the blood through the thickened renal vessels. But this manifestly insufficient explanation he subsequently abandoned. Dr. George Johnson maintained that the blood, vitiated by retained matters which should have been excreted by the kidneys, caused contraction of the arterioles. The attempt of the arterioles to exclude the contaminated blood raises the arterial tension, and the left ventricle, endeavoring to overcome the abnormal resistance, becomes hypertrophied. The over-action of the arterial muscular coat causes it to increase in bulk, and this accounts for the thickening of the tunica media which Johnson regards as the principal abnormal vascular change. Gull and Sutton, on the other hand, affirm the change to be mainly in the outer coat, to be a fibrosis both of the arterioles and capillaries, and that the cardiac hypertrophy arises from the obstruction to the circulation due to thickening and loss of elasticity of the vessels. They maintain also that the fibrotic process is wide-spread, that while it is found with contracted kidney it may exist without renal disease, and first manifest itself in other organs. They hold it to be due to a general morbid process, and that when found with contracted kidney, it is primary and essential to the renal lesion, the latter being simply a part of a universal condition.

Dickinson, while corroborating the anatomical changes found in both coats, opposes the theory propounded by Johnson to account for the cardiac hypertrophy on the ground that it is unphysiological to represent the heart and arteries as acting in antagonism. The conception of Gull and Sutton that renal fibrosis is only part of a wide-spread degeneration does not meet with his approval. This negation is based upon the ground that, although cardio-vascular thickening is almost invariable with the granular kidney, some degree of it is commonly to be found with other forms of renal inflammation, and it has been traced to such an obviously local cause as destruction of renal tissue by calculus. His own theory is that blood contaminated by renal excrementitious matters flows with great difficulty through the capillaries. Consequently the heart and arteries have additional work thrown upon them, the arterial tension is raised, and both hypertrophy to compensate for the increased resistance. The enhanced blood-pressure, and possibly the irritating effect of the impure circulating fluid, combine to produce fibrotic and degenerative alterations.

In analyzing the theories by the observers mentioned and by other investigators in the same field, it will be seen that they concur in attributing the cardio-vascular changes to the influence of impure blood. The blood may be rendered impure by toxic agencies, as in scarlatina or lead-poisoning. It may be the result of imperfect assimilative processes, as in gout and lithæmia. It may arise from deficient excretion due to diseased kidneys. Lastly, as stated by Da Costa and Longstreth, it may be due to morbid alterations in the semilunar ganglia. Other nervous influences may have a similar effect, as by overwork and worry, leading to early tissue degeneration and imperfect action of various organs.

Granting this morbid state of the blood, it is evident that

it may lead to cardio-vascular changes in two ways. First, by increasing the arterial tension. Recall for a moment the physiology of the heart and arteries. It is well settled that both heart and arteries unite in a single function—namely, the propulsion of the blood. The arteries and arterioles have a contractile power as well as the heart. Loomis, in the article referred to, cites an instructive experiment upon this point. If stasis is produced in a limited capillary area of a living frog's mesentery, the small artery supplying such area becomes distended, but no impression is made upon the point of stasis by the heart's action. Suddenly the arteriole itself contracts and expels its contents, and the stasis is overcome.

The contractile power of the arterioles is, however, not unregulated. It is controlled by that portion of the nervous apparatus known as the vaso-motor system, which contains both vaso-motor and vaso-constrictor fibers. These fibers terminate in the muscular coat of the arteries. By the alternating or consentaneous action of the ganglia in which the vaso-motor nerves originate, the arterioles are kept in a state of tonic contraction, varying in health within narrow limits. General as well as local contraction or dilatation of the arterioles may take place. It is not necessary to quote the well-known experiments which prove this fact. The capillaries appear to be passive and to have no part in propelling the blood-stream. Furthermore, if the arterioles dilate, the arterial tension is lowered. If their normal contraction is increased, the tension is heightened.

Experimental investigations have shown that when the blood is so charged with certain constituents, abnormal in quantity or quality, as to be ill-fitted for assimilation by the tissues, the arterioles will contract beyond the normal under vaso-motor control. The abnormal contraction of the arteries will, to a greater or less degree, hinder the passage of the blood to the tissues, and the arterial tension will be raised to a corresponding point. It is obvious that the hindrance to the blood-current throws more work upon the heart and arteries. If the obstruction lasts for a considerable period, continuous overwork of muscular tissue, within certain limits, entails hypertrophy. Hence arise the ventricular hypertrophy and thickened middle coat. Dickinson has pronounced this theory, as put forward by Johnson, to be unphysiological, because it represents the heart and arteries as acting in opposition. As we have seen, the arterioles not only aid the blood-flow, but also regulate its supply under the control of the vaso-motor system. Granting that a wave of contraction runs along an arteriole corresponding in rhythm and frequency to the action of the heart, it is obvious, the tonic contraction remaining the same, that an average area of cross-section of the tube must exist. If the tonic contraction is materially increased, it is also obvious that the area of cross-section must be correspondingly diminished. Thus greater friction of the blood-current is caused, and by so much its progress is hindered. Only in some such way can the blood-supply of a given area of the tissues be at one time increased, at another diminished. There seems to be no incompatibility between the propulsive and regulating functions of the arterioles.

Muscular hypertrophy in the cardio-vascular apparatus,

with continued high tension, furnishes favorable conditions for fibroid and atheromatous degenerations. These changes occur earlier or later in all forms of chronic renal inflammation.

In the second place, the abnormal blood may cause vascular changes by direct irritation of the vessel-walls. Holsti* has observed these changes to be most marked where the blood rests longest, as in the small arteries, especially those connected with the abdominal aorta. B. F. Westbrook considers it probable that the direct exciting cause of the arterial fibrosis is the presence of uric acid in the blood.

It has been ascertained from the previous investigations that the blood may be contaminated either by defective excretion due to kidney disease, or by processes not dependent upon renal disease, and that in whatever way the impurity of the blood arises, it is competent to produce the cardio-vascular changes which have been observed.

Returning to the discussion of the causal relation between cardio-vascular and renal lesions, the question arises whether vascular or cardiac disease can be considered a factor in the production of any form of renal disease other than the indurated kidney of chronic venous congestion.

After carefully examining the arguments adduced on both sides of the question, I am constrained to believe that the typical granular, contracted, or gouty, kidney, as it is variously called, must be assigned to this class as being the result of a wide-spread vascular change, which may or may not be most intense in the renal arterioles. The vascular lesions can not be looked upon as the absolutely primary cause, for they in turn are preceded by alterations in the composition of the blood.

The reasons for this view are derived from both pathological and clinical observations.

The pathological data have been referred to with sufficient detail. Briefly stated, the vascular lesions are most marked and complete in connection with the contracted kidney, atheroma is very common, and cirrhotic changes in other organs, especially the liver, occur with greater frequency.

The clinical evidence is more convincing.

A case under my care at the present time will serve as an illustration. The patient, a gentleman aged forty-three years, is of gouty heredity and has suffered from frequent gouty attacks. I first saw him in 1883, during a mild paroxysm of the disease. After recovery I made a careful examination at his request, as he had been rejected by an insurance examiner in 1882 because of "enlarged heart." He complained of frequent attacks of indigestion, accompanied with the deposit of reddish sediment in the urine. He was of irritable disposition. The feet and hands were constantly cold. Physical examination of the chest showed the apex beat in the mammary line, and behind the sixth rib. The impulse was strong. On auscultation, no abnormality of the cardiac sounds could be detected, excepting accentuation of the aortic second sound. The pulse was normal in frequency, but resistant. The artery felt tense. A sphygmogram showed blunting of the summit of the

trace. The diurnal quantity of urine was not sufficiently deviated from the standard to be considered abnormal. The specific gravity was within the limits of health. Neither albumin nor casts were found after repeated examinations. The abandonment of a speculative business and moderation in the use of alcoholic drinks have kept him in fair condition. The enforcement of dietetic regulations has resulted in lessening the frequency of the gouty exacerbations. He has had an attack of subacute pleuritis, with moderate serous exudation, which was absorbed without aspiration. Within the past four months the diurnal excretion of urine has notably increased, varying from sixty to eighty ounces. The specific gravity of the mixed urine shows a tendency toward a lower figure, ranging from 1.014 to 1.020. The cardiac hypertrophy and radial hardness I judge to be increased, although I will not be certain upon this point. A faint albuminous cloud is obtained in the urine by heat and nitric acid. No casts have been found.

Although this case lacks the final argument of an autopsy, I judge it to be an example of cardio-vascular disease leading to contracted kidney. Constant mental and physical excitement, gouty heredity and constitution preceding high arterial tension and cardio-vascular changes, these in turn followed by increased excretion of albuminous urine with lowering of the specific gravity, form a clinical picture which leads fairly to such a conclusion.

This case is an example of the clinical evidence offered to prove the proposition that cardio-vascular changes antedate and at least constitute a factor in the causation of the contracted kidney.

Statements to the same effect may be quoted from recent literature on the subject.

Loomis* affirms that in the cirrhotic form of Bright's disease "the kidneys are evidently not the organs primarily affected, for the renal symptoms are so vague and ill-defined that the kidney changes are often overlooked. In forty recorded cases in which autopsies were held, "twenty-six presented symptoms other than renal, but all had morbid arterial tension and left cardiac hypertrophy."

Holsti† finds "two well-marked divisions in the progress of this disease—one cardio-vascular, the other uræmic." He believes the cardio-vascular change to be primary, "chiefly because the clinical progress of the disease is thus best explained."

Eichhorst‡ states that "primary changes occur in the red contracted kidney in the circulatory apparatus." He says, also, "it is probable that the vascular changes in the kidneys are a part in certain cases of a general disease of the vessels."

Ralfe# remarks "that the cardio-vascular changes associated with the typical red granular kidney are due to a general morbid state which is the primary and essential condition."

Mahomed|| shows that abnormal arterial tension antedates renal symptoms, and concludes that the vascular change is the cause, not the result, of albuminuria in this form of the disease.

* "N. Y. Med. Jour.," Nov. 20, 1886, translated by F. B. Stephenson.

* "Med. Jour.," Nov. 20, 1886. † *Ibid.* ‡ *Op. cit.* # *Op. cit.*

|| "Transactions of the Royal Med. and Chir. Soc.," 1874.

Traube states that the ventricular hypertrophy does not depend upon the renal disease, but upon the arterial tension and morbid processes which lead to the contracted kidney.

Although the vascular changes can not be regarded as an absolutely primary cause, for they are preceded by an altered blood-state, yet I think it permissible to rank the typical granular contracted kidney as a result of cardio-vascular changes.

The morbid alterations of the circulatory apparatus occurring in connection with the large, smooth kidney of chronic parenchymatous nephritis must be regarded as due to the retention of excrementitious substances, and therefore this form of kidney disease stands as the prime cause of such alterations. The pathological events of this variety of renal disease are admitted to begin in the tubular epithelium, thus hindering proper excretion. Impure blood causes pericarditis and endocarditis, acute and chronic, valvulitis deformans, ventricular hypertrophy and dilatation, and more or less vascular thickening. This latter occurs in the manner already pointed out, although it does not reach the high grade observable at an early period in the contracted kidney. No discussion of these statements appears to be necessary.

To summarize: In both varieties there is a blood change. In the contracted kidney the blood change is primary, causing more or less extensive vascular lesions, followed by left ventricular hypertrophy, and finally by renal disease and uræmia.

In the other variety the renal lesions are primary, morbid blood changes follow, and the vitiated blood-state produces cardio-vascular disease.

In regard to the third division of our classification—viz., where cardiac and renal diseases exist as concomitants—little need be said. It is obvious that causes sufficient to produce both classes of disease may act independently upon the organism, as in cases where a patient with valvular defects resulting from endocarditis of rheumatic origin becomes the subject of chronic renal disease. After both are established they will undoubtedly react one upon the other, but neither holds a causal relation.

This paper embraces nothing beyond the pathological aspect of the subject.

PAROTITIS COMPLICATING GONORRHOEA.*

By B. FARQUHAR CURTIS, M. D.

PAROTITIS seems to be a rare complication of gonorrhœa, for I have been unable to find any case on record, and in the large number of cases of gonorrhœa seen at the Chambers Street Hospital Out-patient Department during almost three years, only the two cases following developed parotitis:

CASE I.—Michael B., aged thirty, laborer, Ireland.

August 28, 1885.—Had had gonorrhœa twice before, and venereal ulcers last winter. The present gonorrhœal discharge began seven weeks ago, six days after connection. A bubo ap-

peared five weeks ago and now fills the whole left groin, not tender, fluctuating at some points. Five days ago the left side of his face swelled (as it did also with one of his former attacks of gonorrhœa), and now the parotid region is swollen and hot, the lobe of the ear is raised, and the jaws can not be widely separated. The teeth are in bad condition. There is no ardor urinæ. The testicles are not inflamed.

September 4th.—The parotid swelling has disappeared without special treatment.

The case then ran on as an ordinary chronic urethritis, but at no time was there any epididymitis.

CASE II.—Ferdinand Z., aged twenty-two, varnisher, United States.

June 26, 1885.—Had gonorrhœa two years ago. Present attack began three days ago, eight days after connection. At present the pain and discharge are slight. Alkaline treatment.

July 10th.—A painful, but not tender, swelling has appeared in the right parotid region. Iodine applied. Urethral injection.

17th.—The parotitis gradually decreased, and has now disappeared.

August 17th.—Discharged cured.

At no time was any epididymitis present.

In both cases inquiry was made as to whether there had been any exposure to mumps, and in both cases it was denied; while the statement of one patient that his "face had swelled" also with a former attack of gonorrhœa renders improbable, at least in his case, the mere coincidence of mumps and gonorrhœa. It is noteworthy that no evidence of epididymitis or prostatitis was present at any time in either case. Both cases ended with resolution.

We must, of course, admit the possibility of direct local infection by way of Stenson's duct, contagious matter being lodged in the mouth by the finger or otherwise; and in the light of a case recently reported,* in which gonorrhœa (gonococci present in the discharge) was contracted by a connection *per os*, although there was no buccal inflammation to be detected, I regret that no search was made in my cases for micro-organisms.

I am, however, more inclined to consider these cases as due partly to general infection (as in the cases of inflammation of the fasciæ and of the sclerotic coat of the eye in gonorrhœal rheumatism), and partly to the so-called "sympathy" between the parotid and the genital organs. This "sympathy," however incomprehensible it may be to us as yet, seems to be an established fact.

Joal,† indeed, has tried to prove, from certain cases of amygdalitis complicated with oophoritis or orchitis, that there is a similar relation between the tonsil and the ovary or testicle. But in his cases it appears possible that both lesions were due to rheumatism, especially as the tunica albuginea was principally affected in the orchitis, and as the frequent dependence of amygdalitis upon rheumatism is acknowledged.

There can, however, be no doubt as to the relation existing between the parotid and the genital organs. It is shown by the physiological increase of the saliva in sexual

* "Lyon médical," November 1, 1885.

† "Arch. gén. de méd.," 1886, i, 513.

* Read before the New York Clinical Society, December 17, 1886.

excitement, and by the occasional disturbance of the parotid at the menstrual epoch, and for examples of the latter we are not entirely dependent upon the famous case reported by Peter.*

It is shown by the parotitis occurring after ovariectomy in cases in which the absence of septicæmia can be demonstrated. Thirteen such cases have been put on record (by Möricke,† Matweff,‡ MacDonald,§ Goodell,|| and von Preuschen^Δ), and in nine resolution took place without suppuration. Goodell has also observed parotitis after an operation for lacerated cervix, no septicæmia being present—which, by the way, disproves von Preuschen's theory that this parotitis is due to a reflex from the peritonæum, instead of from the genital organs. Goodell is so strong a believer in this relation between the parotid and the genital organs that he ascribes to it the greater frequency with which the parotid is inflamed in septicæmia from operations upon the genitals, and parturition, as compared with septicæmia from other causes.

Finally, we may quote Billroth's◇ case (which is, I believe, still unique), in which, after a slight contusion of the testicle, an orchitis developed and parotitis followed, both ending in resolution.

POST-GRADUATE INSTRUCTION IN GYNÆCOLOGY.‡

By HENRY C. COE, M. D., M. R. C. S.

My object in presenting this brief paper is to elicit an impartial discussion of a subject which has assumed no little importance of late, especially in this city. Although I may view it almost exclusively from a local standpoint, I feel sure that my deductions will be sufficiently general in their bearing to touch the experience of an audience every member of which has been, or is, practically, a teacher of gynæcology, an active or passive exponent of the principles which he imbibed at the Woman's Hospital. Doubtless we have all modified our views, yet there are some cardinal beliefs which we hold in common. But I do not wish to incur the charge of narrow-mindedness by looking at this question merely through the eyes of a disciple of a special school of gynæcology; let us lose sight of any particular system, and discuss the matter on the broad basis of common sense.

It is unnecessary to refer to the success which has attended our post-graduate schools; they have ceased to be experiments, and are beginning to win for themselves a place in the confidence of those who prophesied for them a brief exotic existence. It is not my purpose to set forth the merits and defects of these institutions, but

simply to examine the objections which have been urged against post-graduate instruction in gynæcology, chiefly, it must be confessed, by those who have not made a personal study of the methods of teaching. It was perfectly natural to expect some antagonism between the regular medical colleges, running in their established grooves, and the post-graduate schools with their apparently unsystematic, irregular courses of instruction, but I believe that some of the most conservative members of the undergraduate faculties have begun to admit the possibility of one school supplementing, rather than antagonizing, the other. I might easily digress here, and enter into a defense of the institutions with which several of my hearers are connected, but such is not the aim of this paper. It is rather to analyze the unfavorable sentiments which prevail among the older specialists with regard to one department in the post-graduate schools, and to endeavor to prove that the prejudice is ill founded.

It was rather amusing to an unbiased observer to note the spirit of hostility that was manifested toward the post-graduate schools when the idea was first developed; the very men who acknowledged the value of the Vienna system doubted the possibility of carrying it out successfully in New York. They certainly could not foresee failure in consequence of the deficiency of clinical material, so that their prophecies of a *fiasco* must have arisen from a distrust of the ability of the faculties. I need only point to the present prosperity of both institutions in order to prove that the undergraduate schools do not absorb all the talent and energy in the profession.

Why are some of our prominent specialists skeptical as to the value of post-graduate instruction in gynæcology? As far as I have been able to learn, the objections are as follows:

1. It is difficult for these gentlemen to realize that the pelvic organs do not seem so mysterious to the general profession as they did in the days when the finger of Sims appeared to possess such marvelous intelligence, and that, while few can attain to his diagnostic skill, the average man (or even one who is "below the average") can learn to recognize morbid conditions of the uterus and its appendages with the same ease that used to appear almost supernatural. *Tempora mutantur, et nos mutamur in illis.*

2. Overlooking the fact that the elementary principles of gynæcology are readily appreciated by men who have already been trained by the actual practice of medicine to be better observers and imitators than young students, the gentlemen who criticise our system jump to the conclusion that the instruction is superficial, that the practitioners who attend lectures on diseases of women for a few months learn just enough to make them dangerous, and return home filled with an *ardor operandi* that may render them destructive foci in their native hamlets. This would be a telling argument, if it were true. If it were, I should be in favor of abolishing the department of gynæcology without an hour's delay. We shall see how far this objection holds good.

3. The inevitable consequence of this dabbling in gynæcology (as these gentlemen think) is that "familiarity" will

* "Gazette des hôpitaux," 1868, No. 31. See Goodell, cited below.

† "Zeitschr. f. Geburtsh. und Gynäk.," v, 1880, 348.

‡ "Ann. de gynéc.," xxiv, 1885, 105.

§ "Edinburgh Med. Jour.," 1885, i, 1022.

|| "Trans. of the Amer. Gynæcol. Soc.," 1885, p. 211.

Δ "Deutsch. med. Wchnschr.," 1885, No. 51, 877.

◇ "Chir. Klin.," Zürich, 1860-'67, p. 337.

‡ Read before the Alumni Association of the Woman's Hospital at its third meeting.

"breed contempt," or, in other words, that special workers will cease to receive from the general profession that recognition to which their years of study and observation entitle them.

I shall only mention, in passing, the objection that is raised against the New York post-graduate schools on the ground that they not only divert out-door patients from the regular hospital dispensaries, but encourage an indiscriminate system of medical relief that fosters bad habits in those who can really afford to pay for professional services—a direct injury to the younger physicians. I admit that there is truth in the latter argument, but, in regard to the former, I can only add that I have little respect for a charity which aims only at increasing its statistics. I firmly believe that dispensary patients should be utilized for purposes of medical instruction, so far as can be done without injury to the patients themselves, or without outraging those natural feelings of decency and humanity which no gentleman requires to cultivate, since they are born in him. Narrow-minded medical men are responsible for the foolish prejudices of the laity in this direction. Yet the same men have studied in Vienna, and can not deny that they have profited by the instruction received in the great hospital, where every patient is a living illustration of the truth that "no man liveth unto himself, and no man dieth unto himself." But shift the scene to New York, and the case is different—why, I can not understand.

In reply to the weighty objections just mentioned, let me briefly call your attention to the salient peculiarities of post-graduate instruction in gynæcology as it is conducted in New York. These may be considered under three heads—viz., 1, The teacher; 2, The pupil; 3, The subject taught.

1. *The Teacher.*—True to the purpose of the institution, which is to teach practice and not theory, he is in every sense a practical man who comes straight from the bedside to the school, bringing the fresh results of the experience through which he has just passed. No staid professor is he, leaving his study, where with much research and no little "cribbing" he has prepared himself to charm his audience by his carefully-rounded periods, or to awaken thunders of applause by his moral platitudes, but a plain man speaking to plain men of that which appeals forcibly to the minds of his hearers, because they recognize its direct bearing upon the problems and emergencies that daily confront the practitioner.

Dwelling upon a theme in which he feels a strong personal interest, such a teacher ought to be earnest and enthusiastic, and hold his audience, for the very reason that they feel that he is giving them a leaf from his own diary, and not a series of excerpts from standard text-books. There is a heat-producing power in an extemporaneous speech, one that "speaks itself," as it were, which is wanting in the most labored and finished oration into which the writer has failed to throw his heart.

But, while a wise and earnest teacher may wield an immense influence for good in addressing an audience of advanced students, an ultra-enthusiast or (as one has irreverently expressed it) a "gynæcological crank" can do no little mischief. Whatever we may believe, it is not always

wise to teach our peculiar ideas, as some man may undertake to apply our teachings literally with disastrous consequences. A lecturer's rash statements or hasty advice may be copied into a student's note-book and become law and gospel to him, when the speaker would an hour later disown the malformed offspring of his brain. The mandate, "Take heed how ye hear," might well be amended so as to read, "Take heed how ye teach." A good medical lecturer is undoubtedly born, not made; but the silver-tongued orator whose benches are always crowded may be a disseminator of false and dangerous theories, while he whose personal gifts are few may drop homely truths which produce a more permanent and healthy impression than those of his brilliant but less conscientious rival.

Throwing aside cumbrous theories, divesting the subject of pelvic pathology of the mystery that has been thrown around it, and teaching his students to study a gynæcological case in the same manner as they would investigate one in general medicine—in other words, laying great stress upon the exercise of common sense—is his unpretentious task, in performing which the lecturer can not be entirely a failure, even if he is not a success.

2. *The Pupil.*—Young physicians living in large cities are accustomed to refer in a scornful way to the "country doctor" as a synonym for one who practices medicine on the smallest possible margin of professional knowledge, whose thoughts never soar above his daily treadmill. To him the gonococcus has never been revealed, the cholera bacillus possesses no charms. Since there are villages, there must be country doctors, but the latter do not live—they simply vegetate, their existence uncheered by a weekly nap at the pathological society, their intellects never stimulated by foreign medical literature. This is no exaggerated picture of the country practitioner as he appears to the imagination of many a city brother; doubtless this notion is only a little less erroneous than that cherished by our country friend—that since the city resident has enjoyed larger opportunities than himself, ergo, he is wiser. The post-graduate students are largely from small towns in different parts of the country—a fact on which we are to be congratulated, because this implies that they do not feel that they have already imbibed all the wisdom extant. Moreover, they are practitioners, men who have been brought to feel their own deficiencies in view of the rapid progress of modern medicine, and have come to us with the honorable purpose of filling up the gap in their scientific studies, which has grown wider and wider each year under the pressure of active practice. Such students are not boys. We can no more compare them with medical undergraduates than we can compare the collegiate, whose world is contained within the narrow limits of the campus, with the careworn man who revisits his alma mater after the lapse of many years, and wonders if his ambition was ever satisfied with college triumphs. The lecturer feels a sort of satisfaction in addressing a class of practitioners, which is due partly to the fact that they are more or less familiar with the theme, and partly to a realizing sense of the influence which his words may exert upon men of mature judgment. This acts as a stimulus to the young lecturer, and at the same

time leads him to be very cautious how he ventures upon ground which he has not himself thoroughly surveyed. Questionable statements, harmless hyperboles, seldom produce any permanent injury upon the mind of the medical student. Even if he leaves the lecture-room with a fixed purpose to remove the first abdominal tumor that falls into his hands, and goes so far as to make out his list of ovariectomy instruments before the coveted opportunity occurs after graduation, experience inevitably leads to a wise distrust of his own surgical skill, and no harm is done after all. On the contrary, the practitioner who watches the steps of a capital operation this week, may undertake the same in a distant part of the country the week following; the spectators who to-day admire the ease with which you replace a retroverted uterus with the sound, go forth tomorrow to use the same instrument, but applying a dangerous amount of force, and without that "twist of the wrist" which looks so simple and harmless to the looker-on. In short, the man who teaches gynæcology to practitioners incurs no small responsibility, and sets in motion forces of which he knows not, since the seed which he sows is likely to bear fruit, and that speedily. A chance word of caution dropped in the lecture-room may save lives away off in Texas; your enthusiastic commendation of an operation may induce one of your pupils to attempt it with disastrous results. While I believe that a post-graduate audience is less impressionable than one composed of young students, and more accustomed to look at both sides of a question, the influence of an earnest lecturer (especially if he is an authority on gynæcology) is both far-reaching and permanent, for either good or evil. To no class of hearers, in my experience, is conservatism more acceptable, if presented in a proper manner. The pupil is all right. If there is any fault, it generally lies with the teacher.

3. *The Subject Taught.*—Gynæcology; but what system, and how taught?

In Vienna the peculiar ideas of each professor are stamped ineffaceably upon his clinic. No matter how brilliant or original his assistants may be, they seldom think of advancing any views save those of their chief. In our clinical schools there is more variety in the lectures. This is as it should be. If a young man simply re-echoes the words of his elders, without venturing to express an opinion of his own, he can hardly expect to make a very decided impression upon his hearers. He would be a narrow-minded teacher indeed who tried to make his students believe that the peculiar tenets and traditions of the Woman's Hospital included all that was worth knowing of practical gynæcology, or who taught that the rough manipulations in vogue in foreign clinics were superior to our own less heroic methods. No; the practitioner does not come to us to be told that one system is superior to every other, and that he should adopt this one to the rigid exclusion of all the rest. What he wishes to learn are such facts and methods of diagnosis and treatment as he will be able to apply directly in his own daily practice. The lecturer who spends his hour in dilating upon his pet theories and operations may interest his hearers, but he does not give them what they need. I have already referred to the possibilities for harm which

are contained in the enthusiastic utterances of an attractive lecturer, when mounted on his favorite hobby, whether that hobby is a surgical, pathological, or instrumental one. His enthusiasm may not only blind his eyes to the weak points in his favorite theory, but may lead him to speak contemptuously of those who venture to entertain contrary opinions. I know of nothing less edifying than to hear a lecturer publicly ridiculing the opinions of a brother specialist, or even a co-laborer in the same institution. In a school in which several clinics are held in the same department the student must necessarily hear conflicting views, but there is some advantage even in this confusion, since he can select the best, and avoid extremes. Post-graduate instruction in gynæcology is literally clinical. You will all acknowledge that a man can learn more in five minutes by introducing his own finger into a vagina, than by listening as many months while another man describes the process in graphic terms. It is unfair to compare the results of three months' instruction in practical gynæcology with those derived from a residence of six times that period in the Woman's Hospital, yet I venture to affirm that not unfrequently the practitioner with his smattering of the subject reaches by a direct route the same conclusion as the interne after his long and valuable service, viz., that many intrapelvic affections should be treated with great caution, and that not a few should be left severely alone. Indeed, the regular attendant at the clinics has a certain advantage over the gentlemen at the hospital, because he has opportunities of studying the remote results of operations such as are not often enjoyed by the latter. Undoubtedly there are students who carry home a sad jumble of gynæcological facts and fancies, but I have too much confidence in the good sense and sound judgment of the class of men whom I meet every week to feel apprehensive lest they go away laboring under the delusion that they are finished gynæcologists. Unquestionably, there is room for improvement in the matter as well as in the manner of our lecturers. What the practitioner needs is not so much to witness a number of laparotomies, or to hear disquisitions on fine points in differential diagnosis. He wants to know how to find out what ails a suffering woman, and whether it will be wise for him to treat her, to let her alone, or to place her in the hands of some specialist. He wants to know how to fit a pessary, when to use it, and when not to use it. The proper treatment of a simple case of retroversion is a subject of infinitely more importance to him than the details of a hysterectomy. He will hardly attempt the removal of the first pair of prolapsed ovaries that greet him on his return from his winter's lectures, but the chances are that he *will* test the mobility of the first retroflexed uterus with the sound, as he has seen it done in the clinic. Our only rational course is to adopt at all times a wise conservatism. We ourselves may continue to take serious risks, as we all have done, sometimes with fortunate, sometimes with unfortunate results, but let us at least refrain from recommending to the inexperienced doubtful or dangerous methods of procedure. We can not insist too strongly upon the wise rule laid down by the late Dr. Flint as the one that ought always to influence our treatment of disease—never to do anything

that may make the patient worse. Is there one of us who, recalling his unsuccessful cases, does not devoutly wish that he had always adopted this suggestion?

If we are ourselves fully conscious of the importance of recognizing in what cases active treatment ought to be avoided, what more sensible course can we take than to impress this truth indelibly upon the minds of those who are in the most favorable position for doing harm through the practice of unwise gynecology? This I take to be the true sphere of gynecological instruction at the post-graduate schools—not to confuse men, by filling their minds with stray facts and fancies that are of interest only to the special worker, but to emphasize before them a few important facts, the more elementary the better. We can not tell them anything more instructive than our own mistakes, and how they may avoid them. We must descend to minutiae. It is not enough to descant on the benefits to be derived from the hot vaginal douche: describe the procedure down to the smallest detail; if you do not, some of your hearers will be sure to remain in quite as dense ignorance of its *modus operandi* as the average dispensary patient, whose vaginal roof is never touched by the pint of luke-warm water which she daily injects into the lower part of the canal. It would seem as if the truth of Dr. Emmet's dictum regarding the importance of attending to details, in order to attain success in the practice of gynecology, ought to be universally recognized at the present day; but it is not the case. If we succeed in teaching practitioners to apply this principle, we shall, I believe, accomplish more useful results than if we familiarize them with the conflicting views on the intra- and extra-peritoneal treatment of the stump after hysterectomy. We certainly consult the best interests of both our hearers and their patients more truly when we point out the contra-indications to hystero-trachelorrhaphy, than if we inspire the would-be gynecologist with a burning desire to repair indiscriminately all the torn cervixes that he has been "saving up" in his neighborhood. It is not necessary to dwell upon this theme. You see its bearing, and I hope, too, that you see that, although post-graduate instruction in gynecology may be superficial, in the sense that the student is not graduated as an expert in uterine surgery, he is (or should be) taught the same conservative ideas which we have learned so well and disregarded only to our cost. I believe that in these schools a conscientious teacher can exert a strong influence for good; that his office (though not surrounded with the same *éclat* as the chair in a prominent medical college) is an honorable one, and his incentives to mental activity are not less keen than if he addressed a crowd of noisy students, instead of an audience of mature, serious men, who come to the lecture-room for meat, and not to hear "glittering generalities."

Gynecology is not being lowered in the public estimation because it is ceasing to be the exclusive property of a limited circle of specialists, neither will this country be overrun with pseudo-gynecologists in consequence of our efforts to instruct general practitioners in the rudiments of the science. If we are faithful to our trust, less, not more, harm will result from the wide dissemination of con-

servative views; any others we have no right to teach to men who are liable to misapply our instruction.

TREATMENT OF ACUTE PNEUMONIA.*

By DAVID PHILLIPS, M. D.

ONE afternoon, a few years ago, I was seized with a chill which lasted about an hour and a half, and was followed by dull, aching pains in the back and limbs, and pain in the right side. A feeling of intense prostration ensued. The next morning I was visited by Dr. William Thurman. I had then a slight, hacking cough, a temperature of 103° F., a pulse of 110, and some pain in the side, and was greatly prostrated. Dr. Thurman, upon examination, said he detected crepitant râles over the lower portions of the right lung, and that I was in for an attack of pneumonia. That night my temperature was 103.7°; the next morning it was 103°, pulse 110. There were crepitant râles over the right lung, and some dullness.

Dr. Thurman and I consulted regarding a change in the plan of treatment, but determined not to make any for another twenty-four hours. That night my temperature fell to 101°, pulse 98. The following morning (third day of sickness) temperature was 99.5°, pulse 90; and two days afterward, although feeling weak, I was able to attend to my work.

On the evening of the 26th of February, 1886, I was called to see Mr. M. He stated that he had had a chill about 4 P. M., which had lasted till 6, a severe headache, some pain in the right side near the nipple, and had felt so weak that he had had to go to bed. His temperature was 102°, pulse 98. On examination of the lungs, I did not detect anything.

February 27th.—Morning temperature 103°, pulse 106. He complained of great pain in the side, and had a slight, hacking cough. Examination of lungs showed crepitant râles in the lower lobe of the right lung. Evening temperature 104°, pulse 118.

28th.—Morning temperature 101°, pulse 104. Evening temperature 101.5°, pulse 104.

March 1st.—Morning temperature 99.5°, pulse 90. Evening temperature 100°, pulse 90. The next day the morning temperature was natural, and in a few days he was able to leave the house.

On August 26, 1886, I saw Miss E., who complained of feeling very chilly—in fact, she was shivering when I saw her—and said she felt very weak. She had no other symptoms. Temperature 100°, pulse 90.

August 27th, morning.—She complained of great prostration, but had no pain. Temperature 101°, pulse 100. Physical examination detected crepitant râles over the left lung. Evening: a hacking cough had made its appearance since last visit. It occurred at intervals, and caused her great distress. Tem-

* The term "croupous," introduced by Rokitansky, appears to the author to be in some respects best avoided. It was originally employed by Rokitansky to define a particular form of exudation, and in its application to pneumonia he drew a parallel between this disease and croup of the larynx attended by false membrane. The analogy appears to be an erroneous one in two aspects, for, in the first place, the pneumonia attending laryngeal diseases when false membranes are present is seldom seen in the form recognized as characterizing acute sthenic pneumonia, but is most commonly of the type termed broncho-pneumonia; and, secondly, there is no boundary-line of distinction between the forms of the disease characterized by a coagulable exudation in the vesicles and those where cell-products are mingled with some fluid exudation. The extreme types are, it is true, distinct, but every shade of gradation may be observed between them.—WILLIAM FOX, M. D., in Reynolds's "System of Medicine."

perature 103.5°, pulse 115. Well-marked dullness, bronchial breathing, and bronchophony were found over the lower surface of the left lung.

28th.—Morning temperature 101.5°, pulse 108. Râles were heard over the left lung, but all signs of consolidation had disappeared. Evening temperature 103°, pulse 115. Signs of consolidation had returned, but not so marked as on previous evening.

29th.—Morning temperature 100.5°, pulse 108. Râles heard again over the lung, but all signs of consolidation had disappeared. Evening temperature 101°, pulse 108. No physical signs except râles. Two days afterward the temperature was natural.

I think the relation of these three cases is enough to prove the fact that pneumonia is not a self-limited disease. Similar cases have no doubt occurred in the practice of most physicians; in fact, they are mentioned, although briefly, in some medical works as cases of aborted pneumonia, notwithstanding that the same works declare that pneumonia is a self-limited disease.

It must, then, be conceded that a pneumonia may go no further than the stage of engorgement or congestion, and physicians would save themselves from troublesome questions if they called this first stage *pulmonary engorgement*, and not pneumonia, reserving the use of the latter term until consolidation has taken place.

I believe, therefore, that in a certain number of cases a pneumonia, if seen in its first stage, can, by appropriate treatment, be cut short. After consolidation has taken place, a certain length of time must, of course, elapse before resolution can occur, but even in this case I believe we can hasten it.

Although there is no doubt that a central pneumonia does take place without approaching the surface sufficiently near to give physical signs, I think it is a very rare occurrence, and that, in the great majority of cases, where a patient has all the rational signs of pneumonia but none of the physical, the lung is simply in a state of engorgement, and the patient recovers without consolidation taking place.

I saw a boy, aged ten, who was taken sick on the night of January 1, 1886, with vomiting and fever, his mother ascribing the illness to an attack of indigestion. The next day his temperature was 103°, and the only complaint he made was of intense headache. The temperature then oscillated between 103.5° and 105° until January 7th, when well-marked signs of consolidation appeared in the right lung. It would have been easy during the first week to call this a case of central pneumonia. I think in this case it was a question whether consolidation would or would not take place, some unknown influence determining in favor of consolidation; but it is to be conceded that if the boy had recovered on the seventh day of his sickness, he might, or would have been said to, have had a central pneumonia.

Suppose in a case like the foregoing another physician had been called in on the third or fourth day, and pronounced it a case of pneumonia; or suppose the family physician had so pronounced it, and the second physician, upon being asked if it was a case of pneumonia, replied that he could find no evidence of consolidation in the lung, the confidence of the family in the first physician would

undoubtedly have been shaken, and, in the event of a fatal termination, he would have been accused of not understanding the case. Would it not be better, therefore, to call a case in this condition pulmonary engorgement or congestion, which it undoubtedly is, and wait for the evidences of consolidation before designating it pneumonia?

A case occurred to my knowledge only last month where the family physician made a diagnosis of pneumonia, and a consultation was called. The consulting physician told the family physician that he could not detect any physical signs of pneumonia, and that they had better watch the case a little longer before making a positive diagnosis. It seems that one of the family was concealed in the room and overheard the conversation, and, when the consulting physician told the family that he agreed with what had already been done, there was a lively time, the family insisting upon having two more physicians called in.

I divide the treatment of pneumonia into, first, the treatment of the stage of pulmonary engorgement or congestion, and, second, the treatment of pulmonary hepatization or pneumonia proper.

Treatment of Pulmonary Engorgement or Congestion.—

This is commenced by administering twenty or twenty-five grains of the sulphate of quinine, combined with five or ten grains of calomel, given in capsules. The next morning one of the aconite group is exhibited. I prefer aconite, as less liable to interfere with the stomach. A favorite prescription with me is:

R Tinct. acon. rad., }
Tinct. belladonnæ, } āā 3 ss.—j;
Spt. æther. nitrosi..... 3 iij;
Liq. ammon. acet..... 5 ij.

M. S.: A teaspoonful every two hours for an adult.

That night the quinine is again given, the aconite mixture being continued the next day and kept up till either recovery or hepatization appears, when it should be discontinued. The objects in giving the quinine and calomel will be so obvious to every one that the reasons for administering them need not be discussed here.

Although some writers object to giving any of the aconite group in pneumonia, for fear of increasing the liability to heart failure, I can not see any reason for fearing such a result when given in this stage—and it should be given in no other; and as by their action we quiet the nervous system and diminish the amount and force of the blood going through the inflamed lung, thus tending to diminish the inflammation and exudation, they seem to me to be the best agents to use in this stage. Of course the pulse should be carefully watched during their use.

For the pain in the side, the best remedy is the application of a few leeches over the painful spot, which generally results in giving great relief in a very short time. In case, however, this does not produce the desired result, hypodermics of morphia may be given, although I dislike to use opium if it can be avoided, as it blocks up the secretions, and also tends to produce head symptoms.

The chest should be enveloped in an oil-silk jacket lined with cotton batting, which should be fastened behind, it being easily opened there whenever examinations are desired.

Treatment of the Stage of Hepatization.—As soon as marked signs of consolidation appear, the treatment should at once be changed, and digitalis, ammonia, and the stimulating expectorants given as in the following:

R Tinct. digitalis *.....	3 j-3 ij;
Syr. senegæ.....	3 iv;
Syr. ipecac.....	3 ij;
Ammon. carb.....	gr. xxxij;
Ammon. chlor.....	gr. xxiv;
Spt. æther. nitrosi.....	3 ijss.;
Syr. tolu.....	5 jss.

M. S.: Teaspoonful every two or three hours for adults.

The purpose of this treatment is to strengthen the heart, to excite pressure on the blood-vessels of the diseased lung so as to make them pervious as soon as possible and thus hasten absorption, to favor the circulation of the blood through the body, to stimulate the glands and muscular fibers of the bronchial tubes, which, though weakened, are probably not completely paralyzed, and to increase the excretions and thus prevent the accumulation of effete material in the blood.

If the temperature is not above 103° F., no attempt had better be made to reduce it. If it rises to 104° or 104.5°, twenty to thirty grains of quinine should be given and an ice-bag applied to the back of the neck. If this does not answer, the chest should be wrapped in thick flannels, wrung out of ice-water, which should be changed as fast as they become warm, and the arms should be wrapped around in flannels inclosing powdered ice, or the rubber coil can be used. It should be remembered that whenever the temperature is to be reduced by the application of external cold, an ice-bag should be placed on the head, alcoholics freely administered, and the pulse carefully watched. If the temperature rises above 105°, nothing is so valuable as the cold bath, the patient being kept in it till the temperature falls to between 101° and 102°.

Regarding the delirium as a call from the system for stimulants, alcoholics and camphor—ten to forty grains daily—or musk should be given, and also cold applications made to the head.

If it is necessary to move the bowels, calomel had better be used, as least likely to upset the stomach.

If symptoms of weakening of the respiratory muscles appear, strychnine should be given hypodermically.

If symptoms of acute œdema occur, senega and ammonia should be dropped, dry cups applied, and a hypodermic of four grains of the hydrobromide of quinine given.

In cases of low temperature and irregular or feeble pulse, as also in the case of old people, alcoholics should be given from the commencement.

The period of crisis is one of great danger to the patient and should be carefully watched for. As soon as it occurs, alcoholics should be administered with milk at frequent intervals and kept up for hours.

As regards diet, I am in the habit lately of commencing the early use of Mariani's wine of coca, which I regard as

an excellent food tonic. Peptonized milk, beef tea, meat broths, eggs soft boiled or raw, barley gruel, water gruel, sweetened whey, and kumyss can be taken, the food being given at regular intervals and in small quantities, and alternated as often as possible.

The room should be kept at a temperature as near 60° as possible, and ventilated frequently. There need be no fear of a pneumonia patient catching cold.

During convalescence quinine should be given, together with moderate amounts of alcoholics and nourishing food.

A CASE IN WHICH SARCOMA SIMULATED CARIES OF THE VERTEBRÆ.

By A. B. JUDSON, M. D.

THE following case illustrates the difficulty of making a diagnosis between caries of the vertebræ and sarcoma involving the vertebral canal and intervertebral foramina:

The patient was a boy four years and eight months old when first seen on September 18, 1884, at the Out-patient Department of the New York Hospital. For two months he had suffered pain in the abdomen and back, crying a good deal, and wasting in flesh. His gait was stiff, and he was very careful when stooping. The seat of the pain and a slight prominence of the spinous processes, which proved to be unimportant, suggested caries of the upper lumbar vertebræ. He was seen the second time at his home twelve days later. In the mean time he had visited another hospital, where he had been measured for a spinal support, which, however, had not been applied. He had been in bed six days with paralysis of motion and sensation of the lower extremities. For four days it had been necessary to relieve vesical distension by the catheter. The pain in the back persisted. The bowels had been regular. The abdomen was greatly distended with flatus. There had been no œdema. There was a spasm the preceding day. The temperature had not exceeded 101° F. He died from exhaustion and after general spasms ten days later, his condition remaining about as above described. The urine, when first drawn, was heavily albuminous, and later was purulent and bloody. The paraplegia had partly disappeared. At the autopsy, which was performed under difficulties, the vertebræ were found to be normal. There were adhesions about the bladder. The right lung was easily broken down, and almost gangrenous in appearance. There was a well-defined tumor, about $2\frac{1}{2} \times 1\frac{1}{2} \times 1$ inch, on the right more than on the left side, attached to the tissues covering the middle dorsal vertebræ. It was hard to the touch but soft upon section, and resembled fat in its color. The new growth entered the vertebral canal along the sheaths of five or six of the spinal nerves. Above the tumor and joining it was a prominent mass. It fluctuated, and on section was found to contain fluid and soft masses. Several lumps resembling the tumor in character, some as large as a chestnut, were found attached to the connective tissue of the abdominal cavity, but not especially on the mesentery. An irregular row of small growths of the same kind were found along the inner side of two or three of the long ribs on the right side about their middle.

The symptoms above described were apparently caused by pressure on the spinal nerves from partial occlusion of the intervertebral foramina, and probably by invasion of the vertebral canal by the sarcomatous growth and interference with the vesical center.

* Convallaria may be substituted for the digitalis if the stomach will not bear it.

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VIRCHOW ON MYXŒDEMA.

THE singular condition known as myxœdema has, as is well known, been made the subject of extensive investigation by English observers, notably Horsley and Halliburton. It is interesting, therefore, to note Professor Virchow's criticisms of their labors and opinions, published in a recent number of the "*Berliner medicinische Wochenschrift*," and embodying the results of his study of this strange affection during a visit to London last October. Although the London Clinical Society has collected reports of a hundred and ten cases that have occurred in England, and many have been published in France, Virchow states that only three cases have thus far been observed in Germany. He examined Horsley's preparations, and was convinced of the presence of lymphoid tissue in the thyroid body, but he can not concede that that tissue imparts a hæmatopoietic function to the organ. Admitting the truth of Horsley's statement that the blood in the thyroid veins is seven per cent. richer in leucocytes than that of the corresponding arteries, it does not follow, he says, that this increase of leucocytes is constant, and a temporary increase may be produced by a variety of causes. He acknowledges the mistake he made, before he had had an opportunity of examining preparations and observing cases, of looking upon myxœdema as due to a mucoid change similar to that which fat undergoes in the process of atrophy. But in the preparations shown him in London he detected an active cell-growth in the cutaneous and subcutaneous tissue, with increased bulk, while the superficial layers of the cutis remained intact. The process had none of the characters of atrophy; it was rather of an irritative kind, closely resembling inflammation. He was reminded by what he saw of the similarity to the condition of phlegmasia alba dolens or to pachydermia. He would consider the experimental and chemical researches of Horsley and Halliburton, which show that removal of the thyroid is followed by an accumulation of mucin in the blood, the tissues, and the secretions—a condition of mucoid dyscrasia, or myxæmia—as certainly an important advance in our knowledge of the subject. These observations, however, require further confirmation before Horsley's conclusions on the function of the thyroid can be accepted.

Virchow agrees to the recent theory of the relationship between myxœdema and cretinism, and would look upon the latter as belonging to the former. In this connection, Horsley's experiments of thyroidectomy on apes, which were followed by a condition analogous to the state of cretinism, are convincing. The monkeys experimented upon passed through three consecutive stages—the first characterized by neurotic, the second by what Horsley styles "mucoid," and the third by atro-

phic phenomena. All of them, when let alone, succumbed in from five to seven weeks. He draws attention to the ill effects, observed twenty-five years ago, of too rapid wasting of the thyroid under the iodine treatment of goitre. They were variously explained; many held them to be due to iodism, while others—and to these the author belonged—thought that they were in some manner connected with the "goitre cachexia." He dwells at some length on the association between cretinism and goitre, and emphasizes the fact that an investigation carried out by a commission showed that goitre was absent in at least a third of the cretins. The relationship between cretinism and what is known as "congenital rickets" is equally obscure. Two interesting cases of this sort, observed by the author, are cited. One of the children was large and presented all the characters of myxœdema, with considerable enlargement of the thyroid body, but no other appreciable change. The other child was small and atrophic, and had no myxœdematous characteristics, but there was extreme atrophy of the thyroid, such as has been described by Ord as occurring in myxœdema. He refers to Küster's recent observation of cachexia strumipriva following thyroidectomy in a boy, and concludes that, while observations on the part played by the thyroid in myxœdema require further proof, the subject promises to repay careful study.

MINOR PARAGRAPHS.

DR. BOWDITCH ON SECTARIANISM IN MEDICINE.

ON the occasion of the seventy-fifth anniversary of the founding of the Rhode Island Medical Society, last June, the venerable Dr. Henry I. Bowditch, of Boston, read an address entitled "The Past, Present, and Future Treatment of Homœopathy, Eclecticism, and Kindred Delusions which may hereafter arise in the Medical Profession, as viewed from the Standpoints of the History of Medicine and of Personal Experience." The address has now been published in the form of a pamphlet, including a long letter written in 1857 to Dr. Bowditch by Dr. James Jackson, of Boston, at that time the recognized leader of the profession in New England. Dr. Jackson's letter is a singularly clear and forcible defense of his own course in declining to treat sectarian practitioners on the plan of non-intercourse, and a demonstration of the folly of making a *casus belli* out of a disagreement as to matters of opinion. With this view Dr. Bowditch wholly coincides, and he traces in a most interesting manner the origin and progress of medical sects to the absurd and detrimental doctrines and practices formerly in vogue with the profession at large. It is only by virtue of their having been persecuted, he argues, that the sects have been enabled to hold to their existence and to raise up strife and bitterness in place of honorable emulation.

UNIFORMITY IN OBSTETRICAL NOMENCLATURE

IN behalf of the Edinburgh Obstetrical Society, Professor A. R. Simpson is sending circulars of inquiry to the various obstetrical teachers and authors in Great Britain and Ireland, with the view of obtaining their opinions as to the desirability of attempting some degree of uniformity in the use of obstetrical terms, as to the possibility of accomplishing the object, and as to the fitness of a short list of terms and definitions that accompanies the circular. It is to be hoped that this undertak-

ing will meet with abundant co-operation by the British profession, and it must be said that the designations given in the list are, so far as we can see, open to no serious objection. The great merit of the list is that no attempt is made in it to multiply terms to meet all conceivable conditions—a fault that, we are convinced, has blocked the progress of many an effort to secure uniformity in scientific nomenclature.

THE EASTERN DISPENSARY.

WE would call attention to an announcement that will be found in our advertising columns, setting forth a noteworthy change that is to be made in the constitution and status of the attending staff of the dispensary. It will be seen that salaries are to be given the appointees, and that daily service will be required of them. While the sums to be paid can not be called large, they are sufficient, in view of the certainty of their receipt, to lift much of the anxiety that is apt to weigh upon a young practitioner, and give a fresh foothold in the race for prosperity. The appointments are, as we have taken pains to ascertain, to be made on the basis of fitness alone, every reasonable means having been taken to do away with the possibility of favoritism. This new step is only one of several indications that have come to our knowledge that the Eastern Dispensary has systematically adopted a policy that can not fail to increase its usefulness and heighten the esteem in which it is held by its beneficiaries.

A NEW CENTRALBLATT.

No observer of our recent literature can have failed to be struck with the constantly widening field of the study of micro-organisms in their relations to the health of plants and animals. Perhaps the most notable sign of this growing attention to the subject is the appearance of a new journal devoted wholly to it, the "Centralblatt für Bacteriologie und Parasitenkunde," edited by Dr. Uhlworm, of Cassel, with the collaboration of Privy Councilor Leuckart, of Leipsic, and Staff Physician Loeffler, of Berlin, and published in Jena by Gustav Fischer. Several of the early issues of the "Centralblatt" have reached us, and we have been much interested in their examination. The first one opens with an article by Dr. Rudolph Leuckart, on the "Bothrioccephalus Question." A feature of remarkable excellence in the new journal is to be found in the extensive bibliographical lists prepared by the librarian of the Imperial Health Office, Dr. Arthur Würzburg.

THE CARTWRIGHT PRIZE.

THE committee of the Alumni Association of the College of Physicians and Surgeons, charged with the duty of passing upon the merits of essays submitted in competition for the Cartwright Prize, has acted wisely, we think, in extending the time during which essays may be presented. We do not suppose that this action will call out new competitors—i. e., those who have not before thought of competing—but it may serve to enable some painstaking authors to reconsider a conclusion to which they had unwillingly come, that the creditable completion of their essays within the time originally prescribed was impossible. It is to be hoped, therefore, that an essay really worthy of the prize will be forthcoming.

ITEMS, ETC.

The Hospital-Steward Corps of the Army.—It is stated that, in making arrangements to carry out recent Congressional action affecting the corps, the Surgeon-General has under con-

sideration the question of whether it is better to limit appointments on the corps to men who have seen military service, or to appoint civilians; also whether it would not be well to drop the designation of hospital-steward for that of apothecary.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Fourth Division of the Health Department for the following statement of cases and deaths reported during the two weeks ending March 22, 1887:

DISEASES.	Week ending Mar. 15.		Week ending Mar. 22.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever.....	6	3	10	4
Scarlet fever.....	43	8	51	11
Cerebro-spinal meningitis....	3	3	1	1
Measles.....	155	27	170	20
Diphtheria.....	96	48	79	35
Small-pox.....	11	0	5	3

The late Professor Flint.—A brass mural monument is to be placed in Bellevue Hospital, bearing this inscription:

"In Memory of

"AUSTIN FLINT, M. D., LL. D.

"Entering the profession with broad culture and thorough education, he remained an active physician to the last day of his life. As a medical writer, he added to the knowledge of the American profession. As a teacher, he was loved and respected by thousands of his pupils in all parts of the country. As physician to Bellevue Hospital for twenty-five years, he contributed largely to its reputation by his character, acquirements, labors, and wise counsels.

"Erected by the Commissioners of Public Charities and Correction.

"H. H. Porter, president; Thomas S. Brennan, Charles E. Simmons."

The Baltimore Microscopical Society has elected officers for the year 1887-'88 as follows: President, Professor George L. Smith; vice-president, the Rev. Edward Huber, D. D.; secretary and treasurer, Dr. Robert T. Wilson.

The Woman's Medical College of Pennsylvania.—The commencement exercises were held on Thursday the 17th inst. The degree in medicine was conferred on thirty candidates. The address to the graduates was delivered by Dr. Frances Emily White, Professor of Physiology.

A Letter from a Naval Surgeon has reached us, concerning which we are uncertain whether it was intended for publication or simply for our own information. It deals with the diagnosis in the case of an officer of the navy who died recently. If the writer (with whom we can not communicate privately, as we do not know his address) will acquaint us with his preference in the matter, we shall feel obliged.

Medical Registration in Maine.—The Legislature of the State of Maine recently passed a bill entitled "An Act to Regulate the Practice of Medicine," one of the provisions of which required the registration of practitioners of medicine. After the passage of the bill it was supposed that it had been signed by the Governor, but it now appears that he has vetoed it. The physicians of Portland freely express their condemnation of the Governor's course, but most of those who have spoken on the subject charitably assume that his action was inspired by injudicious advice rather than by evil intention.

The Prospects of Physicians in Germany.—A Berlin dispatch to one of the New York newspapers contains the statement that an organization of physicians in Germany has issued a document in which young men are advised not to

enter the medical profession, for the reason that "the prospects of doctors are becoming worse yearly."

The Remuneration of the French Professors, according to the "*Gazette hebdomadaire de médecine et de chirurgie*," has been fixed as follows: *Paris*.—Twenty-five professors of the first class, 15,000 francs each; seven of the second class, 12,000 francs each. *The departments*.—Three professors of the first class, 11,000 francs each; four of the second class, 10,000 francs each; eighteen of the third class, 8,000 francs each; eleven of the fourth class, 6,000 francs each.

Society Meetings for the Coming Week:

MONDAY, March 28th: Medical Society of the County of New York; Boston Society for Medical Improvement; Lawrence, Mass., Medical Club (private); Cambridge, Mass., Society for Medical Improvement.

TUESDAY, March 29th: Boston Society of Medical Sciences (private).

WEDNESDAY, March 30th: Auburn, N. Y., City Medical Association; Berkshire, Mass., District Medical Society (Pittsfield).

THURSDAY, March 31st: Cumberland, Me., County Medical Society (Portland).

FRIDAY, April 1st: Practitioners' Society of New York (private).

SATURDAY, April 2d: Clinical Society of the New York Post-graduate Medical School and Hospital; Manhattan Medical and Surgical Society (private); Miller's River, Mass., Medical Society.

Proceedings of Societies.

NEW YORK COUNTY MEDICAL ASSOCIATION.

Annual Meeting, January 17, 1887.

The President, Dr. CHARLES A. LEALE, in the Chair.

Election of Officers.—Dr. JOHN SHRADY was elected president; Dr. J. R. MCGREGOR, vice-president; and Dr. P. B. PORTER, secretary.

History of an Epidemic of Dysentery.—Dr. H. M. BIGGS read a paper in which he gave the history of an epidemic of dysentery in the almshouse on Blackwell's Island during the years 1884, '85, and '86. The number of deaths in the female department for June, 1884, was zero; 1885, 1; 1886, 13. For July, 1884, 4 deaths; 1885, 8; 1886, 17. For August, 1884, 9 deaths; 1885, 5; 1886, 4. For September, 1884, 10 deaths; 1885, 4; 1886, none. It would be seen that dysentery prevailed to a considerable extent in 1884 and 1885. It was supposed to be due to age, close quarters, coarse food, and especially hot weather. The sanitary condition was pronounced good by the sanitary authorities. But in 1886 there occurred an unusual number of cases of dysentery, the number of deaths in July reaching 17. The author then went on the service, when the weekly death-rate from dysentery was five or six, while the number of new cases weekly was from twelve to fifteen. This did not include the milder forms, which were numerous. Believing that dysentery was an infectious disease, due to some definite cause, the author made a close investigation. He found the wards much crowded, and the ventilation was far from good; aside from these facts, little fault could be found, for the wards were very clean, the food, though coarse, was good and well cooked, the water was the Croton, and the

drainage seemed to be good. It was found that the severe cases were mainly in a certain ward, the blind ward, and the patients of this ward used a closet separate from the rest. This closet was found to be in an exceedingly bad condition; it was not flushed, there was great accumulation of feces, and it gave forth an intolerable stench. It had not been cleaned since the preceding autumn, and it could not be completely emptied under the best of conditions. The closet was being constantly used by about eight hundred persons. At Dr. Biggs's request it was immediately washed out and disinfected, and the beds and vessels of the infected patients were cleansed. With the exception of one case, all the deaths from dysentery occurring after this were in patients who had previously contracted the disease. In other words, only one death occurred in patients who took the disease after the author began his service, and this death was not from dysentery, but from an accidental complication, namely, cerebral hemorrhage. From August 10th to September 5th there were no new cases. No more conclusive proof could be required to show that the cause of the epidemic was in this closet. But he would offer other proof. A number of autopsies were made, and the lesions found were always those of severe follicular and diphtheritic dysentery. The treatment found most successful before the disease had become chronic consisted in a combination of castor-oil and opium, and a strict milk diet. In the later stages bismuth was used in large doses, or nitrate of silver and opium, and in some cases enemata of starch and opium, with cocaine added. The history of this epidemic proved that dysentery was due to an active specific micro organism present in decomposing excrements. The author had not been able to demonstrate the micro-organism in this epidemic. He thought it might possibly be one of the organisms of putrefaction. The difficulty of isolating it from the stools was very great, owing to the almost innumerable germs constantly present even in the normal condition.

The President, referring to the persistency of the germs giving rise to dysentery, said he knew of houses in the city which, although apparently in the best condition, were shunned by renters because of the great death-rate which had occurred in them.

Dr. P. B. PORTER referred to an epidemic of dysentery in a village on Long Island where he, in connection with the sanitary authorities, had found sufficient cause in drainage from the closets into the wells.

Indiscriminate Cutting of the Meatus Urinarius.—Dr. J. W. S. GOUTLEY read a paper which was a plea against the indiscriminate cutting, and especially the over cutting, of the meatus urinarius. He had seen the penis of many men put in the condition of an old rubber hose, with the nozzle larger than the rest of the channel. Such treatment rendered the penis and its urethra inelastic, incapable of properly expelling the urine. He also disapproved of the passage of large sounds, overdistending the canal.

His remarks were supported by Dr. ALFRED L. CARROLL and Dr. JOHN SHRADY.

Extra-uterine Gestation.—Dr. GRAUER presented specimens from a patient who had died somewhat suddenly. At the autopsy a clot of blood was found in the peritoneal cavity, covering a fetus apparently of the seventh or eighth week. The site of rupture was near the body of the uterus, on the posterior wall of the Fallopian tube. He called attention to three points: The presence of the decidua vera in the uterus, the sympathetic enlargement of the body of the uterus, and the thinness of the posterior portion of the Fallopian tube at the site of rupture. The woman had borne two children.

Dr. JANEWAY presented, through Dr. Biggs, a specimen illustrating secondary multiple carcinoma of the liver with the

primary growth at the junction of the cystic with the common duct—a very unusual situation.

MEDICAL SOCIETY OF THE COUNTY OF KINGS.

Meeting of November 16, 1886.

The President, Dr. GEORGE R. FOWLER, in the Chair;
Dr. C. E. DE LA VERGNE, Secretary.

Perineal Abscess and Urinary Fistula, with Cases.—

Dr. F. W. ROCKWELL read a paper on this subject. [See page 337.]

Dr. JONES said that there were two points which Dr. Rockwell emphasized—the importance of an early recognition of the origin of the trouble, and prompt treatment. A short time ago he had presented a patient before the Brooklyn Pathological Society in which a perineal abscess had originated in one of the urethral follicles. He had not been treated early, and when he was treated the result had not been successful. He had had a stricture upward of a year, which from time to time had given rise to considerable obstruction. There had been a flow of urine, but when he came under treatment there was complete arrest of the flow, and it had accumulated in the bladder. The patient had died. He had, however, a complication of kidney disease not very marked. He thought that if the importance of incising the perinæum early were recognized, greater success would attend the efforts of the surgeon.

Dr. RAND asked whether Dr. Rockwell had experienced any difficulties after the operation—whether a fistula had been left after an operation for any appreciable length of time.

Dr. ROCKWELL said that the greater majority of cases had been very much like those he had described, an acute abscess and fistula existing for only a short time. He had operated on chronic fistulæ sent into hospital for treatment a number of times. One case only he recalled to mind where a fistula had remained unhealed for years, which had been operated on a few months ago, but it was yet too early to record the final result in this case. The fistula remaining after operation was so slight that it was hard to make the patient come to the office for treatment, and annoyed him very little and only occasionally, and it was a question whether it was not closed entirely. That was the only exception to the statement that he had made. They had always recovered with this exception, and he thought this one would. Judging from the experience of others and his knowledge of the literature of the subject, it was not at all rare to have fistula persist, but, as a rule, this was for the reason that had been stated—*i. e.*, the caliber of the urethra was not preserved at its full value. In the great majority of cases the fistula would be closed if this result of operative measures, properly conducted, was maintained.

Dr. RAND said that he had asked the question, because during the last year he had operated in a case that had proved an exception to the rule of prompt closure of the wound after perineal section, and he wished to know if Dr. Rockwell had had a like experience with any of his cases. A gentleman had consulted him nearly a year ago with symptoms pointing to stricture and perineal abscess. Some two years previously the patient had had similar symptoms, but less severe, and unaccompanied with retention of urine. At that time he had been treated by his family physician with poultices, etc. The abscess had finally evacuated itself through the perinæum, and a fistula, through which passed urine and pus, had been left for some weeks, but it eventually had closed. Since then he had had more or less difficulty in urinating, and when he sought medical aid there were retention of urine, a stricture of the membranous urethra, admitting only a whalebone guide, and

symptoms of perineal abscess. External perineal urethrotomy was done in the usual way, about an ounce of pus evacuated, and the stricture freely divided. The stricture was dense and fibrous, cut like cartilage, and was about three fourths of an inch in length. The patient made a good recovery, but urine in small quantity continued to pass through the perineal opening for four or five months after the operation. In spite of the application of various local stimulants, and the persistent use of a full-sized sound, a small opening still existed. It was impossible to pass the finest and most flexible probe or bougie far enough to reach the urethra, but he thought there must still be a communication with the urethra, although the patient had been unable to detect any urine issuing from the opening at any time during the last four months. A steel sound, 20 English, passed readily into the bladder, and, after the urethra had been let entirely alone for two months, a *bougie à boule* of the same size failed to detect any contraction. The original abscess and the cicatricial tissue resulting therefrom, through which the incision was in part made, might account for the slow and imperfect closure of the wound.

Dr. RAND had proposed that treatment some months ago, but the patient said he experienced no inconvenience, would not know that anything was wrong if he were not told, and objected to any such procedure.

Dr. ROCKWELL replied that that was just the class of cases in which the patient should be taught to use the catheter habitually to draw off the urine. By stimulating the fistula with concentrated tincture of cantharides, or by the use of the galvano-caustic wire, and dilating the urethra by passing proper-sized sounds or urethrotomes, much good could sometimes be done. Sir Henry Thompson had reported cases of fistulæ of much greater size than the one spoken of as cured in this way. He reported a case where the opening was one third of an inch in diameter, and the cure was effected by this plan. If the case was annoying, this treatment by stimulating the fistula would probably succeed.

Dr. JONES asked a question which was rather subsidiary to the main one, and that was in regard to the author's experience in the treatment of strictures in the pendulous portion of the urethra after division of the perinæum. He thought it was Mr. Harrison who had said that the treatment was much more rapid—that the urethra could only be treated antiseptically where the perinæum had been previously opened.

Dr. ROCKWELL thought that he would operate at once, unless from some condition of the patient or other cause rendering such a course inadvisable. He did not think the risks would be increased by so doing.

Dr. JONES said that the point he wished to bring out was that the cure of a stricture was accomplished more readily by having the urine pass through the perineal wound when the wound was not irritated by the passage of the urine.

Dr. ROCKWELL was familiar with the fact that that was a hobby of Harrison's. He had never had any serious results after ordinary urethral operations for stricture that he could not account for by disease of the kidney, or something in the nature of the disease or injury for which the operation was done.

NEW YORK CLINICAL SOCIETY.

Meeting of December 17, 1886.

The President, Dr. A. A. SMITH, in the Chair;
Dr. B. FARQUHAR CURTIS, Secretary.

A Case of Laryngeal and Pulmonary Phthisis with an Uncommon Cardiac Murmur.—Dr. W. H. KATZENBACH related the history of the case of F. S., male, aged seventeen years, a

native of Brooklyn, and by occupation a bartender, who consulted him at the Out-door Department of Bellevue Hospital, October 19, 1886. His father and mother had died at the age of thirty-three of consumption. A brother and sister younger than he were living, and in good health. The patient's habits were temperate. He had never had rheumatism. Two years ago he had cough and expectoration, which had lasted two or three weeks. Since then he had had occasional similar attacks, but of shorter duration. Six months ago he had regarded himself as well. Four or five months ago his present illness had begun with "tickling in the throat," cough, and vomiting in the evening. Expectoration had been slight. Two months later, the previous symptoms continuing, he had become quite hoarse rapidly. He had consulted a physician, who had "cut his palate." This had relieved the hoarseness for a time. Soon the cough and expectoration had increased; hoarseness had become more pronounced; appetite had failed; flesh and strength had diminished; fever during the day, and perspiration at night, had appeared; and he had been obliged to give up work.

On the speaker's first examination, the left side of the chest anteriorly was depressed, and its movements were restrained. Dullness was present over the whole left upper lobe, most marked over and adjacent to the heart. The respiration was broncho-vesicular over the region of dullness, and in addition there were heard high-pitched subcrepitant râles and there was increase of vocal resonance. Over the unaffected lobe of this side, and over the whole of the right side, the resonance was good. The respiratory murmur was obscured by abundant coarse, dry and moist râles. The heart impulse was perceived in the fourth and fifth left intercostal spaces, and was accompanied with a thrill or fremitus. The lowest point of beat was in the fifth space within the nipple-line. On auscultation, the sounds were very intense over the solidified lung, and over the region of greatest consolidation a rough murmur was heard, superficial and accompanying the first sound. It was limited to this locality, was not conveyed to the left nor toward the base of the heart. It was not modified by respiration, being as intense during inspiration as during expiration. It was probably produced by the movement of the heart against a solidified lung covered with a roughened pleura. On the evening of the meeting the large mucous and dry bronchial râles were not present. They had not been heard for a month. The remaining physical signs detailed above persisted. His appetite and strength were improving, and his disease was tolerated remarkably well. December 4th he had a slight blood-spitting. His hoarseness was due to laryngeal phthisis, third stage, for which he was under the care of Dr. E. H. Griffin.

Dr. C. D. SCUDDER expressed the opinion, with which Dr. W. B. ANDERTON agreed, that the murmur was pericardial.

The PRESIDENT considered it pleural, but thought it impossible, in most cases, to distinguish between pleural and pericardial murmurs.

Perforation of the Vermiform Appendix.—Dr. R. J. HALL presented two specimens, one of which was from the body of the patient the history of whose case had been reported at the meeting of the society in May, 1886; the other from the body of a patient in whose case he had recently performed laparotomy for peritonitis, and had removed the vermiform appendix (the perforation of which had caused the peritonitis), but had failed to save the patient.

Dr. J. W. WRIGHT asked if any operation had been performed upon the enlarged axillary glands in the man's case.

Dr. HALL replied that the patient had refused to have anything done.

A Three-Months Fœtus.—Dr. W. D. McKim presented a specimen with the membranes intact, with no placenta. There

had been no undue hæmorrhage, and the woman had not had any for several weeks.

Dr. WRIGHT had seen a seven-months fœtus with the membranes intact. He thought that in Dr. McKim's case there might easily be some placental tissue still retained.

The PRESIDENT said that he remembered several cases in which the placenta had been retained for two months or more, with an interval of two weeks or more in which there had been no hæmorrhage.

Dr. McKim said that he did not think it possible for the membranes to present such a clear external surface if they had been peeled from the placenta.

Parotitis complicating Gonorrhœa.—Dr. B. F. CURTIS read a paper on this subject. [See page 346.]

Dr. HALL thought that the notion of metastasis of inflammation caused by any sort of nervous influence was losing ground daily, for all the cases included in this category could be explained by a metastasis of the infecting microbes. He considered that many bacteria had a selective power, choosing the particular organ which they would attack, and it would therefore not be strange that the parotid alone should be inflamed. He did not think that the fact that the inflammation ended in resolution disproved its septic character.

Three Cases of Hydrocele in the Female.—Dr. WRIGHT related the histories of the following cases:

CASE I.—Mrs. F., American, the mother of four children, was seen March 10, 1868. There was a fluctuating tumor of the size of a pigeon's egg just above the inner half of Poupart's ligament on the left side, which had existed for several years. It had never been very troublesome, but had recently increased in size, and was then somewhat painful at times. There was no impulse, and it was irreducible. On aspiration with a fine needle, an ounce of clear, straw-colored serum was withdrawn. A compress and bandage were applied and rest was ordered. It refilled in two days. It was again aspirated, three drachms and a half of fluid were withdrawn, and the inside of the sac was scarified with the point of the needle. Three days later the sac refilled and inflamed. Lead and opium lotion was applied. In one week the fluid was reabsorbed.

Six months later (September) the patient reported that there had been no return.

CASE II.—Mrs. P., aged twenty-eight, married, English, was seen November 14, 1883. She had had two children, the eldest then three years of age. There was a soft fluctuating tumor of the size of a pigeon's egg in the right inguinal region, just above the middle of Poupart's ligament. The tumor seemed to consist of two portions—viz., a larger sac superficially, and a smaller one somewhat more deeply situated. There was no impulse, and the tumor was irreducible. The patient said the swelling had occasionally presented itself ever since the birth of her first child, and that she had been in the habit of pushing it back with her hand.

Three weeks before, while lifting one of her children, the present tumor had suddenly made its appearance, and she had been unable to reduce it as before; since then she had suffered more or less from colic, flatulence, constipation, etc. The tumor was sensitive to the touch, and the skin covering it somewhat inflamed from her frequent efforts at reduction. The patient was ordered to bed, with hips elevated, and an ice-bag to be applied to the swelling at intervals until the next day.

November 15th. The inflammation was lessened, and the tumor softer and smaller, but still irreducible. The larger sac was aspirated with a hypodermic needle and two ounces of clear straw-colored serum were drawn off. The smaller sac, evidently having no communication with the first, was aspirated sepa-

ately and found to contain half an ounce of similar fluid. The inside of both sacs was scarified with the point of the needle. After evacuation no hernia could be detected. A compress and spica bandage were applied, and rest in bed for one or two days was ordered.

18th.—Small sac had refilled. Aspiration drew off six drachms.

The patient was seen October 12, 1884. She had been confined since the last report. There had been no further trouble from the hydrocele.

July, 1886.—No return.

CASE III.—A Swedish woman, aged forty-two, unmarried, servant, was seen in consultation with Dr. C. E. Quimby in the summer of 1885. A fluctuating tumor about as large as the last joint of the thumb was found just above and parallel to Poupart's ligament on the right side, which had existed for some time, and which was troublesome from a sense of weight and dragging, hardly amounting to pain. The patient said she had been in the habit of putting it back herself, and stated that six or eight years before she had been operated on for hernia in the same place.

Dr. QUIMBY punctured the tumor with a hypodermic needle and drew off half a drachm of clear, amber-colored serum, which seemed to exhaust the sac. It, however, speedily filled again, and the little operation was repeated six times during the next eight days. Dr. Quimby informed the speaker, December 6, 1886, that he had frequently seen the patient since then—the last time a few days before—and that, to the best of his knowledge, the sac had never refilled or given any further trouble.

Dr. WRIGHT mentioned the following points as being of clinical interest:

1. The rarity of the affection. It had been ignored by most surgical writers until within the last few years. Fewer than forty cases had been reported.

2. The liability of its being confounded by the surgeon with irreducible hernia.

3. Its resemblance to strangulated hernia when suddenly inflamed.

4. The diagnosis being easily settled in doubtful cases by the hypodermic needle.

Multiple Sarcoma.—Dr. Wright reported the case of a trunk-maker, aged fifty, American, seen in 1877. A tumor of the size of an almond, that had developed in the right lateral half of the upper lip, under the wing of the nose, was removed in February, 1879.

In August, 1881, a similar growth was removed from near the inner canthus of the right eye, and one week later another from the right lateral half of the lower lip. In February, 1882, the last one, having returned, was again removed. In October, 1883, another was removed from the outer canthus of the right eye. In April, 1884, a growth of the size of an English walnut developed from the right wall of the pharynx (exact locality uncertain), and was removed with the cold snare by Dr. Seely, of Newark. In October, 1885, Dr. Rand and Dr. Seely, of Newark, removed a tumor of the size of a duck's egg from the substance of the right cheek.

Summary of Operations.—February, 1879, right half of upper lip; August, 1881, inner canthus of right eye; August, 1881, right half of lower lip; February, 1882, right half of lower lip; October, 1883, outer canthus of right eye; April, 1884, right wall of pharynx; October, 1885, substance of right cheek. Total number of operations, seven.

October 25, 1886.—The patient's condition was as follows:

1. A tumor of the size of a goose-egg in the substance of the right cheek.
2. One in each upper eyelid, of the size of an

- almond.
3. One in the left half of the upper lip, of the size of an almond.
4. One in the right axilla, of the size of an English walnut, which had been there for one year.
5. A lobulated growth, larger than a hen's egg, from the right lateral wall of the pharynx, apparently involving the tonsil and the arches of the palate, and connected with the base of the tonsil. General health fair; had lost some flesh lately; ate and slept well, and attended to his business. He had no pain and no glandular involvement, but there was a somewhat cachectic appearance.

On October 27th, under ether, the speaker removed the large tumor from the right cheek, exposing most of the muscles of the side of the face, such as the masseter, buccinator, zygomatics, levator labii superioris alaque nasi, etc.; also the growth from the right upper eyelid. Union by first intention took place throughout, and the patient was discharged in one week.

The structure of the tumor of the cheek varied from hard and firm to friable, and from that to semi-liquid or pulsatious. Microscopically, it presented the ordinary features of round-celled sarcoma, with a varying amount of connective tissue, and without well-marked alveolar spaces.

The points of clinical interest, from the standpoint of differential diagnosis, were:

1. Duration as compared with carcinoma.

2. Tendency to local recurrence after removal.

3. Absence of lymphatic complications, even after long duration, as compared with carcinoma.

4. Absence of secondary deposits in internal organs, so far as could be ascertained, or in external parts remote from the original seat of the disease (except the right axilla), as compared with carcinoma.

5. Absence of special constitutional participation until late in the disease (nine years in this case).

6. Disposition to increased rapidity in growth, date of recurrence, structure, and general resemblance to cancer in proportion to the period of existence and frequency of removal.

On December 4, 1886, the tumor of the pharynx was partially removed by Dr. D. B. Delavan, with the galvano-caustic knife, after preliminary tracheotomy. Discharged December 17, 1886, in good condition.

Multiple Asymmetrical Spongy Exostoses.—Dr. Wright mentioned the case of C. R., aged eleven years, whose parents were living and in good health. No hereditary history. He was born at seven months and a half of utero-gestation; was very small and emaciated at birth (weight not given); was nursed for three months and subsequently "bottle fed"; had "nursing sore mouth," and was regarded as a weak, feeble baby up to six months of age; had no teeth until one year old, then cut a number in rapid succession. When two years old he had severe epistaxis, lasting twelve hours, and leaving him very prostrate; had a similar attack between the fifth and sixth year, and another one year before. There was nose-bleed "by spells" for two days.

In general appearance he was tall, slender, but well formed. Complexion light, eyes blue, hair brown, teeth irregular from crowding, countenance intelligent and bright, and head large, but well formed. Occipito-frontal circumference, twenty-one inches; occipito-mental circumference, twenty-four inches. The spine was straight. The inferior angle of the left scapula was unduly prominent. The chest was well developed and generally symmetrical.

Further investigation revealed the presence of no fewer than ten exostoses connected with the different bones of the skeleton, as follows:

One, of the size of a pigeon's egg, on the inner surface of the right femur, one inch to the left of the middle line in front, and three inches above the articular surface of the inner con-

dyle. Occasionally while running, and when the leg was strongly flexed, "something would catch on this lump," and, being unable to extend the leg, he would fall down. He could release the limb by "taking hold of it with his hands."

One, of the size of a hickory-nut, on the inner side of head of the right tibia, one inch below the articular surface.

One, of the size of a large pea, on the palmar surface, near the ulnar border of the lower end of the left radius, half an inch above the wrist joint.

One, of the size of a large pea, on the anterior surface of the left fifth rib, just below the left nipple.

One, of the same size as the last, and just below it, on the anterior surface of the left sixth rib.

One, of the size of a filbert, on the inner surface of the right os brachii, just below the insertion of the pectoralis major tendon.

Two, each of the size of a pea, on the middle of the spines of the scapulæ.

Two, of the same size as the last, on the posterior border of the acromial end of the clavicles.

The tumors had been noticed for the last two or three years.

On the right side the three largest long bones were selected for the single tumors, and, with the exception of the tibia, the tumors were situated at a distance from the epiphyseal lines.

On the left side three comparatively small bones were selected for the single tumors, and in all of these the tumors had developed close to the epiphyseal line, as in the radius, or near the junction of cartilage with bone, as in the ribs, while in the two sets of double or symmetrical tumors the exostoses were situated, in the case of the clavicles, in bones which were among the earliest to complete their ossification, and whose acromial extremities were not developed from a separate center, but were a part of the center for the shaft, and which consequently had no epiphyses at these extremities.

The spines of the scapulæ were also in most cases ossified at birth, together with the other chief portions of the bone, the posterior borders, the inferior angles, the coracoid and acromial processes, ossifying and joining the bodies of the bones at a later period.

The points of clinical interest were:

1. Spongy exostoses were generally supposed to develop at the epiphyseal lines.

2. They most frequently occurred at the age of puberty.

3. When multiple, they were said to be distributed, for the most part, symmetrically.

4. The lower end of the femur, both ends of the tibia, and the upper end of the os brachii, were the sites usually selected.

The present case was, therefore, somewhat unique in regard to the age of the subject, the number and locality of the tumors, the bones selected and relation to epiphyses, want of symmetry, etc.

Foreign Body in Stenson's Duct.—Dr. Wright also reported the following case: January 13, 1886, Mr. D., American, aged thirty-eight, farmer, a man of intelligence and good habits, was brought to his clinic by Dr. H. S. Broadhead, of Walden, N. Y., and gave the following history: Three months ago, while eating a chestnut, he felt something prick the inside of his left cheek; attempting to dislodge it with his tongue, it gradually receded into the tissues. Three days later the parotid was swollen and painful, and pus began to discharge from the orifice of Stenson's duct, and had continued ever since. He believed that a living worm had taken up its abode in his cheek.

A probe was easily passed the full length of the duct, but failed to encounter any foreign body. The orifice of the duct was then freely excised, and a small amount of dark, gritty ma-

terial, imbedded in its walls, was removed with a sharp scoop. A few days later the parotid became acutely inflamed, and an abscess formed, and was opened externally. The pus contained the small bearded tail of a chestnut, together with a ragged piece of necrosed tissue, which was regarded by the country people as the body of a defunct thousand-legged worm, and was so reported in the local papers. The patient made a good recovery.

Dr. HALL asked as to the duration of the sarcomatous tumor before any increased growth took place. He had seen two cases which had been quiescent in this way for twenty years, and two for six years. He had also seen a recurrence of the growth after removal, after an interval of seven years, and many similar after somewhat shorter periods. The question arose as to whether these tumors were sarcomatous from the beginning, or changed in their nature.

Dr. WRIGHT replied that in his experience this period of long duration before rapid growth took place was a marked characteristic of sarcoma, as distinguished from carcinoma; as were also the tendency to local recurrence, the gradually shortening intervals between recurrences, and the gradually increasing malignancy of structure to be seen microscopically in the successive recurrent growths. This last point explained the confused state of the pathology of tumors, for the stroma of a sarcoma might gradually assume an alveolar structure resembling carcinoma.

Dr. H. M. BIGGS said that frequently in the examination of a tumor the first sections resembled sarcoma, but, when a large number of sections from all parts were examined, the characteristic stroma of carcinoma would be found. He thought this fact and careless examination might explain some of these cases, and yet he also had seen a case in which the tumor had been quiescent for eighteen years, but examination on removal proved it to be a mixed round- and spindle cell sarcoma.

Dr. HALL could not agree that it was the stroma of carcinoma which was characteristic; he considered the cells alone as characteristic.

Dr. WRIGHT also thought that the distinction between carcinoma and sarcoma lay in the cells.

BROOKLYN PATHOLOGICAL SOCIETY.

Meeting of December 9, 1886.

The President, Dr. BENJAMIN F. WESTBROOK, in the Chair.

Dr. A. H. BUCKMASTER, Secretary.

Carcinoma of the Pyloric Orifice of the Stomach.—Dr. JAMES INGALLS presented a specimen from the body of a patient who had come under the care of Dr. E. H. Hoxsie, November 4, 1886, with the following history: W. W., aged sixty-seven, carpenter, temperate; family history, as far as could be ascertained, good. The patient had always enjoyed excellent health up to last April; he then began to complain of anorexia, nausea, and vomiting, also a slight cough. Soon he began to emaciate, but had no pain in the epigastrium or anywhere else. During the summer he was treated by one or two physicians for "consumption." Gradually the vomiting became worse, the matter consisting for the most part of dark mucus and particles of undigested food; once or twice there had been hæmatemesis; the bowels had been constipated. When Dr. Hoxsie took the case, November 4th, the patient was much emaciated and unable to retain any food upon the stomach. In spite of the fact that there had been no pain, Dr. Hoxsie had made the diagnosis of carcinoma. The patient died November 10th, and the speaker was requested to make the autopsy.

Autopsy about twenty-four hours after death: Body much

emaciated; rigor mortis well marked; abdominal walls considerably retracted. Stomach distended and containing about forty ounces of very dark grumous fluid. Pylorus so nearly occluded by a carcinomatous growth that nothing of a larger caliber than a common-sized lead-pencil could be introduced. The walls of the stomach were considerably thickened for two or three inches above the pylorus. The duodenum was not involved. The lungs and spleen were normal. The liver was somewhat enlarged; otherwise it was apparently normal.

The speaker wished to call attention to the fact that the whole course of the disease had been painless. Delafield stated that pain was present in 92 per cent. of these cases, therefore the absence of this symptom was not *always* a sufficient reason for excluding carcinoma.

The PRESIDENT remarked that if Dr. Delafield referred to complete absence of pain, his statistics were not too high; but that slight pain was not uncommon. He had frequently discussed this point with the late Dr. Armor, who did not think the complete absence of pain would enable one to negate the diagnosis.

Dr. MOSHER asked if the mass could be felt from the outside, and was answered that it could not.

Ruptured Stomach and Ileum.—Dr. G. M. MINOR presented a specimen with the following history:

A school-boy, ten years of age, was brought in the ambulance to St. Peter's Hospital. He had been run over by a heavy truck, the wheel or wheels passing diagonally across his abdomen from left to right. He had vomited a quantity of undigested food, and urinated before coming to the hospital. When seen by the speaker he was suffering from shock, with an axillary temperature of 97° F. and a pulse of 128. He was conscious but very restless, and complained of slight pain in the region of the bladder. He was given an anodyne, and a large poultice was applied to his abdomen.

At 3 P. M., three hours after admission, he was restless and complained of pain: he was given ℥xv of Magendie's solution of morphia.

6.15 P. M.—Temperature 99° F., and pulse 104. Has been vomiting. No pain.

10.45 P. M.—Boy vomited; complained of no pain, although no Magendie had been given since 3 P. M. He had frequent desire to micturate, but there was no urine in the bladder. A soap and oil enema was given, with little or no effect. His respirations at this time were 50. The extremities were cold, and the axillary temperature was 103°; the pulse could not be counted. The pupils were somewhat dilated. He was given aromatic spirits of ammonia, ℥viiij, hypodermically. His breathing gradually became more shallow, and at 11.45 P. M. he died. The only sign of any injury on the body was a very slight abrasion midway between the anterior-superior spinous process and the umbilicus on the left side.

Post mortem examination showed the peritoneal cavity distended with fluid and undigested food, the stomach empty, with a rupture in the lesser curvature, and extending in the long axis of the organ. The intestines were ruptured in the ileum. The kidneys were congested.

Dr. MINOR had also made an autopsy for Dr. Whiting in a case giving the following history:

On March 4, 1886, Theo. D. fell from a wagon and was dragged for some distance through the street. He complained of pain in the lumbar region, and had several contusions on his body and one on his face, and was suffering from shock, but was perfectly conscious. He lived about six hours.

At the autopsy the abdominal cavity was found to be filled with a bloody fluid. The intestines were completely severed in the iliac portion. The omentum was ruptured in several places.

There had been considerable subperitoneal hæmorrhage. The right lobe of the liver was ruptured on the lower side in four places. The heart and lungs were normal.

Dr. JONES referred to recent observations by Dr. Freeman on the value of frequent micturition as a diagnostic symptom in these cases.

Dr. WUNDERLICH said that the difficulty was to distinguish between the shock caused by a severe contusion and that arising from rupture. Dr. Poland had reported three cases of ruptured stomach, four cases of ruptured duodenum, sixty cases of ruptured jejunum, and five cases of rupture of the large intestine. The jejunum nearly always ruptured at its junction with the duodenum. It was thought that the fixed position of the gut in this situation explained this tear. Hoffmann explained the rupture of the intestines by their being full and the force bursting them open. There had been reported a case where the rupture had occurred from vomiting, although there had been no previous disease.

The PRESIDENT thought that the rapid elevation of temperature could not be explained by the injury. He would like to know if the ear had been examined.

Dr. MINOR said that it had not.

The Relationship between Cardio-vascular and Renal Disease.—A paper with this title was read by Dr. GLENTWORTH R. BUTLER. [See p. 341.]

The paper was discussed by the PRESIDENT, Dr. MOSHER, and Dr. JONES.

PHILADELPHIA CLINICAL SOCIETY.

Meeting of February 25, 1887.

The President, Dr. JAMES B. WALKER, in the Chair.

Dr. MARY WILLITS, Reporting Secretary.

Artificial Feeding of Infants.—In introducing the subject, the PRESIDENT said that all would admit its importance, and that it depended upon (1) the inability of the mother to afford nourishment, (2) the demands of the child for the materials for growth, repair, and heat-production, and for protection from indigestion and the numerous disorders of malnutrition. The prominent indications of the non-agreement of any food were excessive colic, vomiting, and diarrhoea. The results were seen in loss of flesh, strength, vivacity, and color; non-development of the general body, or of parts, as of the teeth; retardation of infantile accomplishments, psychical or physical, or even loss of those which had existed. One or many of these conditions might exist, and call for attention on the part of the physician to the imperative needs of the little patient. In choosing a diet there was no established law, save that the food should be easily digested, non-irritating, and suitable for nourishment and heat-production. If the infant had been nursing its mother, the quantity might be alone at fault. In all such cases artificial food should be made to supplement and not replace the natural supply. The amount of artificial food must vary with each case, from every alternate feeding to two or three feedings daily. Should the quality of the mother's milk be at fault, or should she be unable to nurse her child from any other cause, a complete substitute must be furnished. Here unquestionably the best, because furnishing the most rational substitute, was the wet-nurse. But, rational though it was, it had objections which were sometimes insurmountable. Among these were the expense incurred, the difficulty of getting one whose milk was altogether satisfactory, or, this agreeing, the unsatisfactoriness of the individual herself, who, reins in hand, might, if inclined, drive the family to distraction. Apart from this, many mothers objected to having their little ones nurse at other breasts than their own, even when the substitute was cleanly in person, character, and

habits, and much more so if doubt existed, as it often must, upon these scores. While not decriing wet-nurses, indeed while maintaining that for some infants they were the only means of salvation, the speaker thought that in most instances they were not indispensable.

In choosing a substitute for human milk for healthy children, the speaker did not approve of the so-called infant-foods, manufactured on a large scale, and kept on the druggists' shelves. These substances, many of which had much virtue, found a sphere in the management of the sick, but, as a rule, might be eschewed in arranging a food for the well. For most babies condensed milk answered best for the first three to six months of life. Here, again, a choice might be made. There were several varieties of this food, most of which were supplied in quantities to grocers and druggists, and lay for an indefinite time on the shelf or counter, during which time they were liable to deterioration. This was not a matter of theory, but had been proved in more than one instance by an attack of severe indigestion and diarrhœa on using the contents of a new can. The brand most satisfactory in the speaker's experience was Canfield's, which was manufactured in Philadelphia, and was for sale only at the manufacturer's office, where its freshness and purity were guaranteed. Or, if the sweetness of the condensed milk was an objection in an individual case, the "evaporated cream," a partially condensed milk prepared by the same firm, might be used, having it served fresh every day, or every alternate day. Unquestionably, condensed milk was preferable for the young infant to the fresh (?) milk furnished by the middleman in our large cities. If a child taking condensed milk was constipated, a small quantity of Mellin's, Horlick's, or Nestlé's food might be used in each bottle, and would usually be all-sufficient. At least, until a food had proved satisfactory, the infant should be weighed at the end of each week, and should gain from three or four ounces to a pound weekly. If severe colic, vomiting, or diarrhœa occurred without cause—such as teething or exposure—some change was indicated. This would usually be the case, where condensed milk was the diet, somewhere from the third to the eighth month. The addition of oatmeal to the food might be all that was needed. It should be thoroughly cooked for three hours, then strained through a cloth, producing a white, semi-translucent substance, of about the consistence of starch as used by the laundress. Of this from one to three tablespoonfuls might be added to each bottle, according to the age of the child and its power of digestion. Lime-water was an important addition to the artificial food, and should be used continuously for the first ten or twelve months. In most instances fresh cow's milk would have to be substituted for the condensed milk when the latter disagreed, or this, if obtainable pure, might be used from the first. This should be diluted to suit the age, and there should be added sugar, lime-water, and from a teaspoonful to two tablespoonfuls of cream to each bottle, varying the amount to suit the condition of the bowels. After the third month, or even before, some of the oatmeal gruel, prepared as already directed, might be added. In cities all the water used in preparing the food should have been previously boiled. Sometimes an irritable state of the bowels, induced by one of many causes, might be benefited by the substitution for a few hours of barley water, arrowroot-water, or gum-arabic water, and, on resuming the milk-food, one of the above-mentioned waters might be used as the diluent, instead of plain boiled water. Sometimes the use of peptonized milk, diluted with barley-water, or the addition to the milk-food of the "peptogenic milk powder" of Fairchild Brothers & Foster, might be required for a shorter or longer period. In the artificial feeding of infants the plain nursing-bottle, with a pure rubber nipple, was better than

spoon-feeding, giving exercise to the masticatory apparatus, and stimulating the salivary function to more rapid development.

The subject was discussed by the different members, and the experience of each one was that cow's milk, in some form, was the best food for a child who must be artificially fed.

Dr. ANNA McALLISTER spoke of some interesting experiments which had been tried at the New York Infant Asylum under the supervision of Dr. J. Lewis Smith, where, in several autopsies on artificially fed infants, it was found that in those fed on starchy food the pancreas was very small, seemingly arrested in its development, while in those fed upon condensed milk the organ was normal in size.

Hydrochloride of Pilocarpine in Uræmic Convulsions.—

Dr. EDWARD R. STONE reported the history of a case occurring in a child six years of age, in which convulsions had occurred during an attack of nephritis following scarlet fever. A hypodermic injection of one twelfth of a grain of the drug had given satisfactory results. The child had been in convulsions all day, but they were speedily checked by the administration of the remedy, salivation and diaphoresis setting in almost immediately. Basham's mixture was used afterward, and the child made an uninterrupted recovery.

Book Notices.

A Clinical Manual of the Diseases of the Ear. By LAURENCE TURNBULL, M. D., Ph. G., Aural Surgeon to the Jefferson Medical College Hospital, etc. With a Colored Lithographic Plate and Numerous Illustrations on Wood. Second revised Edition. Philadelphia: J. B. Lippincott Company, 1887. Pp. xxii + 17 to 567. [Price, \$3.]

THE first edition of this work was published in 1872, and the author informs us in the preface that in the fifteen years which have elapsed seventeen hundred copies have been sold. This second edition contains very little that is new. The brief introduction of eight pages has been rewritten, but Chapters I to XIX, inclusive, are entirely unchanged, having been printed *verbatim* from the first edition. At the end of Chapter XIX, on deaf-mutism, fourteen pages of new matter have been added on the subject of the education of deaf mutes. Chapter XX, which is a *résumé* of the causes, prognosis, and treatment of the more frequent diseases of the ear, has been rewritten and enlarged. Chapter XXI, on desquamative inflammation of the external auditory canal, membrana tympani, and middle ear, on contraction of the external auditory canal, and on the functions of the membrana tympani, is new. Chapter XXII, on syphilis and mumps as causes of disease of the internal ear, on the surgical operations upon the mastoid, and on malarial otitis, is also new. But these last three chapters consist mainly of reports of cases, and are of but little value. The author makes the rather astonishing statement that he has never seen or known of a case of ear disease developed by an overdose of quinine, for such cases are by no means very rare, and a number of them have been carefully reported by most competent and reliable observers. The author is to be commended for his statements in regard to the uselessness of calomel sulphide in purulent disease of the mastoid and middle ear, and also for his condemnation of the dangerous operation recommended by Sexton for the relief of chronic purulent inflammation of the middle ear. An appendix to the book treats of cocaine as an anæsthetic agent, of Sheppard's solution of the peroxide of hydrogen and boric acid in chronic purulent inflam-

mation of the middle ear, of diphtheritic inflammation of the nasal passages, and of the best methods of illumination of the ear and nasal passages, and contains some good illustrations.

Diseases of Tropical Climates. Lectures delivered at the Army Medical School. By WILLIAM CAMPBELL MACLEAN, M. D., C. B., Surgeon-General, late of the Indian Army, etc. London and New York: Macmillan & Co., 1886. Pp. ix-340. [Price, \$3.]

It is a little curious in reading this work on the diseases of India to find that almost every chapter treats of the diseases common in this country. We have chapters on malarial fevers, typhoid, febricula, yellow fever, dengue, cholera, sunstroke, diarrhoea, and dysentery, and a considerable space devoted to abscess of the liver. Most of these chapters, while clearly written and containing sound views, are no better than those found in many other works. It is needless to speak of them in detail. In regard to the mode of spread of cholera, the author is decided in his views that the poison passes from one person to another through the medium of food or drink contaminated by excreta. He does not seem to regard Koch's bacillus as being conclusively proved to cause the disorder. The chapters on diarrhoea and dysentery well repay study, as they contain much of practical importance to physicians in this country. The same may be said of the article on abscess of the liver and its surgical treatment. Taken as a whole, the book is a satisfactory one. The style is concise and interesting, and one is impressed with the frankness and fairness of the author in dealing with disputed points.

BOOKS AND PAMPHLETS RECEIVED.

A Case of Ante-partum Hæmorrhage at Term; Recovery. By Augustus V. Park, M. D., of Chicago. [Reprinted from the "Journal of the American Medical Association."]

Practical Pathology: an Introduction to the Practical Study of Morbid Anatomy and Histology. By John Lindsay Stevens, M. D., Assistant to the Professor of Clinical Medicine in the University of Glasgow, etc. New York: Macmillan & Co., 1887. Pp. xvi-266. [Price, \$1.75.]

Litholapaxy in Male Children and Male Adults. By Surgeon-Major D. F. Keegan, M. D., Dub. Bengal Medical Service. [Reprinted from the "Lancet."]

Cyclopædia of Obstetrics and Gynecology. Anatomy of the Internal and External Genitals, Menstruation and Fecondation, Normal Pregnancy and Labor, being Volume I of a Practical Treatise on Obstetrics. By Dr. A. Charpentier, Adjunct Professor at the Faculty of Medicine, Paris. Translated under the supervision of, and with notes and additions by, Egbert H. Grandin, M. D., Obstetric Surgeon to the New York Maternity Hospital, etc. In Four Volumes. Two Hundred and Sixty-seven fine Wood Engravings and Four Colored Plates. New York: William Wood & Co., 1887. Pp. x-3 to 509.

The Medical Student's Essentials of Physics and Chemistry. By Condict W. Cutler, M. S., M. D., Physician to the New York Dispensary, etc. New York: J. H. Vail & Co., 1887. Pp. xi-468.

A Compend of Electricity, and its Medical and Surgical Uses. By Charles F. Mason, M. D., Assistant Surgeon, U. S. Army. With an Introduction by Charles H. May, M. D., Instructor in Ophthalmology, New York Polyclinic. Philadelphia: P. Blakiston, Son, & Co., 1887. Pp. xv-17 to 108. [Price, \$1.]

A Compend of Obstetrics, especially adapted to the Use of Medical Students and Physicians. By Henry G. Landis, A. M., M. D., late Professor of Obstetrics and Diseases of Women in Starling Medical College, etc. Third Edition. Thoroughly revised; with new Illustrations. Philadelphia: P. Blakiston, Son, & Co., 1887. Pp. viii-9 to 118.

The Determination of the Necessity for wearing Glasses. By D. B. St. John Roosa, M. D., LL. D., Professor of Diseases of the Eye and Ear in the New York Post-graduate Medical School and Hospital, etc.

Detroit: George S. Davis, 1887. Pp. 73. [The Physicians' Leisure Library.]

Granular Lids and Contagious Diseases of the Eye. By W. F. Miltendorf, M. D., Ophthalmic Surgeon to the New York Eye and Ear Infirmary, etc. Detroit: George S. Davis, 1887. Pp. 110. [The Physicians' Leisure Library.]

Fourth Annual Report of the New York Skin and Cancer Hospital. The Treatment of Hernia by Subcutaneous Injection. By W. B. De Garmo, M. D., Instructor in the Treatment of Hernia at the New York Polyclinic. [Reprinted from the "Medical Record."]

Remarks on the Relation of Menstruation to the Sexual Functions. By William M. McLaury, M. D., New York. [Reprinted from the "American Journal of Obstetrics and Diseases of Women and Children."]

Periostitis. By N. Senn, M. D., Milwaukee, Wis. [Reprinted from the "Philadelphia Medical Times."]

Can the Cæsarean Section be safely substituted for Craniotomy in the United States at the Present Time? By Joseph Taber Johnson, M. D., Washington. [Reprinted from the "Journal of the American Medical Association."]

Annual Report of the Health Officer of the City of Burlington, Vt. January 1, 1887.

Certain Peculiar Features of Bronchitis as it occurs in Children. By S. Henry Dessau, M. D., New York. [Reprinted from the "Archives of Pediatrics."]

Miscellany.

The Treatment of Phthisis by Enemata of Hydrogen Sulphide.—At a recent meeting of the Philadelphia County Medical Society, the president, Dr. J. Solis-Cohen, said that he had expected to exhibit Morel's apparatus for administering gaseous rectal injections, according to Bergeon's method, in diseases of the respiratory passages and in blood-poisoning; but, as it had not been forwarded from the Custom-House, he would show a substitute made in imitation. The object in view was to supply to the venous circulation an antiseptic, such as sulphureted hydrogen, in sufficient doses to be effective; a result impossible when it was supplied directly to the arterial current, as that plan would poison the patient. Sulphureted hydrogen inhaled in far less than sufficient doses would suffocate the patient; taken by the stomach, it would produce other serious results. Administered by the bowels, however, and entering the venous current already deteriorated by organic refuse, it was quickly eliminated by the respiratory tract, which thus became subjected to its beneficial local antiseptic effects without subjecting the system at large to injury, as when it was thrown into the arterial current. In other words, the parasite was killed, and not the patient.

Its beneficial effects in phthisis were explained by the action of the gas on the suppurative and septic surfaces, and not by any influence on the *Bacillus tuberculosis*; the consumption proper, the exhaustion, being due to the suppuration and to the consequent septicæmia, and not immediately to the bacillus, which, while it produced the destruction of tissue, did not produce the morbid phenomena. The method of administration took advantage of the discovery announced by Bernard, in 1857, that toxic material introduced into the economy through an organ at a distance from the arterial system could not penetrate into the arterial system, because it was eliminated before that system could be reached. Volatile substances were eliminated by the pulmonary alveoli.

The antiseptic substance employed was preferably sulphureted hydrogen. This was propelled by means of a current of carbonic acid. It was important that the carbonic acid be freshly made, and that the injection be made without any admixture of atmospheric air, the presence of which would cause griping.

The carbonic-acid gas evolved from the action of dilute sulphuric acid upon sodium carbonate was collected in a rubber bag previously emptied of air by rolling it. This bag was then connected with a hand-ball compressor, by means of which the gas was propelled through natural sul-

phurous water in a sort of Wolfe bottle, driving off the sulphurous gas with it through a tube, the terminal extremity of which had been passed into the rectum. Within less than a minute the escape of the gas by the lungs could be detected in the breath.

The beneficial results produced in pulmonary phthisis by Dr. Bergeon, and reported last July to the Académie des sciences, had been confirmed by Professor Cornil, in a communication, last October, to the Académie de médecine, by numbers of French physicians, and by Dr. Hughes Bennett, of Mentone. Bergeon stated that the patients he considered practically cured had no more expectoration, and only dry auscultatory signs of cicatrizing cavities, or other cicatricial results of old lesions. Some of them had become able to resume tolerably laborious employment, with full maintenance of the amelioration they had acquired.

In most patients, it was said, there was a marked diminution of cough, expectoration, and night-sweats within two or three days. Nevertheless, the trifling expectorations of those apparently practically cured continued to contain bacilli. This fact might be taken both as an indication that the immediate danger in phthisis was less from the bacilli than from the septicæmia which they set up, and as an indication that this protective treatment, when successful, should not be discontinued until the general healthiness of the tissues was sufficiently restored to resist the further development and sustenance of the bacillus.

In the discussion, Dr. William Osler said that a patient at the University Hospital had lately very nearly died after an injection of a mixture of carbon dioxide and sulphureted hydrogen. Evidently the amount of sulphureted hydrogen which was given must be small. At the Biological Society, of Paris, some experiments had been related which showed that even a few cubic centimetres were sufficient to poison a good-sized dog. In the experiences which had been related in French journals, the odor of sulphureted hydrogen was readily observed in the breath, but he had not noticed this in any of the Blockley patients. This was an exceedingly interesting, not to say comical, method of treating phthisis, but it was too early to say what the results were likely to be. Certainly, however, in Dr. Bruen's hands, at the Philadelphia Hospital, they had been extremely good.

The Ninth International Medical Congress.—The following scheme of subjects for papers and discussions in the Section in Medical Climatology and Demography is announced: I. Importance of the study of climatology and demography in connection with the science of medicine. II. What constitute determinate climatic characteristics? III. The effects of climate on the human race as manifested in local demographic conditions; and of the several elements of climate as shown by coincident meteorological, morbidity, and mortality statistics. IV. The question of acclimation. V. Relative advantages of mountain and seaside resorts for recuperative purposes and as palliative or curative in certain diseased states of the system—segregation *versus* aggregation of invalids at health stations. VI. The therapeutic value of natural mineral waters. VII. Accurate records of prevailing sickness in any community a necessary factor in any comprehensive system of vital statistics. The responsibility of governments to amply supply their people with the climatic and vital statistics of their respective countries. VIII. Collective investigation, apart from aiding the study of the natural history of disease, as contributive of numerical data having a demographic bearing, 1, as to the kinds and proportions of prevailing diseases; 2, as to the absolute amount of daily sickness and consequent loss of time, occupation, etc. IX. Medical nomenclature considered in its practical relations to vital statistics. X. The melioration of demographic conditions effected by preventive medicine. Influence of the physical well-being of a population upon its economy. Offenses against moral and civil law in their medical relations to demographic circumstances.

The New York College of Pharmacy.—The fifty-seventh annual commencement exercises will be held at Steinway Hall on Tuesday evening, the 29th inst.

The Medicine of the Talmud.—Dr. Carl H. von Klein, of Dayton, Ohio, informs us that, having often been urged by physicians to translate and publish those portions of the Talmud that relate to medicine

and hygiene, provided that, prior to the undertaking, he receives a thousand subscriptions for the book, at a rate not exceeding \$1 for each hundred pages of the book, Dr. von Klein may be addressed at 110, East Second Street, Dayton, O.

The Paris Faculty.—According to "L'Union médicale," M. Lannelongue has been elected to succeed the late M. Bécclard as a member of the Academic Council.

The Health of San Francisco.—According to the Health Department's "Condensed Statement of Mortality," for February, the whole number of deaths reported during the month was 451, including 1 from cholera morbus, 3 from cholera infantum, 30 from croup and diphtheria, 2 from cerebro-spinal meningitis, 1 from dysentery, 1 from erysipelas, 9 from typhoid fever, 2 from pyæmia, and 3 from septicæmia.

Health Reports from Abroad.—By direction of the Secretary of the Treasury, Dr. John B. Hamilton, Surgeon-General of the Marine-Hospital Service, has issued the following abstract of sanitary reports received from foreign countries during the week ending March 17th:

England and Wales.—The deaths registered in twenty-eight great towns of England and Wales during the week ending February 26th corresponded to an annual death rate of 21·3 in a thousand of the aggregate population, which is estimated at 9,245,099. The lowest death rate was recorded in Nottingham, viz., 13·5, and the highest in Huddersfield, viz., 33 in a thousand.

London.—One thousand six hundred and ninety deaths were registered during the week ending February 26th, including 52 from measles, 17 from scarlet fever, 14 from diphtheria, 35 from whooping-cough, 10 from enteric fever, 17 from diarrhœa and dysentery, and 1 from cholera infantum. There were 466 deaths from diseases of the respiratory organs. Different forms of violence caused 55 deaths, and 6 suicides were registered. The deaths from all causes corresponded to an annual rate of 20·9 in a thousand. In greater London, 2,052 deaths were registered, corresponding to an annual death rate of 19·8 in a thousand of population. In the outer ring, 12 deaths from measles and 4 from diphtheria were registered.

Ireland.—The average annual death rate represented by the deaths registered during the week ending February 26th, in the sixteen principal town districts of Ireland, was 29·5 in a thousand of population. The lowest rate was recorded in Armagh, viz., 0, and the highest in Kilkenny, viz., 42·3.

Dublin.—Two hundred and eight deaths were registered during the week ending February 26th, including 2 from scarlet fever, 2 from whooping-cough, 5 from enteric fever, 3 from simple continued and ill-defined forms of fever. In forty instances the cause of death was uncertified, there having been no medical attendant during the last illness. The deaths from all causes corresponded to an annual rate of 30·7 in a thousand.

Scotland.—The death rate in eight principal towns during the week ending February 26th was 22·5 in a thousand of the aggregate population, which is estimated at 1,299,000. The lowest mortality was recorded in Greenock, viz., 11, and the highest in Aberdeen, viz., 33·7 in a thousand. The aggregate number of deaths from all causes registered was 562, including 30 from measles, 17 from scarlet fever, 3 from diphtheria, and 33 from whooping-cough.

Germany.—The deaths registered in fifty-one cities of Germany, having an aggregate population of 6,696,702, during the week ending February 12th, corresponded to an annual death rate of 24·5 in a thousand. The lowest rate was recorded in Carlsruhe, viz., 13·6, and the highest in Frankfurt, viz., 44·4 in a thousand. During the week ending February 19th, the deaths from all causes in fifty cities corresponded to an annual rate of 24·3 in a thousand. The lowest rate was recorded in Carlsruhe, viz., 14·4, and the highest in Bochum, viz., 39·8 in a thousand.

Gibraltar.—Four hundred and two deaths were registered in the fixed civil population, which was estimated at 18,381 during the year 1886, corresponding to an annual death rate of 21·8 in a thousand. In the military population, which was estimated at 5,234, 64 deaths were registered, corresponding to an annual rate of 12·2 in a thousand. The aggregate number of deaths from all causes included 5 from whooping-

cough, 13 from diphtheria, 6 from enteric fever, 4 from epidemic diarrhoea, and 1 from dysentery.

Calcutta.—Two hundred and thirty-seven deaths were registered during the week ending January 22d, including 18 from cholera, 62 from fevers, 38 from bowel complaints, and 30 from tetanus.

Guayaquil.—One hundred and sixty-two deaths were registered during the two weeks ending February 17th, including 46 from yellow fever, 20 from small-pox, and 34 from enteric fever.

Havana.—The United States Sanitary Inspector reports for the month of February 416 deaths from all causes, including 6 from yellow fever, 7 from enteric fever, 5 from pernicious fever, 2 from diphtheria, 3 from croup, 2 from measles, and 1 from hydrophobia. One death from yellow fever was reported for the week ending March 3d.

Esseg, Austro-Hungary.—There were 18 cases of cholera and 6 deaths from that disease in the almshouse hospital from January 27 to February 7, 1887, but no cases in the city proper.

La Paz, Bolivia.—The United States minister at La Paz, in his dispatch dated February 6th, states that "the cholera is the all-absorbing question of the day. The Government has organized very stringent preventive regulations, and is anxious that other nations should not disapprove of them. While they weigh very heavily on commerce, the people generally are inclined to approve of them. When the disease assumed an alarming shape in the Argentine confederation non-intercourse was proclaimed by the Bolivian Government, and maintained by a cordon of the military. . . . The port of Arica, near Tacna, though closed to northern vessels, being open to the south, is liable to be infected at any moment. Hence, a military force guards the mail route to La Paz, and prohibits all ingress from that direction. . . . The moment a case occurs, either in Arica or Tacna, liable any day, the steamer on the lake will be stopped, and intercourse with Mollendo and Arequipa suspended, thus cutting off communication with Mollendo, if open, and with both mail and cable routes to the rest of the world. Bolivia will then be completely isolated. Can the cholera be kept out? This is an important question, because places of refuge in Bolivia are wanting, and most of the cities are so filthy or fall easy victims to the plague. . . . In two months more the cold weather may prevent its spreading to the northward, and thus save Arica, Tacna, and Bolivia. But if it should escape to Mollendo and northward, there is nothing to prevent its spreading all along the warm countries of the western coast, and remaining there indefinitely."

Santiago, Chili.—The United States minister, in his dispatch, dated January 15th, states that "cholera is slowly extending along the valley of the Aconcagua, following the course of the river toward the sea, near Valparaiso. About 600 cases have so far been reported, of which about 250 have proved fatal. The victims are almost exclusively confined to the poorer classes of people. Every precaution possible has been taken by the authorities to check the spread of the disease, and stringent sanitary measures adopted, especially in the cities of Santiago and Valparaiso, which for the last month show a death rate less than has ever been known at this season. The following dispatch from Iquique, dated January 5th, appeared in the press of this city: 'The Peruvian Government has decreed to take active measures against the cholera, and has ordered the closing of all the ports against vessels coming from infected countries.' This very extraordinary and premature action of Peru, in closing all her ports against vessels from the ports of Chili, with its vast line of sea-coast of over 2,500 miles in extent, and stretching along the Pacific from Arica, on the borders of Peru, to Cape Horn, because cholera appeared in a section of Chili, midway between the points mentioned, may be likened to a European nation closing its ports to vessels from the United States because cholera had appeared in Connecticut. It is unnecessary for me to point out how very seriously this action of Peru affects our interest. All the steamship lines have been withdrawn from the route between here and Panama, so that the Pacific from Panama to Cape Horn is practically closed to our commerce and communication by steam. All the traffic and commerce from this coast have now to go to Europe, and this dispatch will leave Valparaiso on the 18th instant for Lisbon, thence by rail to Paris and Calais, thence by Liverpool to New York, and will probably take fifty days alone in transit."

Callao.—The United States consul, in his dispatch dated February

19th, states that no cases of cholera have appeared in Peru. The latest official intelligence is contained in the following cable messages from Santiago, dated February 15th, and from Valparaiso, under the same date: "*Santiago*.—From Saturday to Monday noon, 435 cases and 213 deaths. It is difficult to obtain exact data." "*Valparaiso*.—I have visited the lazaretto, established on the Baron hill. Seven cholera patients. Freight from Santiago enters free. Passengers quarantined for twenty-four hours." The minister reports that the health of Lima and Callao is exceptionally good. Strict sanitary precautions and hygienic regulations are still observed.

Paris.—One thousand two hundred and eleven deaths were registered during the week ending February 26th, including 4 from small-pox, 17 from whooping-cough, 42 from enteric fever, 6 from scarlet fever, 55 from diphtheria, 219 from consumption, 86 from pneumonia, and 117 from diseases of the cerebro-spinal apparatus.

Reims.—Fifty-six deaths were registered during the week ending February 26th, including 1 from small-pox, 2 from whooping-cough, 2 from enteric fever, and 2 from diphtheria.

Genoa.—One hundred and thirty deaths were registered during the week ending February 26th, including 3 from small-pox and 2 from enteric fever.

Leghorn.—Eighty-two deaths were registered during the week ending February 27th, including 1 from enteric fever. There were 3 cases of small-pox, but no deaths reported from that disease.

Rome.—One hundred and sixty-three deaths were registered during the week ending January 15th, including 2 from small-pox, 3 from enteric fever, 1 from scarlet fever, and 6 from diphtheria.

Guaymas.—Thirty-four deaths were registered during the month of February, including 8 from small-pox.

Bristol.—One hundred deaths were registered during the week ending February 26th, including 5 from scarlet fever. One case of small-pox was reported.

Warsaw.—Two hundred and twenty deaths were registered during the week ending February 19th, including 6 from small-pox.

Glasgow.—Two hundred and fifty deaths were registered during the week ending February 26th, including 3 from scarlet fever and 2 from diphtheria.

Edinburgh.—One hundred and four deaths were registered during the week ending February 26th, including 1 from typhus fever and 11 from scarlet fever.

Leith.—Twenty-seven deaths were registered during the week ending February 26th, including 2 from enteric fever.

Palermo.—One hundred and fifteen deaths were registered during the week ending February 26th, including 7 from diphtheria.

Leipsic.—Seventy-one deaths were registered during the week ending February 26th, including 5 from diphtheria.

Toronto.—Forty deaths were registered during the week ending March 5th, including 2 from enteric fever and 7 from diphtheria.

MORTALITY TABLE, FOREIGN CITIES.

CITIES.	Week ending—	Estimated population.	Total deaths from all causes.	DEATHS FROM—						
				Cholera.	Yellow fever.	Small-pox.	Typhus fever.	Enteric fever.	Scarlet fever.	Diphtheria.
Calcutta	January 22.	433,219	237	14						
Guayaquil	February 10.	35,000	70							
Guayaquil	February 17.	35,000	92							
Paris	February 23.	2,360,045	1,211							
Reims	February 23.	98,083	56							
Genoa	February 26.	179,403	130							
Leghorn	February 27.	101,172	82							
Rome	January 15.	364,511	163							
Bristol	February 26.	223,045	100							
Warsaw	February 26.	431,572	220							
Glasgow	February 26.	545,678	250							
Edinburgh	February 26.	258,620	104							
Leith	February 26.	72,297	27							
Palermo	February 26.	251,000	115							
Leipsic	February 25.	170,000	71							
Toronto	March 5.	120,000	40							
Rottterdam	February 19.	190,521	93							
Kingston, Canada	March 11.	15,109	15							
Havre	February 23.	112,074	65							
Rottterdam	February 12.	190,521	88							
Cardif	February 23.	65,028	54							
Gi'braltar	February 23.	23,631	11							
Matamoros	March 5.	12,000	5							

Original Communications.

ANTISEPTICS IN PRIVATE PRACTICE AND EMERGENCIES.*

By ARPAD G. GERSTER, M. D.

I. OPERATIONS IN PRIVATE PRACTICE.

KNOWING that the number of earnest advocates and successful practitioners of surgical cleanliness or asepticism is steadily growing, and fully aware of the great difficulties met with by the general practitioner in securing cleanliness about the wounds intrusted to his care, I beg to contribute the result of twelve years' surgical work, as far as it relates to antiseptics in private practice and in emergencies. The practical conclusions arrived at have been bought at the cost of much hard work among poor and rich, under most varying conditions of poverty or affluence, and have been abundantly proved to be worthy of commendation.

The brevity of the time allotted on this occasion does not permit me to enter fully into the detail of the preparation of dressings, and all the appurtenances of antiseptic practice. It may suffice to say that the practitioner can procure, manufacture, and prepare most of the essential paraphernalia at his own home. By timely preparation he will be enabled to meet successfully any emergency, and the little trouble and preliminary expense will be well rewarded by a sense of security and competence on one hand, and by good results on the other.

Among the many articles needed by the surgeon, I shall select *the dressings* as one of the most important subjects.

Gauze—that is, *cheese or tobacco cloth*, as it is called by the trade—can be procured at any dry-goods store for a trifling sum of money. Twenty-five yards of this fabric are divided into four equal parts. Each of these is folded eight times, and the piece is rolled up loosely and tied with a string. These four pieces of gauze are next made absorbent by freeing them of their oily contents adhering to the cotton from the gin or mill. They are put into a common wash-boiler, covered with water to which a pound of washing soda or saleratus was added, and boiled for an hour. After this they are rinsed in cold water for ten minutes to free them of the soda, are passed through a clothes-wringer and placed in a stone or glass jar or an enameled kettle, filled with a corrosive-sublimate lotion of 1 to 1,000 strength, to remain therein for twenty-four hours. From this they are passed through the wringer again, and hung up to dry over night when the air is freest from dust. The string put about each piece should not be removed until the time of drying, as it will keep the folds from getting disarranged. The dried pieces are ready for use, and will keep clean wrapped in a towel or put away in a jar.

Whenever dressings are used, suitably sized compresses, each having eight folds of cloth, can be cut out of the piece with a stout pair of sharp scissors.

* Read by title before the Medical Society of the State of New York at its eighty-first annual meeting.

Iodoformized gauze is made by sprinkling iodoform dust from a pepper-shaker uniformly over the moist compress, and rubbing it thoroughly into the meshes between the fingers. I generally make my iodoform gauze on the spot where it is required.

An excellent substitute for gauze in an emergency is common cotton batting well soaked in a solution of corrosive sublimate (1 to 1,000). The package of batting is unrolled in an orderly manner, and cut into square pieces of desired size. Each of these is refolded into a small square and thoroughly kneaded in a wash-basin filled with the mercuric lotion till complete saturation is evident. Well wrung out, each piece is unfolded again to its original shape and is ready for use.

Any clean textile fabric of cotton or linen, soaked in mercuric lotion, will be a good antiseptic dressing. In the winter of 1883 and 1884 I used, during my service of six months at Mount Sinai Hospital, in all major operations, sawdust with the best results. It was impregnated with corrosive sublimate and fixed in suitably sized bags made of cheese cloth.

The fact of the matter is, that the question of dressings is entirely subordinate to the question of a cleanly management of the wound itself before the application of the dressings. A properly handled wound will do well under any antiseptic dressing; a contaminated wound will not be saved from suppuration by the most careful and elaborate antiseptic dressings.

Before passing to the main subject of this paper, let me touch upon another vital matter—the ligaturing material and the sponges.

Raw catgut, as imported from Switzerland for manufacturing purposes, can be bought for a trifling sum from L. H. Keller & Co., 64 Nassau Street. Size No. 0 will answer for fine sutures and ligaturing the smallest vessels; No. 1 is most suitable for the majority of sutures and ligatures; No. 2 will be a reliable, retentive suture, and will safely tie the stoutest pedicle.

Disinfection of catgut is done by its immersion for twenty-four hours in the oil of juniper-berry. When taken from this, the catgut is placed in absolute alcohol until required for use. The addition of corrosive sublimate or carbolic acid to the alcohol is unnecessary, and will injure the tenacity of the catgut.

The expensive imported Greek sponges, sold by druggists under the name of surgeons' sponges, are unnecessary, as there is an abundant supply of a cheap domestic article known as Florida sponges which answers every purpose.

A pound of Florida sponges, fine mesh, medium size, can be bought in New York for about two dollars (contains about one hundred sponges). The raw sponge is well beaten to free it from calcareous contents, the remnants of which are dissolved by immersion for ten minutes in dilute muriatic acid.

The traces of the acid being washed out, the sponges are kneaded in hot water and soft soap (potash or green soap) for ten minutes.

After this they are squeezed well and placed in a vessel

with five-per-cent. solution of carbolic acid until needed for use. An immersion for fifteen minutes in carbolic acid will render the sponges thoroughly aseptic.

To give a practical illustration of the rules governing the surgeon in the performance of an aseptic operation in private practice, I shall describe an amputation of the female breast.

The bag, herewith presented to the society, contains everything required for the conduct of a major operation in private practice. It holds everything needed, with the exception of instruments, the selection of which must be governed by the requirements of this or that operation. The instruments, being selected, are wrapped in a clean towel and put into the bag, which may then be said to be complete.

An ordinary hand-bag made of stiff leather holds a number of bottles in loops, which can be easily arranged by any saddler or shoemaker. Two of the bottles are glass-stoppered and have wooden cases to insure against breakage and corrosion. One of them contains two ounces of a ten-per-cent solution of corrosive sublimate in alcohol, one teaspoonful of which added to a quart of water will make a lotion of the strength of 1 to 1,500. The other bottle contains four ounces of carbolic acid, four teaspoonfuls of which, shaken well with a quart of water, will give a three-per-cent. solution. A third bottle, in a metal case, contains two ounces of chloroform. A fourth, wide-mouthed bottle in a metal case, holds catgut and silk wound up on glass bobbins or on wooden sticks. Two cylindrical Wiesbaden fruit-jars contain: one, an assortment of rubber drainage-tubes of different sizes, all cut a little shorter than the inside height of the bottle, in which they stand in an upright position, and from which they can be taken easily with the fingers; the other, twenty-five or thirty disinfected sponges moistened with a little carbolic lotion. Both of these jars are closed with a rubber stopper held down by a metal cap. Behind the bottles are placed a tin teaspoon for measuring the carbolic acid and sublimate solution; a razor; a dressing-forceps for the use of the anæsthetizer in case the patient's tongue needs withdrawing; and a stout pair of tailor's scissors for cutting bandages. In a side pocket of the bag are found a stiff nail-brush, a shaving-brush, a dozen small and large safety-pins, and a hard rubber dusting-box containing iodoform powder. The box was made for me by Tiemann, of New York, and deserves some mention on account of its practical utility.

If I were asked which antiseptic substance I should least like to miss from the vast array in use by modern surgeons, my response would be *iodoform*. Its portability and the great duration of its antiseptic power make it the antiseptic agent for war and the emergencies of our era of machine and railroad accidents.

To avoid corrosion, the entire box is made of hard rubber. A tight-fitting cap screwed over the perforated top insures against spilling, and a removable bottom permits of easy filling of the box without disturbing the delicate top.

The body of the bag holds a towel or linen roll with instruments, a nest of six common tin soup-basins six inches

in diameter, and has ample space for the reception of a soft rubber fountain-syringe or irrigator, and an ether inhaler, each inclosed in a separate small rubber bag. The irrigator, and especially the ether-cone, frequently get soiled at the time of the operation, and would contaminate the leather bag unless inclosed in a special receptacle of their own; and there is a pouch on the outside of the leather bag for the reception of an ample supply of gauze dressings, roller bandages, and rubber tissue. A nest of from two to six common tin bake-pans is strapped on to the bottom of the bag on the outside. Two pieces of thin rubber sheeting three by four feet in size are neatly folded up and placed in the tin pans before they are strapped on. The soup-basins are required for holding ligatures, threaded needles, drainage-tubes, perforated shot, safety-pins, and other small articles that must be kept apart from the bulk of the instruments. One or two of the large bake-pans will contain the instruments; one, towels soaked in mercuric lotion; one will serve for cleansing; another for holding the sponges; another one for the rinsing of bloody instruments in hot water before they are returned to the carbolic lotion.

Before proceeding further, a word or two as to the selection and care of instruments may be opportune.

All complicated instruments that can not be easily taken apart for cleansing should be condemned. Smooth handles and a simple construction are preferable for obvious reasons. Special care should be devoted to the indented jaws and the clasps of artery forceps and the teeth of saws, as they will easily retain traces of blood and other matter. The cleansing of instruments is best done by brushing in hot soap water and subsequent thorough drying. They should be kept in a tight-closing drawer free from dust and moisture. The surgeon should not omit to wash his hands whenever he intends to handle his instruments.

Let us now rehearse all the steps of a breast amputation to be done in the rooms of the patient. A suitable person to act as nurse is selected. Her duty is to administer a laxative the day before the operation, and to carefully scrub with brush and soap the patient's breast, corresponding shoulder, and axillary space the day before and the day of the operation. A well-lighted room is chosen, out of which all superfluous furniture and hangings should be removed. A bare, well-scrubbed floor is preferable to a carpet. One or two narrow kitchen tables, covered with a quilt and provided with a straw-pillow, will make a capital operating-table. A piece of rubber cloth is placed over the quilt and a clean sheet is laid on top. The nurse must provide soap, a couple of wash-basins, a dozen or two clean towels, and plenty of hot and cold water.

The operator and his assistants should arrive at least half an hour before the time of the operation. Everybody's hands must be washed in hot water with soap and brush. After this the necessities can be unpacked and arranged. The solutions of carbolic acid and corrosive sublimate are mixed in six well-cleansed quart bottles held in readiness by the nurse. The fountain syringe is filled with sublimate solution and is suspended from a chandelier or nail near the operating-table. On two chairs are placed a pan with hot water for rinsing, another with carbolic lotion for holding

the cleansed sponges; from this they should be handed by the nurse to the assistants.

Two more tin basins are filled with corrosive-sublimate solution, and should be placed on chairs to the right and left of the operating-table for the occasional rinsing of the hands of the operator and assistants. On an adjacent table the instruments are arranged in a certain order, which should be rigidly adhered to during the operation to prevent confusion and ill temper.

The vessels being wiped clean, the knives, sharp and blunt retractors, straight and curved scissors, anatomical and dressing forceps, probes, and grooved director, should be put into one pan; all the artery forceps by themselves into another one. Between the two pans is placed a third filled with hot water, in which all instruments not in actual use should be rinsed free from blood before being returned to the carbolic lotion. This will keep things clean and bright and no time will be lost in hunting for them at the bottom of a turbid pool of soiled carbolic solution.

In a smaller tin basin are ligatures; in a second one needles are arranged, threaded with fine and coarse catgut; a third small basin should hold drainage-tubes and safety-pins; a fourth plate, sutures, perforated shot, and silver wire.

The dressings are next arranged. Four or six smaller (6 x 8 inch) and just as many larger (12 x 24 inch) compresses of gauze are cut, care being taken not to make the dressings too scanty, as an ample first dressing may save the trouble of many subsequent ones. A good rule is to let the outermost compresses overlap the wound on all sides by at least eight inches.

To this should be added a sufficient number of strips of iodoformized gauze, three or four rather wide muslin roller bandages, and a large square piece of cotton batting.

All this should be wrapped in a clean towel and laid aside in a secure place till needed.

Anæsthetization may now be begun in an adjacent room. The anæsthetized patient being placed on the table, the parts are exposed and freely soaped and shaved. A piece of rubber cloth is so placed over the patient's body as to leave exposed only the field of operation. The parts are well rubbed off with a towel dipped in corrosive-sublimate solution, and a number of clean towels wrung out of the same solution are suitably disposed around the field of operation, protecting the operator and assistants against contact with the clothing or unwashed parts of the body of the patient, and providing for a clean place where instruments or sponges may be laid down for a moment if necessary.

The end of a wet towel is tucked under the breast and armpit, and is hung over the edge of the table in such a manner as to conduct the blood and irrigating fluid into a bucket placed underneath on the floor.

The anesthetizer must take good care that, in case of vomiting, no ejecta are thrown on the wound or its vicinity. Towels soiled by vomit should at once be replaced by clean ones.

Now the parts should be distributed. The trustiest man serves as first assistant over against the operator; a younger physician is at his left to irrigate and help as need

may require; another physician takes charge of the instruments, and the nurse attends to the sponges. Everybody's hands are finally washed with soap and brush and rubbed with mercuric solution, and the operation begins.

Whenever any one concerned in the operation touches an undisinfected object, hands a chair, opens a door or window, blows his nose, or scratches his face, his hands must be rewashed and redisinfect.

Hæmorrhage should be carefully attended to by ligaturing every bleeding vessel with catgut. After the removal of the diseased parts the wound is carefully irrigated, each recess being attended to in succession.

Drainage and sutures being applied, the projecting end of the drainage-tube is cut off flush, and is transixed with a safety-pin to prevent its slipping into the wound. A final irrigation through the tube will clear away any clots, and gentle compression with a couple of sponges will remove the remnant of irrigating fluid from the wound. Iodoform-gauze strips are next placed along the suture and around the drainage-tube, passing under the safety-pin, and a few pads of gauze are held pressed against the wound, while the patient is slightly raised to cleanse her back and the table from blood. The soiled towels are replaced by dry ones, and the dressing is completed by applying as many gauze compresses as required. These are fastened snugly with gauze bandages, the other breast and armpit being first padded with cotton. The large, square piece of cotton is next applied and snugly held down by a roller bandage; the arm is placed in a sling and the patient brought to bed.

(To be concluded.)

ON THE TREATMENT OF OLD DISLOCATIONS OF THE ELBOW.*

By LEWIS A. STIMSON, M. D.,

SURGEON TO PRESBYTERIAN AND BELLEVUE HOSPITALS.

THE great extension given in the last few years to the application of operative methods to the treatment of surgical diseases and injuries has compelled a reopening of many questions which had been previously looked upon as settled, and has made it necessary again to collect and study the recorded experience for our guidance in the future.

Among these questions, that relating to the propriety of interference in old, unreduced dislocations is an important one, and one upon which experience is rapidly accumulating, and among these dislocations, those of the elbow have an important place. The loss of mobility resulting from the injury, especially in the common dislocation of both bones backward, is usually so great that the disability is serious, the patient is unable to bring the hand to the head or chest, and is able to use it only in the arc of a circle whose radius is nearly equal to the length of the extended limb, and he may, in addition, possess only such rotation as can be effected by movements at the shoulder. Moreover, the injury is most common in the young, and the disability, therefore, is life-long. I desire to present to the society a

* Read before the New York Surgical Society, March 9, 1887.

brief review of a personal case, in which features of interest and importance appear, and a survey of the recent experience of others.

My case is as follows:

Maggie F., a rather delicate-looking girl, eleven years old, was admitted to Bellevue Hospital in April, 1886, with a backward dislocation of both bones of the right forearm, which had been produced five months previously by a fall from a sofa. The elbow was flexed at an angle of 150° , and was immovable, with the exception of some rotation. The soft parts covering the joint were normal in appearance and to the touch, and it was possible to recognize by palpation the relations of the bones, and that the internal epicondyle was lacking, while the external condyle was greatly thickened posteriorly, overlapping the concave surface of the head of the radius. The length of time that had elapsed since the injury was received, the extensive new formation of bone, and the degree of the disability, led me to attempt to relieve the condition by an arthrotomy. Dr. McBurney and Dr. Halsted were present and assisted at the operation. An incision was begun on the outer aspect of the arm about two inches above the epicondyle, was carried down to and a little beyond the latter, and was continued for a short distance along the forearm, parallel to and a little in front of the radius, and through this the mass of bone of new formation on the back of the external condyle was freely exposed and chiseled away. This mass grew backward and downward from the upper portion of the posterior aspect of the external condyle and the shaft above it, completely overlapping posteriorly the head of the radius in the form of a buttress, against which the latter rested, and was continuous on its outer and inferior margins with the condensed soft parts which formed the new capsule. The anterior part of the capsule, which was drawn snugly around the lower end of the humerus, was easily separated from it, and the articular cartilage of the latter appeared smooth and unaltered, but the dissection behind the humerus was made very difficult by the interposition of a mass of fibrous tissue between it and the greater sigmoid cavity, which entirely filled, and was closely adherent to, the latter. Dr. McBurney advised the making of a second incision upon the inner side of the elbow to facilitate this dissection, but, unfortunately, I preferred to meet the difficulty by dividing the olecranon, being encouraged so to do by the reports of some cases to be subsequently mentioned, and by personal experience of the method in operations for tuberculous disease of the joint. So the incision was extended across the olecranon, and this process was divided obliquely at its thinnest part. The back of the condyles was then easily freed, and the epitrochlea was found to have been broken off and to have become reunited with the humerus at some distance above its normal position. The attached internal lateral ligament was then separated from it, and the bones were then readily brought into place. The coronoid process of the ulna had not been broken.

The olecranon was sutured with silk-worm gut. A drainage-tube was placed behind the condyles through the external incision, the wound was closed, and the limb was placed in a splint with the elbow at an angle of about 145° . It was possible to flex it to a right angle, but in that position the strain exerted by the triceps upon the olecranon was so great as to endanger its reunion. As the history will show, in thus seeking to avoid failure of union, the occurrence of another and more serious accident, which I did not anticipate, was favored—recurrence of the dislocation. Two days later the dressings were changed and the limb was enveloped in plaster-of-Paris bandages. A week later a fenestra was cut and the tube was removed; there was little or no suppuration. During

the following month I was absent from the city; on my return, the dressing was removed and the wound was found to be solidly healed, but the dislocation had recurred. A second operation was done three weeks later, two months after the first. A curved incision was made, its convexity upward, beginning just below the outer side of the head of the radius and crossing above the olecranon; the ulnar nerve was exposed and drawn aside, and the joint was opened by cutting through the triceps. The joint-surfaces were found to be almost denuded of cartilage and much changed in shape by bony and fibrous outgrowths at their borders; so I excised the lower end of the humerus and the head of the radius; the bone was much softer than usual. I enlarged the sigmoid cavity by scraping, and cut a notch in the lower end of the humerus to receive the olecranon; catgut drains were introduced. Close fibrous union of the former division of the olecranon was found. The wound healed without incident in thirteen days; passive motion was made for several weeks, and the patient left the hospital with flexion to within a right angle and almost complete extension, but, on looking her up in February, 1887, about seven months later, I found the joint completely ankylosed at a right angle. The only good result of the operation was an improvement in the attitude, and against that must be offset the loss of the slight amount of rotation that existed before the operation. There is still the possibility of restoring motion by another excision, but I advised the parents not to have that done at present.

The direct examination of the joint at the two operations disclosed several interesting features, of which some are new and others have been before described, which bear directly upon the question of the best method of treatment. The extensive overgrowth of bone upon the back of the external condyle has not, I think, been observed, or at least reported, in any other case in which the dislocation had existed for only five months, and it is to be attributed, probably, to the stripping up of the periosteum. It may be remembered that a specimen of incomplete outward dislocation, in a child eight years old, removed by excision and presented to the society, October 25, 1886, by Dr. Lange, showed a similar growth nearly half an inch broad, on the outer aspect of the external condyle—one probably produced in the same manner. Taken in connection with the avulsion of the epitrochlea, which is common in lateral dislocations outward, but rare in backward ones, and the apparent integrity of at least the outer part of the anterior ligament, it suggests that the dislocation was produced not by the usual hyperextension of the elbow, but rather by a lateral outward flexion of the forearm, which tore off the epitrochlea, and was then followed by a twist, which carried the coronoid process backward past the trochlea, and then by a direct impulsion of the bones backward and upward. Displaced in this manner, it is easy to understand that the head of the radius should have stripped the external lateral ligament from its attachment to the condyle, and should have passed upward between the periosteum and the bone, leaving the former continuous more or less completely with the ligament, and itself remaining within the cavity thus formed. That the periosteum thus stripped up should so promptly have produced the mass of bone found above and behind the head of the radius, is entirely in harmony with our experience. To this extent the case is exceptional; but other features are of more general occurrence, and may

reasonably be looked for under like circumstances. The attitude of almost complete extension of the forearm is common, and the consequent overriding of the bones along the back of the humerus leads to the formation of new cicatricial bands between the olecranon and the humerus, and to the establishment of new attachments of the torn lateral ligaments so far above and behind the center of motion that almost no flexion is possible without their rupture or elongation, and the return of the bones to their place can be effected only after a far more extensive rupture of these soft parts than that which accompanied the dislocation. In attempting to rupture these bands by forced flexion, the forearm is used as a lever the fulcrum of which is situated in the ulna below the coronoid process, and the rupturing strain is exerted through the olecranon upon the ligaments and adhesions connected with it, and it is not to be wondered at that this process should so frequently have been broken in the manipulation. In the case which I have described, the middle and posterior portions of the internal lateral ligament apparently had not been ruptured, but had been torn away at their upper attachment, remaining continuous with the fragment of the epitrochlea, and, after this fragment had reunited with the humerus at a higher point, the ligament was as strong as it had ever been.

The filling of the greater sigmoid cavity by a mass of fibrous tissue, partly of new formation and partly furnished by the posterior portion of the capsule which slips in between it and the bone, appears to be of frequent occurrence; it has been encountered in several operations, and the union between this mass and the cartilage of incrustation was so firm in my case, as also in others, as to require the application of the edge of the knife for its removal. When present, it must be a serious, perhaps an insurmountable, obstacle to the restoration of the bones to their place by any method which does not directly provide for its removal. The adhesion of the anterior portion of the capsule to the cartilage covering the capitellum was but slight, and the cartilage itself was almost unaltered in appearance after the separation. The reason of this notable difference in the solidity of the adhesions contracted by the cartilage covering the greater sigmoid cavity and that covering the capitellum is not clear.

Another change peculiar to the young, which was present in only a slight degree if at all, in my case, is one which may so far alter the shape of the end of the humerus, and particularly of the capitellum, as to make it impossible to replace the radius and ulna, even after the removal of all obstacles arising from change in the soft parts. This change, which has rarely been noted at the elbow, is of common occurrence at the knee in the subluxations following prolonged flexions of that joint. It consists in an exaggerated growth of the epiphysis consequent upon the withdrawal of the pressure normally exerted upon it by the opposing articular surfaces, and, as the conjugal cartilage of the capitellum runs obliquely from in front and above downward and backward, this growth takes place in a direction at right angles to that of this cartilage—that is, downward and forward—and the capitellum consequently forms an abnormally large hemispherical prominence on the anterior

and lower part of the bone. The epiphysis of the trochlea is smaller than that of the capitellum, forming only a comparatively thin scale upon the surface, and there are no observations to show any inequality in its growth due to this cause. In the reported cases in which the capitellum was deformed, the ulna had remained more or less completely in contact with the trochlea, and consequently the factor of withdrawal of normal pressure did not exist for it. In Dr. Lange's specimen, above mentioned, the capitellum showed this enlargement very plainly, but the inner side of the trochlea was flattened.

Another change, which has been observed only in cases of displacement of very long standing, is elongation of the neck of the radius, and this also, I think, must be attributed to the same cause. Reported specimens, in which one or both changes have been observed, are those of Humphrey, Allen, and R. W. Smith, but in none of them is it certain that the primary displacement was a traumatic dislocation. In Humphrey's case the lower part of the left ulna was lacking, evidently the result of defective development; the right ulna was firmly ankylosed to the humerus nearly at a right angle, and was eight inches long; its lower end was well formed, and was on the usual level with the radius. The latter was also eight inches long, and its head was displaced upward and rested against "the fore part of the ridge that ascends from the outer condyle to the shaft"; it was somewhat irregular in shape, and its extra length was developed in its shaft, and not in its neck as in other cases. The displacement upward was clearly the result of the elongation of the radius, whatever the cause of the original displacement from contact with the capitellum may have been, whether traumatic, pathological, or congenital.*

Allen's specimen was taken from the body of an elderly man, without a history. Both elbows were affected, flexion was normal, extension possible only to a right angle, rotation was entirely lost, the limbs being fixed in pronation. The radius crossed the front of the ulna and was united with it by bony union for a distance of about three inches at their upper part; below this part the shaft of the radius was much thickened. The neck of the radius was an inch and a half long, so that the head was carried well up behind the humerus on the inner side of the olecranon, and this overriding was further increased by the abnormal growth of the external condyle downward and outward, the extent downward of the growth being estimated at half an inch. The trochlear surface was deformed, mainly by the loss of its inner lip. The olecranon fossa was so far filled up that the septum between it and the coronoid fossa was one third of an inch thick.† In R. W. Smith's specimen, which was taken from a woman about forty years old, the radius was displaced forward, and the external condyle was much larger than usual and was bent forward, its anterior upper surface forming, with the lesser sigmoid cavity of the ulna, a deep hollow, in which the head of the radius lay.‡

Finally, partial fractures of the head of the radius and of the coronoid process have been observed in dislocations

* Humphrey, "Medico-chirurg. Trans.," vol. xlv, p. 296.

† Allen, "Glasgow Med. Jour.," 1880, vol. xiv, p. 44.

‡ Smith, "Dublin Quart. Jour. of Med. Sci.," 1850, vol. v, p. 213.

backward, and the presence of the fragment of the radius or the formation of bony union between the stump of the coronoid process and the humerus may interfere with reduction. In several cases the fracture of the head of the radius has caused so much disability that resort has been had to arthrotomy,* and in two cases of backward dislocation of both bones Annandale† found the coronoid process united to the back of the humerus "by a considerable amount of osseous material."

To recapitulate: In all cases of backward dislocation of both bones of the forearm, of more than a month's or six weeks' standing, it may be reasonably assumed that strong adhesions have formed between the olecranon and the stump of the external lateral ligament and the back and sides of the humerus, which must be ruptured or divided before the bones can be returned to their place, and that the greater sigmoid cavity is occupied by a closely adherent mass of fibrous tissue; and when the patient is under fifteen years of age it is probable that the lower end of the humerus has been altered in shape by the formation of new bone under the injured periosteum on its back or sides, and by the exaggerated growth of the capitellum. When the dislocation has lasted three months or more in a young patient, this deformity of the capitellum may be quite marked, and may be made still more important by an elongation of the neck of the radius. It is possible also, though not probable, that there may be present a partial fracture of the head of the radius or of the coronoid process, which will seriously interfere with the restoration of the functions of the joint even after the reduction of the dislocation.

Turning now to the bearing of these changes upon the question of treatment, it appears that they are clearly incompatible with successful reduction by the means employed in fresh cases, even if the force employed be sufficient to rupture the adhesions and to bring the bones down to the proper level. It is true that successes have been occasionally reported, but the reports rarely go beyond the statement that reduction was accomplished, and they leave the subsequent history of the case and the degree of re-establishment of the functions unrecorded. Until quite recently the only methods employed have been forcible attempts to reduce by traction and the breaking of adhesions, sometimes aided by subcutaneous division of the tendon of the triceps, or of the adhesions on the side and back of the joint, increase of the range of motion by the same means without reduction, reduction after fracture of the olecranon by forcible flexion, and excision of the joint.

Albert says that Liston, more than forty years ago, successfully reduced an old dislocation after having subcutaneously divided all tense bands, and that, in 1847, Blumhardt successfully practiced arthrotomy in a similar case, making two lateral incisions, and dividing through them all the adhesions that opposed reduction. This case appears to have been entirely lost sight of, and it was not until thirty years later (in 1877) that Küster,‡ in reporting a case

of fracture and dislocation of the astragalus treated by excision, suggested that old dislocations of other joints might be successfully treated by arthrotomy. In the following year, Trendelenburg,* in a paper recommending temporary division of the olecranon to facilitate operations upon the elbow joint, reported a case of incomplete outward, or outward and backward, dislocation of both bones, with avulsion of the epitrochlea, which he had treated by making an incision along the tendon of the biceps, and chiseling away enough bone from the lower end of the humerus in front of the coronoid process to allow flexion to a right angle; the result was good to that extent. A little later Volker† reported a case of incomplete outward dislocation of the left elbow, of six months' standing, in a boy thirteen years old, in which, after division of the olecranon, he had divided the adhesions, dissected away the new tissue adherent to the sigmoid fossa, and had then been able to reduce; as the change in the shape of the bones favored recurrence, he also removed the head of the radius. He then sutured the olecranon with two silk-worm gut sutures, passed from side to side of the bone, closed the wound, and obtained a good result. His incision was V-shaped, its sides extending along the borders of the triceps, and the bottom of the V crossing the olecranon at the point where it was to be divided. The position of the limb (ankylosis in almost complete extension) and the evidences of serious pressure upon the ulnar nerve were important factors in the determination to operate. He was so pleased with the result that he looked forward with confidence to the adoption of the method in all old dislocations with much disability.

Trendelenburg‡ promptly claimed priority in the suggestion of preliminary division of the olecranon, and reported a case of backward dislocation of both bones of eight weeks' standing, successfully treated in this manner. His incision was a curved transverse one, the convexity directed upward, crossing the median line well above the olecranon, and the flap of skin was then dissected and reflected downward to the point at which the olecranon was to be divided; this division was done with a chisel. Because of difficulty in bringing the olecranon down, the limb was dressed in extension, but after the nineteenth day, when the wound was healed, the position was gradually changed, and four weeks after the operation the limb could be flexed to a right angle. The olecranon reunited solidly in this case and in Volker's.

In 1885, Nicoladoni § published a short paper on the application of arthrotomy to old dislocations of various joints, and included in it the report of two cases in which he had practiced it at the elbow. The first case was an almost complete outward dislocation of the left elbow, in a lad sixteen years old, which had existed for eight months; the epitrochlea was broken off and drawn under the trochlea; the limb was in extension, flexion was almost entirely lost, but rotation was preserved. An incision eight centimetres long was made in front, along the the inner border of the troch-

* Wagner, "Beilage zum Centralblatt für Chirurgie," 1886, No. 24, p. 93.

† Annandale, "Edinburgh Med. Jour.," February, 1885, p. 681.

‡ "Berliner klin. Wochenschrift," 1877, p. 16.

* "Archiv für klin. Chir.," 1879, vol. xxiv, p. 790.

† "Deutsche Zeitschrift für Chir.," 1880, vol. 12, p. 541.

‡ "Centralblatt für Chir.," 1880, p. 833.

§ "Wiener med. Wochenschrift," 1885, p. 728.

lea, and through this the fractured epitrochlea was removed; a second incision of the same length was made on the outer side of the joint, through which, after removal of a small piece of bone which had been broken from the condyle, the soft parts were separated from the radius and the humerus; then, through a longitudinal cut made in the triceps, the adhesions between the olecranon and the back of the humerus were separated, and the bones were then easily restored to place. The wounds healed after slight suppuration; passive motion was begun after the third week, and the patient was dismissed after seven and a half weeks, with the elbow flexed and movable through an arc of 35° or 40° . Nine months later he wrote that he could flex and extend the joint freely, but that rotation was not quite so free. The second patient was a large, powerful man, forty-one years old, with a backward dislocation that had existed for six months. The limb was almost completely extended and immovable; there was some passive rotation. Two lateral incisions, each sixteen centimetres long, were made; through the first, over the outer condyle, in front of the head of the radius, the soft parts were separated from the bone, leaving the periosteum undisturbed, into the trochlea and above the fossa trochlearis in front and behind; the separation from the cartilage was easy in front, but very difficult behind. Through the second incision, on the inner side of the elbow, the flexor muscles were cut away close in front of the epitrochlea, and the separation of the soft parts from the bone was completed. The greater sigmoid cavity was found to be filled with hard cicatricial tissue, which was cut and scraped away, after separation of the posterior attachment of the orbicular ligament. Reduction was then easily made. Two drains were placed on the flexor side of the joint, and one through the tendon of the triceps; the wound was closely sutured, a Lister dressing was applied, and the limb was placed on a splint. Recovery took place without incident, and the patient was dismissed at the end of four weeks, the wounds being almost healed. There was good active rotation, but very little flexion; passively, there was complete extension and flexion to a right angle.

In drawing conclusions from this scanty record of only five cases, we may be somewhat aided by the results of similar operations at other joints, and in other forms of dislocation at the elbow. In several (five or six) cases of isolated dislocation of the head of the radius, arthrotomy has been done with good results, both as regards the reduction of the dislocation and the restoration of function, although the latter has never been complete. I know of only one case (Burkhardt's) in which a dislocation at the shoulder has been reduced by arthrotomy, and in this the functional result left much to be desired. In another (Albert's) fracture of the surgical neck of the humerus took place during the operation, and the patient recovered with a pseudarthrosis, and in a third (Thiersch's) the operation failed. At the ankle, the astragalus has been successfully replaced by arthrotomy by Dr. McBurney, in a recent dislocation; and the operation has been done several times with success at the metacarpal joint of the thumb. In a case of thyreoid dislocation of the hip, Polaillon* lost his patient by acute septi-

cæmia. In a case of dorsal dislocation, of nine months' standing, in a child seven years old, Dr. McBurney successfully reduced by arthrotomy, but the head of the femur subsequently became carious and was removed. The success in Volker's and Trendelenburg's cases, in which the olecranon was divided, was fairly good, and the divided process reunited promptly and well; but in mine the union was only fibrous, and the fixation of the upper fragment was such that the limb had to be dressed in semi-extension, and to this I attribute the recurrence of the displacement. Probably the difficulty might have been avoided by a more free liberation of the upper fragment, from which I refrained, because I did not think it necessary and did not anticipate the consequence which followed. The method gave easy access to the joint and a good view of the adhesions that needed to be divided; but in another case I should give the preference to the method by two lateral incisions, without division of the olecranon.

The only facts in this brief record that may actually contra-indicate resort to arthrotomy are the death of Polaillon's patient, and the change in the articular cartilage observed at the second operation in my case. Of the former it is sufficient to say that the case was of six weeks' standing, and had been subjected to several attempts to reduce under chloroform, the last one three weeks before the operation, and that the region of the hip was still tender and swollen; the patient was delicate and alcoholic. The incision was made in front, from the anterior inferior spine of the ilium downward, and during the operation the dislocation was transformed into a dorsal one. Apparently, the operation was done with scrupulous attention to antiseptic details, and the occurrence of fatal acute septicæmia (with emphysematous gangrene) was probably due to extensive bruising and laceration of the soft parts; the record of the case indicates that the parallel between it and operations upon tissues that have recently been subjected to violent traumatism is close.

The change in the articular cartilage observed in my case could hardly have been caused by the inflammatory reaction following the operation, for that was not sensibly greater or more prolonged than after the original dislocation. I am inclined to attribute it rather to the keeping of the knife too close to the bone in the separation and freeing of the soft parts, and I think, therefore, that in a similar case it would be better to divide the adhesions than to separate them from the humerus. The reported cases are too few to justify much generalization, but the large measure of success which they have furnished is an encouragement to further trial. In the mean time, the rules of conduct in the presence of old backward dislocation of the elbow formulated by Albert appear to be judicious. He says that in elderly patients he limits interference to rupture or subcutaneous division of the adhesions, and that, if reduction then fails, he forcibly flexes the elbow to a right angle, with or without fracture of the olecranon, and allows it to become ankylosed in that position. In younger patients he makes the attempt to reduce, sometimes dividing the tendon of the triceps, so as to avoid fracturing the olecranon; reduction failing, he does an arthrotomy, with two

* "Bull. de la soc. de chir.," 1883, p. 101.

lateral incisions, and, if this also fails, he proceeds to resection.

To this I should wish to add the caution that an arthrotomy should not be undertaken until after the tissues have entirely recovered from the inflammatory reaction or the fresh lacerations of the original injury, or of attempts to reduce; and that the longer the dislocation has lasted, and the younger the patient (under fifteen years), the less is the probability that arthrotomy will be sufficient, and the greater is the probability that excision will be required. In old incomplete outward dislocations little good is to be hoped for from anything but arthrotomy, for the common interposition of the fractured epitrochlea can not otherwise be overcome, or the cicatricial obstacles on the inner side be removed. The choice will, probably, lie between improving the attitude by forcible flexion of the limb, if extended, and arthrotomy, the internal incision being made in front of the trochlea, rather than upon the side.

MODERATE

DILATATION OF A URETHRAL STRICTURE

FOLLOWED BY ABSCESES OF THE TRUNK AND LIMBS.*

By JOSEPH D. BRYANT, M. D.

THE object of this brief narrative and its attendant comments is to bring to your notice a case of, as it seems to me, some little interest, in which some doubt may exist as to the true nature of the cause of the trouble. It is hoped also that if it does not prove instructive in itself, it may at least incite others to make remarks that will be of interest to those present.

About the middle of last December a gentleman called to consult me, who presented to me a note from a physician, who expressed the wish that I should take charge of the bearer on account of a troublesome stricture of the urethra. The patient gave in brief the following history:

Age twenty-four, merchant; good family history. His previous habits of life, while not model in all respects, had been as consistent with the tenets of sobriety and virtue as are the habits of a large number of young men whom the better part of the community are wont to consider respectable. He had received no injury that could have had a possible influence on his present condition. He said he had suffered from repeated attacks of gonorrhœa between the years 1875 and 1885, many of which had been much prolonged. He gave no distinctive history of the occurrence of gleet in the intervals of the attacks; still I suspect it must have occurred, and it is even probable that one or more of his "attacks" of gonorrhœa had been little else than an acute gleet caused by the influences of his indiscretions on a vulnerable, if not previously diseased, urethral mucous membrane. In 1880 his urethritis had been complicated with malaria, and with lobar pneumonia of the left side. In 1883 it had been complicated with a so-called carbuncle of the back of the neck. In 1885 it had been complicated with boils in the same situation.

I have serious doubts of the correctness of the diagnosis of the complications mentioned in the last two statements,

* Read before the Section in Surgery of the New York Academy of Medicine, February 14, 1887.

because the local manifestations which the patient asserts to have been present in connection with them do not correspond with the accepted signs of these morbid processes. It is my opinion they were ill-conditioned abscesses that had developed from circumscribed phlegmons of the posterior cervical region. Whatever they may have been, it does not appear that they were associated in any manner with instrumental manipulations of the urethra.

In 1883 the common symptoms of urethral stricture made their appearance, and in 1884 the existence of stricture was determined by a physician, who attempted its cure by gradual dilatation. The patient, however, was intractable, and submitted to treatment but a short time. In fact, he has been similarly treated by different physicians since that time, and in each instance, as in the first, he rebelled against the treatment as soon as comparative comfort had been secured. He also gave a history of the occurrence of repeated chills that had been followed by or attended with fever, and which he had recognized as associated often with a previous dilatation of the stricture. He thinks now that the chills attended or followed soon after the first micturition subsequent to the dilatation of the stricture. At no time, however, has the stricture been dilated above No. 12 E., and more often much less than this. He also informed me that he had suffered from languor and an unusual disinclination to activity for two or three months prior to this visit, and on one occasion during this time, without apparent cause, he had been attacked by a severe chill, followed by fever and sweating.

He was found to be extremely excitable, and fearful of the slightest pain. He insisted even that I should administer ether for the purposes of urethral exploration. This I emphatically declined to do, but employed a urethral injection of a four-per-cent. solution of cocaine, and, with little annoyance to him, ascertained the following facts:

1. The existence of a stricture three inches from the external meatus that admitted a No. 5 Eng. bulbous bougie.

2. The existence of a stricture at the bulbo-membranous junction, through which a whalebone guide only could be passed.

Four of these guides were introduced through the stricture finally, and they filled its caliber entirely. The guides were allowed to remain in position for a few moments, and, when they were removed, a small gum-elastic filiform bougie was carried through the stricture with some difficulty. This was quickly followed by Nos. 5 and 8 of the conical gum-elastic variety. No unusual difficulty was encountered in the introduction of the last two. But little pain attended the manipulations, and the patient offered no resistance. I should say, however, that a second injection of the cocaine solution had been employed in the mean time. The amount of hæmorrhage was slight, being only sufficient to discolor the mucus and oil that were finally expelled from the urethral canal. Indeed, there was *very much* less bleeding, the patient informed me, than had attended similar operations before this.

I ventured the prediction that he would have a chill as usual, and advised him accordingly. He dissented from this opinion, and gave as a reason for the difference that he had never felt so well before after the dilatation of his stricture. His prediction was the correct one; a chill did not take place. He was advised to call again in four or five days for further treatment. Instead of waiting as requested, he called in three days, that he might leave town at once, to be gone two weeks. The cocaine solution was used as before, and Nos. 5 and 8 of the same pattern of bougies were passed without pain or difficulty. No. 10 was

then introduced, but it encountered no greater resistance than No. 8 had at the previous sitting. The amount of hemorrhage was not greater at this than at the previous sitting, while the patient was under my observation. He has informed me since that he passed some blood with the first act of micturition, but that the amount was slight when compared with what he had passed after the former attempts of others to dilate the stricture. He called again in forty-eight hours to say to me that he had experienced chilly sensations, attended with great prostration and fever, since the last treatment. The prostration came suddenly, he said, while he was seated in a water-closet, and followed at once the first passage of urine after the introduction of the bougies. He was certain that the pain attending the act was not the cause of the prostration, for the latter continued long after the pain had ceased, and, besides this, he had experienced a similar pain often before with the first act of micturition, without the least prostration having followed.

His depression must have been considerable at this time, since he was unable to leave the closet or to go to his home unaided.

At the time of this visit he complained of languor, "feeling sore," as if he "had been pounded," to use his own words. The temperature was 101° F.; pulse, 85. Simple medication was advised, and also that he go home (a day's journey) and remain quiet. He returned in ten days, and I found he had spent a most uncomfortable vacation. He had suffered from irregular chilly sensations and fever since leaving. Pulse was 90, temperature 102° F., and appearance haggard. He had at this time two painful and tender phlegmonous swellings of the left thigh, one on the anterior, the other on the posterior surface; also one of large size above the crest of each ilium; a small one beneath the right nipple, and also a similar one at the inner side of the right arm near the axilla. Those of the thigh and above the iliac crests were noticed first between five and six days after the occurrence of the chill, the one below the nipple and at the inner side of the arm somewhat later; the latter did not attract the special attention of the patient, on account of their smaller size. Those of the thigh and the one above the crest of the right ilium suppurated profusely and discharged an abundance of in-offensive pus tinged with blood.

The remaining ones did not suppurate, and each of them, disappeared soon, except the one above the left iliac crest which remained for weeks, often threatening suppuration, but finally this disappeared also. The constitutional symptoms attending the suppurative process were not severe; the temperature ranged from 99° to 101° F. in the A. M. to 101° to 102° F. in the P. M., with occasional chilly sensations, without sweating, until near the close of the suppurative process. At this time the patient was attacked with a mild lobar pneumonia, attended with a small amount of pleuritic effusion. From these last he made a satisfactory though protracted recovery. The kidneys at no time offered any evidences of disease of their structure.

This brief history seems to point to certain interesting, though not unusual, facts bearing on the personal peculiarities of the patient.

1. A highly excitable disposition.
2. A strong tendency to phlegmonous inflammations.
3. The almost invariable occurrence of chills and fever following urethral interference.
4. A second association of lobar pneumonia with a morbid urethral condition.

The most interesting and important feature of this case, however, appears to me to be the occurrence of the phlegmonous swellings, together with their bearing on the thera-

peutics and prognosis of similar cases. Indeed, this feature of the case suggests the following queries:

1. Are similar abscesses a consequent or an accidental complication of the treatment of urethral stricture?
2. If a consequent complication, what importance is to be attached to the "personal peculiarities" of the patient?
3. If a consequent complication, how are they produced?
4. If a consequent complication, how can they be prevented?
5. If a consequent complication, how do they affect the prognosis for cure and for the life of the patient?
6. If an accidental complication, how are they to be avoided?

In this case they seem to me to have been an accidental or indirect complication for the following reasons:

1. Similar processes appear to have occurred before, independent of urethral manipulation.
2. Much greater damage appears to have been inflicted on previous occasions without associated suppuration.
3. The constitutional symptoms that attended the suppurative processes are not consistent with the symptoms of such processes when dependent on a septic origin.

If they are a consequent or direct complication of a septic nature, the "personal peculiarities" would no doubt hasten and intensify the process, and thereby increase the gravity of the patient's condition. If they are an indirect or non-septic complication, the "personal peculiarities" will then hasten and intensify, but, in my opinion, will not imperil the life of the patient.

If they are a consequent complication of a septic nature, they must depend either on the absorption of some poisonous element existing in the urine that comes in contact with a freshened surface, or on a subsequent thrombosis at the seat of the stricture.

If they are a consequent complication dependent on urinary sepsis, their prevention demands that the course of the urinary stream be changed; as, for instance, by causing the urine to escape through an opening made in the perineum behind the seat of the stricture. I do not believe urethral medication directed to the prevention of urinary sepsis by absorption to be of practical importance. I have injected into the urethra, both before and after the act of micturition, simple and medicated oils, and many varieties of antiseptic solutions, for the purpose of preventing urethral chills, and thus far my efforts have been rewarded by no definite curative results.

If abscesses are a consequent complication of a septic origin, their occurrence must exert an obviously unfavorable influence on the prognosis for the cure and for the life of the patient.

If abscesses are an accidental non-septic complication, no attempt at internal treatment should be made, provided the conditions of the case will admit of delay until the patient has been thoroughly fortified in a general sense. When either gradual dilatation or cutting can be resorted to, cutting, in my opinion, is the better of the two plans. Internal incision, if the obstruction is in front of the bulbospongiosus junction; external, if it is behind this part.

INFLAMMATION OF THE ANTRUM.*

BY BEVERLEY ROBINSON, M. D.

This subject was brought before the association four years ago by Dr. William H. Daly, of Pittsburgh. At that time our colleague reported two interesting cases of this kind, apparently due to extension of inflammation from the nasal passages. Until two years ago I have not had the opportunity to treat any such cases, and it was only last summer that I met with a first case of suppuration of the antrum. Fortunately, I then saw an example of this disease, and was able to carry out, conjointly with Dr. C. A. Brackett, of Newport, R. I., the treatment detailed in the following history:

On July 3, 1885, Miss K. B., single, twenty five years old, consulted me at the request of my friend, Dr. John F. Ridlon, of New York, in regard to a purulent discharge from the left nostril. This discharge had already persisted during four to five weeks, and despite appropriate general treatment. Little or no local medication had been employed at the date I first saw my patient. On that occasion she was pale, nervous, and suffered considerably from neuralgic pains in the left cheek, orbit, and over the eyebrow. The nasal mucous membrane on the left side was red and swollen, and the occlusion was so great as to render respiration through the corresponding passage impossible. A small quantity of thick, purulent liquid was almost constantly oozing from the left nostril, which could be removed when it appeared by wiping it away, but could not be blown out of the nostril because of the obstruction occasioned by the infiltration of the soft tissues covering the septum and lower and middle turbinated bodies. The left naso-labial furrow was less marked than that on the right side, and the left cheek was somewhat swollen. The color of the skin in this region was unchanged. Moderate pressure over the left antrum occasioned evident pain. There was no apparent bulging of the antrum in any direction. The hard palate was normal, and there was no alveolar abscess. The teeth in the upper jaw on the left side were filled—the first bicuspid with a gold filling, the first and second molars with amalgam fillings. The second bicuspid and the wisdom tooth had been extracted some time previously. Upon examination of the mouth by a competent dentist, a short time before my patient first came to me, the teeth remaining in the upper jaw had been declared to be free from disease, and were not painful to moderate percussion with a steel instrument. There was no swelling or other indication of a forming abscess near any one of them. From July 3d to July 27th I treated Miss B. in the following manner: At first, by means of a saline introduced through the left nasal passage two to three times a day, composed of camphor, cubebs, vaseline, and glycerin, and internally by wine of coca and pepsin. After a week had elapsed, Bland's iron pills were substituted for the preparation of coca and pepsin, and a powder was insufflated into the left nasal passage several times daily with the anterior nasal powder-blower.

The powder was thus composed:

℞ Pulv. acid. tannici..... gr. vj;
 Pulv. camphoræ..... gr. xxx;
 Pulv. iodoformi..... gr. xxv;
 Pulv. cubebæ..... gr. xv;
 Pulv. acacie..... ad ʒ ss.

M.

* Read before the American Laryngological Association at its eighth annual congress.

On July 27th the left cheek became more swollen at its lower portion, and the gum around the second upper molar tooth on the left side was inflamed and sensitive. The tooth itself was somewhat movable, and slightly painful on moderate pressure. It was determined, in consultation with Dr. C. A. Brackett, to remove the tooth and perforate the left antrum. This operation was accordingly performed by Dr. Brackett on the day just mentioned, while the patient was under the influence of nitrous oxide gas. The antrum was then washed out with a disinfecting solution by means of a small metallic syringe with a long, fine nozzle, and a portion of the detergent liquid passed out through the left nostril, carrying before it a small quantity of purulent discharge. After the antrum had been sufficiently cleansed, a cotton tent was introduced through the opening into the antrum. During and subsequent to the injection Miss B. suffered a great deal of pain, and was obliged to take half a grain of morphine that night to induce sleep. Two days later, as the injection into the antrum and the removal and introduction of a tent appeared unusually painful, cocaine, in four-per-cent. solution, was used hypodermatically in the gum and antrum to the amount of sixteen minims. This injection only allayed the pain of the cleansing to a slight degree. On July 30th, Dr. Brackett again gave our patient nitrous oxide gas, enlarged the opening into the antrum by means of a small burr attached to the dental engine, and afterward washed out the sinus readily, effectually, and painlessly.

The liquid thrown into the maxillary sinus on this occasion came freely out of the left nostril, and carried before it the pus contained in the antrum and the left nasal passage.

July 31.—Nitrous oxide gas inhaled. Injection through the antrum not entirely successful, as it did not appear in the left nostril, but returned through the alveolar fossa. Tent reintroduced.

August 1.—No pus withdrawn when the tent was taken out. Injection perfectly successful, forcing before it a quantity of inspissated pus with a markedly offensive odor.

Tent reinserted. Left nasal passage still much occluded; pus continues to come from it in considerable quantity, although somewhat diminished since the injections were begun. The injections still occasion severe neuralgic pains, radiating in different directions, and especially toward the left orbit, the left ear, and the teeth of the lower jaw on the affected side. As the injected liquid does not pass into the pharynx, which is common in analogous cases, but flows out through the left nostril, it is probable that the main occlusion in the left nasal passage exists posterior to the nasal orifice of the antrum. Examination with a probe serves in part to confirm this belief.

3d.—Nitrous oxide gas administered yesterday and to-day. Opening into the antrum further enlarged with a dental burr. Injection of antiseptic fluid followed.

Reinsertion of tent, soaked in tincture of opium. Patient suffered acutely yesterday evening; relieved by half a grain of morphine internally. To-day one drachm of salt to a pint of warm water was used as an injection by means of the continuous douche-bag, raised to a considerable height. The injection was continued until the solution came freely through the left nostril and was perfectly clear. Patient acknowledges that the left nasal passage is now comparatively pervious.

5th.—Patient passed a comfortable night, and was not obliged to take an anodyne. The discharge from the nose is much less, and she can blow it easily and satisfactorily. Her general condition has greatly improved.

10th.—Tupelo tent introduced through alveolar cavity, instead of cotton tent; washing continued; daily improvement.

11th.—Washed out antrum with tincture of iodine and salt

water, the proportion being half an ounce of the former to a pint of the latter.

10th.—Discharge from the nose had diminished so much that the tent was finally withdrawn, and the injection into the antrum stopped.

In the case narrated, the patient's general condition was evidently poor, and she was a sufferer from dysmenorrhœa and leucorrhœa. There is no doubt that the predisposing cause of the suppuration of the antrum should be recognized as being the deterioration of the blood. It is obvious, however, that the extracted molar tooth, whose palatine fang was diseased, was the efficient or exciting cause of the local inflammation. Such examples, I am informed, are not very infrequent in dental practice. They rarely show themselves or are treated in throat clinics, and, as the method reported in detail is simple and rational, and proved curative, I am confident that the history is one of some interest.

Another case of suppuration of the antrum I saw in October of last year. The patient was sent to me by Dr. D. B. St. John Roosa, of New York, and was accompanied by his usual medical adviser, Dr. Hagadorn, of Gilboa, New York.

E. J., thirty-one years of age, married, day-worker, has had a purulent discharge from the right nostril during the last six months. One week ago a slight similar discharge from the left nasal passage was also noticed. In warm weather the discharge from the right side of the nose becomes thin. At times the discharge is alternately mucous and purulent in character, and, with this variation, lasts during several days. Every morning, at present, about a tablespoonful of liquid comes away from the left nostril, or from both nostrils. To-day the discharge was wholly purulent.

There is no pain or swelling over the cheeks. My patient suffers, however, considerable distress from pain over the eyes. The purulent discharge flows from his nose, at times, when he inclines his head forward. This fact has been verified by his family physician. Patient is of the opinion that the purulent discharge has diminished in amount during the past month, under the use of medicated sprays applied frequently to the nasal passages. Some months ago he suffered from vertigo, and even now he has dizzy or other unpleasant sensations in the head, which are difficult to define, whenever he moves his lower jaw suddenly. Upon rhinoscopic examination, both middle turbinated bodies are found to be much swollen, and the right nasal passage contains abundant purulent liquid. This secretion flows into the naso-pharynx, and is there visible. Except for the presence of pus, the throat is in a healthy condition. On careful examination no necrosed bone can be detected in any part of the nasal passages. The wisdom tooth of the upper jaw on the right side is carious. There is, however, no tenderness or swelling in the vicinity of this tooth. The diagnosis made is suppuration of the right antrum. The following treatment is advised: *Cauterization of the right middle turbinated body by means of chloro-acetic acid* after a cocaine spray has been used; *thymol spray* twice daily, so soon as the immediate effects of the cauterization have subsided. In the event of the purulent discharge continuing, extraction of the carious wisdom tooth is counseled, to be followed by perforation and washing of the right antrum.

On May 11, 1886, Dr. Hagadorn wrote me word that this patient was decidedly better. There is, at present, no discharge from the right nasal passage except, as he ex-

presses it, when "he takes cold." Dr. Hagadorn further writes that this patient did not have his wisdom tooth extracted, and he presumes the antrum has nearly or quite healed, from the fact that there is no discharge whatever, except as stated above, and the tenderness over the site of the antrum has entirely disappeared. The plan of treatment followed from the time I saw him until January 1, 1886, consisted simply in spraying the nasal passages daily with a mixture of tannin, glycerin, and carbolic acid. Since January 1st this patient has stopped all treatment.

In connection with the foregoing cases of suppuration of the antrum, I desire to refer briefly to a case of mucous inflammation of the antrum, in which the disease never reached the stage of suppuration: there was no carious tooth (although the first molar tooth was dead), and it seems to me probable that the antral affection was a direct extension of the catarrhal inflammation from the nasal passages.

W. E. H., mining engineer and hotel-keeper, single, twenty-six years old, resident of New York, was placed under my care by Dr. William T. Bull, in March, 1884. This patient had suffered more or less from nasal catarrh since he was ten years of age. He has had an acute attack during the past week. Except for this attack he has been freer from catarrh this winter than he has been during the past two to three years. My patient states that he always gets rid of his catarrh so soon as he visits the Rocky Mountains or the Pacific coast. When he is in that high, dry air, he feels much better, and only commences to suffer again from nasal catarrh when he comes to the eastern sea-board. Marked headache always accompanies an acute attack of nasal catarrh. This headache does not leave him until he has a moderate or profuse discharge from the left nostril. The discharge is transparent, but yellow in color. Twelve years ago he had a gelatinous polypus removed from this passage; at present there are no traces of it. Accompanying the acute attacks of nasal catarrh, pains shoot down from the forehead into the eyes and teeth; soon they become general. At the same time there is an abundant yellow mucous discharge from the left nostril every three or four hours. Usually it occurs when the head is inclined to the right and downward. It only takes place during the progress of an acute attack of nasal catarrh, and shows itself in two to four hours from its inception. Before the mucous discharge is noticed, the patient has pain over the eyes and through the antra. The pain in the region of the left sinus is more accentuated than in that of the right. The pain is of a dull, heavy character, and never very intense. The eye teeth become very sensitive. The eyes themselves are unaffected. Ordinarily there is a very unpleasant taste in the mouth during the course of the acute attacks. The smell is obtunded at these times, and sometimes noises in the ears are quite distressing. These noises are most intense in the left ear. Vertigo is an occasional symptom. Each attack lasts three to four days, and recurs several times during the winter. Attacks of sneezing and snuffling usher in the acute attacks, and these symptoms are apparently caused by taking cold. A cold taken always attacks the head and face sooner or later. When the acute nasal trouble has subsided, there still remains a fullness in the nose, with more or less snuffling, and a bad taste in the mouth. The breath does not become fetid. Digestion is normal. I prescribed one granule of hydrarg. bichlor. gr. 1/3, three times daily after meals, and an ointment of carbolic acid and vaseline for the nose. On February 10th, three days later, my patient had improved somewhat. I made use of iodoform and

bismuth through the nose by means of my powder-blower, and repeated the previous prescriptions.

February 18th.—I cauterized the left nasal passage with glacial acetic acid.

March 6th.—There was some difficulty in passing a soft metallic sound of medium diameter through the left nasal passage, because of submucous infiltration. Insufflation of iodoform through the nasal passages anteriorly, and application of a mixture of iodine and glycerin (one part to two parts) to the nasopharynx. I prescribed unguent. iodoform. and caps. cubebæ. Patient complains of crackling sensations in his ears.

10th.—Repeated everything.

18th.—Schneiderian membrane more inflamed. Powdered magnesia insufflated through the nose.

From this time until May 2, 1886, somewhat more than two years later, I did not see my patient. He then called upon me, and informed me that, since I had treated him, he had had no return of antral inflammation. Occasionally he had had an ordinary coryza, with slight pain over the maxillary sinuses, but he always recovered from these attacks without experiencing periodic and abundant discharges from the nose. In this case I believe the inflammation of the antrum was nearly concomitant with that of the nasal passages. In some of the attacks it is possible that this extension only took place subsequently by reason of continuity of a similar structure. Why such inflammation rarely, or never, goes so far as to produce suppuration, is explained by the fact of the ready exit of the mucous secretions by the orifice of the antrum into the middle meatus. Salten has shown that this aperture, although usually very small, is nevertheless of variable dimensions, and may be occasionally an opening of moderate size—so large, indeed, as to admit the tip of the finger. It is clear, from clinical and anatomical evidences, that sufficient drainage from the inflamed antrum takes place under ordinary conditions to prevent suppuration.

Suitable mild local treatment of the nasal passages is also conducive to a cure, and in this case was seemingly effective. More than once I hesitated with respect to its utility, and dwelt on the advisability of puncture of the cavity, and subsequent washing by means of antiseptic or astringent solutions. As the result shows (in this and the previous case), this was unnecessary; and in a similar instance, hereafter, I shall not be disposed to undertake it, so long as suppuration does not occur.

Cases of antral inflammation in which there is a periodic discharge of mucous fluid from one or both nasal passages, as a direct consequence of hypertrophic or atrophic nasal catarrh, are rarely met with. This is so true that, with a favorable opportunity of seeing such instances, if they really occur, I can not now recall any one except the example reported. That occasional congestion, however, of the maxillary sinuses does take place during the progress of certain cases of nasal catarrh, acute or chronic, I have little doubt. Such a condition is marked by weight, stuffiness, and dull or aching pain over one or both antra. Although these symptoms may become manifest, rarely do they change, or progress so as to become characteristic of advanced inflammation.

Thus it is, even with such congestion, that the discharges

from the nose are not unlike what we notice in numerous cases of ordinary pituitary inflammation.

Perhaps the experience of others is very different from mine. If so, I shall be glad to become familiar with it. As to suppuration of the antrum, I have yet to meet with a case in which the direct extension of the disease from the nasal passages had evidently occasioned it. This is a singular fact, and to me somewhat unaccountable, especially in view of articles in late works on surgery which deal with the subject, and in which this ætiology is distinctly referred to as being present. Theoretically, such a sequel would be only natural, if attention were solely directed to the probable occlusion of the antral orifice, in the middle nasal meatus, as a usual result of inflammatory secretions. I can not, however, believe that this consequence often occurs, except in those instances in which there is discovered a carious tooth, alveolar abscess, or bone disease of the superior maxilla.

As a point of some practical interest, I would refer to the fact of the rapid closure of the artificial opening into the antrum, unless it is kept moderately distended by a tent of some kind. Of course, as has been done already on several occasions, a cannula fixed to adjacent teeth may be inserted; but, as this cannula should be plugged between the times of washing, so as to prevent the entrance of food and liquids into the sinus, its great or special utility is not obvious in every case—and, moreover, a suitable cannula is not always at hand when the occasion demands it.

Note.—It may perhaps be of some additional interest to the reader to know that I have now (February, 1887) under my care another case of suppurative disease of the left antrum, apparently caused by a diseased molar tooth. This case is being treated by me in a similar manner to the first case reported in my paper, *i. e.*, by daily washing of the antral cavity with an antiseptic solution, the offending tooth having been previously extracted and perforation effected with a dental burr through the alveolus.

GONORRHOEAL RHEUMATISM, ESPECIALLY IN THE FEMALE.

By FRANK HARTLEY, M. D.

WHEN one considers the enormous frequency of gonorrhœa in the female and the great number of those once having it who remain uncured and who can communicate it—facts first broached by Noeggerath in 1872 and subsequently substantiated by Olshausen; by Schwarz, who believes that 10 to 15 per cent. of this large number remain uncured and can communicate it; by Sânger, who found it in one ninth of all his cases; by Oppenheimer and Lomer, who found it in so many cases of pregnant women (20 to 56 per cent.); together with the careful manner in which the urethritis and urethritis externa have been studied by Martineau, Lustikow, Welander, Belleli, Guedenay, Guérin and Harmonie Edmansson, De Sinéty and Henneguy; its extension to the kidney, as shown by Bockhart and by Aufrecht, who found the gonococci in the liver, spleen, and kidney; the "bartholinitis" either as a suppurative adenitis or a chronic inflammation of the ducts, as studied by Bumm, Arming, Welander, and Fritsch; the purulent endometritis and vulvo-vaginitis, as studied by Bumm, Schwarz, and Ruge; the vulvo-vaginitis in children by Pott and Wide-

mark-Lennander; the condylomata acuminata by Hildebrandt and by Schwarz, who never saw them in any other discharge, no matter how profuse or lasting; the salpingitis and perioophoritis, the sterility and disordered menstruation arising therefrom, as studied by Mercur, Martin, Sanger, Lawson Tait, and Westermarck, who found the gonococcus in a case of pyosalpinx—we are immediately struck with the fact that since the discovery of the gonococcus no one seems to have paid any attention to the rheumatism, especially in the female. As to the rheumatism, the most varied views have been entertained as to its origin and frequency since the time of Musgrave, in 1723.

Some have said that it was only an accidental combination of gonorrhœa and rheumatism; some that it was the result of the inflammation of the mucous membrane of the urethra, and from there an absorption of a morbid agent (Lesègue). Some have spoken of the specific character of the rheumatism, basing their views upon the peculiar relation existing between the gonorrhœa and the reappearance of the joint trouble with each successive attack. This recurrence has been observed to exist three successive times by Gerhardt and seven times by Volkmann. This fact, coupled with its withstanding all treatment directed against articular rheumatism and with the character of the fluid within the joint, led Volkmann, Laboulbène, and Haslund to regard it as a specific rheumatism depending on gonorrhœa and due to the same cause. This view has been proved by Petrone and Kammerer conclusively so far as the joints alone are concerned. Since the time when Neisser first discovered the pathogenic micro-organism of gonorrhœa, and Bockhart by cultivation and inoculation showed it to be the causative agent, many have been busied with trying to obtain more proof of its correctness. The first were Ehrlich and Brieger, but with negative results. Afterward Petrone found gonococci in the joints in two cases on the third and fifth days. He also found them in the blood of one patient suffering from gonorrhœal rheumatism. Kammerer in one case, on the day after the fluid had collected in the joint, found them arranged in twos and fours within the cells. On the fifteenth day he was unable to find them in the same joint. Haslund, though believing in the identity of the process, was unable to find them in four cases examined on the second, third, eighth, and seventeenth days. R. J. Hall found them in one case which was reported at the Clinical Society of this city in 1885. Wyschemirski (in the elbow joint, twenty-sixth day), Horteloup (in the sternoclavicular joint), Lowenstein (in the hip joint on the fourteenth day), Bergmann (in the knee joint on the twenty-second day), have all found the gonococcus in cases of rheumatism.

On account of the inability of some observers to find the gonococcus, they have spoken of the disease as being the result of a mixed infection in which the urethra forms only the point for the entrance of other organisms or of the gonococcus as the larva of an infectious disease. The gonococcus exists only at the commencement of the process, and in either case is replaced by other forms of organisms; in the first case by an organism entirely different from the gonococcus (the *Eitercoccus*, Loeb), and in the second case by an-

other stage of development of the same organism causing the gonorrhœa.

In reference to the rheumatism involving joints I have five cases to report, in four of which the gonococcus was found both in the joints and in the genital or urinary organs. All the patients were females.

CASE I.—Annie B., aged five, was admitted in September, 1885, to the New York Hospital, Out-door Department, with her mother and two sisters, aged, respectively, three months and eight years. The mother stated that her child's ankle joint, which was swollen, red, and painful, had been so for three days, and that the same child had been treated for pains in other parts of the body about ten days before. No history of trauma could be obtained. A purulent vulvo vaginitis was present. The mother also stated that she herself had suffered from whites, which had been worse at times, but had never amounted to anything, nor had there ever been an acute attack. Her youngest child had been born with "sore eyes," for which she had been treated by a physician, and her oldest child had also a discharge from her privates which had lasted about five weeks. At the present time the youngest child has granular conjunctivitis and opacities of the cornea; the elder vulvo-vaginitis and synovitis of the ankle joint; the eldest vulvo-vaginitis. The mother has a discharge from the cervix, urethra, and peri-urethral glands. Nothing was seen about the vulvo-vaginal glands. Specimens were taken from the elder, both from the vagina and the ankle joint, on the day of admission, and were examined. The fluid from the joint was a somewhat tenacious, cloudy fluid, containing a large number of leucocytes, and in it gonococci were found. They were arranged in twos and fours, of characteristic shape, and were within the cells. Six specimens were examined, and they were found in two. The discharge from the genitals showed abundant gonococci. On the second day following, when the mother was examined, no gonococci were found in the cervical discharge, but they were present in the urethral (1-4). In the specimens from the youngest child, who had ophthalmia, none were found. In the oldest child they were present.

CASE II.—Mrs. T., aged twenty-six, was admitted to the out-door department of the Roosevelt Hospital in June, 1886. The patient stated that two months ago she gave birth to a child, had no trouble during labor, remained in bed about three days, and since then had done her usual work. Her child suffered from sore eyes at the time, for which he had been treated and was then well. She had suffered from her knee for the last two days. She admitted having had whites for a long time, that they had been worse since the birth of her last child, and that for the last three weeks she had had painful micturition, and was then raw about the privates.

On examination, the vagina was found to have an abundant muco-purulent discharge, the urethra was red and swollen, with a greenish-yellow discharge. The vulvo vaginal glands were involved. The discharge from the cervix was well marked, and there was an erosion on the posterior vaginal wall near the cervix. The right knee joint was swollen, red, and painful. The parasyovial tissue was involved.

Diagnosis.—Catarrhal synovitis, probably gonorrhœal. The discharge from the urethra and cervix was examined. In the cervical discharge only one out of nine specimens showed gonococci. In the urethral they were present in every specimen. Joint-fluid was examined and gonococci were present in one in eight specimens, within the cells and arranged in characteristic form. The fluid contained many pus-cells. She refused any treatment except a posterior splint, with corrosive-sublimate irrigation, 1 to 5,000.

CASE III. (Roosevelt Hospital, Out-door Department).—Annie S., eight years, August 20, 1886. The mother stated that for two months her child had been suffering from a discharge from her genitals, with frequent micturition. On examination, the vulva was found to be red and swollen and covered with a greenish mucopurulent discharge. The vagina was covered also with the same, and was red and swollen as far as could be seen. The urethra was involved. The discharge was collected, but it was impossible to isolate the urethral from the vaginal discharge. Gonococci were found in two out of five specimens, mingled with other forms, but in the cells, and arranged in groups of twos and fours. The treatment consisted in corrosive-sublimated irrigation, 1 to 10,000.

August 24th.—She appeared with synovitis of the inter-phalangeal joint of the left thumb. The inter-phalangeal joint of the right thumb was also involved, but only slightly. The right ankle joint was likewise swollen and painful. The mother stated that her trouble began in the ankle and left thumb the day before, and to-day she had first noticed it in the right thumb. They were all red and swollen, and fluctuation was obtained in the left thumb, but not in the right one. The inter-phalangeal joint of the left thumb was punctured. The fluid obtained was yellowish and sticky, and contained a number of pus cells and a few blood corpuscles. Gonococci were found in two specimens. The ankle joint would have been examined, but it was not allowed by the mother. The mode of infection could not be obtained.

CASE IV. (Roosevelt Hospital, Out-door Department).—Lizzie M., four years, Martha M., seven years, and Jennie H., eight years. The mothers of these children stated that the first had been outraged two months previously; that she and her sister Martha had always slept together; that Lizzie had had trouble with her water ever since.

August 19, 1886.—Of the first two, Lizzie had still some discharge from the vagina. Martha had a vulvo-vaginitis with rheumatism, involving the ankle, elbow, and wrist. The elbow and wrist had never been so severely affected as the ankle, and were then recovering. The ankle joint was still the seat of a well-marked synovitis with involvement of the parasyndovial tissue, and, according to the mother's statement, it had lasted eleven days; according to the child's, twelve days. The joint was still swollen and painful. No heart murmur was present. Specimens from the genitals of both girls showed abundant gonococci. The fluid from the joint was examined, but no gonococci could be found in eleven specimens, though the fluid was of the same character as existed in the other cases, containing a number of pus-cells. Any further attempts to obtain fluid were denied by the mother, which is to be regretted, for I firmly believe that, had it been possible to obtain any, my belief would have been unquestionably proved.

The third patient, Jennie H., had a vulvo-vaginitis, but no rheumatism. Gonococci were found in the vaginal discharge.

From the mother's statement that the youngest one had been outraged, and that the two children had always slept together and had used the same towels, basins, etc., I think it very probable that Martha obtained it from Lizzie, and it is even more probable when we find that Jennie, after being with them here (the original case having occurred in Philadelphia), also acquired a vulvo-vaginitis. Though no gonococci were found in the joint, I still think it a clear case of gonorrhoeal rheumatism. The case would not have been reported at all, except that the evidence in favor of its origin is so strong.

CASE V.—Sarah D., aged nineteen, a native of Ireland, married, cook, was admitted into Roosevelt Hospital, August 9, 1886. Her family history was negative. She had had one child born at full term, which had died of cholera infantum. She had always been healthy; had had no rheumatism and no Bright's disease. There had been no joint diseases in the family. She denied all venereal diseases; no symptoms of syphilis or tuberculosis were present. Her husband died of consumption fourteen months ago.

She stated that six days before, without known cause, she had pain in the knee. It began to swell, and on the 5th the pain had increased so much that she was obliged to go to bed. The joint had enlarged rapidly. She had been unable to put her foot to the ground, and motion in the joint became very limited. It had been painful to pressure. She had had leucorrhoea for a long time, but never at any time an acute disease of any kind about her genitals. She had never suffered much at her menstrual periods, nor was there any history before marriage of disturbances in the duration or amount of pain at her menstrual periods. She admitted having had more pain and been more irregular since marriage. Three weeks ago she had painful micturition, with some burning about the privates, which lasted several days, during which time she made water frequently.

On examination, the left knee was found to be swollen, fluctuating, hot, and painful to the touch. Motion was limited and produced great pain. The patella floated and gave with pressure the characteristic "click." The skin was reddened. There was some oedema about the joint. (Iodine had been painted upon the joint before admission to the hospital.) The leg was flexed upon the thigh 45°. The left knee measured 42.5 ctm.; the right knee, 37 ctm. Temperature, 103° F. No chill.

Diagnosis. Gonorrhoeal synovitis—catarrhal.

August 10th.—Temperature, 102° A. M., 103° P. M.; no chill. Specific gravity of urine, 1.026; no albumin; slightly cloudy, otherwise normal.

11th.—Temperature, 102° A. M., 103.5° P. M.

12th.—A needle was passed into the joint and a grayish-yellow sticky fluid obtained. Gonococci were found within the cells, arranged in twos and fours, in two specimens, and were examined by Dr. Woolsey, the house surgeon, and myself.

14th. Operation.—Drainage and irrigation of the knee joint. One gallon of a one-to-forty carbolic-acid solution was washed through the joint.

17th.—The temperature has steadily fallen; it is to-day normal. Patient is averse to having her urethra and vagina examined. Three tubes removed.

20th.—Last tube removed.

24th.—Drainage-tube openings all closed.

September 7th.—Plaster splint applied and she is walking about the wards.

21st.—Discharged with motion to nearly a right angle. No fluid in the joint. Slight crepitation can be felt on the left side of the patella.

26th.—Has been "sick" for four days. She says her "whites" are worse. Some frequency of micturition. Discharge obtained from urethra four specimens, six from vagina. Gonococci found sparingly in one of the specimens from the urethra. There was no return of pain or swelling in the joint during the menstrual period.

November 3d.—Seen again in the dispensary. Motion is still good. Can nearly flex to the full amount. Complains of no pain in the joint.

The cases reported above are only such as involve the joints, but it seems scarcely probable that an affection like

gonorrhœa will limit itself to the joints, for when one examines the literature upon the subject he finds ample proof of at least a very close connection between the gonorrhœa of the urethra and other portions of the body. Terillon's report of two cases in the psoas bursa; Railton's of a case of endocarditis; Morel's of two cases of pericarditis and eleven of endocarditis; Marly's statement that gonorrhœa may be found in all serous membranes, and that the so-called rheumatism is not always the connection between the specific inflammation and the disease of the serous membrane; Petrone on the possibility of certain eruptions in gonorrhœa resembling roseola and scarlatina being due to the presence in the blood of the gonococcus; Fournier's that gonorrhœal ischias occurs most frequently with other complications (arthropathies, tenosynovitis, and ophthalmia), and that it recurs with the exacerbations of the gonorrhœa; Basset's report of the occurrence of conjunctivitis, tenosynovitis, and multiple synovitis in a single case; Scarenzio's report of two cases of ischias alternating with the arthropathies; Hardy's on the involvement of muscles, and many others in their reports upon the arthropathy of gonorrhœa—all speak in favor at least of a very probable connection between the inflammation of the urethra and other organs.

When we look at the various and many organs in which the gonococcus has been found, and the reported cases where, though not found, the proof of the process being the same was at least probable, we ought, I think, to find more cases of the disease than we do. I do not believe the so-called gonorrhœal rheumatism to be so rare as generally stated, 1-35-66, and less so in females, for I see frequently in women and children cases where one is ultimately reduced to a diagnosis of a gonorrhœal infection, in a few of which I have been fortunate enough to find a return of the myositis—in one case of the tenosynovitis, in two cases with an exacerbation of the gonorrhœal urethritis—proving, at least, a very close connection between the two. In the male, one is seeing constantly cases where the joints, sheaths of tendons, muscles, and nerves (?) are, in all probability, gonorrhœal, and in these one easily obtains an examination of the genitals to aid the diagnosis; but in the female this is often impossible, or, at least, attended with difficulty. They, moreover, conceal any such trouble with their genitals, and the case is liable to be passed over without the proper diagnosis being made.

Considering the careful and thorough manner in which the disease has been investigated so far, it seems that our efforts should be in the line of the gonorrhœal infection in other organs than the joints, and especially in the females.

In the chronic and insidious forms of gonorrhœa, with the exacerbations at the menstrual period and during and after pregnancy, at which time its virulency is most marked, we should be particularly vigilant, and we should, if possible, establish their gonorrhœal nature by the presence of the gonococcus, and, if not, establish the possibility of a mixed infection, whether that be one in which two specific pathogenic organisms act at the same time—as is seen in the combined inoculation of vaccinia with erysipelas, with syphilis, or with impetigo contagiosa; or one in which one specific type follows during the activity of another—

vaccination during measles, parotitis epidemica, or variella; or one in which the first only prepares the soil for the development of the second—as in diphtheria and gangrene following suppurating wounds, abscess and gangrene in pneumonia, and the rheumatic joint troubles following convalescence from the exanthemata, dysentery, and diphtheria. Although as yet bacteriologists have not decided positively the question whether such rheumatic joint symptoms are the result of the primary infection, or are dependent upon a secondary infection, still it seems probable that during the existence of or after the lesion left by a gonorrhœa one might have a mixed infection, so that the gonococcus would not be found, although the secondary symptoms might point to a probable connection between the urethra and the secondary joint trouble. It should be our aim to solve this problem.

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CARLSBAD

FROM THE PRACTICAL POINT OF VIEW.

By C. FAYETTE TAYLOR, M. D.

As the season approaches for our annual exodus to Europe, physicians will be consulted, by increasing numbers year by year, in regard to the different European baths, concerning which they are expected to give at least some general advice and direction.

There is no place so important, none frequented by so many people for purposes of health alone, none so capable of benefiting those suited to its regimen and waters, none so likely to prove injurious when improperly used, and none which it is equally necessary to understand before venturing to give opinions to persons asking to be directed whether to go to or to stay away from it, as Carlsbad.

Having passed two seasons of more than the usual length at Carlsbad, and the intervening time in localities where I frequently met patients who had used, and physicians who had prescribed, and knew the effects of Carlsbad waters, I venture to offer some statements in regard to the subject in the hope that they may be of use to those who have neither the time nor opportunity to study it thoroughly.

The seeker after information ought to be made to understand at once that Carlsbad is not suited to those persons who make the plea of health-seeking but whose paramount object is to have a "good time." It is not a watering-place in the American sense of that term. There is no *fun* in Carlsbad. People go there with the serious purpose of gaining health, though it is pleasant enough when one has an object in being there.

The queer old place, squeezed in a narrow, winding valley; the many springs and the people of all nations who frequent them; the finely wooded hills and splendid paths in all directions through them; the cafés suddenly come upon in unexpected and pretty places; the picturesque country to drive through, when one wishes to drive—make it easy enough to pass the time when there. But there is

nothing to go for except the waters, or to wait for after one is through with them.

The climate is bad. It is a mountain climate, with sudden, often extreme, changes of temperature, and frequent rains. Winter clothing should be worn, and overcoats and shawls should be carried on every half-hour's walk or drive when it is not actually warm. Out of doors umbrellas are never dispensed with. All rooms contain the German "Ofen," or tall porcelain stove, and persons at all feeble ought to be charged to have a little fire whenever there is a sudden fall in temperature, especially if accompanied with rain, as it generally is. There are, however, many bright, warm, and beautiful days in Carlsbad, sometimes weeks of them, but, as one is not sure of good weather at any season, it is better that prospective patients should understand what the climate really is, so as to be prepared for whatever may come.

In a word, Carlsbad is a health resort and nothing else. This fact having been made clear, shall the inquirer be advised to go there or to stay away?

This is no light question, and requires careful consideration before it can be properly answered. It is right to say, in general, that young persons and persons constitutionally feeble are rarely fit subjects for the Carlsbad course. No person is a fit subject till it has been found, by careful examination by a competent physician, that his case can be classified among those likely to be improved at Carlsbad. The final determination had better be left, in most cases, to the Carlsbad doctors. These are generally men of ability and character, and deserving of confidence. As they labor under the great disadvantage of being obliged to form conclusions and prescribe on very slight personal acquaintance, it is always better to give letters of introduction, when possible, in which any peculiarities of temperament or constitutional idiosyncrasies, when such exist, may be mentioned.

Some delays and occasional mistakes might thus be avoided. But on no account should a person be allowed to go to Carlsbad without ample warning that it is dangerous to use the waters without professional advice, as one may happen to fancy, or as one may have been accustomed to do at Saratoga or Sharon. Carlsbad waters are strong, and produce a profound impression on the organism, which is the more important for the patient to know, because it is not usually accompanied by corresponding evidence to the senses of its action.

The typical patients for Carlsbad are, according to my experience and conviction, those with certain affections of the glandular system, especially of the liver and kidneys, and of the mucous membranes. Perhaps I might better say, all those affections depending on, or accompanied by, general capillary stases, terminable in some form of direct disintegration, but excluding cases, like tuberculosis, in which there are formative processes of a low order preceding disintegration.

At any rate, one important effect of the Carlsbad waters seems to be the thorough washing out of the capillaries. Hence the important service it renders the mucous membranes and glands when the nutritive fluids find difficulty in circulating through them.

Unquestionably the circulating fluids undergo important modification of constitution before accomplishing their more complete diffusion; but experience proves that the line of safety is well defined, and with careful watching need not be crossed. Whatever may be the true explanation, it is certain that very remarkable ameliorations take place under the influence of Carlsbad waters temporarily taken into the circulation in certain conditions. This is especially the case in chronic catarrh of the alimentary tract and in passive congestions of the liver and kidneys.

It is undoubtedly true that the largest contingent of patients at Carlsbad is furnished by persons with affections induced by indiscretion in eating and drinking, and for whom a carefully regulated abstemious diet constitutes a necessary part of their treatment. But it would be grave error to suppose that there are not many cases of the opposite character for whom the Carlsbad course is highly beneficial.

Indeed, the most remarkable improvement in any case coming under my observation was that of a person whose habits were so correct that no important change was made in his manner of living.

The most important question to be considered in regard to Carlsbad is as to whether the condition of the patient classifies him among those whom experience proves are likely to be benefited; the remote or even proximate cause of the gastro-intestinal catarrh, or even albuminuria, for instance, while important, is not determinate in considering the propriety of the Carlsbad treatment. Feeble persons having the proper pathological conditions need not hesitate in regard to visiting Carlsbad, provided they use care and discretion corresponding to their weakness. Above all, patients should be impressed with the idea of so regulating their lives in regard to eating, drinking, and exercise as to accomplish the purpose with the smallest amount of the water drunk and baths taken, instead of trying to see how much they can take, as is often the case.

From the preceding remarks it is easy to see that I do not agree with those persons who assert that the acknowledged beneficial effects of the Carlsbad course are principally due to the enforced dietary, and that the same effects could be obtained at home if it were possible to enforce the same abstemiousness in eating and drinking. Nor does the statement which has been made, that the effect of Carlsbad water depends upon the principal ingredient, Glauber's salt, contained in it, correspond with the clinical facts which have come under my observation. The fact is, in my opinion, that the results obtained by the judicious use of Carlsbad water in suitable cases are not obtainable in equal measure by any other means at present known.

There will always be a certain number of persons with affections pathologically suitable who can not afford the expense or who should not bear the fatigues of a long and wearisome journey, in whose behalf the question will arise in regard to the propriety of the home use of the Carlsbad water. It is a delicate question, but I do not hesitate to affirm that with proper management the use of Carlsbad water may be as efficacious at home as in Carlsbad itself, provided all the conditions for success are strictly complied with.

In the first place, the cases should be strictly suitable.

Personally, I should confine them to those of biliary obstructions, chronic gastro-intestinal catarrhs, and renal conditions characterized by calculi, albuminuria, casts, blood- or pus-corpuscles. In the next place, home treatment should be attempted only where all business cares can be wholly set aside, leaving the person as free from occupation and anxieties as if he were on the other side of the globe. In the third place, a regimen should be prescribed and enforced of a quality, and quantity that can be entirely digested and absorbed within three or not more than four hours after eating, leaving the stomach perfectly free at least two hours before other food is taken. As little fluid of any kind as possible should be taken, even to experiencing a certain amount of thirst. With such preparation bottled Carlsbad water may be prescribed with the certainty of producing effects. If the kidneys and liver are to be principally acted on, rapid absorption is desired. For this purpose the water should be taken as hot as it can be drunk, not less than one hour before breakfast and with gentle exercise after drinking. The breakfast should be exceedingly light. The larger amount, in some cases the entire amount, should be drunk in the morning; but if more is required, an amount equal to one half the morning portion may be drunk at noon.

In chronic gastro-intestinal catarrhs it is desirable to delay absorption, and for that purpose it is better to drink the water lukewarm at least half an hour before rising in the morning with very little exercise before breakfast, and the same amount after retiring to bed in the evening.

Exercise for general hygienic purposes should be taken in the middle of the day. In regard to the amount of water to be drunk, I believe that, with careful attention to the regimen, from two to four ounces at a time will be found amply sufficient. I am free to say that, in my opinion, too much water is frequently drunk at Carlsbad.

When it is desired to increase the effect, it may be more surely and safely done by enforcing a stricter regimen than by imbibing a large amount of water. Four weeks are generally sufficient, and six weeks the limit during which Carlsbad water may be profitably or even safely taken.

I have said nothing about the baths which are usually prescribed, because I have not much faith in their alleged therapeutic value. But the so-called after-treatment, which consists mainly in a continuance of the same regimen for a while and its gradual relaxation after ceasing to drink the water, together with continued repose of mind and body during several weeks, is an important, and not to be omitted, adjunct to the treatment.

The home treatment should not be attempted unless it is to be followed by the after-cure, to afford time and opportunity for the organism to recover from the general effects of the water.

Of the seventeen springs at Carlsbad, two only—the Sprudel and the Muhlbrunn—are bottled for exportation. There is no essential difference in their chemical composition. Carlsbad Sprudel salts are on the market, but as they do not contain all the elements of the water from which they are obtained, but are composed almost entirely of Glauber's salt, they should not be used except as a laxative.

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BAKED BEANS

In the March number of the "Albany Medical Annals" may be found an article by Dr. Ephraim Cutter, of New York (formerly of Boston), entitled "Baked Beans: a Semi-humorous Medical Paper." Dr. Cutter's theme is one of never fading interest to the American people, whom, indeed, it has divided into two wholly irreconcilable parties. With some exceptions, the inhabitants of a large part of New England, with Boston for a focus, are bean-eaters of an ardent and uncompromising sort. The bean-habit is acquired by the children at an early age, and possibly—so long has the addiction prevailed—there is an hereditary predisposition to it. Probably the narrow territorial limits of bean-eating make its hold on its adherents all the more stringent. Outside of those limits, mankind, with a few possible exceptions, loathe the flatulent bean and find it difficult to understand the esteem in which it is held in the heart of New England. So totally does each party fail to discern the slightest show of sense in the position taken by the other that both usually concede at once the futility of arguing the matter, and proselyting is recognized as nothing short of impossible. The bean-eater pities those whose prejudices shut them out from participation in his bliss, and everybody else sternly resolves never to spend a Sunday in Boston if he can avoid it. In view of this state of hopeless disagreement, it is somewhat remarkable that an investigator should have been found capable of treating of baked beans as an article of food with such freedom from prejudice as is exemplified in Dr. Cutter's article; and this is all the more admirable when we take into account the fact that in all probability the author is himself a devotee of the bean. This, however, does not restrain him from pointing out the difficulty with which that legume is digested and the pains that should be taken in cooking and eating it. He does not even deny, but rather appears to concede, that the bean-habit is to some extent at the bottom of the prevalence of consumption in New England.

The injurious effects of the bean are attributed by Dr. Cutter, who on this point is in accord with Dr. J. H. Salisbury, in great measure to its tough sac and to its stubborn starch granules, both of which, unless their spirit is broken by exceeding care in the cooking, require for their digestion almost the gizzard of a fowl or the confederated stomachs of a ruminant. Our author suggests that the bean sacs must "explode like microscopic dynamite bombs in the intestines." But it is not alone on the digestion that beans expend their deadly energy; secondarily, if we quite understand Dr. Cutter, they are apt to play havoc with a man's spiritual nature, for we read: "Do not go to church right after eating baked beans; they will stay

in the stomach and their indigestion will do much toward spoiling the enjoyment of the exercises there." Whether the "exercises" referred to are those that go on in the church or those that take place in the stomach, we are not perfectly sure, but we fancy that Dr. Cutter's statement could command much corroborative testimony, whichever interpretation were put upon it.

THE ETIOLOGY OF CHOREA.

In a recent issue of the Berlin "Charité-Annalen," Dr. Litten has put forth a considerable contribution to our stock of facts bearing upon the morbid conditions which precede chorea and are generally interpreted as standing more or less in an ætiological relation to that disorder. Among the author's cases, there were two which seemed to depend upon lesions of the peripheral nerves, which are included under the rarer causes of the disease. Emotional disturbances, such as fright, furnished no small contingent of the ætiological factors observed by Litten, but in weighing the part played by psychical elements it is to be borne in mind that many such cases are merely complications of hysteria. Several clinical histories are related in illustration of the post-hemiplegic and pre-hemiplegic forms of hemichorea. In two fatal cases decided changes were found in the brain—in one of them a considerable meningeal exudation. Of considerable interest is a case of pulmonary tuberculosis in which chorea followed vertebral caries with softening of the cervical portion of the spinal cord.

The greater part of the paper is devoted to the question of the relationship between chorea and the acute infectious diseases and acute rheumatism. All the cases of chorea that appeared in the course of scarlet fever, intermittent fever, gonorrhœa, or septicæmia were complicated with synovial inflammation. The choreic movements never appeared immediately after the termination of the primary disease, or prior to the articular inflammation, but after the initial attack had been fully recovered from, and when the joint affection had become quite developed; so that synovial inflammation, the author remarks, may be inferred to be an agency intermediate between chorea and the acute diseases. Several cases of chorea were observed in the course of Graves's disease and pernicious anæmia. In reference to the question of the connection between acute articular rheumatism and chorea, the forty-eight cases observed by Litten are of particular interest, inasmuch as they all occurred in adults. Seventy per cent. of them were in women. Sixteen of them proved fatal. More than a third of the patients had had chorea either during childhood or at puberty, and had afterward had relapses, many of the latter following or coinciding with attacks of acute rheumatism. It is interesting to note that chorea made its appearance in the course of two cases of "rheumatic spinal paralysis"—a term which the author probably employs to denote spinal paralysis following exposure to cold.

Litten concludes that acute articular rheumatism and psychical disturbances constitute the best ascertained causes of chorea. This statement is strengthened, he says, by the circum-

stance that in repeated relapses of acute rheumatism each relapse may be followed by chorea. Regarding the endocarditis observed in chorea, he holds that it is always produced by the joint affection. He expresses himself as decidedly skeptical concerning the embolism theory of the origin of chorea.

MINOR PARAGRAPHS.

THE PHYSICAL TRAINING OF GIRLS.

It is not uncommon for members of the medical profession to inveigh against the almost world-wide neglect of the important elements of amusement and physical training in girls' schools. That so little has been accomplished in the direction of correcting the evil is probably to be attributed to the fact that those who have treated of the subject publicly have for the most part contented themselves with portraying and condemning the existing state of things, and have made no very definite or practicable proposals for remedying it. A striking exception is to be found in an address lately read before the Gloucestershire Branch of the British Medical Association, by Dr. Rayner W. Batten, senior physician to the Gloucester Infirmary, as we find it published in the "British Medical Journal." The speaker did not restrict himself to tracing the increased prevalence of anæmia and the like largely to the neglect of girls' physical education, but outlined what seems to be a very practicable and attractive scheme for providing school-girls with a due amount of open-air exercise having the character not of a perfunctory routine, but of wholesome and invigorating sport. He would have at least two half-holidays a week devoted to games played in a large open space, and, in the absence of special reasons to the contrary, every girl required to take part and to wear a suitable costume. He properly lays stress on the need of varying the games, and justifies the requirement by calling attention to the lack of symmetrical development in the devotees of any one form of exercise, specifying "the contracted chest and the stoop of a mere cyclist." Among the exercises that he would have practiced are swimming, fencing, cricket, football, fives, and tennis, and such games of speed and endurance as prisoners' base, cross-touch, etc. Dr. Batten thinks that the governing bodies of the higher schools should first be led to move in the matter, and he urges that it is the duty of medical men to seek by all means to influence them to do so.

THE ASHES AND GARBAGE NUISANCE.

THE people of New York should feel grateful to the new president of the Board of Health for having brought forward the amendments to the sanitary code which we publish elsewhere, by virtue of which, it is hoped, the clouds of ashes and other light refuse that now so often fill the air at all times of the day will soon become a thing of the past, and the midnight roisterer cease to be tempted to pitch the contents of the barrels into the gutter. To lighten the labors of the gentlemen who collect the contents in carts, Mr. Bayles is reported as having suggested that "it would be advisable in all cases to consider the convenience of the Street-Cleaning Department, as its employees will have to carry the vessels to their carts and return them." This is a very considerate suggestion, and we look for a general and cheerful compliance with it, even if it should turn out that some artisan has taken time by the forelock and made up a stock of receptacles of a size and pattern so manifestly appropriate as to lead the board to urge householders to provide themselves with just that sort of vessel. Let us take to heart, too, the homily which, according to a newspaper re-

port, Mr. Bayles addresses to the public, containing the following sentence:—"Citizens will undoubtedly take better care of their refuse receptacles if required to keep them within their own premises than they consider necessary when permitted to place them where they are a nuisance to everybody except themselves." Without some such statement from an official, we might have continued to suppose that the depositing of the receptacles on the sidewalk was due to the demands of the employees whose convenience we are now called upon to consider, rather than to the average citizen's propensity to create a nuisance for everybody but himself.

THE UNIVERSITY OF LOUISVILLE.

It was with his customary skill that Dr. David W. Yandell prepared the address which he delivered at the recent semi-centennial anniversary of the establishment of the Medical Department of the University of Louisville. For many years the medical schools of Kentucky have figured prominently and honorably in the history of medical teaching in this country. In the case of the particular school attached to the University of Louisville this seems to have been due not alone to the character of the teachers, commanding as that has generally been, but in great measure also to the fact that the people looked upon the institution as something of their own, something in which they could take pride, and not as a self-dependent enterprise concerning the fate of which they could feel only the interest of curiosity.

Some of the past events brought out by Dr. Yandell are quite to the same purpose as Dr. Bowditch's contention, to which we alluded last week, that most of the absurdities in medical doctrine are but the recoil from a pre-existing state of error equally ludicrous. For example, take the teaching of John Esten Cooke, who "saw in bile, yellow bile, and black bile the hands on the dial plate of disease which pointed unerringly to the one and only treatment"—that with huge doses of calomel "by day and by night, in season and out of season, first, last, and all the time." To such narrowness of doctrine Dr. Yandell traces the outbreak of Thomsonianism that held great sway over the country some years ago.

THE NOMENCLATURE OF ABDOMINAL OPERATIONS.

MR. H. A. REEVES, of London, has written a letter to the editor of the "British Medical Journal," in which he expresses his dissatisfaction with the terms *gastrotonomy*, *laparotomy*, and *malacotomy* to denote the operation of cutting into the abdominal cavity. His objection to the word *malacotomy*, suggested by Rabagliati—that it means only a cutting of soft parts, and is therefore applicable to other parts than the abdomen—seems to us perfectly legitimate, for the liberty taken in its construction far exceeds what is to be tolerated in the formation of technical terms from classical words. But this objection does not apply in the same degree to *gastrotonomy* and *laparotomy*. It is true that the former is vague and unsatisfactory, but the application of Mr. Reeves's test to it would not bar it out, except for the practical consideration that it is important not to use a word that may mean either an incision into the stomach or simply an abdominal section. The term *laparotomy* seems to us quite unobjectionable, notwithstanding the fact that *laparion* meant the loin and not the entire abdomen, for ancient words are, by common consent, not necessarily used in scientific nomenclature with their precise original meaning. One good effect of giving them an increased range of signification is to limit the production of such hybrids as the term "ventrotonomy," which Mr. Reeves suggests.

MILIARY ANEURYSMS OF THE SPINAL CORD.

THESE formations have not been noticed frequently, and when they have been found—even in cases so accurately described as Hebold's—they have not been assigned much clinical importance. But it is announced by Dr. Koehler and Dr. Spitzka, of New York, that, in one family at least, a diffuse miliary aneurysmal degeneration of the medulla is to be regarded as the anatomical basis of an hereditary spinal neurosis. The same symptoms—accurately imitating a typical multiple sclerosis—were found in members of two generations of this family. In one case, which terminated fatally in middle life, examination revealed extreme miliary degeneration of the spinal, less of the pontine, and still less of the cerebral blood-vessels, but some evidences of disturbed nutrition of the white substance.

ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Fourth Division of the Health Department for the following statement of cases and deaths reported during the two weeks ending March 29, 1887:

DISEASES.	Week ending Mar. 22.		Week ending Mar. 29.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever.....	10	4	6	4
Scarlet fever.....	51	11	40	11
Cerebro-spinal meningitis....	1	1	7	7
Measles.....	170	20	113	18
Diphtheria.....	79	35	90	46
Small-pox.....	5	3	4	4

The Health of New York City.—During the five weeks ending Tuesday, March 29th, there were reported to the Sanitary Bureau of the Fourth Division of the Health Department 36 cases of typhoid fever and 20 deaths; 251 cases of scarlet fever and 60 deaths; 18 cases of cerebro-spinal meningitis and 18 deaths; 901 cases of measles and 116 deaths; 413 cases of diphtheria and 206 deaths; 55 cases of small-pox and 11 deaths.

The Medical Microscopical Society of Brooklyn will hold its next meeting on Wednesday, the 6th inst. Dr. Arnold Stub will read a paper on the tubercle bacillus, and practical microscopical demonstrations will be given.

The Removal of Ashes and Garbage.—It is announced that the city Health Department has resolved to add to the sanitary code the following provisions concerning receptacles for ashes and garbage:

"And no such box, barrel, or tub, before or after it is emptied, shall be placed or permitted to remain upon the sidewalk or in any other public place, but shall be kept within or upon the premises of the person or persons to whom it belongs until removed therefrom for emptying by the authorized employees of the Department of Street Cleaning and by them returned to the place whence it was taken. . . . Such boxes, tubs, or barrels shall be placed or kept at all times in such places as to be readily accessible for removal for emptying and where they shall not be a public nuisance, and no person not for that purpose authorized shall interfere therewith nor with the contents thereof."

The Massachusetts General Hospital.—Dr. Francis Minot has, we are informed, resigned from the medical staff. It is reported that the vacancy will be filled by the appointment of Dr. Ellbridge G. Cutler.

A Thieving Hospital Attendant.—A man formerly employed in the accident-room of the Boston City Hospital is said to have embezzled \$240 from patients. It was his duty to take charge of and deposit in the safe all money and valuables in the possession of patients who were brought to the department.

Instead of doing this, however, he retained them, and in January last suddenly disappeared. It is gratifying to be able to add that he has been apprehended.

The Kings County Medical Association.—The inaugural meeting will be held in Brooklyn on Tuesday, April 5th. The subject for discussion will be the oil of wintergreen as a therapeutic agent, on which the president, Dr. E. R. Squibb, will read a paper.

The New York College of Pharmacy held its fifty-seventh annual commencement exercises in Steinway Hall on Tuesday evening, March 29th, when a class of eighty-three was graduated.

The New York Hospital Training School for Nurses held its commencement exercises in the executive building of the hospital on Thursday evening of this week.

The Rochester City Hospital Training School for Nurses held its fifth annual commencement exercises on Thursday evening of this week, when diplomas were given to a class of eight.

The Medico-chirurgical College of Philadelphia will hold its sixth annual commencement exercises at Association Hall, Philadelphia, on Thursday evening, the 7th inst. It is announced that the annual address will be given by the dean of the faculty, Dr. P. D. Keyser, and that Dr. Dudley S. Reynolds, of Louisville, will deliver the alumni oration.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from March 13, 1887, to March 26, 1887:*

GRAY, WILLIAM W., Captain and Assistant Surgeon. Leave of absence further extended two months. S. O. 62, A. G. O., March 17, 1887.

CARTER, WILLIAM F., Captain and Assistant Surgeon. Leave of absence extended four months on surgeon's certificate of disability. S. O. 57, A. G. O., March 11, 1887.

POINDEXTER, JEFFERSON D., First Lieutenant and Assistant Surgeon (recently appointed). Ordered for temporary duty at U. S. Military Academy, West Point, N. Y., relieving Captain Richard W. Johnson, assistant surgeon, who will return to his proper station (Fort Adams, R. I.). S. O. 62, A. G. O., March 17, 1887.

EDIE, GUY L., First Lieutenant and Assistant Surgeon. Leave of absence extended three months. S. O. 67, A. G. O., March 23, 1887.

REYNOLDS, FRANK, Captain and Assistant Surgeon (retired). Died, March 3, 1887, at Oakland, Cal.

Naval Intelligence.—*Official List of Changes in the Medical Corps of the United States Navy for the two weeks ending March 26, 1887:*

PARKER, J. B., Surgeon. Ordered to the U. S. Steamer Ossipee.

SIEGFRIED, C. A., Surgeon. Ordered to Baltimore, Md., on special duty.

HUGG, JOSEPH, Surgeon. Placed on the Retired List, March 17, 1887.

CORDEIRO, F. J. B., Assistant Surgeon. Detached from the Navy-Yard, Boston, and placed on waiting orders

Marine-Hospital Service.—*Official List of Changes of Stations and Duties of Medical Officers of the United States Marine-Hospital Service for the two weeks ending March 26, 1887:*

BAILHACHE, P. H., Surgeon. To proceed to Mobile, Ala., Pensacola, Fla., Ship Island, Miss., and New Orleans, La., as inspector. March 14, 1887.

LONG, W. H., Surgeon. Granted leave of absence for seven days. March 16, 1887.

GOLDSBOROUGH, C. B., Surgeon. Granted leave of absence for thirty days. March 14, 1887.

DEVAN, S. C., Passed Assistant Surgeon. To proceed to Tacoma, Washington Territory, as inspector. March 19, 1887.

LONG, W. H., Surgeon. Leave of absence extended five days. March 23, 1887.

URQUHART, F. M., Passed Assistant Surgeon. Relieved from duty at Norfolk, Va.; ordered to Washington, D. C., on special duty. March 22, 1887.

PETTUS, W. J., Assistant Surgeon. When relieved by Passed Assistant Surgeon Guitéras, to remain at Charleston, S. C., waiting orders. March 24, 1887.

Society Meetings for the Coming Week:

MONDAY, April 4th: New York Academy of Sciences (Section in Biology); Medico-chirurgical Society of German Physicians; Morrisania Medical Society (private); Brooklyn Anatomical and Surgical Society (private); Utica, N. Y., Medical Library Association; Boston Society for Medical Observation; St. Albans, Vt., Medical Association (annual); Providence, R. I., Medical Association; Hartford, Conn., City Medical Association; Chicago Medical Society (annual).

TUESDAY, April 5th: New York Obstetrical Society (private); New York Neurological Society; Elmira, N. Y., Academy of Medicine; Buffalo Medical and Surgical Association (annual); Ogdensburg, N. Y., Medical Association; Medical Societies of the Counties of Broome (quarterly) and Niagara (Lockport, quarterly), N. Y.; Medical Societies of Essex (annual, Newark), Hudson (Jersey City), and Union (annual, Elizabeth) Counties, N. J.; Androscoggin, Me., County Medical Association (Lewiston); Chittenden, Vt., County Medical Society.

WEDNESDAY, April 6th: Harlem Medical Association of the City of New York; Brooklyn Medical Microscopical Society (private); Medical Society of the County of Richmond (Stapleton), N. Y.; Penobscot, Me., County Medical Society (Bangor); Bridgeport, Conn., Medical Association; Philadelphia County Medical Society (regular).

THURSDAY, April 7th: New York Academy of Medicine; Society of Physicians of the Village of Canandaigua, N. Y.; Boston Medico-psychological Association; Washington, Vt., County Medical Society; Obstetrical Society of Philadelphia; United States Naval Medical Society (Washington).

FRIDAY, April 8th: New York Academy of Medicine (Section in Neurology); Yorkville Medical Association (private); Medical Society of the Town of Saugerties, N. Y.

SATURDAY, April 9th: Obstetrical Society of Boston (private).

Letters to the Editor.

THE DUTY OF INSTRUCTING THE COMMUNITY IN MEDICINE.

JUNCTION, ILL., March 5, 1887.

To the Editor of the New York Medical Journal:

SIR: In one of the Philadelphia journals I find a translation of the Hippocratic oath, which binds those who are about to enter the profession of medicine, by all that is sacred, to impart a knowledge of the healing art to those who are bound by stipulation and oath—and to no others. If the profession had earlier laid aside the old ideas of oaths and exclusiveness, and earnestly sought to extend among the people rational ideas re-

specting causes of disease and their avoidance, there would have been far more satisfaction and far less pain on this little globe called the earth. The way to eliminate quackery and sophistry is for the schools, the press, and each individual practitioner freely and zealously to disseminate the highest attainable light respecting everything pertaining to life, and a grateful and far happier people will sing the praise of a profession infinitely above the plane of mysticism and exclusiveness.

The author of an article in the same journal says: "It may have been my luck to meet with no very difficult cases." Seriously to admit the element of chance into the action of physical causes is to open wide the way for the introduction of sorcery, faith cures, and all manner of humbugs. . . . When the common schools impart more correct views respecting the physical structure of man and the nature of his surroundings, the practitioner of medicine will have to give other evidence of fitness for his profession than credulous faith in mysterious forces or subscribing to oaths or affirmations. The physician's sphere will not thus be limited, but extended and elevated, as all just and intelligent effort for the advancement of the whole people has greatly improved all classes. We certainly are highly indebted for the zealous co-operative efforts of our pharmacists, and a general law should require the publication of the formula on all medicinal preparations. Not that I would discourage the effort to secure happy combinations, but let their nature be set forth fully, that their merits may appear.

JAMES H. CRAIN, M. D.

A REPUTED INDORSEMENT OF A DIPLOMA.

BELLEVUE HOSPITAL MEDICAL COLLEGE,
NEW YORK, March 24, 1887. }

To the Editor of the New York Medical Journal:

SIR: In what purports to be a list of registered physicians in the city of New York is the following: "Cate, William M., 37 W. 42d, h. Barrett House. Hom. Med. Coll. Mo., 1874; indorsed Bell, N. Y., 1883." There is no record of any such indorsement in the books of the Bellevue Hospital Medical College.

AUSTIN FLINT, Secretary.

Proceedings of Societies.

NEW YORK ACADEMY OF MEDICINE.

Meeting of January 20, 1887.

The President, Dr. A. JACOB, in the Chair.

The Value of Quinine as an Antipyretic in Pneumonia.

—Dr. J. H. RIPLEY first referred to his experiments with quinine, in 1877, to test its value in the control of pneumonia, reported by his house physician at St. Francis's Hospital, the late Dr. Langworthy. Those experiments, together with histories of cases added by his house physicians since that time, constituted the basis of the paper he was about to read. The number of cases taken into consideration was forty eight, although there were many others in which less definite observations had been made. The drug was given only in cases in which the temperature had reached at least 103° F., and in which there were no complications. The quinine, when given by the mouth, was almost always in solution. The temperature was taken in the rectum. No experiment lasted less than four hours; the majority from six to twelve hours. In the earlier cases the temperature was taken every fifteen minutes; subsequently it was

taken half-hourly or hourly. The time of day when the drug was administered varied, but when only a single dose was given it was generally in the morning. The patients were nearly all adult males, from nineteen to forty-five years old. The amount of quinine given daily was usually from twenty to forty grains, in a single dose or in repeated doses, by the mouth or subcutaneously. In one case a fall of 4° took place after the administration of forty grains of sulphate of quinine by the mouth; in the case of a child it fell 3.5°; in five instances it fell between 2° and 3°; in fourteen the fall was less than 1°; two cases showed no fall; two showed a slight elevation. In the remainder the fall was between 1° and 2°. The fall was always of short duration, and there was no uniformity in the time when it began nor in its duration. The time from the commencement of the fall to the permanent rise was from two to ten hours. The temperature, even when taken every fifteen minutes, constantly varied. The effect as to the frequency of the pulse and respiration was neither constant nor uniform. The frequency of both was usually a little diminished; sometimes the one was hurried and the other retarded. Of the six cases in which the temperature fell more than 2°, in four there was a history of malarial poisoning. So far as could be judged from these experiments, the most that could be expected from the administration of from twenty to forty grains of quinine daily in the active stage of acute lobar pneumonia was that it would reduce the temperature between 1° and 2° in about half the cases, while in the other half the reduction would amount to less than 1°. But it was not improbable that in a number of these cases the effect of the drug in lowering the temperature was only apparent, for there were recessions of temperature in pneumonia in the absence of any medication. Quinine had some bad effects, especially upon the stomach. Even in moderate doses it often produced anorexia and nausea. In large doses it not infrequently excited retching and vomiting, prolonged intolerance of food, and sometimes marked cardiac weakness lasting for several hours, occasionally associated with diastolic pulse. Maximum doses often caused profuse cold perspiration. Epistaxis occurred in about 12 per cent of the cases. Profound nervous depression, somnolence, delirium, muscular twitching and trembling, dilated pupils, and in two instances opisthotonos, were some of the results on the nervous system. In some of the cases the urine was examined thoroughly, and albumin was found much increased in quantity, and in one instance after the administration of quinine there appeared hyaline casts, which had not been present before. The author thought that these injurious effects of the drug more than counterbalanced whatever good might be derived from its temporary slight reduction of the fever. He had no evidence to show that it ever shortened the course of the disease or lessened the mortality. Frank, uncomplicated cases had run their course in spite of it, while in other cases additional portions of the lung or the opposite lung had become affected when the patient was under the full influence of the quinine. Too much importance had been attached of late to reduction of the temperature in different diseases. That quinine had any influence in arresting cell migration might well be doubted. The author's conclusion was that large doses of quinine should be abandoned in the treatment of pneumonia. If an antipyretic was indicated, antipyrine, or even salicylic acid, was more powerful, more certain, and less injurious than quinine.

Dr. M. PUTNAM JACOBI, by request, read an abstract of a paper which she had presented before the Section in Theory and Practice at its last meeting. [The paper is to be published.] The speaker also referred to certain experiments regarding the physiological action of quinine, so far as it might throw some light upon the subject under discussion. In pneumonia, quinine

was not to be relied upon as an antipyretic. Antipyrine was more suitable. Quinine affected the fever in pneumonia only in so far as it affected the morbid processes, and it could not act upon tissue which had been actually inflamed, the blood-vessels of which were so seriously injured that hemorrhage had taken place from them. The theoretical question of the action of quinine was discussed briefly.

Dr. J. LEWIS SMITH's remarks at the meeting of the Section in Theory and Practice had been to the effect that, the patients treated by Dr. Putnam Jacobi being dispensary patients, it was a question whether the quinine had not been vomited and, consequently, had had no effect on the disease. Doses of five grains given to children had, under his observation, proved a very good emetic. He usually gave only from half a grain to a grain, every four hours, for the tonic effect only.

Dr. FRUITNIGHT's experience with quinine in pneumonia was, in regard to its effect upon the temperature, like Dr. Ripley's. He had never been convinced that it had reduced the temperature, but he would continue to give it in small doses for its sustaining effect. Being a cardiac depressant in large doses, it was more or less dangerous in pneumonia.

Dr. BILLINGTON had some years ago given quinine in large doses in pneumonia, but, having found that it produced unpleasant effects, abandoned its use. A large proportion of patients with pneumonia would recover without much medication.

Dr. L. E. HOLZ had used quinine in about twenty cases of pneumonia in children, in twelve cases the amount being sufficient to produce an antipyretic effect, if that was possible. In nine cases there was no such effect until after other antipyretic measures had been resorted to. His impression was that quinine, given as an antipyretic, was useless in small doses, and in large doses it was dangerous. The temperature of children with pneumonia ran an exceedingly variable course. Unless the temperature was continuously above 104°, or occasionally above 105° F., in pneumonia, it should not be interfered with.

The PRESIDENT said that during the past third of a century there had been a considerable change of opinion about quinine among physicians in and about New York. It was many years ago that he gained the reputation of overdosing his patients. He then gave as much as six, eight, ten, or twelve grains of quinine to children daily in pneumonia, but now we heard of much larger doses being given. He, however, seldom gave larger doses than he had given at the time mentioned, although he still had the credit of overdosing his patients. He gave the drug in one or two daily installments, when the fever was lowest, and he had obtained fair results. But there was no use in giving quinine or any antipyretic when the temperature in pneumonia was only moderate. Large doses—twenty, thirty, or forty grains—he regarded as harmful. Quinine, given during the exacerbation of pneumonic fever, would not be taken up by the stomach or rectum. Given subcutaneously, the best preparation was the carbamide. He seldom gave quinine in pneumonia now, as antipyrine was a better antipyretic. He agreed with the speakers who had said that when no medicine was required none should be given.

NEW YORK SURGICAL SOCIETY.

Meeting of March 9, 1887.

The President, Dr. CHARLES MCBURNEY, in the Chair.

The Treatment of Old Dislocations of the Elbow.—A paper on this subject was read by Dr. LEWIS A. STIMSON. [See page 367.]

Dr. L. S. PILCHER thought that the case described by Dr.

Stimson must have been similar to one he had had under observation during the previous winter. If so, he thought that he might be able to clear up some of the obscure points in it. When he first saw the patient she was under the care of a skillful surgeon, who had made a diagnosis of fracture of the lower end of the *os brachii* into the joint, crepitus under manipulation having been distinct. At the outset of the case there had been no indication of a dislocation, as stated by that surgeon, although the conditions had been so obscured by great inflammatory swelling when the patient was first seen by the speaker that a satisfactory examination was difficult. It had been said that there had been threatening gangrene in consequence of previous too tight bandaging. In the course of time, after union had taken place and the swelling had subsided, he again examined the case. It was now apparent that a fragment, involving more or less of the external condyle, had been displaced forward and downward, and in its new position, where it had become fixed, encroached upon the articular surface of the radius, limiting the power of flexion at the elbow. There was also a partial backward dislocation of the ulna. Along the inner margin of the muscular mass of the forearm, which had its origin from the external condyle, there was a depression occupied by some fibrous, cord-like tissue. He believed that by the gradual degeneration and contraction of this tissue the displacements had been produced that had resulted in the final deformity and loss of function, these being consecutive and remote results of the original injury, a fracture. The limb had been dressed in a position midway between flexion and extension. He had never questioned the correctness of the diagnosis of fracture, although when he examined the patient the condition of the joint had been such as to render prolonged manipulation unjustifiable. The inflammatory swelling and the anterior mass would have been explained perfectly well by a fracture. The patient was under his observation for some time, and a day was set for an arthrotomy for its relief, when it disappeared. He had learned subsequently that the patient had entered Bellevue Hospital.

Dr. STIMSON replied that in his case there was certainly no fracture of the lower end of the *os brachii*, but only an outgrowth on its outer side. When he excised the head of the bone he found that it was perfect, with the exception of the epitrochlea.

Dr. R. F. WEIR remarked that the good results which had been obtained in cases of old dislocation of the elbow joint as time went on had led surgeons to leave these cases to some extent to nature. It was only of late that he had adopted such means as forcible flexion, division of the triceps tendon, etc., for the purpose of correcting the deformity. But he had come to the conclusion that more could be done in the way of radical treatment. Two German observers, Sprengel, of Dresden, and Schüssel, of Berlin, had shown that we could safely interfere at an earlier period after the accident than was generally supposed, that failure to reduce the dislocation should be followed by operation, and that the rent in the capsule produced by the original injury should also be sewn up. The prognosis was better the earlier the surgical interference.

Dr. A. G. GIERSTER said that his experience with old dislocations of the elbow embraced four cases, in two of which operations had been performed. In one instance (last December) the patient was a child two years of age, having a deformity similar to that described by the reader. It was first seen three months after the accident. Arthrotomy and excision of the joint were resorted to. A peculiar callus was found over the external condyle, which was shown on section to be due to a fracture of the condyle. After having sawed off the surface, it appeared necessary to detach this fragment, as it was so loosely attached to the *os brachii* that it would probably have become necrosed. In all

the cases, in addition to backward dislocation of the forearm, the so-called "gun-stock" deformity had been marked. The speaker believed that it was possible that the periosteum might be stripped off, and that the interval between it and the bone might become filled with blood-clot, which would organize to form connective tissue and ultimately bone, although this had never been proved anatomically. In all the cases that had come under his observation there had been no doubt concerning the occurrence of fracture. In a case under the care of Dr. Daniel M. Stimson, at Mount Sinai Hospital (two years before), a young man had sustained a fracture of the external condyle and the capitellum, with dislocation forward, a callus being subsequently formed on the flexor side of the elbow, which prevented flexion. The bony deposit was removed, and the condition of the joint (as regarded flexion) was much improved. The two other cases, which had presented the same deformity, were still under observation. The accident must be more common in young subjects than was generally supposed. In the case mentioned in which he had operated, the speaker made a large incision, with the express purpose of obtaining a good view of the interior of the joint, and ascertaining the exact pathological condition. He found that the fragment, consisting of one third of the trochlea and the external epicondyle, together with the capitellum, was twisted around at right angles to the direction of the articular surface of the *os brachii*, so that the capitellum looked into the bend of the elbow. The diagnosis, he admitted, was not easy, especially for the reason that in many cases the patient could not be examined until several hours after the accident, when there was such an effusion of blood that the condition was obscured, and crepitus could not be obtained. The latter was the only positive sign of fracture obtainable. Most of these cases were not examples of simple dislocation, but of fracture complicated with dislocation backward and inward. As regarded the results of treatment, in his own case they had been quite satisfactory, flexion and extension being almost completely restored. He had performed arthrotomy in several other cases of dislocation, especially of the thumb. In one instance the flexor tendon had slipped over the head of the metacarpal bone. It was necessary to lift it out of its false position with a strabismus-hook. In another case (that of a boy of twelve) the dislocation was not seen until seven weeks after the accident, although reduction would have been easy if it had been practiced early. The third case was one of dislocation of the index finger of a boy. Reduction was readily effected by means of arthrotomy and division of the capsule. He had also performed arthrotomy in a case of old habitual dislocation of the shoulder joint in a young girl. Two months after the accident she entered Mount Sinai Hospital. Reduction was easily effected, but the bone would not stay in place, whereupon the speaker incised the joint, removed a portion of the lax tissue from the mesial side of the capsule, and closed the latter with catgut sutures, and the patient did perfectly well. In answer to a question by Dr. Bridson, the speaker admitted that dislocation was generally secondary to fracture. He called attention again to the frequency of "gun-stock" deformity in these cases, which Dr. Stimson had not noted.

The PRESIDENT said that, since Dr. Stimson had referred to a case in which he himself had operated, he thought it was proper that the result of the operation should be clearly stated. The patient was a child between six and seven years of age, with old dislocation of the hip, of nine months' standing, resulting from a fall; there were great deformity and disability. Some of the surgeons who examined the patient were in doubt as to whether the condition was dislocation or separation of the epiphysis. A free incision was made over the head of the femur;

the latter presented a normal appearance, but a piece of the articular cartilage was easily detached. The head was movable within an artificial sac which had contained about a drachm of serous fluid. The acetabulum was filled with a semi-gelatinous material. Reduction was easy after the division of a few adhesions; the wound was closed, and a hip-splint was applied. Neither fever nor other bad symptoms followed, although a sinus persisted for seven or eight months. The speaker examined the patient about a month before the meeting. He found the child well; on manipulating the limb, there was neither pain nor crepitus, and motion was fairly free. On introducing a probe, bare bone was discovered at the edge of the acetabulum. A free incision was made, and it was found that the whole head of the femur was carious, so that it was necessary to excise both the head and neck and to scrape out the acetabulum. The patient made a good recovery. In reply to a question from Dr. Weir, the president said that the patient was kept in bed after the first operation. He thought that the propriety of operating in cases of old dislocation was clear, but that an operation was more likely to be successful if it was undertaken early—not later than two or three months after the accident.

Dr. GERSTER said that, as far as the propriety of arthrotomy was concerned, there was no question about it at the present day. Under the modern antiseptic system a surgeon would do wrong not to interfere if he could not reduce a dislocation, whether he saw the case early or not. In reference to the fatal case of Polaillon's, in which complete antiseptic precautions were said to have been observed, the speaker believed that the occurrence of phlegmon constituted in itself sufficient evidence that there had been septic infection. The natural inference was that no one ought to undertake arthrotomy who was not thoroughly versed in antiseptics, since he risked not only the patient's limb, but even his life.

Dr. STIMSON repeated that in his own case there had been no fracture of either condyle of the os brachii. At the first operation the articular surface was found entirely unbroken, the outline of the part of the bone was normal, and the mass of new bone on the back of the external condyle was not at all like the callus of a fracture.

In reply to the objection that an effusion of blood would occur between the detached periosteum and the bone, and that this blood would prevent subsequent formation of bone by the periosteum, he said that, although it was not possible to disprove the objection by actual examination, it was yet well known that in the repair of fractures such formation of bone did take place under the detached periosteum. The speaker asked Dr. Gerster if suppuration had not occurred in the case of arthrotomy for dislocation of the shoulder to which he had referred.

Dr. GERSTER admitted that suppuration had occurred, but it was due to the fact that there had been a serious error in the antiseptic details of the operation. The speaker believed that whenever pus was formed, it indicated some failure in the technique. In this instance the catgut that was used had been placed in an open vessel at an operation that had taken place two days before, had been left exposed all night, and had then been put into a bottle. This gut was used to tie the vessels at his operation. The patient had a violent chill the same night, with evident signs of septicaemia. The wound was opened and three ligatures were found surrounded by pus; the wound was subsequently treated by the open method and healed quite well. There had been no trouble in the joint itself, and the patient now had perfect motion.

Tumor of the Brain removed by Operation.—Dr. WEIR presented a tumor that he had removed from the posterior occip-

ital region of the brain. It was, he stated, the largest cerebral tumor that had been removed surgically. A full report of the case was promised at a subsequent date.

Book Notices.

GENERAL LITERARY NOTES.

AMONG recent foreign publications we note the following:

ASSELIN & HOUZEAU, Paris.—H. Roger and H. Barth, "Traité pratique d'auscultation, suivi d'un précis de percussion." 11th ed. (8fr.) — Arloing, Cornevin, Thomas, "Le charbon symptomatique du bœuf," etc. (7fr.)

J. B. BAILLIÈRE & FILS, Paris.—Azam, "Hypnotisme, double conscience et altérations de la personnalité." (3fr. 50.) — H. Hallopeau, "Traité élémentaire de pathologie générale." (12fr.)

A. DELAHAYE & E. LECROSNIER, Paris.—Hamon de Fresnay, "Études d'obstétrique pratique." (3fr.)

J. F. BERGMANN, Wiesbaden.—R. Berlin, "Eine besondere Art d. Wortblindheit (Dyslexie)." (2M.) — H. Brehmer, "Die Therapie d. chronischen Lungenschwindsucht." (6M. 40.) — E. Lang, "Das venerische Geschwür." (1M. 60.) — E. Pflüger, "Kurzsichtigkeit u. Erziehung." (1M.) — M. Schächter, "Anleitung zur Wundbehandlung." (6M.)

H. BARSCH, Leipzig.—J. Kühn, "Die Prostitution im 19. Jahrhundert u. die Vorbeugung d. Syphilis." 2 ed., by E. Reich. (5M.)

M. BREITENSTEIN, Vienna.—A. Weichselbaum, "Der gegenwärtige Stand d. Bakteriologie u. ihre Beziehungen zur praktischen Medicin." (1M.)

F. ENKE, Stuttgart.—P. Zweifel, "Lehrbuch d. Geburtshilfe." (16M.) — E. Zuckerkandl, "Ueber das Riechcentrum. Eine vergleichende anatomische Studie." (5M.)

J. A. FINSTERLIN, Munich.—E. Rotter, "Die typischen Operationen u. ihre Uebung an der Leiche." (6M.)

G. FOCK, Leipzig.—E. Knauf, "Frakturen des äusseren Gehörganges." (6M. 75.)

HEUSER, Neuwied.—H. Burckhardt, "Zur Aetiologie d. Puerperalfiebers." (6M. 75.)

HIRSCHWALD, Berlin.—E. Henoch, "Vorlesungen über Kinderkrankheiten." 3d ed. (17M.) — J. Seegen, "Studien über Stoffwechsel im Thierkörper." (14M.) — A. Wölfler, "Die chirurgische Behandlung des Kropfes." (2M. 40.) — H. von Ziemssen, "Die Elektrizität in der Medicin." 5th ed. (12M.)

H. LAUPEP, Tübingen.—P. Bruns, "Beiträge zur klinischen Chirurgie." Bd. ii, Hft. 3. (3M.)

P. LUNZ, Brandenburg a. H.—O. Helmbach, "Die Cholera." (1M.)

G. THIEME, Leipzig.—G. Platner, "Die Karyokinese bei den Lepidopteren als Grundlage für die Theorie d. Zelltheilung." (4M.) — H. Seiler, "Leitfaden d. Krankenpflege, zunächst für Diakonissinnen." (2M.)

URBAN & SCHWARZENBERG, Vienna.—R. Arndt and A. Dohn, "Der Verlauf der Psychosen." (4M.) — M. Kaposi, "Pathologie u. Therapie der Hautkrankheiten." 3d ed., 2d part. (11M.) — W. F. Löbisch, "Ueber d. neueren Behandlungsweisen d. Fettleibigkeit." (1M. 50.)

VEIT & Co., Leipzig.—R. Hagen, "Anleitung zur klinischen Untersuchung u. Diagnose." 5th ed. (3M. 50.)

BOOKS AND PAMPHLETS RECEIVED.

A Contribution to the Study of the Operation of Shortening the Round Ligaments—Alexander's Operation. By Thomas A. Ashby, M. D., Professor of Gynecology in the Baltimore Polyclinic and Postgraduate Medical School, etc. [Reprinted from the "Maryland Medical Journal."]

The Doctorate Address delivered at the Semi-centennial Anniversary of the University of Louisville, Medical Department, March 2, 1887.

By David W. Yandell, M. D., Professor of Surgery and Clinical Surgery in the University.

On the Pathology and Treatment of Spermatorrhœa. By J. L. Milton, Senior Surgeon to St. John's Hospital for Diseases of the Skin. Enlarged and Reprinted from the Original Papers published in the "Lancet" for 1854, and the "Medical Circular" for 1858. Twelfth Edition. London: Henry Renshaw, 1887. Pp. viii-213.

Oxygen in Therapeutics. A Treatise explaining the Apparatus, the Material, and the Processes used in the Preparation of Oxygen and other Gases with which it may be combined; also its Administration and Effects, illustrated by Clinical Experience of the Author and others. By C. E. Ehinger, M. D. Chicago: W. A. Chatterton & Co., 1887. Pp. 157.

Hand-book of Pharmacy and Therapeutics. Compiled by James E. Lilly.

The Past, Present, and Future Treatment of Homœopathy, Eclecticism, and Kindred Delusions which may hereafter arise in the Medical Profession, as viewed from the Standpoints of the History of Medicine and of Personal Experience. By Henry I. Bowditch, A. M., M. D., Harv., formerly Professor of Clinical Medicine in the Harvard Medical School, etc. An Address delivered June 10, 1886, before the Rhode Island Medical Society on the occasion of the Seventy-fifth Anniversary of the Foundation of the Society. [Reprinted from the "Transactions" of the Society.] Boston: Cupples, Upham, & Co., 1887.

Reports on the Progress of Medicine.

OTOLOGY.

By CHARLES STEDMAN BULL, M. D.

The Value of Rinne's Experiment in the Diagnosis of Diseases of the Ear.—Schwabach ("Arch. of Otol.," xv, 2, 3) thinks that Rinne's experiment should be made with two tuning-forks of different pitch, for the experiment may on the same ear result positively with the one, and negatively with the other. In his experiments the majority of cases giving a positive result of Rinne's experiment proved to be indubitable affections of the sound-conducting apparatus; only in a few could it be assumed that the acoustic nerve was implicated. With regard to the cases showing no objectively demonstrable alteration in the sound-conducting apparatus, and which, in view of all the other available diagnostic data, had to be classed as affections of the sound-perceiving apparatus, Schwabach's investigations showed that Rinne's experiment resulted positively in 91.3 per cent., negatively in 8.7 per cent. of the cases. Accordingly, he thinks he would be justified in assuming an affection of the nervous apparatus when Rinne's experiment gives a positive result, in the absence of objective alterations in the sound-conducting apparatus. If we compare the three methods discussed in the paper—(1) Rinne's experiment alone, (2) the same as restricted by Lucae, (3) the examinations of partially deaf persons as to the duration of perception for tuning-forks vibrating on the vertex compared with normally hearing persons, with reference to their value in the diagnosis of diseases of the ear—we find: 1. None of the three methods alone suffices to answer the question whether in a concrete case we are dealing with an affection of the sound-conducting or perceiving apparatus. 2. Rinne's experiment alone gives the least guiding-points for the diagnosis when objectively demonstrable alterations in the sound-conducting apparatus are present. 3. The same experiment may be of use for the diagnosis of an affection of the sound-perceiving apparatus in the absence of objective conditions, if it gives a positive result. 4. Rinne's experiment as restricted by Lucae may give valuable data for the differential diagnosis between affections of the sound-conducting and perceiving apparatus in a great number of cases, but can not be regarded as a reliable test for all cases. 5. The test of the duration of perception for a tuning-fork vibrating on the vertex must be looked upon as a valuable auxiliary in the differential diagnosis between affections of the sound-conducting and sound-perceiving apparatus. 6. This mode of examination may aid in settling a doubtful diagnosis, especially when

objectively demonstrable alterations are present in the sound-conducting apparatus, when Rinne's experiment at the same time gives a negative result, and the duration of perception for a tuning-fork vibrating on the vertex is considerably prolonged. 7. The examination of the duration of perception for the tuning-fork vibrating on the vertex, as compared with the other customary methods of testing the bone conduction, gives diagnostically valuable results in a greater number of cases than the latter.

Abscess of the Brain after Otorrhœa cured by Operation.—Truckenbrod's patient (*ibid.*) was a man, aged twenty-eight, who had suffered from purulent otitis media for six months. When admitted into the hospital, January 11, 1885, he complained of a chill, pain at the vertex, partial obliteration of the meatus, and some discharge of pus. On January 14th the mastoid was opened by chiseling, and pus escaped from the bottom. The temperature continued elevated, and the external wound was enlarged on January 28th. The next day the right half of the face became paralyzed, and on January 30th there was marked aphasia. It was then determined to open the cranial cavity, and the former incision was extended upward and backward. After detaching the galea and the periosteum, there appeared upward and backward from the external meatus a mass of pus, and, on removing a thin piece of bone, the dura was seen covered with granulations. Pressure revealed fluctuation, but an exploratory puncture showed only a trace of fluid, though caseous pus and air came away continually from between the dura and the bone. The incision was extended downward and backward, and again large quantities of pus were discharged. After slitting the dura, about a cupful of pus escaped. The abscess was about the size of a small orange. Between January 31st and June 1st the abscess was several times punctured and drained, but on June 7th the patient was discharged cured. The abscess was probably situated in the region of the second left temporal convolution. The diagnosis was based, first, upon the œdema confined to this region; secondly, on the painfulness which existed there; thirdly, on the paralysis of the right facial nerve, and upon the peculiar impediment of speech.

The Differential Diagnosis of Disease of the Sound-conducting and of the Sound-perceiving Apparatus.—Bartsch (*ibid.*) recommends an experiment which seems to him more serviceable than Gellé's experiment in the differential diagnosis above mentioned. The experiment is based on the attempted exclusion from the auditory function of the sound-conducting portion, by rarefaction of the air in the external auditory canal. The air being exhausted from the meatus by means of a rubber tube hermetically inserted into it, the drum-head will be rendered to some extent incapable, at least during great negative pressure, of propagating to the labyrinth the vibrations which impinge upon it. Under great pressure thus exerted upon one's self, one feels how the drum-head is extended outward, and, since with such great tension of the drum-head the malleus is also withdrawn from the incudal joint, the transmission of the sound-waves by the drum-head and the ossicles will be thus greatly hindered. In that case, therefore, only those vibrations will be conducted to the labyrinth which are directly propagated by the bones which do not touch the drum-head—i. e., the cranial vibrations. The question then will be, How intensely and how long are these vibrations perceived? Are they of the same intensity, are they perceived for the same length of time as when the tuning-fork vibrates on the head without the air being exhausted from the meatus? In that event, we must assume that the sound-conducting apparatus performs its function badly. Or else, if they are much fainter, or are heard for a much shorter time than before, the sound-conducting apparatus is healthy. The experiment proves that direct bone-conduction really produces auditory sensations.

Cyst-formations in the Auricle.—Hartmann (*ibid.*) thinks that many cases in literature have been described as hamatomata which should have been described as cysts. In two cases of his own the tumor had developed slowly without showing any signs of inflammation. One had existed three weeks at the time of the incision, the other fourteen days. In the first case, the swelling reached its maximum in about eight days; in the second, there was a steady increase in size up to the time of incision. In both, the contents were a clear fluid, without any discoloration from blood or any admixture of flocculi. He regards these cases as of primary cyst-formation. It is only in organs richly

supplied with lymphatics that blood poured out in small quantities can be absorbed in a short time. In other organs the process takes place as follows: First the serum, then the other constituents of the blood are absorbed. The solid constituents are meanwhile converted into an albuminous fatty detritus. The absorption may be favored by the exudation of a serous fluid, which finally replaces the extravasation, a capsule of connective tissue having developed. These metamorphoses require weeks and months. A part of the blood-pigment generally remains as hæmatoidin. In many of the cases reported, the increase in the size of the swelling continued up to the time of the incision; therefore some of the blood must have been effused a short time previously, if at all. But the contents are found to be a clear serous fluid, and hence an extravasation of blood is to be regarded as out of the question. If any such had existed, we should certainly have found a thick, dark fluid or pigmented coagula. If the characteristic points of difference between othematoma and cyst are contrasted, all doubt as to the identity of the two diseases will be dispelled. As to the relation between cyst and perichondritis of the auricle, we know that inflammatory phenomena are altogether absent in the case of cysts, while perichondritis is accompanied by redness, heat, and severe pain. As regards treatment, massage brings about a cure in about the same length of time as an incision does, but requires much more attention. After incision, the discharge should not be hindered. Effusions of blood into primary cysts readily occur, and hence we find it frequently stated that the contents of such cysts are a bloody serum. But there is no basis for the inference that the blood effusion was first in the order of events. Hartmann thinks that the processes described by Fischer, Meyer, and others are not only the predisposing cause of hæmatoma, but are also to be regarded as a preliminary stage of simple cyst-formation. For the development of a cyst, all that is necessary is a more abundant secretion of the fluid; for hæmatoma, the traumatic influence causing injury to vessels.

Results of the Examination of Six Petrous Bones from Three Deaf-Mutes.—Moos and Steinbrugge give the results of their examinations of the petrous bones of three deaf-mutes who died of phthisis, but of whom nothing further was known (*ibid.*). In the petrous bones of the first case there were hyperostotic contraction of the external meatus, diminution in size of the tympanic cavity and antrum, osseous obliteration of the mastoid cells, and increased thickness of the promontory. The destruction of the bone had been preceded by proliferation of the periosteum. The connective-tissue adhesions in the left scala tympani were also the result of periostitis. All the symptoms in this case—the red blood-corpuscles in the enlarged medullary spaces, the cells containing blood-corpuscles, the pigment, the extravasations of blood in the region of the facial nerve, the snaring off of bone on the promontory, and the formation of cavities in the pyramid—bear the greatest resemblance to the effects of tertiary syphilis. The alterations in the sound-conducting apparatus must have originated after birth, and if there was no congenital anomaly in the nerve-center, the deaf-mutism was probably acquired. In the second case the alterations were both congenital and acquired. The former are referable to a foetal disease of the bone, as is shown by the destruction in the bony envelope of the cochlea, absence of the finer structures of the ductus cochlearis, and the almost entire absence of the bony and membranous vestibule, ampulla, and semicircular canals. The chief nerve-fibers and the ganglionic region were normal, which is an anatomical proof that auditory nerve-atrophy is rare so long as the course of the centripetal nervous and the nervous center are normal. In the third case, it is doubtful whether the patient was a deaf-mute or a deaf person. The exudation in the sulcus spiralis, which pressed upon the nerve-fibers passing near the inner pillars of Corti, must have produced extreme deafness, but this evidently belonged to a period of life after birth.

The Pressure produced in the Middle Ear by Inflations of Air through the Tube.—Barth (*ibid.*) concludes from his experiments that the pressure in the middle ear, when the uniformly acting "water-stream inflation" is used, will be exactly the same whether the ear is closed on the outside by an intact drum-head, or the external meatus is hermetically closed by a manometer in cases where the drum-membrane is more or less perforated. The permeability of the tube is the same whether the drum-head is perforated or intact. That the full pressure produced

by the compression apparatus does not act upon the middle ear is shown by the fact that during the use of the dry nasal douche a large part of the air escapes into the pharynx, mouth, and even stomach. The strongest pressure in the middle ear is shown by the manometer when the simple nasal douche is employed during the act of swallowing, according to Politzer's method.

Purulent Otitis after Confinement; Phlebitis of the Sinuses; Pyæmia.—Bonnet ("Ann. des mal. de l'oreille et du larynx," Sept., 1886) reports an interesting case, occurring in a woman aged twenty-four. Labor pains began April 29, 1886, and continued for several days, and it was not until May 9th that the child was extracted by forceps, and died the same day. Fifteen days later the mother left the hospital apparently well, and remained so till June 12th, when she had a pronounced chill, followed by profuse perspiration and violent headache, and later by pain in the left ear. The next day another violent chill, followed by repeated epistaxis and increase of the pain in the ear. On the 18th she re-entered the hospital, with great pain in the head and over the mastoid, and a purulent discharge from the left ear. On June 21st the mastoid region was swollen, red, and fluctuating. No trouble with uterus or vagina. Incision over the mastoid gave vent to free hæmorrhage, but no pus. On the next day the pain had disappeared, but she had a chill, and this was repeated for a number of days, followed by profuse perspiration and an elevation of temperature. Diarrhœa set in, and the patient complained of great thirst. The discharge from the ear continued. The urine contained considerable albumin. The chills increased in frequency and duration, and the patient finally died on the fifty-sixth day after confinement. The autopsy showed numerous ecchymoses and infarcti in the lungs, and numerous miliary abscesses. The right cerebral hemisphere was congested, the left pale. No meningeal or cortical lesion apparent. In the left lobe of the cerebellum, near the lateral sinus, there was a grayish patch on the surface as large as a franc piece. Upon the internal surface of the dura, on a level with the left lateral sinus, was a spot of yellowish-green color, as large as a two-franc piece, which extended to the top of the petrous bone. When this was lifted up, the lateral sinus was found filled with pus, which extended into the internal jugular and filled it completely. The other sinuses contained dark liquid blood and fibrinous clots. The mastoid was sclerosed, but without much destruction of the air-cells, and contained no pus. The middle ear and external auditory canal were filled with pus.

Rupture of the Internal Carotid Artery subsequent to Necrosis of the Temporal Bone.—Sutphen ("Arch. of Otol.," xv, 4) reports in detail an interesting case of this kind in a man aged twenty-five. When a child he received a blow on the right ear, resulting in a discharge which had continued more or less constantly until the present time. Four years ago he was treated for an abscess beneath the right ear. Recently the swelling returned in the same place. The walls of the auditory canal were found swollen, the cavity of drum was partly filled with granulations, and carious bone was detected. An opening made into the abscess directly beneath the auricle established communication with the middle ear, as shown by syringing. Nearly fourteen months later there was profuse otorrhœa, the external canal was full of granulations, and the walls of the canal and tympanic cavity were carious. Immediately below the external meatus was a fistulous opening, through which pus escaped. A large probe could be passed inward for an inch and reached roughened bone. Water injected into the meatus escaped through the mouth and also through the fistula, and water injected into the fistula escaped through the meatus and into the pharynx. There was no optic neuritis, nor facial paralysis, nor hemiplegia at this time. Three months later, the right side of the face became paralyzed, and the left side of the body. He was admitted to St. Michael's Hospital complaining of right hemiparesis, vertigo, and nausea. The fistula beneath the auricle had closed. There was no optic neuritis. The man refused to have any operation done for the removal of dead bone. In a few days the discharge increased, and the headache and nausea disappeared. Within two weeks he was able to walk about the ward, and shortly after left the hospital, the hemiplegia having entirely disappeared, though the facial palsy remained unchanged. On August 30th there was a return of the headache and vomiting. On September 10th there was a profuse hæmorrhage from the ear. On September 14th there were four hæmor-

rhages. On September 15th he was readmitted into the hospital, very weak from two more severe hemorrhages, which had occurred within the preceding twenty-four hours. The man died on September 19th, after a profuse hemorrhage, in intense agony and delirium. At the autopsy, the right temporal bone in the region of the middle ear had been changed into one large carious cavity, containing a sequestrum, oblong in shape, one inch long, and seven lines in breadth and thickness. On removing the sequestrum, an opening into the internal carotid artery was found, the walls of which were softened. Corresponding to the internal meatus was an opening from the carious cavity into an abscess in the cerebellum opposite. Above and in front of this was a mass of cicatricial tissue occupying the entire thickness of the gray matter, no doubt the remains of an abscess which had healed. On the upper surface of the cerebellum was a large discoloration showing evidences of a former localized meningitis.

On Bone-conduction of Sound and the Value of Rinne's Test in the Diagnosis of Disease of the Nervous Structures of the Ear.—Barr (*ibid.*) has examined one hundred and seventy diseased ears in one hundred patients, with the special object of discovering the real value of bone-conduction of sound as a means of diagnosis. These diseased ears consisted of the ordinary classes of cases which make up the bulk of practice, and were divided into four groups as follows: 1. Exudative diseases of the middle ear. 2. Dry diseases of the middle ear. 3. Well-marked affections of the labyrinth or nerve structures. 4. Ceruminous or inflammatory obstructions in the external auditory canal. The proof of the almost invariable preponderance of bone-conduction over air-conduction in cases of chronic suppurative inflammation of the middle ear is the most remarkable result of this inquiry, and has been confirmed by further and more recent observations. Increased bone-conduction, whether attested by Rinne's method, by Weber's method, or by the watch on the temple, does not necessarily and invariably point to disease of the conducting structures only. On the other hand, defective bone-conduction does not conclusively prove disease of the nervous structures alone. The striking fact as to the almost invariable preponderance of bone-conduction by Rinne's test in suppurative diseases of the middle ear proves how seldom the labyrinthine structures are involved in these cases, presenting a remarkable contrast to chronic non-suppurative catarrh, and even to ceruminous collections.

Wound of both Ears by a Shot from a Revolver; Extraction of the Bullets; Consecutive Ocular and Mental Symptoms.—Rollin and Terrier ("Ann. des mal. de l'oreille et du larynx," Dec., 1886) report an interesting case occurring in a man, aged twenty-seven, who had attempted to commit suicide by shooting himself in each ear with a revolver. When admitted into the hospital the blood was flowing freely from both ears, and the patient was semi-comatose. The next day the temperature was 39° C., but one week later it had fallen to 37° C., and the patient gradually regained consciousness. The deafness was total in both ears, and there was complete left facial paralysis. One month after the injury an abscess appeared above the masseter on the right side, in front of the auditory canal, and gave exit to a large quantity of pus. A few days later the abscess closed, and exploration of the auditory canal revealed a metallic body at the bottom. Two weeks later the left eye became injected and painful, and two weeks later still the patient began to be very violent, throwing himself about in bed, and emitting loud cries. Eighty days after the injury an incision was made along the posterior auricular furrow, and the auricle dissected up freely and turned forward. The auditory canal was then incised, and, after considerable difficulty, the bullet was removed. The canal was then washed out, the auricle replaced and sutured, a drainage-tube introduced, and carbolyzed dressings employed. The wound healed in a few days, but the patient grew perceptibly feebler, and the cornea of the left eye became entirely opaque. One month later a similar attempt was made to extract the bullet from the other ear, and, after a more serious difficulty, it was finally found at a depth of five centimetres, and removed with a strong forceps. Some small splinters were subsequently extracted, and this was followed by a profuse hemorrhage. The canal was at once plugged with iodoform gauze, and the left eyelids were then closed by sutures to protect the eye and, if possible, retard the trophic lesions of the cornea. The wounds again healed with rapidity and without any complication, and from this time

a perceptible amelioration in the mental condition of the patient became manifest. The left eye was subsequently entirely lost, and slight purulent discharge continued from the left ear. The right ear was entirely healed. The deafness remained absolute.

Serious Epistaxis; Plugging of the Posterior Nares; Bilateral Purulent Otitis.—Gellé ("Rev. mens. de laryngologie et d'otol.," Dec., 1886) describes the injurious effect on the ears of plugging the posterior nares, as follows: The blood retained in the nasal fossæ is decomposed; it penetrates by the act of deglutition into the tympanic cavities, where it sets up a septic inflammation which inevitably leads to disastrous suppuration. The plug itself, if too tight or too large, irritates the already inflamed mucous membrane, and increases the chance of otitis. Bilateral aural inflammation of the most serious nature may occur if the plug is removed at the end of forty-eight hours. Gellé reports a case of severe epistaxis, occurring in a man, aged fifty-five, after sudden and severe emotional trouble. The loss of blood was large, and plugging of the posterior nares was resorted to by means of Belloc's sound before the bleeding could be checked. Three days later the plug from the anterior nares was removed first, and then that from the posterior nares. Five days after the introduction of the plug, and two days after its removal, tinnitus began in both ears, then a burning sensation, a sense of fullness, violent pain, insomnia, high fever, and a sudden discharge of bloody pus, considerable in amount, after which a gradual subsidence of all the symptoms. An examination showed a perforation of both drum-membranes in the supero-posterior region, and a general swelling of the walls of the auditory canals.

Miscellany.

Health Reports from Abroad.—By direction of the Secretary of the Treasury, Dr. John B. Hamilton, Surgeon-General of the Marine-Hospital Service, has issued the following abstract of sanitary reports received from foreign countries during the week ending March 24th:

England and Wales.—The deaths registered in twenty-eight great towns of England and Wales during the week ending March 5th corresponded to an annual death rate of 21.3 in a thousand of the aggregate population, which is estimated at 9,245,099. The lowest death rate was recorded in Bolton, viz., 11.6, and the highest in Manchester, viz., 31.2 in a thousand.

London.—One thousand six hundred and thirty-five deaths were registered during the week ending March 5th, including 55 from measles, 9 from scarlet fever, 19 from diphtheria, 29 from whooping-cough, 5 from enteric fever, and 11 from diarrhoea and dysentery. There were 459 deaths from diseases of the respiratory organs. Different forms of violence caused 62 deaths, and 8 suicides were registered. The deaths from all causes corresponded to an annual rate of 20.2 in a thousand. In greater London, 2,015 deaths were registered, corresponding to an annual death rate of 19.1 in a thousand of the population. In the outer ring, 23 deaths from measles were registered.

Ireland.—The average annual death rate represented by the deaths registered during the week ending March 5th, in the sixteen principal town districts of Ireland, was 25.2 in a thousand of population. The lowest rate was recorded in Kilkenny, viz., 8.5, and the highest in Sligo, viz., 43.3.

Dublin.—One hundred and ninety deaths were registered during the week ending March 5th, including 7 from scarlet fever, 1 from whooping-cough, 4 from enteric fever, 1 from typhus fever, 1 from measles, and 1 from diarrhoea. Diseases of the respiratory organs caused 62 deaths, and 1 suicide was registered. In twenty-nine instances the cause of death was uncerified, there having been no medical attendant during the last illness. The deaths from all causes corresponded to an annual rate of 28.1 in a thousand.

Scotland.—The death rate in eight principal towns during the week ending March 5th was 23.6 in a thousand of the aggregate population, which is estimated at 1,299,000. The lowest mortality was recorded in Dundee, viz., 17.4, and the highest in Aberdeen, viz., 32.4 in a thou-

sand. The aggregate number of deaths registered from all causes was 589, including 27 from measles, 19 from scarlet fever, 5 from diphtheria, and 32 from whooping-cough.

Germany.—The deaths registered in fifty-one cities of Germany having an aggregate population of 6,692,277, during the week ending February 26th, corresponded to an annual death rate of 26.2 in a thousand. The lowest rate was recorded in München-Gladbach, viz., 16.8, and the highest in Münster, viz., 40.3.

Calcutta.—Four hundred and seventy-six deaths were registered during the two weeks ending February 5th, including 19 from cholera, 141 from fevers, 95 from bowel complaints, and 43 from tetanus.

Rio Janeiro.—Four hundred and seventy-seven deaths were registered during the two weeks ending February 21st, including 9 from yellow fever, 36 from small-pox, and 6 from enteric fever.

Havana.—Seven cases of yellow fever and 6 cases of small-pox were registered during the week ending March 10th, but no deaths from those diseases. During the week ending March 17th there were 2 deaths registered from yellow fever and 1 from small-pox.

Buenos Ayres.—The United States consul, in his dispatch dated February 5, 1887, relative to cholera in the Argentine Republic, states that "the disease seems at last to have quite run its course. Day by day, in all the centers of population in the country, the number of new cases is becoming less, and there is now a feeling of relief that it will only be a short time before the ports of the world will once more be freely opened to clearances from Buenos Ayres. Commerce and general trade are all feeling the impulse of the improved condition of public health." He incloses a cutting from the Buenos Ayres "Standard" of February 5th, in which it is stated that "the public health is no longer a subject of great anxiety, although cholera still lingers in this city and in many other parts of the Republic. The disease is wasting away gradually, and has lost much of its epidemical force. It has disappeared from Rosario, Cordoba, and Mendoza, is gradually wearing away in Tucuman and northern provinces, and continues more or less stationary in this city and in Montevideo. Chili has also been invaded by the epidemic; the disease is raging with terrible effect in the Chilean departments of Aconcagua, Andes, and Quillota. The daily mortality in Santiago de la capital, has been, and continues to be, heavy. It is noteworthy that both here and in Chili the epidemic has attacked the poor class only. There is no doubt that cholera is dying out rapidly in this city, but the disease is not abandoning the country as fast as we might wish. . . . Last month there were 596 cases of cholera in this city, of which number 336 were fatal."

Catania.—The United States consul, in his dispatch dated February 28th, in confirmation of his dispatch of the same date, states that the 15 cases reported were scattered throughout the city, not being confined to any particular locality; that there was not more than 1 case in a house, with one exception, in which there were 2; that the physicians reported the disease to be without epidemic features. The prefect had already ordered that sanitary measures be at once taken, and that all be done that possibly could be to stay the disease. The city is in bad condition to withstand such a scourge. Many of the streets are without drainage, the side streets and alleys are exceedingly filthy, the poorer classes are crowded together in poorly ventilated and comfortless rooms. As the heat of summer sets in, unless the dire malady is stayed, the sacrifice to death will be fearful. The people are greatly alarmed; many of them are flying to the slopes of Etna.

Paris.—One thousand one hundred and ninety deaths were registered during the week ending March 5th, including 46 from measles, 2 from small-pox, 13 from whooping-cough, 41 from enteric fever, 3 from scarlet fever, and 44 from diphtheria.

Havre.—Seventy-five deaths were registered during the week ending March 5th, including 1 from small-pox and 1 from enteric fever. Two suicides were registered.

Marseilles.—Nine hundred and seventy deaths were registered during the month of February, including 7 from whooping-cough, 12 from small-pox, 12 from enteric fever, 1 from scarlet fever, 42 from diphtheria, and 7 from measles.

Reims.—Fifty-six deaths were registered during the week ending March 5th, including 1 from small-pox, 4 from whooping-cough, and 3 from diphtheria.

Nice.—One hundred and forty-nine deaths were registered during the two weeks ending January 31st, including 3 from small-pox and 1 from enteric fever.

Bordeaux.—One hundred and twenty-two deaths were registered during the week ending March 5th, including 3 from enteric fever.

Rome.—One hundred and fifty-nine deaths were registered during the week ending January 22d, including 5 from small-pox and 2 from diphtheria.

Leghorn.—Sixty-nine deaths were registered during the week ending March 6th, including 1 from enteric fever and 1 from scarlet fever.

Kingston, Jamaica.—One hundred and twenty-three deaths were registered during the month of February, 1887, including 22 from small-pox and 1 from diphtheria.

Bristol.—Eighty deaths were registered during the week ending March 5th, including 2 from scarlet fever and 2 from diphtheria.

Trieste.—One hundred and seventeen deaths were registered during the week ending February 19th, including 4 from diphtheria.

Munich.—One hundred and twenty-seven deaths were registered during the week ending February 26th, including 1 from enteric fever, 1 from scarlet fever, and 4 from diphtheria.

Amsterdam.—One hundred and ninety-nine deaths were registered during the week ending February 26th, including 1 from typhus fever, 1 from enteric fever, and 4 from diphtheria.

Bremen.—Fifty-four deaths were registered during the week ending February 26th, including 2 from diphtheria.

Stuttgart.—Fifty-four deaths were registered during the week ending February 26th, including 3 from diphtheria.

Leipsic.—Seventy-one deaths were registered during the week ending March 5th, including 1 from scarlet fever, 5 from diphtheria, and 2 from enteric fever. Three suicides were registered.

MORTALITY TABLE, FOREIGN CITIES.

CITIES.	Week ending—	Estimated population.	Total deaths from all causes.	DEATHS FROM—							
				Cholera.	Yellow fever.	Small-pox.	Typhus fever.	Enteric fever.	Scarlet fever.	Diphtheria.	Inf.
Calcutta	January 29.	433,219	236	9							
Calcutta	February 5.	433,219	240	10							
Rio Janeiro	February 14.	275,000	229		4	22		2			
Rio Janeiro	February 21.	275,000	248		5	14		4			
Paris	March 5.	2,260,045	1,190			2		41	3	44	
Havre	March 5.	112,074	75			1		1			
Reims	March 5.	97,903	56							3	
Bordeaux	March 5.	240,582	122			1		3			
Rome	January 22.	364,511	159							2	
Leghorn	March 6.	101,172	69					1	1		
Bristol	March 5.	223,095	80						2	2	
Trieste	February 19.	150,157	117						4		
Munich	February 26.	269,000	127					1	1	4	
Amsterdam	February 26.	370,969	199			1		1		4	
Bremen	February 26.	119,000	54							2	
Stuttgart	February 26.	125,510	54							3	
Stuttgart	March 5.	125,510	44								
Leipsic	March 5.	170,000	71					2	1	5	
Mannheim	February 19.	65,000	18								
Mayence	February 26.	65,701	31								
Laguaira	March 5.	7,428	6								
Cape Haytien	March 5.	10,000	5								
Gibraltar	February 27.	23,631	10								
Curaçoa	March 5.	25,000	5								
Toronto	March 12.	120,000	20								

THERAPEUTICAL NOTES.

Amyl Nitrite as a Uterine Sedative.—This substance has, as is well known, been used with success as a palliative in cases of dysmenorrhoea. In a letter to the "Lancet," Mr. F. W. Kendle recommends it not only for that purpose, but also to allay the nausea of pregnancy and to check after-pains. For the latter purpose, he directs two four-grain capsules to be broken into a smelling-bottle, the patient to take two or three deep inhalations when she feels a pain coming on.

The Subcutaneous Administration of Eucalyptol.—M. Jacquemaire, a Lyons pharmacist ("Lyon méd.," Mar. 6, 1887), recommends the following formula:

- (1) Eucalyptol..... 1 part;
Oil of sweet almonds..... 4 or 3 parts.
- (2) Eucalyptol..... 1 part;
Virgin olive-oil..... 4 or 2 parts.

Original Communications.

ON THE DETECTING AND LOCATING OF METALLIC MASSES IN THE HUMAN BODY BY MEANS OF THE INDUCTION BALANCE AND THE TELEPHONIC PROBE.

By JOHN HARVEY GIRDNER, A. B., M. D.

My purpose in this paper is to describe the induction balance and the telephonic probe, two apparatuses which are to aid the surgeon in determining, in a painless manner, the precise spot at which a leaden bullet is located, or any other metallic substance which may have found a lodgment in the tissues or cavities of the human body. The principle of induction in electricity is so well understood that any account of it in an article of this kind would be out of place; therefore I shall confine my remarks to the

Professor Bell at once constructed an apparatus and took it to the White House, and made the experiment on the person of the President, but failed to find the bullet, owing to the crude character of the apparatus thus hurriedly constructed, together with lack of experience in its use, and also to the disturbing influence on the balance of a steel mattress under the hair one on which the President lay, and the presence of which was unknown to the experimenters at the time.

No other attempt was made to find the bullet in the President's case, as Professor Bell was unavoidably kept from further experiment at that time; hence the location of the bullet remained unknown until the autopsy at Elberon revealed it.

It would, doubtless, be of interest to follow the subsequent history of the development of this apparatus to its present state, but I shall content myself by saying that Professor Bell has now placed at our disposal a highly prac-

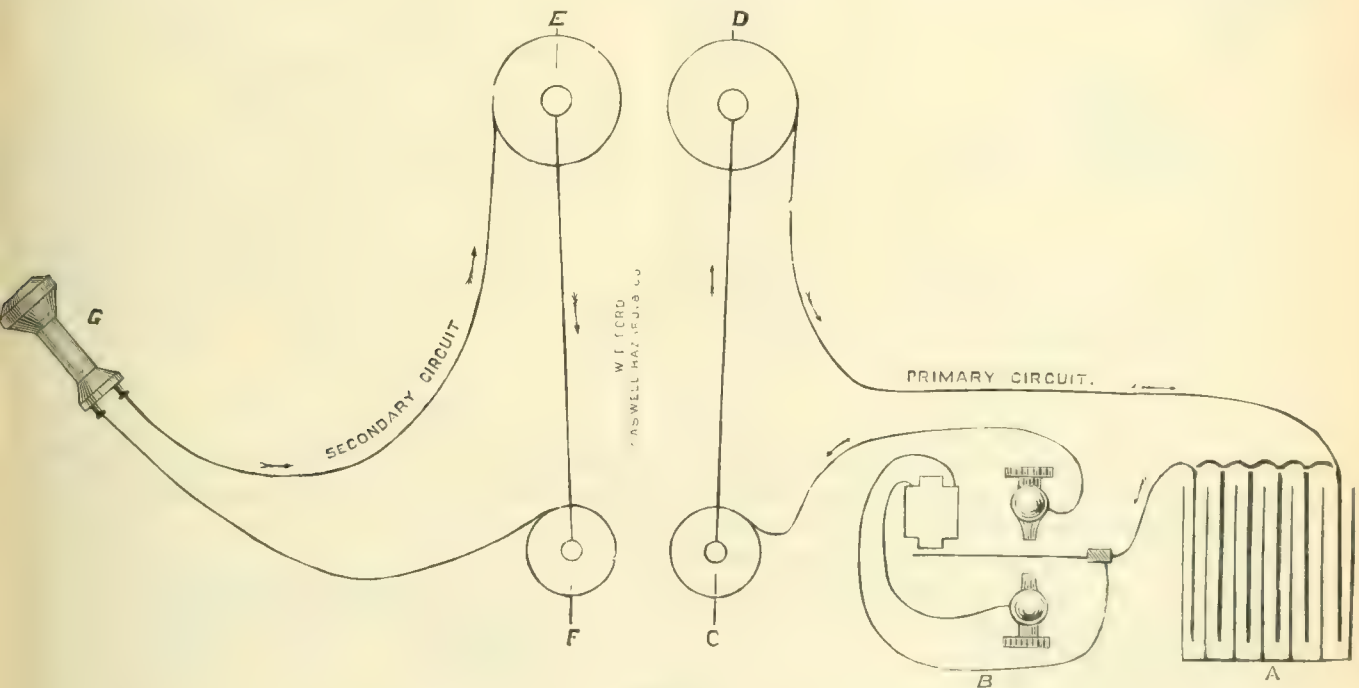


FIG. 1.

application of it to purposes of surgical diagnosis. In the summer of 1881, during the anxious days of the last illness of the late President Garfield, and when the surgeons in attendance had failed by every means at their command to locate the assassin's bullet in his body, it occurred to Professor Alexander Graham Bell, of Washington, D. C., the well-known electrician and inventor, that, with perfectly balanced induction coils, having a telephone receiver in the secondary circuit, he might be able to determine the location of the bullet by an audible sound which would be produced in the telephone when the balance was disturbed by the exploring coils being brought to a point on the surface of the body directly opposite to the bullet. Strangely enough, this same idea of using the induction balance occurred to Mr. George M. Hopkins, of Brooklyn, at about the same time, and independently of Professor Bell. Pro-

tical apparatus, which, used in connection with his other invention—which I have ventured to name the *telephonic probe*, and will describe further on—gives us a nearly perfect and almost painless means of determining the location of metallic masses in any of the tissues or cavities of the human body.

Fig. 1 shows the essential parts of the induction balance. At A is an ordinary bichromate-of-potassium battery of six cells; a greater or less number of cells can be used, but the best results will, I think, be obtained when six freshly filled cells are used. At B is shown a rheotome; as an interrupted and not a continuous current is required, five or six hundred interruptions per second should be had. At C is a small coil of about No. 25 copper wire, thoroughly insulated. This coil is about one inch in diameter by half an inch in thickness, and the spool on which the wire is wrapped is of

hard rubber. At D is another coil of fine insulated copper wire, about three inches and a half in diameter by three quarters of an inch thick, and the spool on which the wire is wrapped is of card-board. These two coils, together with the rheotome and battery, it will be seen, are connected by wires, forming a complete circuit, marked *primary cir-*

metallic mass, and thus have a means of exploring the whole surface of the body in which we suspect a bullet to be lodged. In order to do this, the two coils, E and D, which we will call the exploring coils, are let into a turned-out space in a block of wood and held in position by melted paraffin being poured over them and then allowed to har-

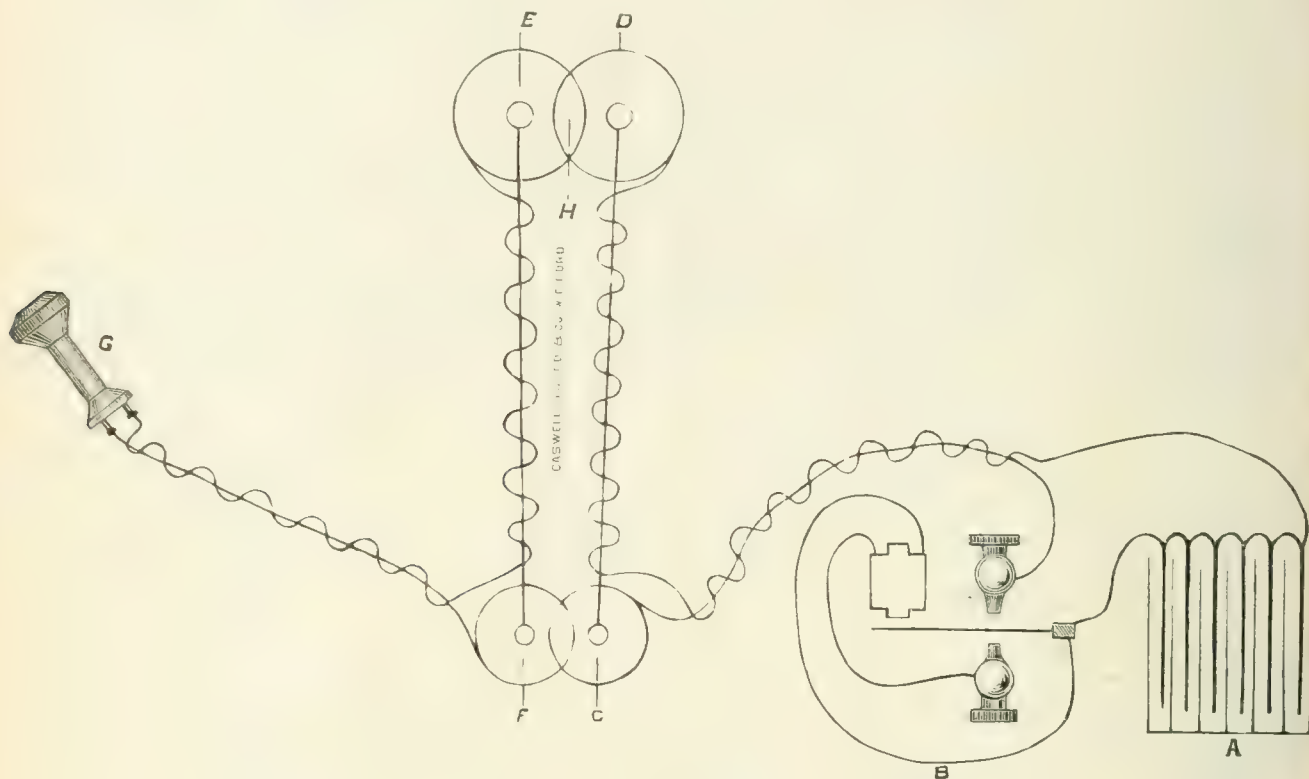


FIG. 2.

cuit. At E and F are coils precisely similar to those shown at D and C, and at G is a telephone receiver. The coils E and F, with the telephone receiver, it will be seen, are connected by wires, and form a complete circuit, marked *secondary circuit*. It will also be observed that the course of the currents in the two circuits is in opposite directions, as indicated by the arrow-heads.

Fig. 2 represents the same parts as Fig. 1, except that in the latter cut the apparatus is shown in position for work—that is, the coils E and F of the secondary circuit are laid on the coils D and C of the primary circuit, so that when the current is passed through the primary circuit a current is established in the secondary circuit by induction, and there is a loud musical sound produced in the telephone receiver at G. Now, if the coil F be moved about on the surface of the coil C, a position will be found for it in which there is a perfect balance established between the two currents, and consequent silence in the telephone.

With this balance established, if any metallic substance be brought near to the point marked H, which is the center of the *induction area*, the balance is disturbed and the telephone gives forth a high-pitched musical sound which increases or diminishes as the metal approaches or recedes from the point H. Now, it is evident that to make this apparatus available as a means of surgical diagnosis we must arrange to bring the point H in the neighborhood of the

den, as in Fig. 3, which shows the flat surface of the block with the exploring coils A and B in position, and Fig. 4, which shows a cross-section of the same.

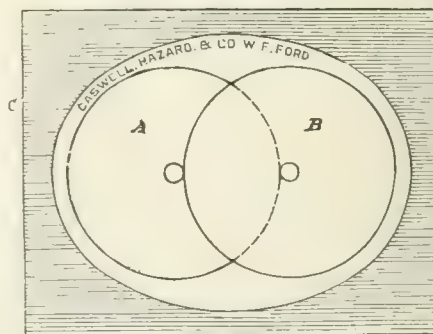


FIG. 3.



FIG. 4.

After the coils have been secured in their proper places by means of the paraffine, a piece of silk velvet is pasted

over them to give a soft surface for contact with the skin in explorations of the body. A handle is next glued on the upper surface, and the wires from the coils are made to pass out along grooves in its upper and lower surfaces, and it is thus called the explorer. (See Fig. 5.)

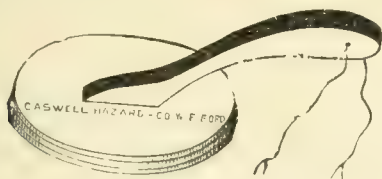


FIG. 5.

The coils F and C, Fig. 2, are called the adjusting coils, and are also attached to a block of wood and arranged with a delicate screw adjustment for moving one upon the other, thus enabling us to obtain a perfect balance between the two circuits and perfect silence in the telephone. Fig. 6 shows this screw adjustment. To use the apparatus, place

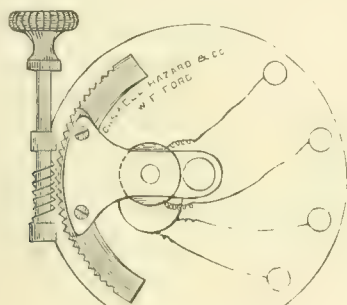


FIG. 6.

the patient on a table with the parts exposed in which the bullet is supposed to be located, place the table in the middle of the room, and have *both patient and table entirely free from any metallic substance*; or, if this is not possible, as nails are used in most tables, be certain you know where each nail is located. Remove all metal from the operator so far as is possible, and know where each piece which remains is located, so that allowance can be made if it exerts a disturbing influence on the balance. The patient's teeth should also be examined for fillings, if you propose to search for a bullet in the neighborhood of the cheek. All these precautions being observed, you are ready to begin the exploration. Place the telephone to your ear at the same time that an assistant holds the explorer at arm's length about twelve inches from the patient's body. If now you hear a noise in the telephone, it indicates that the two circuits are out of balance, and you must turn the screw in the adjuster (Fig. 6), first one way and then the other, until you find the noise in the telephone growing weaker, and finally it disappears entirely; then there is a perfect balance. Now take the explorer from the assistant and, holding it at arm's length, pass it slowly over the patient's body, *without pressure*, allowing the velvet to barely touch the skin, holding the telephone to the ear the while; when the center of the explorer (Fig. 5), which is the center of the area of induction, reaches a point on the skin directly opposite the bullet in the body, the telephone announces it by a musical sound,

and, as you approach or recede from this point on the skin with the center of the explorer, the sound in the telephone increases or diminishes. This point on the skin should be marked, and we know certainly that if a needle is passed directly in at this point at right angles to the skin, it will come in contact with the missile.

We come now to the second apparatus mentioned—viz., the *telephonic probe*, another of Professor Bell's inventions. It consists of a plate of polished steel six inches long by two inches wide and half an inch thick, shown at B, Fig.

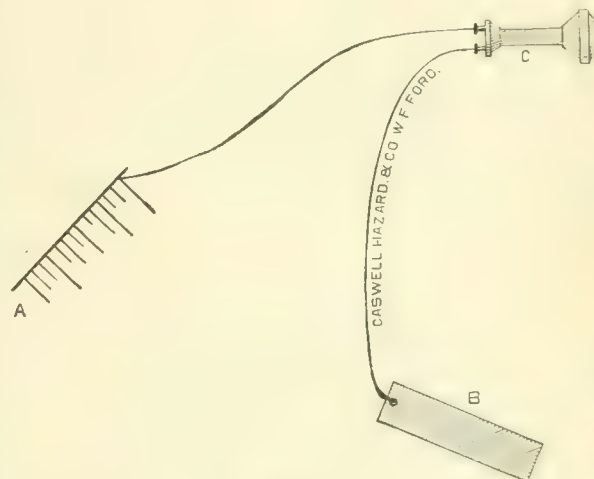


FIG. 7.

7. In one end of this plate is a hole from which a small copper insulated wire leads to a telephone receiver, C. At A is a finely tempered steel needle of suitable length, which may be for convenience graduated in inches and parts of an inch; from the eye of this needle a second wire leads to the other pole of the telephone receiver, C. The manner of using this apparatus is shown in Fig. 8. The point on the surface opposite the bullet having been determined by the induction balance, as described above and shown at A, Fig. 8, the operator moistens the skin with vinegar at a con-

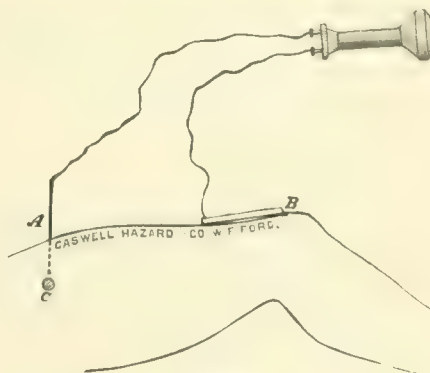


FIG. 8.

venient point, as at B, and lays the steel plate on this moistened surface, and, while an assistant presses it firmly against the skin, he places the telephone receiver to his ear, and with the other hand thrusts the steel needle into the tissues at right angles to the surface. The body now acts as a battery, with the steel plate and the needle forming the two

poles, and a feeble, continuous electric current passes through the circuit thus formed; but when the needle touches a metallic mass, this current is interrupted and a distinct and peculiar "click" is heard in the telephone, and the distance of the bullet from the surface can be read off on the graduated probe. If the needle touches bone or any other tissue, no noise is heard.

This probe can, of course, be used independently of the induction balance, and with equally good results, when the probe is made to follow in the track of the bullet, and any other metal than steel may be used for the probe, provided the plate applied to the surface be of the same metal.

If we leave out the cost of the battery and of the telephone receiver, neither of which need be used exclusively for these apparatuses, the cost of the instruments need not exceed thirty dollars. I desire to express my thanks to Mr. W. F. Ford, of Caswell, Hazard, & Co., for the cuts used in this article.

ANTISEPTICS IN PRIVATE PRACTICE AND EMERGENCIES.

By ARPAD G. GERSTER, M. D.

(Concluded from page 367.)

II. ASEPTIC MEASURES IN EMERGENCIES.

UNREMITTING attention to and a severe self-discipline in always carrying out the measures of cleanliness known to be necessary to uniform success in the management of wounds will become, however irksome in the beginning, a mere matter of accustomed routine. As the mind and senses gradually learn to exercise vigilance without special effort, the surgeon's results will become more and more gratifying. His attention, freed from the severe strain unavoidable in acquiring command of the detail of a difficult business, will concentrate itself upon higher objects, and the smooth routine resulting from long and severe training will not divert attention from the finer detail of his special work.

It is a great mistake, paid for by the loss of limbs and lives, to believe that the mastery of practical cleanliness or asepticism can be acquired without a clear comprehension of the principle, and without earnest and severe training in the handicraft of asepticism.

The phrase "*simple cleanliness*," or "*mere cleanliness*," has a meaning not dreamed of by some colleagues. To them it is an easy and small thing, possessed at will by anybody whenever wished for. But this is a great mistake, as cleanly habits of person, cleanly ways of surgery, are just as difficult to acquire as a cleanly way of thought and action in the matter of morals.

The new surgery of cleanliness does not tolerate pretense and imposition. Its only test of worth is the result or the manner of healing of the wound. The criterion is very simple. Whatever practice achieves union without suppuration is good practice; whatever treatment results in suppuration against the wish and will of the surgeon is faulty treatment, and needs correction and expurgation.

The wholesome truth that failure of achieving primary

union in a fresh wound is mainly due to one's own lack of knowledge or skill, and that these attributes can be secured only by the exercise of great diligence and many often unsuccessful trials, should be constantly before our minds. Failures are bitter lessons, but their honest study inevitably brings to light the causative deficiencies, and will teach us to avoid them.

The school for learning to employ the principles of asepticism is open to every general practitioner in the treatment of the many affections and injuries pertaining to minor surgery. Mistakes made in the removal of a wen or the treatment of a small incised wound are easily found out and easily corrected. They carry as much and sometimes more instruction than a large operation, because attention is not easily averted from the detail of the wound treatment.

It is wicked to try to learn the first lessons of asepticism in laparotomy or a major amputation where the surgeon's experience may be bought with the life of his trusting patient.

Emergencies will necessarily involve varying modifications of the means, *never a deviation from the principle*.

A hasty tracheotomy for the removal of a foreign body, a kelotomy to be done in the dead of night amid the squalid surroundings of a tenement, or the first care of a compound fracture or gunshot wound, will present special and varying difficulties, to be overcome only by good training, circumspection, and versatility. They can be overcome, as many examples in the experience of every successful surgeon testify.

CASE I.—Michael B., aged sixty-three, compound fracture of left elbow joint sustained November 13, 1883. Twelve hours after the injury I found a Y-shaped fracture of the lower end of the humerus, the sharp point of the upper fragment protruding through a small wound above the olecranon. Joint distended by clot; some oozing from wound. The edges of the perforation wound were snugly fitting around the protruding bone, and good care was taken during the subsequent manipulations not to allow the bone to slip back. Unaware of the nature of the injury, I arrived at the bedside entirely unprepared. But the case did not brook further delay, the hour was late, and I decided to extemporize the necessary dressings.

Several ounces of a ten-per-cent. alcoholic solution of corrosive sublimate and some iodoform were ordered from a drug-store, and several bundles of cotton batting were procured. Soon we had plenty of a 1-to-1,000 solution of sublimate, in which square pieces of cotton were soaked as described. The patient being poor, we had to manage with limited means. An old clean bed-sheet was ripped into roller bandages, which were laid into the lotion. This done, soap and hot water were applied to the elbow, and the skin was shaved clean all around the perforation. After this the skin and protruding bone were well rubbed off and rinsed with mercuric lotion poured from a pitcher, and the bone was reduced and adjusted to the other fragments. In order to provide some drainage, a small fillet of cotton dusted with iodoform was inserted into the cutaneous wound, which also was covered with iodoform. Over this were placed four layers of cotton pads and snugly bandaged to the well-extended limb. Two lateral pasteboard splints secured the extended position, and the limb was vertically suspended from a nail in the ceiling. The temperature never arose above 100° F. November 19th the dressings were removed. Swelling due to effusion of blood had disappeared; oozing had ceased; *no sup-*

putation. The fillet of cotton was withdrawn and the arm was put up in a plaster-of-Paris splint flexed at a right angle. Passive motion was commenced four weeks after the injury. Ultimate result noted October, 1884: Flexion normal; extension can not be carried beyond 140° .

CASE II.—Hermann John, laborer, aged sixty-one. Strangulated, irreducible, femoral hernia of long standing. Symptoms of intestinal occlusion since the evening of April 1, 1882. Dr. Wettengel, the family attendant, administered chloroform at 2 P. M. of the following day. The operating-room was a narrow and dark rear room of a rear building of a squalid tenement, and a lamp had to be procured. The patient's pubic and inguinal region was shaved and well rubbed with carbolic lotion, of which an abundant supply had been first prepared. A flat bake-pan, taken from the cupboard, was washed, and its inside was spread with a clean towel, as it was impossible to free it from all the adhering grease. The instruments were laid into this pan and were covered with carbolic lotion. No sponges were at hand, as the summons had been very hasty, wherefore a part of a clean bed-sheet was torn into small compresses, which, being well soaked in carbolic lotion, served instead of sponges. A remnant of the lotion was saved in a pitcher for irrigation. The surgeon's hands and the patient's inguinal region were well rubbed off with the lotion, and then external herniotomy was performed. This proving insufficient, the sac was laid open and a prolapsed portion of the omentum was found adherent to the sac. This being dissected away, it was easily put back into the abdominal cavity, together with the small knuckle of protruding gut. The wound was well mopped out and was closed with a number of catgut sutures. A few strands of catgut were inverted into the lower angle of the wound for drainage. In the absence of other dressings the remnant of the bed-sheet above mentioned was used for the manufacture of a number of compresses and roller bandages, which, being saturated with carbolic lotion, were utilized as dressings. Vomiting ceased at once; the oozing being very scanty, the dressings soon became dry, and, as the patient's condition continued to improve, they were left undisturbed for a fortnight. When they were removed the wound was found completely closed.

TREATMENT OF ACCIDENTAL WOUNDS. TEMPORARY AND DEFINITIVE RELIEF.

1. *Temporary Measures.*—Taking charge of a fresh case of accidental wounding, the surgeon should bear in mind that on one hand, by the avoidance of suppuration, a complete, or almost complete, restitution of normal conditions can be accomplished in a great majority of cases; on the other hand, suppuration will enormously increase the gravity of a given injury. A compound fracture of the leg, or an incised wound of the wrist, with opening of joints and severing of arteries, veins, and tendons, may serve as an example.

In approaching a fresh case of bloody injury, we should always consider the possibility that the wound may be surgically clean, or may still be aseptic, and that our first ministrations should not carry septic contamination into the wound, and thus harm the patient instead of aiding him.

As a matter of fact, a large proportion of incised and lacerated wounds or compound fractures, by blunt force or gunshot, are *aseptic*. They need no disinfection. The surgeon's first object in these cases should be *not to spoil matters by hasty action and ill-considered zeal*. With the com-

paratively rare exception of injuries to large vessels accompanied by dangerous hæmorrhage, where immediate action is imperative, conditions should be created by the surgeon under which safe—that is, aseptic—approach to the wound is made possible. Temporary protection of the wound in the shape of a simple dressing is meant thereby. Iodoform powder profusely dusted over the wound and its vicinity, a compress made of a clean towel dipped in hot water or carbolic lotion, also well dusted with iodoform and tied on to the wound, will be sufficient. The addition of a temporary splint in cases of compound or gunshot fracture will make transportation to the patient's home or to a hospital possible, and will thus afford time for the absolutely necessary preparations. Extensive or even superficial examination of an accidental wound by probing or digital exploration in the street, on a train, or in a railroad-station or drug-shop, is strongly to be condemned, as it almost necessarily exposes the wound to unavoidable infection. Meddlesome and untimely surgery of this kind smacks of ostentation, is unnecessary, and, in many cases, positively more dangerous than the injury itself.

Bergmann's experience during the Russo-Turkish war has shown that most gunshot wounds are aseptic, and that, with the exception of cases where shreds of soiled clothing or gun-wads have been carried along by the projectile into the bottom of the wound, healing without suppuration can be safely expected, if the wound is not infected by meddlesome and uncleanly surgery. These experiences referred principally to gunshot fractures of the knee joint. As a matter of fact, it may be safely assumed that an examination by probing or digital exploration, performed on the filthy floor of a railroad-station or on the street pavement, even by the most experienced surgeon, can not be, and is not, cleanly or aseptic. It is extremely dangerous, unnecessary, and hence culpable. Even in most cases of profuse arterial hæmorrhage, mesial constriction with an extemporized tourniquet, as, for instance, the "Spanish windlass," or digital compression of the afferent arterial trunk, can be successfully employed while the patient is transferred into a suitable locality, where permanent relief can be safely afforded by deligation.

The collected and business-like manner of the surgeon will at once allay confusion, prevent hasty and injurious interference, inspire the patient and those present with hope and confidence, and facilitate well-considered and rational action.

As a rule, the fate of a flesh-wound is determined by the views and training of the physician who first attends to it. If the patient is so fortunate as to fall in with a man fully imbued with the spirit and familiar with the practice of aseptic surgery, he is truly to be congratulated, because his chances of avoiding suppuration are excellent. If his first attendant is one of the still numerous band of surgeons to whom wound infection by dust or filth adherent to hands or a probe is a myth, woe unto him!

Without previous cleansing, immediate probing of the gunshot wound, of a vertebra, for instance, accompanied by digital exploration, is performed on the patient extended on a mattress laid on the dirty floor of a railroad-station. Of

course, the bullet is not found, and nothing beyond the infection of the wound is accomplished.

A dressing is applied, any way, and the patient is taken home. Suppuration, that otherwise might have been avoided, is sure to set in, and the patient is doomed. No amount of consulting can devise a way for, no surgical skill can establish, efficient drainage of the inaccessible parts of the wound. Here the chances for recovery were thrown away from the outset.

On taking charge of a fresh wound, the fearful and often irremediable consequences of a first false step should always be present to the mind of the surgeon, and his attention should be directed chiefly to the avoidance of septic infection. A temporary aseptic dressing having been applied, the general condition and comfort of the patient should be looked to by the administration of stimulants or sedatives. After transfer home or to a hospital, the necessary measures for permanent relief should be carried out as soon as the patient's general condition will permit.

2. *Definitive Relief.*—Preparations comprehensive and thorough, as required for an aseptic operation, should now be made.

The patient is well stimulated if necessary, is anesthetized if the case requires it, and, his clothing being removed by cutting or in some proper manner, he is placed on the operating-table. After this should come a careful cleansing and sterilization of the surgeon's and his assistants' hands by scrubbing with soap and brush and immersion in a germicide lotion, followed by a likewise thorough cleansing of the integument in the vicinity of the wound.

Plenty of soap-lather with the use of the razor, scrubbing with soap and brush, rubbing and washing off with a solution of corrosive sublimate, will soon accomplish this.

a. *Contaminated Wounds.*—The character of further procedures will have to be decided by the answer to the question, *Is the wound clean or is it contaminated?*

Gross evidence of contamination, such, for instance, as street dirt imbedded in the wound or the blood-clots, or the knowledge that the wounding was done with a filthy instrument, as, for instance, the foul and fetid butcher's cleaver, will answer the question in the affirmative. In these cases the leading object should be thorough cleansing and disinfection, followed by very comprehensive measures at drainage. If the external wound is small, it should be well enlarged so as to afford good insight. Every nook and corner of the wound should be systematically gone through, cleansed of clots and dirt, thoroughly irrigated, and well drained. Great care must be taken not to overlook recesses, as one particle of filth left behind unawares may vitiate the whole undertaking.

Drainage of the more remote recesses should be made as direct as possible; that is, a rubber tube carried to the surface from a distant corner of the wound through a properly placed counter-incision will effect more direct, therefore better, drainage than a long tube bent or twisted and brought out through a distant opening.

Hæmorrhage must also be, of course, well stanchied by ligature or otherwise.

Divided tendons, nerves, muscles, or fractured bones are

next united by suture, and, if the edges of the wound are viable, they are also approximated by sutures. Where extensive loss of substance precludes uniting of the edges, or where uncontrollable oozing prevails, the wound should be packed. This is best done by first lining the entire wound with one layer of iodoformized gauze, within which is packed a suitable number of loose balls of sublimated gauze. After a final irrigation and cleaning of the drainage-tubes the wound and its vicinity are enveloped in a moist dressing, that should be protected from evaporation by a large piece of rubber tissue or Macintosh. In case of fracture, the limb is supported by a suitable splint.

If the steps described above are adequately taken, as a rule no septic fever, no destructive suppuration, will follow an accidental injury; though *aseptic* fever due to absorption of non-decomposed secretions may often enough be observed.

Tissues or bone, whose vitality was compromised by the crushing force causing the injury, will be gradually detached. This will be accompanied by a rather scanty secretion of thinnish sero-pus, and very little, if any, fever.

b. *Aseptic Wounds.*—The nature of many wounds and their causation is such as to preclude the probability of contamination. Most gunshot wounds and many compound fractures belong to this class. In these cases interference should be very discreet. It should consist of a thorough cleansing of the integument, ordinarily an aseptic *dry dressing*, or, in case of doubt, of superficial drainage and a *moist dressing*, together with reduction, support, and retention by splint, where a fracture requires it.

In the more extensive injuries of the extremities caused by crushing force, the gravity of the case hinges more upon the extent of the injury to the soft parts than to the bones. A compound fracture by direct force, for instance, the blow of a hammer upon the tibia, where the crushing and laceration of the soft parts is comparatively limited, is by far not as dangerous as, for instance, the stripping off of the entire integument of the lower extremity, or the crushing and pulpification of the large muscles, nerves, and vessels of the anterior and internal aspect of the thigh, though these latter injuries be uncomplicated by fracture. The shock, the presence of extensive thrombosis, in addition to the fact that with the large quantity of mortified tissues preservation of the aseptic state is extremely uncertain and difficult, class these injuries among the most grave and dangerous.

c. *Gunshot Wounds.*—The fact that most fresh gunshot wounds are aseptic has been pointed out by Esmarch, and is now well established. Reyher and Bergmann's experiences in the Russo-Turkish war put the fact beyond controversy.

Wise precaution against infecting a fresh gunshot wound will be richly rewarded by excellent results. In most cases cleansing and disinfection of the skin in the vicinity of the points of entrance and exit, together with a *dry dressing*, will be sufficient. If the case is complicated by fracture, a suitable splint, preferably plaster of Paris (Bergmann), should be added.

If the course is free from septic fever and suppuration, this will be manifest within the first three or four days;

the splint can be left undisturbed for the length of time required for the accomplishment of bony union.

Flesh wounds will be healed within a fortnight or three weeks. Gunshot fractures will require a longer time for healing and consolidation, but are in no way different from ordinary compound fractures.

The projectile will cause very little or no irritation in aseptic—that is, non-suppurating—gunshot wounds. Generally it will become encysted. Search for the projectile in the bottom of the wound is rarely indicated. It can occur, however, that pressure of a projectile or its fragment, or a sharp spiculum of bone, on a nerve trunk may necessitate search and extraction. This must be done under careful asepsis.

It is even not necessary to remove a projectile lodged under the skin. It will do no harm if left there until the channel which it cut by its passage through the tissues is obliterated, when its removal by incision can not lead to an infection of the bullet-track.

In cases of injury to large vessels or the intestines, immediate interference can not be delayed, but should be carried out under most rigid antiseptic precautions.

Recent successes (W. T. Bull) achieved by immediate laparotomy and suture of the wounded intestines justify the procedure.

Where the nature of the charge or the short distance from which the shot was delivered makes the entrance of a gun-wad probable, or where the examination of the superjacent clothing shows a large defect, rendering the probability great that shreds of soiled cloth have been carried to the bottom of the wound, dilatation, search, and extraction may be indicated. But it is better to wait in cases of doubt, as even these foreign substances may become encysted and harmless.

Should suppuration follow, the patient will not be worse off than if a fruitless search had been made at the outset, and the use of the suppurating tract as a guide will materially facilitate the finding of the irritating body.

(Note.—Reyher's observations* may serve as a fair sample of the radical change that has taken place in the results of the treatment of gunshot fractures.

Gunshot fracture of the knee joint was formerly considered a *prima facie* indication for immediate amputation. Reyher treated eighteen fresh cases aseptically—that is, by simply cleansing and disinfecting the skin about the wound, and occluding the same by an antiseptic dressing. Where the wound was gaping, or where there was ground to suspect the entrance of dirt or shreds of clothing into the bullet track, dilatation, irrigation, and extraction of the foreign body, with subsequent drainage, was practiced before the wound was sealed up. Of these eighteen cases, fifteen recovered with movable knee joints—83.3 per cent. of recoveries. One patient died in twenty-four hours after the injury, of fatty embolism; another of hemorrhage from the divided popliteal artery and vein on the fifth day; and the third one of pyæmia.

Of nineteen that came under his care several days after

the reception of the injury, with well-established suppuration, eighteen died, and one recovered with a stiff joint. In spite of an energetic antiseptic treatment by incisions, drainage, and irrigation, a mortality of 85 per cent. was noted.

Of twenty-three that were not subjected to any form of antiseptic treatment, twenty-two died, one survived—a mortality of 95.6 per cent., clearly justifying the practice of the older surgeons, who at once performed amputation in cases of gunshot fracture of the knee joint.)

SOME EVIDENCE RELATING TO ASHEVILLE AND THE MOUNTAINS OF NORTH CAROLINA IN THE CLIMATIC TREATMENT OF PHTHISIS.

BY T. MORTIMER LLOYD, M. D.,

BROOKLYN, N. Y.

A visit to the mountains of western North Carolina, made by Dr. Avery Segur, of Brooklyn, N. Y., and the reporter, so impressed them with the natural sanitary advantages of this region that they determined to make further inquiry.

Very valuable reports were found based upon the personal experience and observations of Dr. J. W. Gleitsmann, formerly proprietor of the "Mountain Sanitarium for Consumption" at Asheville, N. C., now of New York city, of Professor Stanford E. Chaillé, of New Orleans, La., and Dr. H. O. Marcy, of Boston, Mass. Knowing that many cases had been sent to this section, and finding comparatively few published reports, they instituted a clinical inquiry by addressing a circular letter and questions to nearly three hundred prominent physicians in the large cities.

Western North Carolina, of which Asheville is the center, embraces an elevated expanse of 6,000 square miles, with a general altitude of 2,000 feet. This region, triangular in outline, 200 miles in length from north to southwest, with a varying breadth of 15 to 65 miles, lies between the Blue Ridge and Smoky ranges, and is filled with cross-chains of mountains, mountain spurs, and isolated hills. It presents a most irregular surface, a sea of mountain-peaks ranging from 3,000 to 6,700 feet in height. The Alleghanies here attain their most lofty, rugged, and striking development. There are between 60 and 70 peaks over 6,000 feet high. Mount Mitchell, 6,711 feet above sea-level, is the loftiest summit east of the Rocky Mountains. The Blue Ridge is the watershed of the system; "its inner slope throughout the entire length, as compared with the outer slope, is more gentle in its descent, heavily wooded, and diversified with clearings. The Smokies present similar characteristics, richly wooded descents toward the central valley, rocky and sterile fronts toward Tennessee." The geological formation is of the oldest, and the water has a purity and softness seldom equaled. There are many mineral springs which remain undeveloped. There are six great valleys, with tortuous configuration, separated by intervening ranges, each drained by one of the rivers which

* Volkmann's "Sammlung," Nos. 142, 143, 1878.

cut asunder the Smoky range of mountains. The mountains are all covered with timber, which is remarkable for the great variety of species and for the size attained, especially on the higher slopes. The soil is rich, yielding, where cultivated along the rivers and in many mountain coves, a great variety of fruits and grains of fine quality. Tall, rich grass and nutritious weeds grow on many of the summits. To the botanist and lover of forest-trees this region is a perfect mine. Regarding its attractiveness, those who have traveled much and visited it generally concur in the opinion "that there is no mountain region in the eastern United States which equals in beauty and grandeur this sublime section of North Carolina." It abounds in romantic streams, waterfalls, luxuriant forests, majestic mountain heights, cliffs, valleys of exquisite beauty, and quaint villages and settlements. There is such a small area cleared and under cultivation that the general impression on the traveler is that of a mountain wilderness. Hence the purity of its air. The clearness of the atmosphere on bright sunshiny days is remarkable, rendering very appropriate the appellation, "Land of the sky." No lakes or swamps are found. The freedom of this mountain region from malaria seems to be established by competent testimony. Mountain climbing affords an attractive work, and will clear the system of this tenacious poison. The purity of the air in this respect, and with an abundant vegetation, seems to point to a remarkable drainage of the soil, natural to the plateau, since so little of it is cleared and cultivated. Hence the composition of the atmosphere in respect to moisture is favorable to the cure of phthisis. Asheville is splendidly situated on rising ground 250 feet above the waters of the Swannanoa, near its junction with the French Broad River, at the foot-hills of the Black Mountain chain, 2,250 feet above sea-level. The population, according to the United States Census of 1880, was 5,868 for the township, and 2,616 for the town itself. While surrounded on all sides by mountain-ranges, Asheville is nevertheless not shut in by them, in every direction the more lofty ranges or peaks being at least ten miles distant. This insures an abundance of sunshine at all hours of the day, and an absence of "down draughts" of cold night air, characteristic of places lying in a deep, narrow valley at the foot of overhanging slopes, and contributes much toward the comparative equality and comparative dryness of atmosphere of this climate. Its environs are beautiful, with many attractive drives to local places of interest and points commanding views of billowy hills and distant amphitheatre of mountains. From its central position excursions can conveniently be made by rail, carriage, and especially by horseback, to all parts of this mountain region. The mean average temperature, taken for thirteen years (1867 to 1879), was: Spring, 53.70°; summer, 70.66°; autumn, 53.96°; winter, 38.30°; and for the year, 54.10°. "At about 35° 30' latitude, Asheville has the summer temperature of St. Paul, Minn., 45°, and the winter temperature of Fayetteville, Ark., 36° latitude. . . . During a period of eight years (1867 to 1875) the thermometer but twice rose above 88°, and but three times fell below 3°." The extremes were a maximum of 90° and a minimum of 1°.

Table showing winter temperatures, abstracted, obtained through the courtesy of Dr. J. W. Gleitsman, of New York, by whom the observations were made.

OBSERVATIONS.	Dec.	Jan.	Feb.	Mar.	Year.	Remarks.
	Deg.	Deg.	Deg.	Deg.	Deg.	
Mean temperature.	37.80	37.70	39.40	45.50	54.10	Observations of 13 years (1867-'79).
Mean maximum temperature (self-registering thermometer).	44.74	44.27	46.08	60.68	64.30	Observations of 2 years (1878-'79).
Mean minimum temperature.	30.79	27.64	29.92	39.53	45.98	
Absolute maximum temperature.	65.00	69.20	71.50	74.50	94.00	Observations of 4 years (1876-'79).
Absolute minimum temperature.	4.50	-6	14.00	12.00	-6	
Mean relative humidity.	71.92	67.13	64.97	59.51	70.32	Observations of 4 years (1876-'79).
Average rain-fall (in.)	3.03	2.62	3.62	4.30	42.55	Observations of 11 years (1869-'79).
Number of fair and clear days.	18	17	16	25	259	Observations of 2 years (1878-'79).

To indicate the severest temperature ever likely to be experienced in Asheville, the following points were noted from a temperature chart (prepared by D. S. Watson) of last winter, the coldest throughout the South for very many years. In January there were five days in succession with the lowest temperatures varying from 12° to -1°. In February the lowest temperatures were again on successive days 8°, -3°, +10°, the average being much higher. During January and February there were twenty-seven clear days and fifteen partially clear. There were several light snow-storms, and two each eight inches deep. From our examination of the records, including that of last summer, it can fairly be said that this region has one of the lowest summer temperatures, and that few places are found on the eastern side of this continent combining such coolness of summer with comparatively mild winter. "During a period of ten years the highest temperature was only twice 88° and once 90°. . . . The diurnal ranges of the thermometer are very small when compared with the high regions of the West." The average annual rain-fall during eleven years (1869 to 1879) was 42.55 inches. The "conditions for production of ozone are present, abundance of vegetation, of water, of electric tension, and great evaporation."

TESTIMONY.

Q. 1. How many patients have you known to be sent to Asheville, N. C., for consumption?

Q. 2. Please give names and addresses of physicians sending them. "I have sent about thirty to this region: the majority went to Asheville."—Dr. H. O. Marey, Boston, Mass. "Perhaps thirty or forty sent by myself."—Dr. Edgar Holden, Newark, N. J. "A great many, but can not give number."—Dr. R. A. Kinloch, Charleston, S. C. "'Three,' sent by Dr. C. A. Folsom, Boston, Mass. 'Several hundred certainly,' sent by Drs. Loomis (New York), Marey (Boston), Da Costa (Philadelphia), Donaldson (Baltimore), Davis (Chicago), and other prominent physicians of the large cities."—Dr. Wardlaw McGill and Dr. S. W. Battle, associate practicing physicians of Asheville, N. C. "'I treated myself 136 patients at Asheville between 1875 and 1879,' sent by Drs. Loomis, L. Conrad, George G. Wheelock (New York), William Pepper, J. Solis-Cohen

(Philadelphia), E. Holden (Newark), H. J. Bowditch, F. I. Knight (Boston), A. Y. P. Garnett (Washington), J. B. Gaston (Montgomery, Ala.).—Dr. J. W. Gleitsmann, formerly proprietor of a sanitarium at Asheville, now of New York city. "One."—Reported and sent by Dr. Thomas F. Rochester, of Buffalo, N. Y. "One."—Dr. S. D. Kennedy, New Orleans, his own case, reported through kindness of Dr. P. B. McCutcheon. "I have only the record of one case sent to Asheville, though I have directed several to go there from the Adirondacks this fall."—Dr. E. D. Ferguson, Troy, N. Y.

Q. 3. (a) In your experience, what are the most favorable months for consumption in the climate of Asheville? (b) and what are the most unfavorable? "(a) Autumn; (b) early spring."—Dr. H. O. Marcy. "I have always sent during winter."—Dr. E. Holden. "My observations confined to summer and fall."—Dr. R. A. Kinloch. "(a) May to June; (b) February and March."—Dr. Folsom. "(a) From April to December inclusive; (b) February and March, by reason of the roads more especially rather than that of the atmosphere."—Dr. McGill and Dr. Battle. "(a) Early spring until July, September to December; (b) January and February."—Dr. Gleitsmann. "(a) May to October; (b) December to May."—Dr. S. D. Kennedy. "(a) Summer and fall; (b) early spring."—Dr. J. A. Reagan, Weaverville, near Asheville, N. C.

Q. 4. What length of time have you known patients to remain with benefit? "Three years; met several who had lived many years. Settled because of lung troubles."—Dr. Marcy. "Usually three months."—Dr. Holden. "Have known disease apparently averted, and persons to remain there most of their time for many years."—Dr. Kinloch. "Two years."—Dr. Folsom. "Indefinitely."—Dr. McGill and Dr. Battle. "I know quite a number of people who have settled permanently in Asheville, and regained and retained thereby their health."—Dr. Gleitsmann. "Eighteen months, after having been in Rocky Mountains for six months."—Dr. S. D. Kennedy. "For several years."—Dr. J. A. Reagan. "One of my patients was so much benefited that he left his New York position and bought a farm near Asheville, where he still lives in perfect health, and has done so for five or six years."—Dr. F. W. Rockwell, Brooklyn.

Q. 5. How many patients with incipient phthisis have recovered? "Too early to say positively; several seeming cures."—Dr. Marcy. "Many seemed well and subsequently died; a very few remain well."—Dr. Holden. "We may safely say a dozen under our very eyes."—Drs. McGill and Battle. "Of my 136 patients, 86 had incipient phthisis, 64 of whom improved."—Dr. Gleitsmann. "One."—Dr. S. D. Kennedy. "Have sent several cases of incipient or pronounced phthisis (in early stages) to Asheville, and always with good results."—Dr. F. W. Rockwell. "All the sick whom I have ever known sent to that section have improved except one."—Dr. Stanford E. Chaillé. "None in my practice of thirty-five years."—Dr. J. A. Reagan.

Q. 6. Have you known patients apparently cured in Asheville to have a relapse and die soon after leaving? If so, how many? "None of my sending."—Dr. Marcy. "No; but some failed to improve, and ran down rapidly upon return."—Dr. Holden. "No."—Dr. Folsom. "More than one. Have known of several who have tried to live elsewhere, but were compelled to return."—Dr. McGill and Dr. Battle. "No, not soon after. Of my patients, none within one year."—Dr. Gleitsmann. "The case improved the first winter, but would return to Troy to spend the summer, to be taken with acute extension on the eve of his proposed return, and a rapidly fatal issue."—Dr. E. D. Ferguson. "Very few."—Dr. J. A. Reagan.

Q. 7. In what stages of phthisis have you seen improvement? "Early stages."—Dr. Marcy. "The early stages of fibroid disease, first and second of strumous phthisis."—Dr.

Holden. "Rather late in one; moderately late in one; so late that it seemed almost useless in one, and he has improved the most."—Dr. Folsom. "A large proportion of incipient phthisis are benefited."—Dr. McGill and Dr. Battle. "In the first and second stages; in the third stage (hectic, cavities), in only two cases."—Dr. Gleitsmann. "First."—Dr. S. D. Kennedy. "Most marked in first and second stages, but known improvement in third stage, and life prolonged."—Dr. J. A. Reagan.

Q. 8. What effects have you noted upon the following symptoms? Dr. Folsom reports: "Loss of appetite and dyspepsia, three improved; diarrhoea, not a symptom; pharyngeal catarrh, two improved; bronchitis, expectoration, harassing cough, night-sweats, and emaciation, three improved; not a symptom in the others." Dr. McGill and Dr. Battle report: "Loss of appetite and dyspepsia generally improved; diarrhoea, negative effect; pharyngeal catarrh and bronchitis generally improved; expectoration lessened almost always; harassing cough generally lessened; in night-sweats, emaciation, and hæmoptysis, improvement only noted with that of other symptoms." Dr. J. A. Reagan: "Appetite and dyspepsia are improved; diarrhoea, pharyngeal catarrh, bronchitis, expectoration, nearly all improved; harassing cough all improved; night-sweats, emaciation, and hæmoptysis, nearly all improved." Dr. S. A. Kennedy: "Appetite, bronchitis, expectoration, harassing cough, night-sweats, and emaciation all improved in one case."

Q. 9. Have you known of patients injuriously affected by a sojourn in Asheville? If so, how many, and under what circumstances of stage of disease, complications, seasons of the year, etc.? "No; because I have sent only selected cases."—Dr. Holden. "No."—Dr. Kinloch. "No."—Dr. Folsom. "We fail to recall any cases where its injurious effects were directly traceable to climatic influences."—Dr. McGill and Dr. Battle. "Of 136 patients, 71 improved; the balance of 65 did either not improve or grew worse."—Dr. Gleitsmann. "This one (exception referred to in Dr. C.'s statement, classed under Query 5), contrary to my views, remained in the town of Asheville during the summer, where it is very dusty."—Dr. S. E. Chaillé. "No."—Dr. J. A. Reagan.

Q. 10. How many cases of phthisis have you known to originate in the vicinity of Asheville? If any, how many were hereditary? How many were acquired? "It is said that phthisis has originated here. It is claimed that it is not hereditary here, and when it has occurred it is supposed to be due to want of proper food and to bad hygienic surroundings."—Dr. McGill and Dr. Battle. "None to my personal knowledge."—Dr. Gleitsmann. "Originating in vicinity of Asheville, ten; 'all' hereditary; 'none' acquired."—Dr. J. A. Reagan.

Q. 11. How many subjects of acute pneumonia and bronchitis originating in Asheville and vicinity have you known to become phthisical? "We recall one instance; in this the disease was arrested and the recovery complete."—Dr. McGill and Dr. Battle. "None to my knowledge."—Dr. Gleitsmann. "None."—Dr. J. A. Reagan.

Q. 12. Is the climate generally conducive to sleep? "I think so."—Dr. Marcy. "Yes."—Dr. Kinloch. "At Asheville, yes, in my experience."—Dr. Folsom. "Decidedly."—Dr. McGill and Dr. Battle. "Yes."—Dr. Gleitsmann. "Yes."—Dr. S. D. Kennedy. "Yes."—Dr. F. Peyre Porcher, Charleston, S. C. "Yes."—Dr. J. A. Reagan.

Q. 13. Have you known of patients visiting Asheville or vicinity contracting malarial or typhoid fevers, or other diseases? "Diarrhoea and dysentery, several."—Dr. Marcy. "There has been a complaint which seems well founded that the water-supply is bad. . . . Typhoid fever often met with in all this mountain climate, more frequently formerly than now."

—Dr. Kinloch. "No; I should think there might be typhoid, unless they clean up."—Dr. Folsom. "Never malaria, typhoid occasionally."—Dr. McGill and Dr. Battle. "Malaria is seldom, but not unknown in western North Carolina."—Dr. Gleitsmann. "Typhoid fever very common in Hendersonville, N. C., which is much resorted to. My family have often gone there for change and cool climate. Free from malaria, as is all that mountain region. Typhoid is not uncommon. I think the typhoid fever of Flat Rock all owing more to bad hygienic surroundings than to climate. *Malaria nil*. This mountain plateau has one of the most delightful climates in the world."—Dr. F. Peyre Porcher. "We have no malaria in this mountain section."—Dr. J. A. Reagan.

Under "additional remarks," Dr. McGill and Dr. Battle say that "the climate is dry and tonic, and invigorating; elevation and atmospheric dryness are its strong points. Asthma is almost uniformly benefited here. Hay fever usually mitigated, and occasionally, in some instances, immunity is enjoyed." Dr. J. A. Reagan remarks: "I have been practicing regularly at Weaversville, eight miles north of Asheville, for over thirty years. It is the same height as Asheville. I have not known a single case of consumption in this plateau of some ten miles. There have been a few cases on the river and creeks." Dr. Pepper writes us (in answer to our circular letter): "I regret extremely that the excessive pressure of my business makes it impossible to answer your queries as to Asheville, especially because I have sent a great many patients there during a long series of years. The results are generally favorable to it as a health resort, and I doubt not that, with improving facilities and accommodations there, still better results will be obtained in the future." He again writes, in reply to a special query regarding his views of the most favorable months at Asheville: "I have had much more experience with the climate of Asheville during the summer and fall months up to Christmas. The limited number of observations I have as to Asheville as a winter resort have not been so favorable, but it has been almost impossible until recently to get good accommodations and food there in winter." Not having received any statistical statement of results from Dr. A. L. Loomis, we quote from his recent work ("Practical Medicine," 1885, p. 206): "My most decidedly beneficial and permanent results (when the evidences of consolidation were present in catarrhal phthisis) have been obtained in Asheville, N. C., in New Mexico, and in the Adirondack region of New York State." Dr. John T. Metcalfe, New York, kindly writes that he has known "very few" patients to be sent to Asheville for consumption. In his experience, late spring, summer, and autumn are the most favorable, and early spring and late winter the most unfavorable seasons. Dr. S. E. Chaillé, New Orleans, in his pamphlet, "The Mountain Sanitarium for Consumptives at Asheville, N. C.," 1878, gives very interesting reports from Dr. J. B. Gaston, Montgomery, Ala., who sent five patients to Dr. Gleitsmann's sanitarium, and all were improved; and Dr. E. P. Gaines, Mobile, Ala., who sent four patients to the sanitarium, where all markedly improved, except one case diagnosed "miliary tuberculosis." Dr. Chaillé further reported (*ibid.*) very beneficial effects upon one of his own patients from a short sojourn at Dr. Gleitsmann's sanitarium. "I have always considered the region of Asheville, N. C., as a particularly favorable climate for invalids, either in winter or summer, and have personal knowledge of cases who have been sent there receiving great benefit, especially those of cough and debility threatening phthisis."—Dr. W. Elmer, Trenton, N. J. Dr. F. W. Owen, of Morristown, N. J., writes he has seen improvement in one case sent to Asheville in the first stages of phthisis. Dr. Thomas F. Rochester, of Buffalo, N. Y., reports that he sent one patient to Asheville. The patient went there in the

fall and died there the next spring. He had pulmonary and laryngeal phthisis in the second stage. Dr. A. J. C. Skene, Brooklyn, N. Y., replies: "I have one impression (a general one), based upon observation, viz., that of the patients of mine who have spent the winter South, those who were in North Carolina have made the best progress." We are indebted to Dr. Irving W. Lyon, of Hartford, Conn., for the following extract from a letter written, at his request, by Mr. Henry Rogers, an educated gentleman (lawyer) of New Haven: "In 1883 I went from Aiken, S. C., to Asheville about the 20th of April, and was pleased with the change. The mountain air there is tonic. The winters at Asheville are a little too cold, and the clay mud in the drives at that season is something fearful in places. After April 20th one can enjoy a couple of months there." Dr. J. Madison Taylor, of Philadelphia, writes: "I had suffered much from chills and fever as a boy, and was sent, when about sixteen, to the mountains of North Carolina, where I remained six months. I hunted all over the mountains—sleeping in cabins or on the ground—gaining strength every day. I only suffered a few paroxysms, then became quite freed from all trouble. I have since spent much time at Montvale Springs in Tennessee, and the Warm Springs, North Carolina. I have been literally all over the United States, and, except in Colorado, don't know a more perfect climate." Charles J. Kenworthy, M. D., M. R. S. V., Jacksonville, Fla., writes that after a severe attack of illness he went to western North Carolina last June to recuperate, and during three months' residence visited nearly all points of professional importance. "Asheville is a pleasant and fashionable summer resort, and presents many attractions to the tourist, but it is too cold in winter and too warm in summer for the successful treatment of phthisis. The soil is a cold, impermeable red clay. When it rains the streets are coated with a tenacious mud, and when dry, if the wind blows, the air is charged with dust. There is an absence of sewerage, and in consequence sanitation is defective: the air can not be aseptic. From my own observations and information, obtained from physicians in western North Carolina, I believe that phthisis is of more frequent occurrence than is admitted by interested parties." Dr. William Porter, St. Louis, Mo.: "My best friend, Dr. Barrett, and his only son, both lost their lives there (Asheville) during the past summer from acute dysentery; but there was no great number of cases reported, as far as I know, in the vicinity." Dr. C. F. Folsom adds to his statistical report: "It is difficult to get good accommodations for keeping warm in cold weather; it is sometimes very cold. My patients were directed to buy small farms (two farms were bought) and prepare their houses for the cold weather, and get their own supply of food. I think that the desirable places for residence should be picked out. I am told that the new hotels are first-rate, but I have told my patients, whose cases looked desperate when they went there, to keep in the air away from other sick persons, and the improvement has been very great." Dr. H. O. Marcy, in a letter dated October 23, 1886, writes: "I have had no occasion to change my views since the publication of my paper. I have continued to have representatives in the section to date—invalids in varying conditions. The average boarding-house furnishes a less desirable home than at the North." Dr. Chaillé, who passed from three to five months annually in this region during the years 1873, '75, '76, and '77, in his pamphlet above referred to says (page 6), in regard to the immunity from consumption: "My direct evidence as a practicing physician is limited to the neighborhood of the Warm Springs, on the French Broad River, and some nine hundred feet lower than Asheville. Though often consulted by the resident population, I have never seen but one case of consumption, this in a mulatress not a native of this section. My hearsay evidence is more extensive, yet I have never heard of but two other deaths by

consumption in this neighborhood; these were of a younger brother and sister, in whom the disease was said to be hereditary and whose family had not long been resident in the region. I have made repeated mountain excursions in all directions, and from twenty to sixty miles distant from Asheville; everywhere I was assured of the comparative immunity from consumption of all this section, and in most places my informants denied that the native residents ever died of the disease." Dr. Marcy, in his pamphlet on "The Climate Treatment of Disease, Western North Carolina as a Health Resort," quotes from a recent letter written by Dr. Oliver Hicks, of Rutherfordton, N. C.: "My observations and the opinions I have formed are based upon a large practice for twenty years. I can show you sons and daughters of ancestors who came to this country and died from tubercular phthisis. Many of them are far past the meridian of life and are in good health, with fair prospects of attaining to ripe old age. The grandchildren of these ancestors are in all respects healthy, and are entirely without indication of tubercular or strumous cachexia."

Summary of Replies.—1 and 2. The number of patients referred to by Dr. McGill, Dr. Battle, and Dr. Gleitsmann of course include many, and perhaps the majority, of the cases sent by the other physicians. 3. The general opinion is that the spring (when mud is gone), summer, and autumn months, even to Christmas, are the most favorable seasons, and that January and February are the most unfavorable months. 4. It is generally agreed that a prolonged residence is beneficial. 5. Many recoveries are reported. Dr. Gleitsmann gives a striking report of sixty-four cases decidedly improved of eighty-six cases of incipient phthisis. 6. The answers indicate the lasting benefits of an Asheville residence. 7. As would be anticipated, the improvement has been chiefly in the early stages, but some striking benefits were experienced in unpromising cases. 8. Good effects are reported upon all the symptoms of phthisis noted. 9. The replies are worthy of notice. Dr. Chaillé reports in one case the ill effects of the town residence. 10. The majority report great immunity from phthisis among the native residents. 11. Only one case of pneumonia and bronchitis originating in Asheville reported to become phthisical, and this patient recovered completely. 12. All the replies indicate that sleep is favored by this climate. 13. Regarding the diseases patients have contracted in Asheville, diarrhoea, dysentery, and typhoid fever have been noted, a warning to the town authorities. No malaria reported, and the advantage of this region for its treatment indicated.

Personal Observations.—Our visit to Asheville was made in September, during a heated period which was quite general, the temperature, however, being lower and less oppressive than in New York. We arrived just after a shower, which gave us a slight indication of the mud-forming possibilities of the reddish clay. The surface is so uneven, however, and the fall to the river valley so great, rendering surface drainage very rapid, that but comparatively little moisture is retained, excepting in winter and spring from frozen ground. The hotels, with one exception, are located in the central, business portion of the town, and are surrounded by stables which abound. "The Battery Park," a new hotel, is located on a hill overlooking the remainder of the town, and commands extended and charming views in

all directions. The hotel is large, attractive, and well appointed; it is to be kept open for winter visitors; many of the rooms are provided with open fire-places. The principal piazza, facing southwest, is to be inclosed with glass. It has a delightful situation, but is too exposed to the northerly winds for invalids in winter, the mountains being perhaps most distant in this direction, permitting a full sweep across the plateau. An objection to the hotel arises from the use of soft coal for large furnace-fires, the smoke and soot from which are sufficient to soil the linen, and, what is most important, contribute to the contamination of the atmosphere of the town and immediate vicinity. As purity of air is the first and great condition of a health resort for phthisis, it naturally follows that the town is not the proper place for our patients. This is particularly emphasized in Asheville on account of the absence of sewerage with a considerable population, the presence of many stables in the center of the town, dust in summer, deep mud in winter, etc. Phthisical patients should, therefore, not remain in the town. Several boarding-houses were pointed out to us in the suburbs which, from their size and neat appearance of the houses and grounds, betokened comfort, and indicated more suitable places of abode for invalids than the public houses. While we lay strictures on the town for invalids, we must commend the region in general. The quality of the air was found stimulating and sustaining. Our personal experience showed that persons entirely unaccustomed to the saddle can at once spend hours every day on horseback without the slightest sense of fatigue or subsequent lameness, and with greatest delight, in the exhilarating mountain air and the noble and varied scenery. There are many coves near Asheville, and abounding in western North Carolina, where protection can be found from the cold winds, the northerly being the severest in this section. We were enabled to make a practical test of this point, as a marked change of temperature occurred, with a cold, north-west wind, during our visit; and we investigated the environs of Asheville on horseback for this purpose, and found a great protection and freedom from wind under certain ranges of hills. There are some pine groves near Asheville that also afford excellent protection. Some of these coves are well situated for the location of sanatoria such as some of those in Europe that have earned so good a reputation. The soil is mostly red clay, sandy in some parts, as along the shores of the Swannanoa, near Asheville, and gravelly, more especially farther westward, in the Balsam Mountains. The mountain coves have generally a rich loam. The Ducktown (or Southwestern) branch of the Western North Carolina Railroad passes through a most picturesque country, and makes easily accessible for the tourist some of the grandest mountain scenery on this continent. We were especially impressed with the apparent suitability of the vicinity of Balsam Pass (3,400 feet above sea-level) for a sanitarium. Waynesville, Pigeon River, Clyde, and other stations on the Ducktown branch, are desirable sanitary locations. "A certain harmony existing between the patient on the one hand and the social and physical conditions of the health resort on the other, is in most cases a powerful auxiliary." We regard the vicinity

of Asheville for this reason as a more suitable resort for the greater portion of the year for ladies than the majority of health resorts in this country. For an all-the-year climate this region offers the best combination of conditions we know short of the Rocky Mountains and the Southwest, and the most accessible and feasible place to send a majority of our Eastern patients. While it might be most desirable for some patients to spend January, February, and March among the pines in the elevated sections of Georgia, or other southern and milder climate, still we are convinced that many do perfectly well here throughout the year. This richly wooded country, with the numerous coves already mentioned, furnish many sheltered winter locations. We have in this report, for convenience, spoken of Asheville to commend its vicinity only as a part of the elevated plateau to which it gives access. Various avocations, other than farming and tobacco-raising, are successfully engaged in, such as bee-keeping and grape culture. We would again call attention to the recommendation of Dr. Folsom to his patients to secure their own houses, etc., which advice we shall give as we have occasion; and we would emphasize the necessity for a prolonged residence to effect cures in this sparsely inhabited region, which permits and invites almost unlimited roaming—differing greatly in this respect from all other Eastern mountain resorts. Asheville is reached in twenty-nine hours from New York by rail.

It remains to express our acknowledgments to the following books and pamphlets from which we have freely quoted, and in which will be found indices of nearly, if not quite, all the literature of this region:

1. "Western North Carolina as a Health Resort," by Dr. J. W. Gleitsmann, 1876.
2. "Climatotherapy of, and the American Mountain Sanitarium for, Consumption," by Dr. Stanford E. Chaillé, 1876.
3. "Biennial Report of the Mountain Sanitarium for Pulmonary Diseases, 1877," by Dr. Gleitsmann.
4. "The American Mountain Sanitarium for Consumption at Asheville, N. C.," by Dr. Chaillé, 1878.
5. "The Climatic Treatment of Disease: Western North Carolina as a Health Resort," by Dr. H. O. Marcy, Boston, 1885.
6. "Reference Hand-book of the Medical Sciences," article on Asheville, by Dr. Huntington Richards, 1885.
7. "The Heart of the Alleghanies, or Western North Carolina," by Ziegler and Grosscap.

Very pleasing descriptions will be found in "Nature's Trundle-bed of Recuperation," by Hinton A. Helfer, and every one who contemplates visiting this region should read "Land of the Sky," by Christian Reid. A useful list of boarding-houses and prices will be found in "How to Reach the Resorts of Virginia, North Carolina, and Georgia," published by the Richmond and Danville Railroad.

TWO CASES OF TYPICAL DERMATITIS HERPETIFORMIS.

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DERMATITIS herpetiformis is by no means so well known, even among dermatologists, but that the record of every

case observed must add to our store of knowledge concerning this remarkable disease. Reports of both typical and unusual cases, as well as allied forms of disease, are of value, and serve to aid us in defining the limits of this process. The subject is new, and there is much to be done. Clinical reports are needed, for up to the present time comparatively little has been contributed. As typical of the commonest form of the disease, examples of which are not so rare as was once supposed, I beg leave to offer the following cases:

CASE I came under my observation June 6, 1880, at which date the appended notes were taken. The man had been a patient in the Pennsylvania Hospital, and was sent to me for an opinion concerning the diagnosis by Dr. Longstreth, to whom I am indebted for the opportunity of noting the case. His name was Thomas Burke, aged twenty-two, a miner, residing in Wilkesbarre, strong, robust, and otherwise healthy. The disease began two years ago, without known cause, as a general eruption, consisting of variously sized *vesicles* and *blebs*, accompanied with severe itching. Sometimes, he stated, the lesions would appear in a more or less complete annular form, at other times somewhat concentrically; sometimes in groups or "in little clusters," on other occasions disseminated. A year ago the whole general surface except the hands and feet was covered with eruption, the lesions now being *vesicles*, *blebs*, and *pustules*, the two former predominating. More or less pigmentation has always existed, and in succeeding severe attacks of eruption has been a marked symptom. Last autumn (eight months ago) the vesicles for the first time made their appearance arranged in the shape of imperfectly formed rings, and this manifestation again repeated itself three or four months ago. They crusted, and a puriform fluid formed beneath, which when removed showed an excoriated surface. Notwithstanding that he lost thirty-five pounds in weight during the first year of the disease, his general health continued fairly good. At times, however, he was debilitated, and on different occasions was confined to bed, the skin being sometimes much excoriated. Within the last three months he has gained in flesh, and, although there now exists an abundant crop of lesions, he states that his general health is better than for a long period past.

About ten days ago a large, flat pustule appeared over the knee cap, and was accompanied with a deep-seated erysipelatous inflammation, together with loss of appetite and diarrhœa.

Four or five days ago a new crop of lesions began to form over the whole general surface, and to day they may be counted by the thousand. No region is exempt, although they occupy by preference the neck, chest, back, and abdomen. They are *vesicular*, *bullous*, and *pustular*, the vesicles prevailing. They are both disseminated and grouped into small clusters of twos, threes, and fours. They are of all sizes and shapes, and for the most part are irregular and angular in outline. The more recent vesicles are pin-head sized, indistinctly defined, flat, and difficult to discern, so that many would escape detection unless viewed in oblique light. They are pale-yellowish, tensely distended, have a glistening aspect, and are distinctly herpetic in character. Some are angular and squarish, while others are stellate. The larger and older vesicles tend to lose these characteristics, their walls, for example, being often flaccid, their contents clouded, with more or less marked inflammatory areolæ, as in the case of herpes zoster lesions. The blebs vary in size, some being as large as a hazel nut. The pustules are both yellowish and whitish in color, are pin-head and pea-sized, and have as a rule inflammatory areolæ. Bright and dusky-

reddish and violaceous spots, the seat of former lesions, together with more distinctly pigmented macules of a dull reddish or dirty-yellowish hue, are also present. The glands of the neck, axillæ, and groins are all engorged, and the patient informs me that this condition is always present with severe outbreaks. The extensor and flexor surfaces are both similarly invaded, while such localities as the eyelids, scalp, ears, and neck, which in general eruptions are often spared, are also the seat of vesicles and small blebs.

The distribution of the eruption is irregular and without uniformity. In many places there is grouping, the clusters, however, being small, consisting of two, three, or more lesions. Patches the size of a silver dime or quarter dollar, upon which are aggregated a number of lesions, are also numerous. The intermingling of vesicles, blebs, and pustules, irregularly distributed, is a conspicuous feature. Whitish pustules, with puckered inflammatory bases, are not infrequently noted to exist immediately alongside of vesicles and blebs with clear serous contents. The pustules, as a rule, begin as such, and are manifestly not an advanced stage of either vesicles or blebs.

The most distressing symptom is the itching; it is severe, and, though variable in degree, is constant. As stated, it has always been a prominent feature of the disease, having been especially marked with each new outbreak.

The patient was seen again two weeks later, at which date the crop of acute lesions was plainly subsiding. The vesicles and blebs now were also flatter, and in many instances were flaccid, or were wounded from scratching. There was considerable excoriation, partly from scratching and in part due to the course of the process itself, some of the patches resembling a superficial scald. A likeness to the lesions of pemphigus foliaceus was suggested by the condition at this date, many of the blebs being ruptured, and their walls adhering to the skin beneath, or hanging in shreds. Had the case been seen for the first time at this period, the diagnosis of pemphigus foliaceus would probably have been made by some observers. There was still a marked tendency to grouping on the part of the few existing vesicles, but the disposition to concentric arrangement had disappeared. The results of treatment I am unable to give, as the patient passed from under my observation before any change had taken place.

The chief points in the case may be summarized as follows: The eruption began as a vesicular and bullous manifestation two years ago, and has persisted, with frequent exacerbations, rebellious to all remedies employed. The lesions have at all times, in a more or less marked degree, been herpetic—that is, have had certain characters in common with typical herpes. Together with the vesicles and blebs, distinct pustules have also on several occasions been present. The eruption, viewing its course as a whole, has been multiform, consisting of variously sized and shaped, disseminated, and grouped vesicles, blebs, and pustules, appearing in more or less well-defined crops at irregular intervals. Itching and burning have been distressing symptoms—far more so than in cases of subacute vesicular eczema of like grade. The disease is to be distinguished in the present instance from eczema and from pemphigus. Considering the variety of the elementary lesions displayed, the case may be classified as an example of the multiform variety of dermatitis herpetiformis.

CASE II.—Another similar case may be referred to. The patient was a single lady, about thirty-five years of age, a teacher of music, who was kindly recommended to me by Dr.

Bulkley, of New York. She was a brunette, of a neurotic temperament, and was suffering from shock to the nervous system, due to overwork. The cutaneous disease had existed four or five months, and she had for two months past experienced such severe and extensive outbreaks as to confine her to the house and at times to bed. The eruption had been, and was, characterized by considerable erythematous inflammation in the form of ill-defined patches, together with vesiculation and the formation of blebs. The disease was regarded by the several physicians who had seen her as a form of "vesicating erythema," or as "pemphigus pruriginosus." It had been very distressing on account of the itching, and had proved rebellious to all treatment. The general surface was the seat here and there, in large and small areas, of a subacute inflammation, consisting of acute and chronic, indistinctly defined, reddish, pigmented, erythematous, for the most part confluent, patches, with here and there developed or incipient vesiculation. There were elsewhere, moreover, discrete and confluent vesicles, and also blebs. The vesiculation referred to was flat, often ill-defined or abortive, and tended to spread out as a stratum, the process in this respect resembling erythema multiforme. In other localities, as about the neck, face, and extremities, minute, small and large, discrete and confluent, disseminated and grouped, herpetic vesicles abounded, some being flat and on a level with the surrounding skin, while others were more or less raised. Here and there blebs—some flat, others elevated, tense, or flaccid, variable as to size—existed, as a rule, unaccompanied with inflammatory areolæ. The vesicles generally were likewise "cold"—i. e., without surrounding redness. In some localities (as the neck and back) the vesicles were present in large numbers, and, when this obtained, they were usually small, often not larger than pin-points and pin-heads, tensely distended, glistening, pale-yellowish, irregular or angular in outline, and flat. When they were grouped into clusters of two, three, or more, surrounding inflammation was usually present, the picture suggesting simple herpes. The herpetic nature of the process as a whole was manifest, this characteristic differentiating it from eczema. It could scarcely be mistaken for erythema multiforme, because, among other reasons, most of the vesicles were unattended by inflammatory areolæ. There was violent burning and itching, symptoms which had existed, with distinct exacerbations, from the beginning of the disease. The eruption had, moreover, always shown disposition to appear in crops, coming out at variable intervals, usually every few weeks, and in this way the process was kept up, the general surface being thus in a constant state of acute and subacute efflorescence. Finally, there existed pigmentation, of a dirty yellowish hue, where previous patches had existed, and also excoriations, but crusts were not conspicuous.

The eruption had previously improved under the free use of arsenic in large doses, as much as "nearly a drachm of Fowler's solution" *per diem* having on several occasions been administered. This large amount "seemed to control the blebs," but did not cure the disease. Strychnine and quinin had also been employed; while, locally, alkaline, tarry, and carbolic-acid lotions afforded the most relief.

I saw the case a number of times during the month that the patient remained in Philadelphia. The eruption followed its natural course, new lesions forming from day to day, the older ones disappearing, followed by slight crusts and variable pigmentation. On several occasions there were marked exacerbations, great numbers of minute and small vesicles appearing in crops, accompanied with intense itching. The vesicles either arose from normal-looking skin, or from

erythematous patches, in which latter case they inclined to flatten and spread out. There was no order in the development of the lesions; they constituted a mixed eruption, and this was at all times a striking feature in the natural history of the disease. Concerning the treatment, it may be said that everything was advised which would in any degree improve the condition of the nervous and digestive systems. Tonic saline laxatives and alkalies, together with quinine and other general tonics, were from time to time prescribed, while locally such remedies were employed as would be likely to prove serviceable in subacute vesicular eczema. The "liquor picis alkalinus," diluted, seemed to afford more relief than any other remedy. The patient gained in general health, and the cutaneous symptoms became less severe during the period she was under my observation. I am not able to give the final result.

THE HYGIENE OF THE HAIR.

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BOSTON.

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ATTENDING PHYSICIAN TO THE MONTREAL DISPENSARY.

THE hair absorbs considerable of the thoughts of mankind. I do not mean to infer that thought-absorption is one of its physiological functions, but to those who are so fortunate as to be blessed with a luxuriant growth of hair it is a source of pleasure, pride, and vanity, as its loss or deficiency occasions much anxiety and chagrin. To the youth the first appearance of a hair-follicle on the upper lip is not only an indication of dawning manhood, but also the signal for the purchase of a complete barber's outfit (barring the scissors)—razor, shaving-mug, brush, etc.—and their assiduous use. And, as years advance, an exuberant beard or moustache is the result of this cultivation. To those middle-aged or growing old, the first sign of baldness warns us that we are no longer young and can disguise the fact no more, although various and ingenious are the devices made, in combing and arranging the hair, to hide, as it were, "the nakedness of the land." A good head of hair is somewhat of a rarity at the present day. All desire to retain their hair, grieve to see it falling out, and fondly cherish the few remaining locks. We have but to enter a barber-shop to verify the truth of this remark, and watch our fellow-creatures getting a hair-cut. Observe, for the most part, how careful we are in giving directions to the barber what manner of cut we want, how punctilious about the part and the way it is brushed, how we scrutinize through the mirror before us his every manipulation in the tonsorial art, and how self-satisfied we feel when the finishing touches are completed—oiling, combing, brushing. How proudly we stand up and look at ourselves in the glass when all is o'er! While all desire to keep their hair, few do the right thing to retain it. One naturally runs to the barber, but generally the barber is the hair's worst enemy. The majority of people consider when they keep the hair a respectable length, neatly brushed, combed, and oiled, and have an occasional shampoo, that they are doing all that is necessary.

As far as appearance is concerned this may be so, but it will not add much to its health and preservation.

The hair should be looked to from infancy up. To disregard this fact is to render one liable in after-years to a diseased condition of it, or a deficiency. The infant's head is often neglected, and not properly cleaned. As a consequence, a thick scurfy crust often forms upon the scalp. This irritates the skin, and gives rise to an eczema of the head. This should not be allowed to occur. The baby's head should be washed in lukewarm water, with Castile soap, twice or three times a week. This should be practiced from birth up, and the hair daily brushed. In very young infants the softest brush should be used. As the child increases in years, two should be used—a rather harsh one first to loosen the dirt, dried sebaceous material, and epithelial scales from the scalp, and brush it out; then a fine, soft brush to smooth the hairs out. A fine comb should not be used on a child's head, and a coarse one only to part or lay the hair. Too great care can not be lavished on the hair of children.

With the adult's hair, as with the child's, cleanliness is one of the first requisites. The scalp should be thoroughly washed at least once a month. One of the best cleansing substances is the yolk of an egg; or the white of an egg answers just as well, and is more readily removed. This should be well rubbed into the roots of the hair, then washed out with tepid water and Castile soap, rinsing with clear cold water. The scalp should then be thoroughly dried by brisk rubbing with a towel. This brings a roseate glow. If too dry, a little pomade may be used. Cocoa-nut oil is the best. Purified beef-marrow might be used, but vegetable oils are the best to use, as they do not so quickly become rancid. Bear's oil and hedgehog oil are not what they are reputed to be. A proper amount of pomade is not only harmless, but useful to some scalps, especially to those with little oleaginous material to keep the hair supple and glossy. When used in excess, it becomes harmful, as it then tends to cover in dirt. A head besmeared with an excessive amount of oil is not only deleterious to the hair, but often does most serious damage to my lady's tidy, and often leaves one's mark on the wall—if not on the world. Purchase pomade or oils in small quantities, as they are liable to become rancid quickly, and this is very pernicious. Use them without scent, as this hides their rancidity. If you desire scent, a drop of eau de Cologne may be added to the oil before using it. Oil is best applied immediately after washing the hair; it penetrates quicker then.

When there is a tendency to the accumulation of scurf, a mixture daily of equal proportions of 80 per cent. alcohol and aromatic spirits of ammonia with a quantity of soft water is an excellent wash. This makes an excellent shampoo. The fixed alkalies, such as borax, salts of tartar, soda, etc., should not be used; they tend to diminish the natural elasticity and flexibility of the hair.

A wineglassful of aromatic spirits of ammonia added to a basinful of water is very cleansing and refreshing. Care should be taken that it does not get into the eyes. The shampoo as given by the barber is too rough and vigorous, and the conglomeration he puts on your head afterward is

anything but beneficial. While one performs daily ablutions of the face, hands, and body, the head is generally left out. This should not be; it is as necessary to wash the scalp as any other portion of the body. The hair should be brushed daily. Too much violence must be guarded against. It should be brushed gently in the direction in which it lies. A harsh brush should be used to cleanse the scalp of dust and dandruff, and then the hair-shafts should be smoothed and polished by means of a softer brush. The scalp should receive a roseate glow. This insures quicker circulation in the follicle about the hair-papilla, and hence the growth is invigorated. Hair-tonics have the same effect upon the skin—viz., a stimulating effect upon the skin capillaries. Morning and night, before retiring, is the best time for brushing the hair. Too hard brushing tends to produce dandruff. In brushing, the object is to cleanse it from extraneous materials, such as feathers, dust, dandruff, and concrete sebaceous material, which often oozes out upon the scalp, to make it smooth, and to bring truant hairs into the right place, and set at harmony discordant filaments.

Friction polishes the hair as well as bandoline or ointment. The end we seek in building up a scanty hair crop is a proper amount of blood-supply, through friction and hair-tonics. The appended is an excellent hair-tonic:

R. Acid. carbolic.....	3 ss.;
Tr. nucis vom.....	3 ij;
Tr. cinchonæ rubr.....	7 j;
Tr. cantharidis.....	3 ss.;
Aq. cologniensis, }	
Ol. cocois, }	..... āā q. s. ad 7 iv. M.

Apply once or twice a day to the scalp by means of a soft sponge. This will prevent the hair from falling out if it does not produce a luxuriant crop.

Fine-toothed combs should be avoided, and used only from a sportsman's point of view—"to catch game." They have a tendency to peel off the scarf-skin and leave a denuded surface below, which is apt to end in disease, pityriasis, etc. Dr. Leonard gives the following trite remarks in selecting a brush or comb:

"A hair-brush or comb with silvery bristles or teeth too sharp is not good; the scalp will be scratched by the one and the hair broken by the other. A proper brush is made up of bristles varying with the individual as regards the stiffness of them. The clusters should be evenly set into the back, equidistant from each other, so that the whole surface of the scalp to which it is applied will be touched by some one of the bristle-bunches. Then the clusters should be made up of bristles of slightly unequal length, so as to still further favor the brush in covering every part of the scalp; by this means every hair will be rubbed down on all sides, and there will be no streaks or spots of the scalp left untouched.

"A proper comb is one whose teeth are even and regular, with points not sharp but rounded. It should be held up to the light so as to detect any splitting or roughening of the teeth on the sides; for, if they are so roughened, injury to the hair through breakage of the shaft will result. Should the teeth through any cause become split, as you value your hair, the offending members should be carefully

cut from the comb; the slight space on the scalp that would thus remain untouched would be of no moment. Wire brushes are nothing more than combs. They act as a stimulant to the scalp, but are not equal to a good bristle-brush."

A good supply of oxygen is necessary for the healthy growth of hair; the head should be well aired. The hat has made sad havoc with many a caput. Endeavor to go bareheaded as often as possible. When walking, lift the hat from off the head frequently, and, if the sun is not too strong, hold the hat in your hand a while. The blue-coat school-boys formerly of Christ Church, London, who wear the costume of Edward VI, go bareheaded the year round. They wear no hats in the coldest days of winter. They are remarkably healthy, and have a redundant crop of hair, which lasts them a life-time. If we must wear a hat, let it be light in texture and well ventilated from the top. One reason that women keep their hair longer than men is that their head-gear allows of better ventilation. Business men sometimes wear their hats in their office, or have a special hat which they put on. This is very injurious. The brokers of Wall Street are noted for wearing their hats indoors as well as out-doors. They are also notorious for having bald heads. This may account for it. When the head is well shorn of its locks this does not apply.

The hair should be cut regularly about once a month. Frequent cutting is generally said to make it grow quicker. Dr. Pincus, of Berlin, holds that it diminishes its growth. The ends of the hair split, and require to be cut off. Sharp scissors should be used. Some filaments grow faster than others and need to be cut back; others are impoverished, and are better brushed out or extracted. The beard should not be shaved during its development. During youth the natural growth should not be disturbed. Shaving causes the single hairs to become prematurely strong and hard. It also alters somewhat the color of the beard, giving it a tendency to turn red or brown. In middle age this does not hold. Oil and brush may be used on the beard according to inclination. I have often thought it would be well if the barber would put his razor in a weak solution of carbolic acid after shaving each customer, and thus prevent the danger of infecting them with some dread disease, barber's itch, etc. We have Scriptural authority for wearing the hair short. St. Paul says, "It is a shame for a man to wear long hair." Poets, artists, and many prominent men do not seem to heed this sacred injunction. There is an old canon extant, dating as far back as 1096 A. D., which declares that they who wear long hair shall be excluded from the church while living, and not prayed for when dead.

With regard to the ladies, their hair should be brushed rather than combed daily, its tangles carefully unraveled, its split ends cut off, and, when done up, it should be bound in as easy rolls and coils as possible. One reason for this is to allow as free ventilation as possible for the scalp; the other that you may not break the hair or strain the roots by tight tension upon them. Twisting or tight binding should be avoided. A persistent mechanical pressure on the shaft, by obstructing the flow of oleaginous fluid

designed to soften it, tends to dry those portions which are beyond the ligature. Ladies should loosen their hair well every night before retiring. Crimping, the use of curling-irons, and bleaching the hair must be avoided. For invalids or those confined to bed, the hair should be oiled daily, and then combed with a coarse comb. The skin should be washed twice a week with a sponge and a little soapy water. The water may be either cold, lukewarm, or warm.

Loss of hair is generally caused by a permanent irritation. In adults, heavy head-covering or coiffures may cause this irritation. Those having weak hair should avoid pads; they injure the hair, and bring on headaches.

A daily shower-bath on the head is injurious. Lotions should not be used; most of them contain lead. They have been known to cause paralysis. Dyes are very deleterious. The least harmful are those containing iron or nitrate of silver.

Tiring brain-work, strong mental agitation, silent grief, continued disturbance of sleep, exercise a reaction on the growth of the hair. In cases where there is delicate health and a deficiency of sebaceous substance, tincture of bearberry renders the hair soft, glossy, and flexible.

22 DARTMOUTH STREET, February 22, 1887.

Correspondence.

LETTER FROM LONDON.

Dr. MacAlister's Gulstonian Lectures on the Nature of Fever.—The General Medical Council.—A New Method of Treating Empyema.—Mr. Lawson Tait and the Pathology of Tubal Gestation.

LONDON, March 15, 1887.

DR. MACALISTER completed his series of Gulstonian lectures on the nature of fever last week. When it was known that this was to be his subject, it was thought by many that he had been somewhat bold in selecting so particularly difficult a knot to untie, but I think it must be admitted that he has justified himself in his task, and he has certainly supplied us with matter for reflection for some time to come. Dr. MacAlister is a man of exceptional powers and education, having been senior wrangler of his year at Cambridge, and I am by no means certain that he is not the only senior wrangler who has ever taken up the profession of medicine; certainly he is the only one now living, though in Sir George Burrows and Sir George Paget we have members of the profession who in their day took very high honors in mathematics. To return, however, to the Gulstonian lectures; in the absence of an opportunity of reading them, it is, perhaps, somewhat rash to endeavor to reproduce the leading idea, but, so far as I can understand them, the lecturer's position is that in health the normal temperature is the result of a balance struck between heat loss and heat production, and that this balance may be disturbed either by fever (*i. e.*, increased heat production) or by some cause acting on the heat loss, so that in his view all pyrexia is not necessarily due to fever, as it may be the result of a diminished heat loss. If from any cause the heat loss—*thermolysis*, as he calls it—is delayed or lags behind, the temperature will rise, and it will go on rising until the heat loss reaches its normal standard again; the temperature will then remain at the high level it has reached until something happens to cause the heat loss to be in excess

of the normal, when the temperature will steadily fall, and may go below the normal, until the excess of heat loss ceases to act. In this way he would explain those very high temperatures suddenly attained in hysterical women and others where no organic disease can be made out to account for the pyrexia.

An ingenious member of the staff of the "British Medical Journal" has informed us that the recent session of the General Medical Council was rather an expensive one; it cost a pound (about five dollars in your money) a minute. Certainly no one else is the better for it except the individual members thereof; not one man in a thousand could tell you what the Council is or does. Its members waste their time and our money in the most frivolous and protracted discussions, and the so-called visitations of examinations have in some instances been so extraordinarily prolonged as to suggest the idea that the visitors wanted to get as much out of the job as possible. Even when they do any business, it is often such that they had much better have left it alone; for instance, not long ago they ordered the name of a dentist to be struck off the roll because the Irish College of Surgeons had struck him off their roll for advertising. The college specially charges all its licentiates that they are not to commit the heinous crime of advertising, and it was therefore acting quite within its rights; but that ought not to have been a sufficient reason for the Council, and it is interesting to know that recently the dentist in question has gone into the law courts and obtained a mandamus against the Council to show cause why his name should not be restored to the list. I think the Council will have the greatest difficulty in showing any cause why his name should not be replaced.

At the last meeting of the Medico-chirurgical Society, Dr. Ewart brought forward his treatment of empyema by perfusion. He makes a free opening and a counter-opening, and then he blows in air at the first opening and allows it to escape at the other, and he maintains that in this way he expels the pus, shreds lymph, and bits of false membrane much more efficiently than by letting them escape more gently. Several physicians and surgeons took part in the debate, but they were none of them convinced by Dr. Ewart's arguments, nor did they even offer to give the method a trial. For my own part, I am quite sure that the tendency of the present day is to do too much in the treatment of empyema—at any rate, so far as children are concerned. The majority of those who so glibly advocate the early excision of one or more ribs can have very little idea of the benefits to be derived from tapping at the right time, and, having more than once seen recovery after a single tapping, nothing will induce me to subscribe to the doctrine that a free opening ought to be made in every case at once.

Mr. Lawson Tait has been once more to the front—this time at the Pathological Society; but, as he did not bring any specimens with him, he was not very well received. His paper was on the pathology of tubal gestation, and he might have known that he could not prove his case before such an audience without a series of specimens ready to be subjected to a most searching scrutiny. His point was that a desquamative salpingitis was the *fons et origo* of extra-uterine gestation, the normal cilia in the Fallopian tube being the best safeguard against this catastrophe, by helping the ovum down the tube, and preventing the ascent of the spermatozooids up through it. He has undertaken to demonstrate the accuracy of his views at a subsequent meeting.

Alleged Poisoning by Baked Beans.—It is stated that on Tuesday last two families, numbering in all six persons, and living in the same house in Boston, showed serious symptoms of poisoning after having eaten of canned "pork and beans." The physician who was called attributed the symptoms to the beans.

THE
NEW YORK MEDICAL JOURNAL,

A Weekly Review of Medicine.

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THE SPECIFIC GRAVITY OF HUMAN BLOOD IN HEALTH.

To one whose acquaintance with the methods of determining the comparative density of liquids is limited to the ordinary resources of urinary analysis, the proposal to make any clinical use of a knowledge of the specific gravity of the blood must seem preposterous and impracticable. When repeated venesections were a routine element of treatment in most grave diseases it might have been easy to obtain this knowledge by the use of no more delicate an instrument than the urometer; but, bearing in mind the not infrequent difficulty of obtaining sufficient urine for a satisfactory examination, most practitioners would be appalled by the suggestion that they ought to know the specific gravity of their patients' blood. It will be interesting information to these gentlemen that the density of the blood can be learned without a venesection.

Three years ago Professor Charles S. Roy communicated to an English society, the Physiological Society, a method of determining the specific gravity of the blood by the use of only a few drops of that liquid. For this method there are needed solutions of salt, or of some other suitable material, of different densities, corresponding to the degrees of the ordinary scale through a range wide enough to include all probable variations of the blood; also a hypodermic syringe the point of the needle of which has been cut off, and the needle itself extended backward so as to be visible through the glass barrel. The syringe having been partly filled with one of the standard solutions, a drop of blood—taken from the end of the finger, as for microscopical examination—is carefully drawn through the needle. As it emerges, if it is heavier than the solution, it will rise; if it is lighter, it will sink. In either case the same test is repeated with solutions of different density until one is found in which the drop of blood neither rises nor sinks; the specific gravity of the blood is the same as that of this standard solution. Professor Roy also stated that it was already known that the specific gravity of the blood of men was somewhat higher than that of women—from 1.056 to 1.059 in the former, and from 1.051 to 1.055 in the latter; that the blood of children was lighter than that of adults; and that the density of the blood was greater in the morning than in the evening.

In the February number of the "Journal of Physiology," Mr. E. Lloyd Jones, of the Cambridge Pathological Laboratory, recounts some observations on the same subject. Following the principles pointed out by Professor Roy, he has made some changes in the details of the method. He uses standard mixtures of glycerin and water, to which, in order to prevent fermentation, a little thymol or corrosive sublimate is added. In using the syringe it was found that, the inner surface of the

needle having been moistened by the passage of the solution through it, the drop of blood became somewhat changed by contact with this moisture when it was drawn through, and that an element of inaccuracy was thus introduced. To avoid this, Mr. Jones uses a fine glass pipette the end of which has been bent at a right angle. The observer sucks a drop of blood into this pipette, and then, having immersed the end of the pipette in a small bottle of one of the standard solutions, holding the bent extremity in a horizontal position, carefully blows out the drop of blood. By noting whether it rises or sinks in the solution he learns whether it is lighter or heavier than the solution used. This is not, as might be supposed, a tedious process; on the contrary, it is found that practice enables one to estimate approximately, from the appearance of an individual, the specific gravity of his blood. Mr. Jones himself determined it in sixty-two persons in the course of an hour and a half.

The investigations thus far published relate only to persons in ordinary health. Observations were made on three hundred and sixty-two individuals of both sexes and of all ages. It was found that the specific gravity of the blood was highest, 1.066, at birth. It is lowest between the ages of two weeks and two years—1.048 in boys, and 1.050 in girls. After puberty, the highest point for males is reached between the ages of thirty-five and forty-five (1.0585); for females, between sixty-five and seventy-five (1.0545). During middle life, it is constantly higher in men than in women. It is low in women during the child-bearing period, it is lower in those who are pregnant than in those who are not, and immediately after labor it falls still lower. The taking of food generally causes a fall, particularly if much water is taken at the same time. If, however, alcoholic drinks are taken, there is generally a rise. There is also a rise during sleep. Gentle exercise is followed by a fall; after more prolonged exercise, especially if it is accompanied by perspiration, there is a rise. Passive congestion of a part causes an increase in the density of the blood of that part. Finally, the specific gravity of the blood is not the same in different parts of the body, but is higher, for instance, in the shin than in the fingers or the toes.

Although it is possible that a knowledge of the alterations in the density of the blood in various diseases may at some future time be of interest in helping to explain the action of remedies which cause rapid changes in the contents of the blood-vessels, the conclusions arrived at by Mr. Jones furnish very little reason for expecting that the determination of the specific gravity of the blood of individual patients will soon come to be an important factor in clinical medicine.

MINOR PARAGRAPHS.

THE ASHES AND GARBAGE NUISANCE.

We are glad to observe the spirit shown by the New York Ladies' Health Protective Association in urging material reforms of our detestable methods of cleaning the streets and removing house refuse. Among the suggestions recently made in a communication from the association to the mayor are the appropriation of more money to the work of cleaning the streets, the

establishment of a commission to manage it, and the appointment of a number of ladies as inspectors. The arguments by which these suggestions are supported seem to us well founded, and we hope the ladies will carry their points. In regard to the removal of the refuse of houses, however, their recommendations might have been more radical. To do away with the ash-cloud nuisance, they propose the use of closed carts and receptacles covered at the top and having a movable bottom. A more effective plan, we think, would be to compel every household to maintain two closed vessels, each of sufficient capacity to hold twenty-four hours' refuse: both to be marked, and the carter to leave one empty when he takes the other away full, all empty vessels to be cleansed and disinfected before they are returned to the householder. Meantime, an intermission of two nights in the system of collection to which we alluded last week must have served to imbue the ordinary citizen with a becoming sense of the enormity of his offense in always being ready to tolerate a nuisance that affects only his neighbors, as the president of the Board of Health put it.

ST. FRANCIS'S HOSPITAL, JERSEY CITY.

It is apparent, from the "Fourteenth Regular Report of the Medical and Surgical Staff" for the year 1886, that the work done in St. Francis's Hospital is not only exceedingly creditable to the staff, but an important factor in alleviating the sufferings of the poor of Jersey City and the outlying towns. The extent to which Jersey City serves as the terminal point of great railway lines leading to New York is of itself enough to call for provisions somewhat unusual, considering the population of the city, for emergency work in surgery. The machinery of St. Francis's Hospital must be said to go far toward meeting this demand. In addition, it is announced that during the year two special departments, those of gynecology and neurology, were organized, and that further special departments are contemplated. To enable the Sisters of the Poor of St. Francis, under whose administration the hospital is carried on, to widen the scope of its beneficent work, funds are needed, the report states to add a wing to the present building, many deserving applicants being now necessarily turned away simply for lack of space in which to place beds. It is to be hoped that the people of Jersey City will not prove backward in contributing the money needed for this praiseworthy purpose.

A VENEREAL REVOLT.

The French newspapers are cited by the "Progrès médical" as having announced what is termed a revolt of the girls under treatment at the Antiquaille in Lyons. Our contemporary adds, in effect, that, although the service is excellent, many reforms having been introduced by Dr. Horand in particular, the fact remains that the girls in question are made to feel as if they were offenders rather than patients, and that the fact of their growing restive under this state of things is but a natural exhibition of self-respect; and it hints that there is really no good reason why venereal patients should be made to endure any indignity, even that of being classed apart, as a punishment for their course of life—a sentiment in which we entirely concur.

THE NOMENCLATURE OF ABDOMINAL OPERATIONS.

Last week we spoke of certain suggestions made by Mr. H. A. Reeves, in the "British Medical Journal," as to the propriety of the terms now applied to abdominal operations, and of his proposal to substitute the hybrid word "ventrotomy" for *gastrotony* and *laparotomy*. In the following issue of our

contemporary, Mr. N. Davies-Colley proposes a word which seems to answer all of Mr. Reeves's requirements, and at the same time to be free from the taint of mongrelism. The word is "celiotomy" (from *κοιλία*, the abdomen, and *τέμνειν*, to cut). Its proposer remarks that its root is already familiar in the term *celiac axis*.

A NEW CANADIAN JOURNAL.

The second number of "La Gazette médicale de Montréal," a monthly journal of forty-eight octavo pages, has reached us. It is dated March, 1887. The new journal is edited under the direction of Professor Paquet, Professor Hingston, and Professor Desjardins, the *secrétaire de la rédaction* being Dr. Beausoleil. The number contains reports of a lecture on alcoholism, by Professor Paquet, and another on infantile pneumonia, by Dr. Asselin, and these are followed by a judicious collection of abstracts and items. The appearance of the "Gazette" is very creditable.

A PASTEUR INSTITUTE FOR HAVANA.

"LAS NOVEDADES," a Spanish newspaper published in New York, has news from Cuba of the return of a commission, consisting of Dr. Tamayo, Dr. Vidólosa, and Dr. Albarrán, from Paris, whither it had been sent, as the result of a movement started by the "Crónica Médico-quirúrgica de la Habana," to study M. Pasteur's system of anti rabie inoculation. It is added that the Havana laboratory will soon be in readiness to carry out the system, but that for the present, owing to the lack of proper virus, persons bitten by rabid animals will be sent to Paris.

ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Fourth Division of the Health Department for the following statement of cases and deaths reported during the two weeks ending April 5, 1887:

DISEASES	Week ending Mar. 21.		Week ending Apr. 5.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever.....	6	4	11	5
Scarlet fever.....	40	11	59	11
Cerebro-spinal meningitis....	7	7	3	2
Measles.....	113	18	111	15
Diphtheria.....	90	46	77	31
Small-pox.....	4	4	10	0

The Massachusetts Medical Society.—The Section for Clinical Medicine, Pathology, and Hygiene of the Suffolk District Branch will meet in Boston on Wednesday, the 13th inst. The programme includes a paper by Dr. Henry Jackson, "A Case of Acute Infectious Universal Myositis," the discussion of which is to be opened by Dr. R. H. Fitz: "Four Hospital Cases: 1. Tetany. 2. Hemophilia. 3. Cirrhosis of the Liver. 4. Peritonitis, with Perforation of the Abdominal Wall," by Dr. F. C. Shattuck, the discussion to be opened by Dr. F. Minot; and "A Case of Idiopathic Multiple Neuritis," by Dr. C. F. Folsom, the discussion to be opened by Dr. S. G. Webber and Dr. J. J. Putnam.

The Omaha Medical College held its commencement exercises on the 24th of March. The graduating class numbered seven, of whom one was from the State of Maine and another from Washington Territory. The esteemed correspondent who sends us the foregoing information adds: "It is often intimated in New York and other portions of the East that simply to apply for graduation in one of the western medical schools is to be assured of a diploma. That this is not, at least in every case,

true is evidenced by the fact that, of those presenting themselves for graduation who had fulfilled the requirements of the college, thirty per cent. failed to pass the examinations, and were not graduated. We considered the class one of at least average ability."

Professor Politzer.—The "Lancet" states that Professor Adam Politzer's old pupils and friends have arranged to present him with his portrait as a memento of his great services to aural surgery during the twenty-five years he has been teaching at the University of Vienna, the presentation to take place at the Easter meeting of the Otological Association, in Vienna.

The German Emperor's Physician, Dr. von Lauer, according to the "Lancet," received a gift of 150,000 marks and the title of "Excellency" on the occasion of the Emperor's eightieth birthday, and is said to have received a further gift of 300,000 marks on the 22d of March, the Emperor's ninetieth birthday. As the "Lancet" remarks, it is pleasing to note that at a period of national rejoicing Dr. von Lauer's skill and care have been neither unnoticed nor unrewarded.

The Gouverneur Hospital.—We learn that the Commissioners of Public Charities and Correction have recently appointed Dr. H. M. Silver one of the visiting surgeons to the hospital.

The Earthquake in Europe, according to one of the London newspapers, has been followed by an outbreak of trismus among the injured at Barardo, which is attributed to the inclement weather to which they have been exposed.

Society Meetings for the Coming Week:

MONDAY, April 11th: New York Academy of Medicine (Section in Surgery); New York Ophthalmological Society (private); New York Medico-historical Society (private); New York Academy of Sciences (Section in Chemistry and Technology); Lenox Medical and Surgical Society (private); Boston Society for Medical Improvement; Gynecological Society of Boston; Burlington, Vt., Medical and Surgical Club; Norwalk, Conn., Medical Society (private).

TUESDAY, April 12th: New York Medical Union (private); Medical Societies of the Counties of Jefferson (quarterly—Watertown), Oneida (quarterly—Utica), Ontario (quarterly), Rensselaer and Tioga (quarterly—Owego), N. Y.; Newark (private) and Trenton (private), N. J., Medical Associations; Medical Societies of the Counties of Bergen (annual—Hackensack) and Cumberland (annual), N. J.; Fairfield County, Conn., Medical Association (annual).

WEDNESDAY, April 13th: Medical Society of the State of North Carolina (Charlotte); New York Surgical Society; New York Pathological Society; American Microscopical Society of the City of New York; Medico-legal Society; Medical Society of the County of Albany, N. Y.; Tri-States Medical Association (Port Jervis); Pittsfield, Mass., Medical Association (private); Philadelphia County Medical Society (conversational).

THURSDAY, April 14th: New York Laryngological Society; Society of Medical Jurisprudence and State Medicine; Brooklyn Pathological Society; Medical Societies of the Counties of Cayuga and Fulton (quarterly), N. Y.; New London, Conn., Medical Society (annual); South Boston, Mass., Medical Club (private); Pathological Society of Philadelphia.

FRIDAY, April 15th: Chicago Gynecological Society.

SATURDAY, April 16th: Clinical Society of the New York Post-graduate Medical School and Hospital.

OBITUARY NOTES.

Dr. Ferdinand Arlt, emeritus professor of ophthalmology in the University of Vienna, is reported by our European exchanges to have died on the 7th of March, at the age of seventy-five. He will be remembered as the first to have acted on the idea of testing the visual power with appliances of precision, as well as for his text-book on diseases of the eye.

Proceedings of Societies.

NEW YORK SURGICAL SOCIETY.

Meeting of March 23, 1887.

The President, Dr. CHARLES MCBURNEY, in the Chair.

Excision of the Elbow.—Dr. WYETH presented a boy, fourteen years old, whose elbow he had excised a few weeks before. He entered Mount Sinai Hospital in January, having but slight power of motion in the left elbow. Exsection was performed, one inch of the os brachii being removed, together with the articular surface of the radius and ulna. The olecranon was partially preserved, in order to maintain the attachment of the triceps. A movable splint was applied, and at the expiration of ten days passive motion was practiced daily. A rapid recovery followed. The patient was presented in order to show the fair degree of mobility obtained at this stage of the after-treatment.

Dr. GERSTER said that he had repeatedly used the apparatus, but had not been entirely satisfied with the result, since flexion could be carried only to 90°, because the posterior part of the capsule was too short. In reply to a question from Dr. Wyeth as to whether the new capsule was not rendered more lax, he said that, on the contrary, he employed this method of treatment in order to correct too great laxity. By reason of the movable hinge the bones were compelled to move backward upon the sawn surface of the os brachii; otherwise they would tend to be attached near its anterior edge.

Dr. BRIDGON asked if the object aimed at was not to restore the fulcrum as it originally existed.

Dr. GERSTER said that it was. The apparatus, he explained, was not originally devised by Dr. Lange, but by Madelung some time before; Dr. Lange had only added the sliding fulcrum.

Dr. SANDS remarked that theoretically all excised joints should heal without suppuration, but such results were certainly exceptional. The result in the present instance seemed to be fairly good. Where there was no suppuration, healing occurred promptly, as in a patient whom he had exhibited before the society, in whose case he had performed excision for the relief of ankylosis; healing was complete at the end of two weeks. It would be useful, the speaker thought, to note in the case presented just how much had been gained by the treatment. While rotation appeared to be good, flexion and extension were both limited, the angle between the arm and the forearm being 90° in the position of extreme flexion, and about 130° in that of extreme extension. It seemed to him also that the impediments to further motion were of a bony character, which would not be removed by passive motion.

Dr. WYETH admitted that Dr. Sands's observation with regard to the limitation of motion was just, as it applied to extension of the forearm. He had purposely left a little of the sigmoid surface in this case, in order to preserve the insertion of the triceps muscle; the arrest of extension was undoubtedly

due to this bony projection. He added that the boy had passed from under his observation three weeks after the operation (although he did not leave the hospital until three weeks later), so that he (Dr. Wyeth) did not have an opportunity to practice passive motion of the joint. He intended to see the patient at frequent intervals, in order to manipulate it. If he could gain no more extension than that at present enjoyed, he would be satisfied. The object of further treatment would be to improve the flexion.

Dr. POORE said that he excised an elbow more than a year before, and the patient returned with complete ankylosis. He repeated the operation, and healing occurred without suppuration, although pus had been present on the first occasion. He thought there was always more or less suppuration after the first operation.

Dr. WYETH remarked that there had been very little suppuration in the case under discussion. Strips of tin were applied at first, but these were removed, and the movable splint was worn after ten days.

Dr. BRIDGON thought that the restricted motion observed in these cases was often due to the surgeon's anxiety to save as much of the bone as he could. He cited in illustration a case in which he had freely excised an elbow joint in a woman, and, as a result, the arm appeared to be little better than a flail. Afterward an angular splint was applied, and the patient could use the limb quite well. She thought that she could not do without the splint, until it was removed for a time in order that it might be repaired, when she found that she could dispense with it. She was now able to perform her household work without any trouble. The speaker had within a year excised the elbows of two children at the Presbyterian Hospital, whose ages were about the same as that of Dr. Wyeth's patient. In one case tuberculous arthritis was present, and there was a long sinus leading into the joint. A bone drain was introduced, and this was filled with iodoform. There was no suppuration whatever, and the patient was well in seven weeks. The second case was one of badly united fracture, and healing was perfect at the end of four weeks. The patient had been repeatedly examined since the operation, and the motions of the joint were entirely satisfactory.

In answer to a question from the president, Dr. WYETH said that, by employing passive motion, he expected to produce gradual stretching of the contracted ligaments. The limitation of flexion in the case presented was probably due to this condition, but extension was prevented by the contact of bony surfaces.

Dr. GERSTER's experience in the fifteen or sixteen excisions which he had performed had been this: that more personal attention was needed on the part of the surgeon in cases where only small portions of bone were removed, especially in children. It was necessary to employ passive motion very carefully, or serious harm might be done. Active motion, intelligently directed, and massage were the agents to be used, the latter being especially valuable when a small amount of bone had been removed. The obstacles to motion were, in the first place, the swelling of the parts, and, in the second place, the pain and resistance on the part of the patient. Whenever, the speaker added, he had not attended personally to the details of after-treatment, the result had been unsatisfactory. Suppuration was not such an important element as regarded the final result; better results sometimes followed in cases that did not heal by the first intention, because the surgeon gave more attention to the case than when healing was uninterrupted. The speaker had never had a case of ankylosis after excision, and in several instances there had not been a drop of pus.

Dr. SANDS contended that it was important to avoid sup-

puration in cases of partial excision. He cited the case of a patient presented to the society by Dr. Hall, in whom he (Dr. Sands) had excised only a portion of the olecranon for limited tuberculous disease, the whole hinge-joint being preserved. There was an entire absence of suppuration, and motion was almost perfect. The speaker could hardly imagine how suppuration could occur in joints thus excised, in which the opposed surfaces were so intimately related, without resulting in ankylosis, or, at least, some limitation of motion. When a large amount of bone was removed, it did not make so much difference.

Dr. GERSTER accepted Dr. Sands's suggestion with regard to the class of cases in which it was important to entirely avoid suppuration. The more nearly an excision approached an arthrotomy, the more necessary was it to secure absence of suppuration. The speaker acknowledged that he would have expressed himself more exactly by using the term *septic* suppuration, meaning a suppurative process that resulted in extensive destruction of the tissues belonging to a joint.

Aneurysms treated by the Introduction of Catgut, or of Wire with Electricity.—Dr. ROBERT ABBE read the following paper: The domain of cases upon which the surgeon may operate, owing to newly adopted principles, is enlarging year by year, and just in that proportion the number of "hopeless" cases diminishes. The most superficial observer will see a growing disposition to interfere with many varieties of infirmities for which in the past active treatment has been discouraged by all surgical authorities. One is led from time to time to review such maladies, and ask whether advanced methods will yet allow us to touch them. As the miner has often found a fortune in the discarded ores of silver mines when worked over by a new process, so now some of the forbidden cases of twenty years ago are fairly met by justifiable new procedures. In this spirit of inquiry, I venture to open the question of the value of interference with a small class of aneurysms, the treatment of which has heretofore been considered useless.

This class is that of aneurysms springing from the aorta or its greater branches, and not amenable to the ligature nor relieved by medicine, diet, or rest. These are so common that we all see them from time to time. They run a steady downward course, interrupted, happily, in some cases by a temporary clotting, but soon advancing again, leaping the barriers of bone and cartilage until the thinned walls give fatal pressure effects on veins, nerves, or trachea, or sudden rupture ends the patient's misery.

Taking our guide from Nature's attempt at repair by the two methods of deposition of firm clot, or by thickening the sac through hypertrophic or inflammatory changes, we find the most promising to be that of inducing clot within the sac. Practically, accumulated experience shows that coagulation *will* take place upon certain foreign substances introduced into the current. Wire is especially favorable, either silver, iron, or steel. This can be sterilized by preliminary boiling in carbolic solution. Twelve cases of the use of wire have now been reported, to which I am able to add two more. The first attempt was by Mr. C. H. Moore, of Middlesex Hospital, in 1864, of which I will speak later. *Moore's method* consists merely in the introduction of wire. Of the cases now on record, the most brilliant result was obtained in Loreta's well-known case of last year. The outcome of the others has not been curative, though seeming to look in the right direction.

Last year Mr. Richard Barwell practiced a modification of Moore's method by introducing ten feet of steel wire into an aneurysmal sac, and passing a current of electricity through it sufficiently strong to get electrolytic action and induce a coagulum by quick deposit.

Thus he substituted a long wire coiled in the blood current for the short needle point of so-called electro-puncture, which latter alone has, in many hands, been of unquestionable service in ameliorating the condition of aneurysm cases in the last stage. Mr. Barwell's patient was a man with large aneurysm of the aortic arch, apparently a hopeless case, and associated with serious lung trouble. A fine insulated trocar served to allow the steel wire to pass. The positive pole was attached to this, while a negative of spongiopiline spread over the back. A current of ten milliamperes was continued an hour and ten minutes. The patient had no pain or inconvenience. The tumor gave no sign of immediate improvement, but in twelve hours "the man appeared much better, the tumor was more solid, and the pulsation more distant." Four days later a tumor appeared at the other side of the neck, which had appeared two years before and then disappeared—evidently an extension of the sac in that direction. One week later the man died of his pulmonary trouble. A post-mortem was obtained, and of the clot formed in the aneurysm Mr. Barwell says: "The wide coils of wire are surrounded by thick, firm, colorless clot, which in many places binds the wire to the sac walls, thus strengthening them and rendering rupture hardly possible where the wire had penetrated. In the secondary sac this had not formed." Barwell commends the method for large internal aneurysms.

Soon after the publication of Barwell's case, Dr. J. West Roosevelt, of this city, had an opportunity to try the method on a case of aggravated aortic aneurysm threatening death. He has kindly offered me the case to report in this connection.

The patient was a man of twenty-five years, with a syphilitic history. In November, 1885, he had begun to notice a dry cough. Some weeks later dyspnoea and dysphagia had ensued and pain had come in the right pectoral region and axilla, occasionally extending down the right arm or into the back near the scapula. At that time also he had noticed a pulsating tumor in front of the chest at the right of the sternum. His dyspnoea had been great when he lay on the left side or back. He had been disabled from work for four months, yet he was in fair flesh. The pulsating tumor involved the four upper ribs, near the sternum, and gave a double bruit. He was given iodide of potassium, kept at rest, and somewhat under anodynes for two weeks with slight ease from pain, but the tumor continued to enlarge. On the 4th of August, Dr. Roosevelt placed the man on his back and inserted an insulated short aspirator needle into the tumor. When the blood trickled out, he passed about seventy-five yards of fine steel piano-wire No. "00." The patient experienced some weakness, pallor, and pain from the position on his back, to which he was unaccustomed. The wire was connected with one pole of a constant battery, and a large wet rheophore placed under the right shoulder. Four to eight cells of an ordinary galvanic battery were used, measuring about twenty-five milliamperes. It gave him no pain, and was continued a half hour. The tumor still pulsated. The patient was kept quiet another half hour and then put to bed. He had no pain subsequently from the operation. On the following night he required morphine for insomnia. Next day the tumor did not pulsate so strongly, and he had some pain and vertigo. On the third day the tumor was less painful but still pulsated. His breathing was not so comfortable, and in the evening his temperature rose to 100.4 F., but fell to normal in the morning and remained so afterward. On the fourth day dyspnoea and slight cyanosis were showing themselves. On the seventh he was better than before the operation, had less pain and dyspnoea. By the tenth day the tumor was much less painful, pulsation markedly diminished, and he could breathe easily lying on his back or left side, which formerly he could not do. During the third week he could swallow and breathe with greater ease, and the tumor felt harder. At the beginning of the fourth week he began to vomit and complain of headache. His iodide of potassium was therefore stopped. On the twenty-second day a painful dark-colored spot appeared on one toe and the man appeared badly. On the twenty-third day he died. No autopsy could be obtained.

In October last I had an opportunity to repeat this operation in the following case:

A man, forty-six years of age, free from specific history, was referred to me by Dr. Naughton for treatment of a large pulsating tumor of the root of the neck on the right side. It had been observed as a very small swelling above the clavicle not more than a year before, and had steadily enlarged until now it filled the supra-clavicular space, extending backward to the scapula. The greater growth of late had been back of the middle plane of the neck. A loud bruit could be heard over its entire surface. Its pulsation lifted the shoulder at every beat. Neuralgic pain of the right shoulder and arm had been coming on for several weeks, and now pressure on the brachial plexus had caused paralysis of the deltoid and triceps muscles. The right arm and right half of the face remained dry, while the opposite side was in profuse perspiration. There was slight hoarseness. The right pupil was smaller than the left and ptosis of this eye had developed. The axillary, brachial, and radial pulses were small. A diagnosis of dissecting aneurysm of the subclavian was made.

After consultation (Dr. Sands, Dr. Weir, Dr. Peters, Dr. McBurney, Dr. Bangs, Dr. Lange, and Dr. Bull), it was decided that the condition would not be checked even by ligature of the carotid with shoulder amputation; and being left with a patient whose pain was only eased by frequent hypodermics of morphine, while the growth of the aneurysm could be seen to advance every day, I decided to resort to Barwell's method, to lengthen his life, and perhaps lessen pain. The oval cavity of the tumor was estimated to measure four inches by five.

After three weeks' observation under iodide of potassium, I decided to introduce catgut before wire. I operated on November 19th. No anæsthetic. No. 2 aspirator-needle pierced the front of the sac, and the blood spurted two or three inches. No. 1 catgut, taken fresh from juniper-oil and drawn through a damp sublimate towel, was easily though slowly pushed into the sac. It was best fed by short grasps of the thumb forceps. One hundred feet of it were thus introduced, occupying an hour. The patient lost two or three ounces of blood only, and had no pain nor discomfort whatever. There was a slight rise of temperature to 101° F. on the following day, the pulse remaining unchanged. The tumor was a little warmer than before. On the second day the patient continued feeling well. The outer third of the sac had very decidedly hardened; the remainder pulsated as before. An ice-bag was ordered applied. The radial and brachial pulses could not be felt. The hand continued warm. On the third day his temperature rose to 102°, though he felt otherwise fully as well as before the operation. After that his temperature declined rapidly to normal. The tumor, however, grew decidedly backward and upward during the week, and lifted the scapula, as shown in the photograph. On the eighth day the dissection seemed much more rapid, and his hoarseness amounted to aphonia. On the ninth, Dr. Roosevelt very kindly assisted me, and I introduced, through an insulated aspirator-needle, one hundred and fifty feet of fine steel wire, sterilized by boiling in carbolic-acid solution. A copper plate a foot square, covered with wet cotton, was placed over his back, connected with the negative pole, and the positive attached to the end of the wire. A current was measured by Dr. Roosevelt up to fifty milliamperes, which was the limit of the register. This required but fifteen cells. Subsequently the entire thirty-six cells of the galvanic battery were applied. The patient experienced no pain or discomfort. His pulse, which had been 110, rose only ten beats during the process. The current was continued for an hour, the latter part of the time reversed, so as to bring the negative pole within. He was rather exhilarated than otherwise, and when removed to bed would not have known that any operation had been done. The tumor still pulsated when we ended. On the following day I could perceive increased firmness in the walls, though the pulsations continued. Subjectively the patient felt rather better, and I had some hopes of the outcome, when on the second evening he suddenly had a rupture of the sac into the trachea, and expired.

It was impossible to obtain an autopsy. Although it is to be regretted that these cases could not be followed to the post-mortem table, there are yet some points of value in each that may be added to the study of the subject.

It will be seen that both were utterly hopeless cases, and while we can not assert that life was prolonged, it was not shortened by operation. In my own case the man was approaching his end, and it was his only hope. The question may be asked whether the rupture of the sac into the trachea was hastened by the wire pressure inside.

I judge not, for the tracheal pressure that preceded the rupture had been progressively getting worse, as shown by the hoarseness increasing for a month, showing that it naturally was making its way toward the trachea. I find three other cases of rupture following active treatment. One of Churton's last year, in which he had used electro-puncture without wire, and in twenty minutes fatal hæmorrhage from the trachea ensued. The other was Domville's case of aortic aneurysm, in which he put fourteen inches of iron wire into a sac, and when, four weeks later, the man died of sudden rupture into the pleura, it was found that no wire was near the perforation. The same in Dr. Ransohoff's case, reported at the last meeting of the American Medical Association. Over ten feet of silver wire were placed within the sac in two sittings, three weeks apart. Death suddenly occurred one week after the last, from rupture into the pleura, but autopsy showed no wire near the place of rupture.

Whether the duration of life was longer or shorter owing to the treatment by wire insertion, is pure speculation. My own impression is, from studying all the cases, that without exception every one was in a desperate state before operation; some even threatened dissolution. My own lived thirty-six hours only before rupture. Most of them lived several weeks, and Loreta's ninety-two days, having apparently been restored to health. In one reported by Mr. W. Cayley, the large aneurysm at the root of the neck became solid, and the patient lived eighty six days after some forty feet of steel wire were introduced. The thoracic portion of this aneurysm extended, and Mr. Gould subsequently put in thirty-five feet more, to solidify, if possible, the portion that was giving serious dyspnoea. No disturbance followed, nor was the patient relieved.

As regards the chances of emboli from the wire giving trouble, I find but two of the fifteen cases where wire was introduced that caused such an accident. Mr. Moore's case, the first on record, showed post-mortem suppurating foci in the kidneys, with death on the fifth day. As the case occurred in 1864, it is quite as probable these were septic as well as embolic. No case that has since been done has shown septic infection, due to the care now exercised in sterilizing the wire.

In a note to the "British Medical Journal" in May, 1885, by Dr. Maclean, who witnessed Mr. Moore's operation twenty-three years ago, and who saw the organs and aneurysm after the autopsy, he says "the immediate cause of death was inflammation of the sac and pericardium," and also he recalls "the innumerable clots in the fresh preparation of varying consistence hanging from the wires, ready to drop into the blood, and emboli exactly like them were found in the arteries of the organs dissected to show them."

In Dr. Roosevelt's case a dark-colored and painful spot appeared on one toe on the twenty-sixth day.

The absence of other reported accidents by embolism shows that it is not more to be feared from wires than from the untreated walls of an aneurysm.

Having shown that Nature will tolerate considerable quantities of wire for periods of eighty-six and ninety two days, and therefore would probably do so indefinitely in favorable cases, and that it has never been known to induce suppuration when aseptic, it is now of importance to see how much solidification is really brought about by the foreign substance. Of the sixteen cases of wire insertion, eight were followed to autopsy.

Bacelli's third case with seven watch-springs, each about twenty inches long, was the only one which failed to show coagulation. The patient lived only two days. His second case with these springs lived ten days, and excellent clots were found round the metal. His first case with one spring lived two months, was improved, and presumably the wire was imbedded. In Domville's case fourteen inches of iron wire were found imbedded in firm clot two weeks after introduction into an aortic aneurysm, the patient dying of ruptured sac. Dr. Ransohoff reported last year a case of large aneurysm at the root of the neck, into which he put at two sittings ninety-eight and ninety-six inches of silver wire. The case was hopeless from the first. However, he survived over four weeks. Autopsy showed the "coils of wire imbedded in recent and old clot."

In Mr. Cayley's case of large sacculated aneurysm of the aortic arch the patient survived the introduction of seventy-five feet of steel wire eighty-six days, and the "entire upper portion of the sac was filled with clot in which the wire was imbedded."

In Barwell's case, already quoted, the electricity and wire combined had caused the latter to become "surrounded by thick, firm, colorless clot which in many places bound the wire to the sac walls, thus strengthening them."

In Professor Loreta's famous case, reported last summer, the post-mortem revelations were very gratifying. The patient was a sailor, who had an aneurysm of the abdominal aorta the size of a small foetal head. Laparotomy showed it to be matted to the viscera, stomach, etc., from which it was separated. Six feet and a half of silvered copper wire were introduced through a fine cannula, the point of perforation touched with pure carbolic acid, and the wound closed. He made an excellent recovery. Twenty days later the pulsation had ceased, and by the seventieth day he resumed his work. On the ninety-second day the aorta ruptured at a point where the sac sprang from it. Autopsy showed that the sac had shrunk to the size of a walnut, and was completely filled with coagula of organized fibrin. The wire was found unaltered and rolled up into a globular mass within the sac.

Dr. Lange reported a case to our society quite recently in which he obtained an autopsy. He had inserted thirty feet of wire into an abdominal aneurysm. The patient survived twelve days. The specimen showed the wire imbedded to a large extent in firm clots against the wall, but free in some places in the current.

It is reasonable to believe that it would always be buried in laminated clot if left a while. As bearing upon this point I would note that Schrötter, of Vienna, two years ago inserted twenty inches of Florence silk into a large aneurysm, and four days afterward thirty inches more. The patient died in the third week of pulmonary oedema. Autopsy showed the silk in coils entirely inclosed in laminated clot. In Bryant's case of popliteal aneurysm the horse-hair was enveloped, to use his words, in "huge laminated clots."

The inflammation of the sac wall probably acts no mean part in aiding solidification. I feel convinced that it is desirable to provoke some inflammation. In my patient before reported there was a decided increase of local temperature in the outer part of the sac, with slight oedema of the subcutaneous tissue and hardening of the sac. This followed the second day after one hundred feet of catgut had been introduced. The continuous application of an ice-bag entirely controlled the inflammatory action. In Schrötter's case of silk introduction it is reported that "intense oedema appeared in the vicinity of the sac from its inflammation," the virtue of which was apparent in the imbedding of the silk found three weeks later at autopsy.

Finally, I would review the part that electricity may play in

the combined treatment. We have but three cases where the sac was subjected to electrolytic action through an extensive wire coil within it. Barwell used a current of 10 milliampères, Dr. Roosevelt about 25, and I 100. The patients experienced no pain or discomfort whatever. The time of continuance was from half an hour to an hour and ten minutes. In my case the current was reversed during the latter half-hour, so as to bring the negative pole within. No change in the patient's condition could be perceived, and no gas could be discovered in the sac, as in some cases of electro-puncture where it became tympanitic for a short time without harm.

The promising statements of Ciniselli and others about the value of electrolysis in aneurysms have seemed to many delusive. The small amount of coagulation that takes place round a fine needle is, perhaps, of less value than the irritation of the sac. Therefore it seems reasonable to my mind that if we tangle a mass of fine wire so that it will reach every part of the sac, and then cause a deposition of clot on it by electrolysis, we do more justice to the method. Ciniselli claims that no cure of aneurysms takes place after electrolysis without inflammation of the sac. Occasionally a case succeeds, as one reported by Dr. Simpson, of Manchester, in 1881, where threatened rupture of aortic aneurysm that had eroded the rib continued well five years after repeated electro-puncture.

As regards the strength of the current to be applied, experience only will say. De Watteville thinks 20 or 30 milliampères for each needle; others, 5 or 10. But when a large wire surface transmits the current it is probable that 50 or 100 are not too strong.

Conclusions.—It is evident we need many accurate scientific observations before we can speak definitely of the value of Barwell's method. One may say that Moore's treatment, by simply placing wire in the sac, has not yet been tried in any case that was not already hopeless and in the last days of life. The same may be said of Barwell's. Yet the evidence warrants a continuance of its trial. It is not a coincidence that cases show a decided amelioration of symptoms. There is proved to be a deposition of clot, sometimes abundant to cure, as in Loreta's case. The fine wire is so elastic that it may be compressed by the aneurysmal contraction into a small fraction of its bulk without exciting much expansile reaction against the wall, and it is probable that an hour's electrolysis so far weakens it, as well as roughens its surface, that it is quite prepared for deposition of clot and shrinkage of the sac. The operation is not in itself perilous; no deaths have occurred from its performance. The subsequent much-desired inflammation of the sac has been easily kept under control by ice-bags in every case. The principle does not seem faulty, and its application should not be abandoned or condemned until much more extended trial has been given it.

Cases.

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Murray, "Brit. Med. Jour.," vol. i, 1872, p. 596.

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Ransohoff, "Jour. Am. Med. Assoc.," 1886, p. 481.

Barwell, "Brit. Med. Jour.," 1886, ii, 675.

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Dr. PETERS asked the reader if he had met with a record of Dr. Buck's case, in which wire or horse-hair was introduced into the sac.

Dr. ABBE replied that there were several recorded cases in which horse-hair and other foreign bodies had been employed, but that his paper dealt exclusively with the use of wire and catgut.

Dr. WEIR asked whether it was desirable to use electricity so long if the wire was really disintegrated. The reader did not think that harm could result.

Dr. WYETH did not see what additional advantage was obtained by passing a galvanic current through the wire after it had been introduced, since experiments on animals had shown that the mere presence of a foreign body in a blood-vessel was sufficient. As he understood the operation, its purpose should be to favor *slow*, not *rapid*, coagulation, since the latter process was fraught with more danger than gradual solidification of the tumor.

Dr. SANDS called attention to the fact that the idea that the rapid coagulation of the blood in an aneurysm was injurious had been abandoned. There were many cases on record in which large aneurysms had been cured by total compression, continued for not more than an hour or an hour and a half, the coagulation being perfect, and the cure permanent.

Dr. WYETH replied that about nine years before he had made a special study of large aneurysms at the root of the neck and in the arch of the aorta, and had published a paper on the subject. At that time, after a careful review of the evidence on the subject, he had reached the conclusion that rapid coagulation of the blood within the sac was more apt to be followed by disastrous consequences.

Dr. WEIR thought that the brilliant results obtained with Esmarch's method of treatment showed that rapid coagulation was not dangerous. The best results had been obtained in cases of sacculated aneurysms. He had been struck, while examining Dr. Lange's specimen, with the fact that many of the loops of wire remained free within the cavity of the sac, were quite bright, and had no clot adherent to them. The speaker thought that there was something in the idea advanced by the reader, that the galvanic current served to roughen the surface of the wire, and thus favored the deposition of clot.

Dr. GERSTER said that he had practiced the method described by the reader in one instance. The patient was an undertaker, forty-five years of age, who entered the German Hospital early in January with a large dissecting aneurysm which involved the arch of the aorta and protruded behind the sternum and clavicle, interfering with respiration. Shooting pains in the occipital region formed a prominent symptom in the case, while hoarseness was also marked. Although the patient's physician affirmed that the tumor had first appeared only three weeks before, pains in the head and in the nape of the neck, supposed to be of a rheumatic character, had been present for a year. The speaker inserted a cannula into the sac, and introduced through it thirty-six feet of thoroughly disinfected steel wire, similar to that used by Dr. Abbe, care being taken not to push in the cannula beyond the middle of the sac. It was noticed that each time that a fresh portion of wire was thrust in there was a rhythmical protrusion of the opposite wall of the sac. The operation was easy, lasted only thirty minutes, and caused no discomfort to the patient. The spot where the puncture had been made was carefully covered with iodoform gauze. There were no bad symptoms until the end of the third day, when the temperature began to rise. It eventually reached 102° F. The size and state of the tumor were certainly not favorably affected by the operation, while the patient's general condition became worse. The tumor grew softer, and on the seventeenth day after the operation a sudden and fatal hemorrhage into the pleural cavity occurred. An autopsy was not permitted. In this case there was not even an apparent im-

provement after the introduction of the wire. The speaker added that, if he had occasion to repeat the operation, he would use ordinary unpolished iron wire, because he believed that its rough surface would be more likely to favor coagulation.

Dr. BRIDDON asked if catgut introduced into an aneurysmal sac did not soon become softened and float in the blood-current, so that there was danger of its being carried into the distal vessels.

Dr. ABBE thought that it was desirable that the artery leading from the sac should be plugged; doubtless this sometimes occurred.

Dr. BRIDDON explained that he referred, not to the distal portion of the artery at its exit from the sac, but to the distal vessels. If only one vessel was obstructed, no harm would result, but all the efferent vessels might be plugged.

Dr. ABBE did not see how this accident could occur, as the catgut became so matted together that a portion of it could not escape from the sac unless the entire mass was dislodged.

Dr. GERSTER referred to a case in which, during the introduction of wire into an aneurysm of the aortic arch, alarming cardiac symptoms occurred. It was found that a portion of the wire had become separated, and was pushed downward through the lower opening of the sac until it rested upon the aortic valves.

Dr. ABBE said that a similar accident had occurred in Dr. Ransohoff's case. A piece of wire was pushed through the sac, and came in contact with one of the valves, in consequence of which the patient had a severe attack of syncope during the operation. In reply to a question by the president, he admitted that the operation was not entirely devoid of risk, but it must be remembered that the cases were all desperate ones.

Dr. WYETH said that he had been disappointed to see that none of the speakers had drawn a comparison between the results of the method described by Dr. Abbe and those of distal ligation. All the cases mentioned by the reader had terminated fatally within three months at the longest, the average duration of life after the operation being about twenty-five days. The results of distal ligation had certainly been much better as regarded both the prolongation of life and cure of the aneurysm. He cited in this connection the case of a patient in whom he had tied the right subclavian and carotid for an aneurysm involving the sinus magnus of the aorta, which had advanced so far as to cause erosion of one rib. The patient was clearly in a hopeless condition, and death was imminent. After the operation she was greatly improved, the tumor decreasing visibly, and lived for a year, dying eventually of acute diarrhoea. At the autopsy it was found that the sac was almost entirely filled with coagulated blood, the space that remained being no larger than an almond. The speaker still had the specimen in his possession. The benefit to this patient had been undoubted, and there was no reason to believe that she would ever have died in consequence of the aneurysm.

Book Notices.

A Text Book on Surgery, General, Operative, and Mechanical. By JOHN A. WYETH, M. D., Professor of Surgery in the New York Polyclinic, Surgeon to Mount Sinai Hospital, etc. New York: D. Appleton & Company, 1887. Pp. viii-777. [Sold by subscription; price, \$8.]

A MODERN text-book on surgery, provided it professes to give within a moderate compass a satisfactory account of the

general range of surgery, is valuable to the general practitioner in proportion as it makes details plain and clearly presents their underlying principles. Gauging it on this basis, we are convinced that Dr. Wyeth's work will speedily take a prominent place in the esteem of the profession. The author's well-known *penchant* for surgical anatomy had prepared us for a careful consideration by him of the operations on the arteries, and we find that he has treated of the subject admirably. But neither this nor any other one topic has been allowed to overtop the rest of the contents. Except such by-paths as only a specialist would be likely to wish to enter upon, the whole domain of surgery has been fairly presented, and the arrangement of the subjects is good. In particular, we would commend the care that has been bestowed on the important matters of surgical dressings, bandaging, and the like. These details lie at the very foundation of success in surgical practice, and too much attention can scarcely be given to them in a text-book. The appearance of the book is in the highest degree creditable to the publishers; the print is clear, the paper is excellent, and the illustrations, which are numerous and nearly all original, are among the best of their class that we have seen. They include quite a number printed in colors.

Practical Pathology: an Introduction to the Practical Study of Morbid Anatomy and Histology. By JOHN LINDSAY STEVEN, M. D., Assistant to the Professor of Clinical Medicine in the University of Glasgow, etc. New York: Macmillan & Co., 1887. Pp. xvi-266. [Price, \$1.75.]

THIS volume contains more practical information on its subject than we have found in any volume of equal size. The reader, if he is one who has some knowledge of the subject, will at once be impressed with the idea that the author has written from experience in the practical application of the directions which he has given, as well as from personal study of microscopic sections. It is an excellent introduction. It is more than an elementary work. It is entitled to the name of compendium of practical pathology. It is a good book for students who are still working under teachers. It is not illustrated, and therefore it may not be attractive. But its intrinsic merit exists nevertheless. Probably the explanation of all this lies in the fact that it is based upon a practical course of instruction in pathological histology. The writer says that it was "primarily intended for the use of students," and he has met the indications well.

There are two parts. The first contains eight chapters in which the reviewer finds excellent directions for performing a post-mortem examination, for selecting morbid tissues for microscopic examination, for using hardening and softening fluids, for making sections and for mounting them, for staining sections, and for injecting tissues. Part second is divided into two sections. The first is devoted to general morbid histology, including tumors and parasites; in the second, special morbid histology is considered, including diseases of the heart and pericardium, blood-vessels, respiratory organs, kidneys, liver, spleen, alimentary canal, nervous system, bones, and joints. The book is well printed with large type upon good paper, and has an index.

Die Pathologie und Therapie die Gelenkentzündungen. Von Prof. Dr. MAX SCHÜLLER in Berlin. Wien und Leipzig: Urban & Schwarzenberg, 1887. Pp. vi-93.

THERE can be no doubt that the statement made by the author in this admirable brochure upon the pathology and treatment of inflammation of the joints—that a wide diversity of opinion exists between pathologists, surgeons, and clinicians concerning a proper classification of inflammation of the joints

—is quite true. There is only one way out of the difficulty engendered by this state of things—namely, a thorough understanding among surgeons as to the best method of classifying diseases of the joints. Up to the time of the appearance of this work of Schüller's nothing had been done toward a solution of the problem, how best to classify these diseases. Our author has certainly struck the key-note of the whole matter when he declares that clinical facts alone should be the guide in making such a classification. The object of the work under notice seems to have been to closely study the subject from the standpoint of the surgeon and clinician, with the view of offering a classification based upon such a study.

The book is divided into—1. General pathological anatomy of joint inflammations. 2. Classification of inflammation, and a brief account of characteristics of some inflammations of joints. 3. Existence of inflammation of joints and their frequency under different conditions. 4. *Ætiology*. 5. Symptomatology, examination, and diagnosis in general. 6. Prognosis and mortality. 7. Treatment, including non-operative, operative, and general treatment, complications, etc. 8. Literature.

BOOKS AND PAMPHLETS RECEIVED.

The Facial Nerve in the Domestic Cat. By T. B. Stowell, Ph. D. [Read before the American Philosophical Society.]

The Diseases of the Ear and their Treatment. By Arthur Hartmann, M. D., Berlin. Translated from the Third German Edition by James Erskine, M. A., M. B., Surgeon for Diseases of the Ear to Anderson's College Dispensary, Glasgow, etc. With Forty-two Illustrations. New York: G. P. Putnam's Sons, 1887. Pp. xiv+285. [Price, \$2.75.]

A Compend of Surgery for Students and Physicians. By Orville Horwitz, B. S., M. D., Demonstrator of Anatomy in Jefferson Medical College, etc. Third Edition, thoroughly revised, enlarged, and improved. With Ninety-one Illustrations. Philadelphia: P. Blakiston, Son, & Co., 1887. Pp. viii+9 to 210.

A Treatise on Diseases of the Skin, with Special Reference to their Diagnosis and Treatment, including an Analysis of Eleven Thousand Consecutive Cases. By T. McCall Anderson, M. D., Professor of Clinical Medicine in the University of Glasgow, etc. With Colored Plates and Numerous other Illustrations. Philadelphia: P. Blakiston, Son, & Co., 1887. Pp. xviii+17 to 662.

Official Register of the Physicians and Surgeons in the State of California who hold Certificates from the Board of Examiners of the Medical Society of the State of California, January 31, 1887. To which has been appended a Complete List of those who hold Certificates from the Homœopathic and Eclectic Boards; also a Complete List, as far as procurable, of all Persons practicing Medicine in this State without a Certificate from either of the Boards. Third Edition. Revised and published by the Board.

A Successful Case of Partial Excision of the Larynx, on account of Intra-laryngeal Epithelioma. By Lennox Browne, F. R. C. S. Ed., Senior Surgeon to the Central London Throat and Ear Hospital, etc. [Reprinted from the "British Medical Journal."]

Considérations sur les écoulements d'oreille. Par M. le Docteur Charazac, de Toulouse.

Extrait du nouveau dictionnaire de médecine et de chirurgie pratiques. Article Superfétation, par Doléris. Paris: J. B. Baillière et fils.

Considérations sur la rigidité de l'orifice utérin pendant le travail. Étude sur la rigidité du col d'origine syphilitique. Par le Docteur Doléris, Chef de clinique obstétricale et gynécologique de la Faculté. [Extrait des "Archives de tocologie."]

Considérations sur les divers procédés d'embryotomie. Décollation avec la ficelle; procédé du Professeur Pajot. Par le Docteur Doléris, Chef de clinique d'accouchements de la Faculté. [Extrait des "Annales de gynécologie."]

Observation d'un cas de rupture utérine suivie de guérison. Par le Dr. A. Doléris, Chef de clinique d'accouchement de la Faculté de Paris. [Extrait des "Annales de gynécologie."]

Périnéorrhaphie immédiatement après l'accouchement au moyen des

sutures continues dites en surjet ou en spirale, avec les fils de catgut résorbables. Par le Docteur Doléris, Chef de clinique obstétricale et gynécologique de la Faculté. [Extrait des "Archives de tocologie."]

De l'analgésie des voies génitales obtenue par l'application locale de la cocaïne pendant le travail de l'accouchement. Par le Docteur Doléris, Chef de clinique obstétricale et gynécologique de la Faculté. [Extrait des "Archives de tocologie."]

De la version podalique partielle par manœuvres internes et externes combinées. Par le Docteur Doléris, Chef de clinique d'accouchements de la Faculté. [Extrait des "Annales de gynécologie."]

Dermatologischen Studien. Von Dr. P. G. Unna. Drittes Heft. Beiträge zur Anatomie und Pathogenese der Urticaria simplex und pigmentosa. Zur Kenntniss des elastischen Gewebes der Haut. Viertes Heft. Die Rosanilin und Pararosanilin. Eine bakteriologische Farbenstudie. Hamburg und Leipzig: Leopold Voss, 1887.

Report of the Special Committee (appointed December 11, 1885) on the Disinfection of Rags. Presented at the Fourteenth Annual Meeting of the American Public Health Association, Toronto, Canada, October, 1886. [Reprinted from the "Transactions of the American Public Health Association."]

L'amputation du membre supérieur dans la contiguité du tronc (amputation interscapulo-thoracique). Par Paul Berger, chirurgien de l'hôpital Tenon; professeur agrégé à la Faculté de médecine, etc. Avec figures dans le texte, et 2 planches en chromolithographie. Paris: G. Masson, 1887. Pp. 371.

Sphygmography and Cardiography, Physiological and Clinical. By Alonzo T. Keyt, M. D. Edited by Asa B. Isham, M. D., and M. H. Keyt, M. D. New York and London: G. P. Putnam's Sons, 1887. Pp. vi to 229. [Price, \$3.50.]

Practical Lessons in Nursing. The Nursing and Care of the Nervous and the Insane. By Charles K. Mills, M. D., Professor of Diseases of the Mind and Nervous System in the Philadelphia Polyclinic and College for Graduates in Medicine, etc. Philadelphia: J. B. Lippincott Company, 1887. Pp. 8-9 to 147. [Price, \$1.]

A Descriptive List of Anthropometric Apparatus, consisting of Instruments for measuring and testing the Chief Physical Characteristics of the Human Body. Designed under the direction of Mr. Francis Galton, and manufactured and sold by the Cambridge Scientific Instrument Company, St. Tibb's Row, Cambridge, England, 1887.

On Curare. By S. Pollitzer, A. M., M. D., of New York. [Reprinted from the "Journal of Physiology."]

Ueber den Nahrwerth einigen Verdauungsproducte des Eiweisses. Von S. Pollitzer, A. M., M. D., aus New York. [Separat-abdruck aus dem "Archiv für die gesammte Physiologie."]

The Second Annual Report of the Board of Health of the City of Hartford, Conn., for the Year ending February 28, 1887.

Reports on the Progress of Medicine.

GENERAL MEDICINE.

By H. N. VINEBERG, M. D.

Acetonuria.—Mosecatelli and Vitali ("Rivist. venet.," "Dent. Med.-Zig.," 1886, No. 95) treat of this condition of the urine. Mosecatelli has examined large quantities of the urine, and has never been able to detect even traces of acetone in the urine of healthy individuals. He looks upon the presence of this substance as always being of pathological import. Vitali relates two cases in which, during life, acetone appeared constantly in the urine for a long time. The one case occurred in a diabetic woman of thirty-five years of age, who had a distinct sour-milk odor from the breath; acetone was found in the urine both with Lieben's and Lugol's tests, and it made no difference whether the patient took a meat or mixed diet. Toward the end of life the patient had an attack of erysipelas, during which both the sugar and acetone disappeared from the urine. It is interesting also to note that during nearly the half-year in which acetone appeared in the urine not

the slightest evidence of intoxication was manifest. The second was in a case of severe intestinal obstruction arising from a malignant tumor, in which regularly every two days there was vomiting of copious fetid, darkish-brown masses, while the stools contained only a small quantity of hardened feces. The breath had an ether-like smell; the urine was scanty and of high color, and exhibited decided quantities of acetone, which was found also in the vomited masses. In this case also not a single symptom obtained which could be traced to acetic intoxication. In the urine of a neuropathic patient the author could not distinctly detect any acetone, nor could he do this even after the patient had been given three c. cm. of pure acetone. In a healthy, strong individual, only when eight c. cm. of acetone had been administered could any be found in the urine. [These observations militate against the theory that diabetic coma is due to the presence of acetone in the urine. It would seem that we are still far from realizing the expectations arising from the confident assertion of the physiological chemists: that all pathological problems can be unraveled by their science.]

Hepatic Glycosuria.—Dr. G. H. Roger ("Rev. de méd.," 1886, No. 11), cognizant of the diversity of opinion of observers on the occurrence of temporary glycosuria in various hepatic affections after a full meal, or after the ingestion of sugar, instituted original observations in twelve patients suffering from various diseases of the liver in order to determine this point. He divided his cases into four groups: (1) Cirrhosis with ascites, and attended with the development of collateral circulation; (2) other varieties of cirrhosis; (3) lithiasis and catarrhal icterus; (4) hepatic tumors, cancer, and hydatid cysts. The patients were given in the morning, on an empty stomach, one hundred and fifty grammes (5 v) of sugar syrup. The urine was collected during the following four hours and examined with Fehling's solution for sugar. In one of the cases belonging to the first group there was a spontaneous glycosuria, and the ascitic fluid contained sugar. The patient became very much emaciated and had oedema of the inferior extremities before death. In none of the other four cases did sugar appear in the urine after the ingestion of the syrup. The ascitic fluid was withdrawn from two of the patients, and that of one of them contained sugar. Of the three cases forming the second group, one was a case of atrophic cirrhosis unattended with the development of the abdominal cutaneous veins, the second was a case of hypertrophic cirrhosis without icterus, and the third was a case of hypertrophic cirrhosis with icterus. In the first two there was sugar in the urine, and in the other case there was no sugar in the urine after the ingestion of the syrup. In the four cases belonging to the third group, sugar was present in the urine in all but one. There were one case of cancer and one case of hydatid cyst forming the fourth group; sugar was present in both.

Increase of Tendon Reflexes in Peripheral Neuritis.—A. Strümpell and P. J. Mobius ("Ctrbl. f. klin. Med.," 1886, No. 47), relying upon their observations in some undoubted cases of multiple neuritis, controverted the assertion that in that condition the tendon reflexes are diminished or absent. In their cases the reflex of the tendons of the muscles of the thigh and arm and shoulder-blade was exceedingly active. The skin reflexes were about of the normal intensity. On the cure of the nerve inflammation, the reflexes of the affected muscles became less intense.

Digestive Ferments in the Urine in Bright's Disease.—G. Mya and S. Belfanti (*ibid.*, No. 42) found two ferments in normal urine resembling in action pepsin and trypsin (see abstract in this Journal, Nov. 9, 1886), and now they publish the results of their examinations of the urine in Bright's disease for these ferments. In twenty-eight cases of Bright's disease, comprising four acute and twenty-four chronic cases, the ferment analogous to trypsin was not found in a single instance, while that resembling pepsin was found in a large majority of the cases. At first the authors were of the opinion that the absence of the trypsin was due to the albuminuria, the albumin of the urine attracting the ferment to itself; but this opinion they have to reject on the following grounds: (1) It can not be conceived how the albumin would attract the urotrypsin and leave the uropepsin intact; (2) in simple cases of albuminuria not dependent upon Bright's disease, urotrypsin is always found; (3) when a considerable quantity of blood-serum is added to normal urine, it is found that the fibrin attracts both ferments equally; (4) urotrypsin is absent in interstitial nephritis, in which the amount of

albumin is small, as well as in parenchymatous nephritis, in which the amount of albumin is abundant. As a result of their observations, the authors consider themselves justified in asserting that there is a connection between the condition of the kidneys and the presence of the digestive ferments in the urine, and that one of these ferments—trypsin—is absent in Bright's disease.

The Detection of Tubercle Bacilli in Urine.—Dr. A. Kirstein ("Dtsch. med. Woch.,") found tubercle bacilli in a case of tuberculosis of the genito-urinary organs, which helped materially to clear up a previously obscure diagnosis. The examination of the sediment gave a positive result once only in thirty or forty preparations. The very small number of bacilli in such cases renders a diagnosis difficult. When the author filtered the sediment and examined a portion of the residuum he succeeded in detecting bacilli in almost every specimen, and would therefore advise a similar method in such cases.

Tubercle Bacilli in Healthy Genito-urinary Organs in Consumptives.—Curt Jani (Virchow's "Archiv.," "Ctrbl. f. klin. Med.," 1886, No. 38), in connection with the question of the hereditary transmission of tuberculosis, undertook the systematic examination of the genito-urinary organs of men who had died of phthisis. All cases of manifest tuberculosis of the testicles, prostate, and vesiculae seminales, as also cases of acute general miliary tuberculosis, were distinctly excluded. The examinations for bacilli in the dried spermatozoa of nine bodies, carried out under the requisite precautions, were negative. In the testicles a few bacilli were found inside the tubuli seminiferi in five out of eight cases, and in the prostate in four out of six cases. Apart from the presence of the bacilli, there was no evidence whatever of any morbid process in the tissue of these organs. In a case of a female with chronic phthisis attended with marked tuberculosis of the intestines, bacilli were found in the folds of the tubal mucous membrane. The author is of the opinion that these were carried there from the peritoneal cavity by the vibrations of the fimbriae. The ovaries were free from any bacilli. In conclusion, Jani reports the examination of a foetus and placenta of a woman who died of acute general miliary tuberculosis in the fifth month of pregnancy. Although all the other organs were closely studied with tubercles, neither tubercles nor bacilli could be found in the uterus, placenta, or foetus.

Nervous Cardiac Debility (Neurasthenia Vasomotoria).—Dr. O. Rosenbach ("Ctrbl. f. klin. Med.," 1886, No. 48) would indicate by this term a pure neurosis of the heart, without any organic change, which commonly obtains as part of the phenomena of general neurasthenia. It is an affection of early adolescence and of the age of puberty, and occurs mostly in anæmic or nervous constitutions. Severe bodily or mental exercise, excessive use of alcohol, coffee, tobacco, etc., violent emotional excitement leading to melancholia, are important ætiological factors. The affection exhibits two well-defined stages—first one of excitement, and then one of depression. The first stage is characterized by rapid changing congestion of the face and hands, by paræsthesia of the skin of the chest and upper extremities, and hyperæsthesia of the cardiac region, in consequence of which pericardial anxiety and palpitation occur without any appreciable cause. In addition, there are often insomnia, anorexia, constipation, and frequent micturition. The heart's activity and pulse-rate are seldom increased. In the second stage, the patient suffers from continued marked paleness, great psychological depression, and lassitude. Palpitation and arterial pulsation are felt in spite of lowered heart power and weak pulse, the general reflex excitability is enormously increased, and the patient suffers from headache, dizziness, faintness, anorexia, etc. Important as a means of differential diagnosis are the ætiology and the absence of any organic lesion; the continuity of the symptoms, while in real disease of the cardiac muscles or vessels there are always exacerbations; the absence of signs of congestion; and the slightly changed respiration, notwithstanding a subjective feeling of dyspnoea. Certainly, a long-continued neurosis of the heart may result in disease of its muscles or arteries; but in the majority of the cases one can succeed, sooner or later, in allaying the neurosis. Considerable energy and moral management are essential in the treatment of these cases. Electricity and hydropathic cures are not to be recommended. Together with hygienic and dietetic treatment, bromine preparations, iron, quinine, ergotin, and especially cocaine (gr. $\frac{1}{2}$ twice daily), are useful.

Paralysis following Parotiditis.—Paralysis occurring as a sequel to diphtheria, scarlatina, and other infectious diseases is common enough, but that a simple case of mumps should be followed by paralysis excites at once our interest and credulity. The name and professional standing of the observer, M. A. Joffroy ("Progrès médical," 1886, No. 47), who reports a case of this kind, are, we think, of sufficient guaranty to place the case before our readers.

A doctor's child, aged four years and a half, was attacked with paralysis in the four extremities, which was most marked in the legs. There was no rigidity or contracture, and the tendon reflexes were totally abolished. Electrical excitability was absent. The sensibility of the muscles was notably increased, and slight pressure called forth severe pain. The sensibility of the skin, on the other hand, was diminished, and the cutaneous reflexes were absent. The special senses were intact. Apart from a slight albuminuria and loss of appetite, there was no evidence of disease of the internal organs. Diphtheritic paralysis was at once suspected, but the father was quite certain that the child had had no diphtheria. It had an attack of parotiditis on April 28, 1884, which was more pronounced on one side than on the other. On the fourth day it had some difficulty in swallowing, and the throat was examined and was found quite healthy. On the ninth day, during the night, the child was seized with lancinating pains in the arms, which lasted for about an hour. Two nights afterward the pains returned in the legs and arms, and were attended with formication in the knees and generative organs. Twenty-one days after the appearance of the mumps signs of paraplegia manifested themselves, which was looked upon as rheumatic, and salicylate of sodium was prescribed. The child some days after was brought to Joffroy, who diagnosed paralysis following parotiditis. Stimulating frictions, tonics, and iodide of potassium were ordered, and in about two months the child was all but cured. A complete and satisfactory recovery ensued some months later. The author remarks that this is the first case on record of mumps having paralysis as a sequel.

Phenylhydrazin as a Test for Sugar.—Rudolf v. Jaksch ("Ztschr. f. klin. Med.," "Ctrbl. f. klin. Med.," 1886, No. 38) employs this reagent as follows: Twice the quantity that can be taken up on the point of a knife of acid phenylhydrazin, and double this quantity of acetate of sodium, are put into a test-tube half filled with water. This is slightly warmed over a gas-flame, then an equal quantity of the suspected urine is added, and the tube is put in a boiling water-bath for twenty minutes. It is then put in a glass filled with cold water, and if the tested liquid contains any sugar, there will be in a short time a crystalline deposit (phenylglykuzazon)—a compound of grape sugar and phenylhydrazin. That the crystals are really composed of this compound is substantiated by the melting point, which is 205° C. If there is a great deal of albumin in the urine, it must be removed before the test is applied; small quantities of albumin do not interfere with the test. The author has been successful with this reagent when others gave only a doubtful result. On the other hand, the absence of sugar was established by it in urines containing powerful reducing agents, as in the urines voided after the use of salicylic and benzoic acids. The author shows also that the urine in arsenic poisoning gives a negative result with phenylhydrazin, although it is rich in reducing agents. Again, with the same reagent, he detected grape sugar in the urines of three cases of poisoning by carbonic acid. Phenylhydrazin is, therefore, a valuable clinical reagent for sugar, which will be of service in detecting pathological glycosuria of temporary duration.

Paralysis following Chorea.—Dr. T. C. Railton ("Med. Chronicle," Dec., 1886) reports a case of paralysis following chorea which he thinks may be looked upon as a rare sequel of that disease. The patient, aged ten, had been suffering from chorea for about six weeks, affecting chiefly the right side, though the left side was not entirely free. There was nothing unusual about the attack, which yielded to a four weeks' course of arsenic. When the child left the hospital she was completely well. There were no cardiac murmur nor symptoms of paralysis. She never had had rheumatism. About two weeks after leaving the hospital she began to complain of pain in her legs and feet, which increased toward evening. She suffered from "pins-and-needles" sensations at the bottom of her feet. She was easily fatigued and her walking became uncertain. Two months after, when she was brought back

to the hospital, the lower extremities were found wasted, but the child presented general emaciation. She walked not unlike an ataxic, doubtless from paresis of the muscles. There was dropped ankle. The knee-jerk was completely absent. She had no contractures and no spasms, and the sphincters were unaffected. Her optic discs were normal, and the pupils reacted easily to light. There was the reaction of degeneration with electricity. The arms and upper part of the body were apparently entirely unaffected as regards both sensation and motion, and their electrical reactions were normal. Under the administration of the iodides of iron and potassium and the application of galvanic electricity, the child gradually improved. As regards the nature of the case, the author thinks it was one of multiple neuritis due in some way to the preceding chorea, an opinion which was shared by Dr. James Ross, who saw the patient at a meeting of the Manchester Medical Society. The author does not consider it probable that the paralysis was due to the arsenic which was administered for the cure of the chorea. He states particulars of the dosage: From June 17th to June 21st she was given five drops of Fowler's solution three times daily; on the latter date the dose was increased to eight drops, on the 26th to twelve drops, and on July 1st to fifteen drops. There were no symptoms when the patient was discharged, on July 11th, of her having been over-dosed with the drug.

Hysteria in the Male after an Injury.—Dr. J. Dreschfeld (*ibid.*) reports three interesting and instructive cases of this kind: Case I was in a man aged twenty, who slipped and fell one day and was rendered unconscious for a short time. He complained of pain and stiffness in the hip on the following day. A few days afterward he was admitted into the Salford Hospital, where he stayed a few days, during which time he had a severe fit of hystero-epilepsy. When seen by the author the patient presented a number of abnormal sensations and symptoms, all of which were looked upon as being hysterical. Some months afterward the nervous symptoms disappeared, but the patient remained subject to attacks of hystero-epilepsy. Case II was in a commercial traveler who had been bitten by a dog, and was nervous and anxious through fear of hydrophobia. He suddenly became aphasic and hemiplegic on the right side. There was no doubt as to the hysterical nature of the case, which was verified by the patient suddenly regaining his speech. Case III was in a strong, healthy man aged forty-seven, who had always enjoyed good health. He met with an accident one day during which he received a fall which rendered him insensible for a short time. Various nervous symptoms developed after the fall, none of which could be referred to a lesion of the brain or cord, but which, however, corresponded to those generally observed in hysterical subjects. The symptoms remained much the same for about a year, after which the patient passed away from observation. The author remarks that these cases sufficiently show that hysteria in the male, coming on after injuries, differs in no way from the classical hysteria in females.

Miscellany.

The New York Academy of Medicine.—At the next meeting of the Section in Surgery, Monday evening, the 11th inst., Dr. C. A. Powers will read a paper on "Meningeal Hemorrhage treated successfully by Trephining and Counter-opening of the Skull for Drainage," and Dr. R. T. Morris will read a paper entitled "The Reasons for Tait's Success in avoiding Septic Accidents."

At the next meeting of the Section in Orthopedic Surgery, Friday evening, the 15th inst., Dr. Joseph D. Bryant will show patients who have had knee joints excised.

At the next meeting of the Section in Ophthalmology and Otology, Monday evening, the 18th inst., Dr. Emil Gruening will read a paper on "Cataract Extraction without Iridectomy," and Dr. Joseph A. Andrews will report two cases of successful removal of orbital exostoses.

The "Eastern Medical Journal" gives in its April number the full text of Dr. Bowditch's address to the Rhode Island Medical Society, to which we lately alluded. We are glad that an opportunity of

reading the address is thus given to many who have perhaps been unable to obtain it in the form in which it was originally published.

The Post-graduate Medical School and Hospital.—It is announced that a matinee is to be given at Daly's Theatre on Monday afternoon, the 18th inst., at 2 o'clock, in aid of the hospital attached to the school. Mrs. G. H. Gilbert, Miss Ada Rehan, Miss Virginia Dreher, Miss May Irwin, Mr. John Drew, Mr. George Parkes, Mr. Otis Skinner, Mr. Charles Fisher, Mr. James Lewis, and Mr. William Gilbert have kindly consented to take part in the performance. "The Country Girl" and "A Woman's Won't" will be presented. Tickets (reserved seats, \$2.50; boxes, \$20 and \$25) may be had of Dr. B. McE. Emmet, Dr. W. O. Moore, Dr. C. C. Rice, Dr. W. A. Hammond, Dr. S. D. Powell, or Dr. F. R. Sturgis.

Government Health Reports.—By direction of the Secretary of the Treasury, Dr. John B. Hamilton, Surgeon-General of the Marine-Hospital Service, has issued the following abstract of sanitary reports received during the week ending March 31st:

England and Wales.—The deaths registered in twenty-eight great towns of England and Wales during the week ending March 12th corresponded to an annual death rate of 21.6 in a thousand of the aggregate population, which is estimated at 9,245,099. The lowest death rate was recorded in Derby, viz., 16.1, and the highest in Manchester, viz., 33.7 in a thousand.

London.—One thousand six hundred and forty-nine deaths were registered during the week ending March 12th, including 79 from measles, 13 from scarlet fever, 13 from diphtheria, 35 from whooping-cough, 13 from enteric fever, and 12 from diarrhoea and dysentery. There were 433 deaths from diseases of the respiratory organs. Different forms of violence caused 60 deaths, and 5 suicides were registered. The deaths from all causes corresponded to an annual rate of 20.4 in a thousand. In greater London, 2,024 deaths were registered, corresponding to an annual death rate of 19.5 in a thousand of the population. In the outer ring, 17 deaths from measles and 1 from small-pox were registered.

Ireland.—The average annual death rate represented by the deaths registered during the week ending March 12th, in the sixteen principal town-districts of Ireland, was 27.1 in a thousand of the population. The lowest rate was recorded in Sligo, viz., 9.6, and the highest in Limerick, viz., 36.7.

Dublin.—Two hundred and twelve deaths were registered during the week ending March 12th, including 1 from scarlet fever, 3 from whooping-cough, 4 from enteric fever, 1 from cerebro-spinal fever, 1 from erysipelas, and 1 from measles. Diseases of the respiratory organs caused 62 deaths. In thirty instances the causes of death were uncertified, there having been no medical attendant during the last illness. The deaths from all causes corresponded to an annual rate of 31.3 in a thousand.

Scotland.—The death rate in eight principal towns during the week ending March 12th was 25.0 in a thousand of the aggregate population, which is estimated at 1,299,000. The lowest mortality was recorded in Leith, viz., 14.7, and the highest in Aberdeen, viz., 34.6 in a thousand. The aggregate number of deaths registered from all causes was 625, including 43 from measles, 14 from scarlet fever, 7 from diphtheria, 25 from whooping-cough, and 11 from diarrhoea.

Greece.—The Greek Government has given notice that vessels from Sicily will be subject to a fifteen days' quarantine.

Denmark.—The Danish Government orders inspection of all vessels from Italian ports on the Adriatic, and Sardinia, Paraguay, Uruguay, the Argentine Republic, Tunis, Egyptian ports on the Red Sea, Feg, Meguirez, Dan El Buda in Morocco, Rio de Janeiro, Havana, and Japan. The importation of rags is prohibited from Paraguay, Uruguay, the Argentine Republic, Sardinia, Austro-Hungary, and Italian continental ports, as well as from Rio de Janeiro and Havana.

Palermo.—The following dispatch, under date of March 23, 1887, has been received from the United States consul: "In consequence cholera, Catania, vessels from Sicily subjected to quarantine on Continent and various ports Europe."

Warsaw.—Two hundred and eighteen deaths were registered during the week ending February 26th, including 7 from small-pox.

Belfast.—Two hundred and thirty-eight deaths were registered during the two weeks ending March 5th, including 3 from typhus fever, 6 from enteric fever, and 1 from scarlet fever.

Glasgow.—Two hundred and fifty-eight deaths were registered during the week ending March 5th, including 4 from scarlet fever, 2 from diphtheria, 18 from whooping-cough, and 5 from diarrhoea.

Bordeaux.—Six hundred and six deaths were registered during the month of February, including 13 from enteric fever.

Barmen.—Thirty-eight deaths were registered during the week ending March 5th, including 3 from measles, 1 from scarlet fever, 1 from diphtheria, and 1 from cholera morbus.

Copenhagen.—Two hundred and eighty-three deaths were registered during the two weeks ending February 22d, including 2 from enteric fever, 2 from scarlet fever, and 9 from diphtheria.

MORTALITY TABLE, FOREIGN CITIES.

CITIES.	Week ending	Estimated population.	Total deaths from all causes.	DEATHS FROM—							
				Cholera.	Yellow fever.	Small-pox.	Typhus fever.	Enteric fever.	Scarlet fever.	Diphtheria.	Ria.
Warsaw.	February 26.	431,572	218			5					
Belfast.	February 26.	224,422	135				2				
Belfast.	March 5.	224,422	103				1	4		1	
Glasgow.	March 5.	545,678	258							4	2
Barmen.	March 5.	108,000	38						1	1	
Copenhagen.	February 15.	289,000	151					1	1	3	
Copenhagen.	February 22.	289,000	132					1			6
Queenstown.	March 5.		12								
Matamoros.	March 12.	12,000	8								
Acapulco.	February 21.	42,000	4								
Acapulco.	February 28.	42,000	5								
Cadiz.	March 5.	65,038	70								
Amsterdam.	March 5.	370,000	185								5
Toronto.	March 19.	120,000	18								
Kingston, Canada.	March 18.	15,109	9								
Three Rivers.	March 12.	10,000	6								

Mexican Frontier.—Owing to the existence of small-pox in Mexico, and to prevent the introduction of the same into the United States, the Secretary of the Treasury, upon the request of the Board of Health of the State of California, has authorized the appointment of sanitary inspectors, to serve under the direction of the Supervising Surgeon-General of the Marine-Hospital Service, at Yuma, Nogales, Benson, and Albuquerque, to assist and co-operate with the State and local authorities in the inspection of passengers and baggage, etc., at the places named.

Port Townsend, Wash.—The medical officer in charge of the Marine-Hospital Service at Port Townsend, under date of March 22d, states that the Territorial board of health, owing to the prevalence of infectious disease in South America, have instructed the health officer at that port to inspect all vessels coming from any port south of San Francisco.

The Health of Boston.—During the week ending Saturday, April 2d, there were reported to the Board of Health 24 cases of diphtheria and 4 deaths; 15 cases of scarlet fever and 1 death; 9 cases of typhoid fever and 1 death; 60 cases of measles and no deaths. There were also 28 deaths from consumption, 24 from pneumonia, 15 from heart disease, 16 from bronchitis, and 5 from marasmus. The total number of deaths reported was 193, which was 10 more than for the corresponding week last year.

ANSWERS TO CORRESPONDENTS.

A Question of Pronunciation.—An Iowa correspondent asks us what pronunciation of the termination *-itis* is correct. He states that he was taught to give the first *i* the sound of short *i* or that of long *e*, but that in his section of the country the prevailing custom is to pronounce it like long *i*. The stress always comes on that syllable; therefore it should not have the sound of short *i*, except in the oblique cases (e. g., genitive, *-itidis*). Either of the other pronunciations is correct, according as one adopts the Roman or the English method. In our opinion, the former, which calls for the long *e* sound of the vowel in question, is fast gaining ground, and is destined to supplant the other entirely within a very few years.

Original Communications.

IRRITATIONS ARISING FROM
THE VISUAL APPARATUS
CONSIDERED AS ELEMENTS IN THE GENESIS OF NEUROSES.*

By GEORGE T. STEVENS, M. D.

Two classes of influences are recognized as causes of functional nervous disorders—the more remote or predisposing causes, and those which are immediate. The former, while frequently of insufficient intensity to originate neuroses, may, when the nervous disturbance has been once instituted, be sufficient to perpetuate it for an indefinite time. Immediate causes are, perhaps, rarely of a nature to induce long-continued nervous disorder, and in many instances in which an occasion of disturbance may seem to be clearly indicated by the history of the affection, the influence of the supposed cause may long have passed away, while a pre-existing cause may act in continuing the disorder. This fact can not be too clearly recognized in the study of this class of affections.

It may, for instance, be of little practical importance that a child first manifested symptoms of some severe nervous disorder while under the influence of fright. The evil has been accomplished and the event can not be recalled, nor can such an influence as fright or momentary passion be regarded as permanent or of long continuance. Nor are we to assume some radical disarrangement of nervous action originating from the immediate cause and which perpetuates itself. Such radical disarrangement has not been demonstrated, nor is its existence at all probable.

The hypothesis that there is an underlying cause of disturbance becomes stronger in proportion as we abandon the idea that immediate causes can act as permanent sources of irritation or that a radical disarrangement for nervous action is by such causes induced. Such underlying causes are fully recognized by students of nervous disorders, and their existence is so constantly verified by the daily experience of the members of this society that their importance can not be questioned. Persons in whom such underlying causes exist are said to possess a neuropathic predisposition, and individuals subject to this unfortunate predisposition are liable from trifling immediate causes to suffer from neuroses which manifest themselves in a great variety of ways. Thus one individual will, as a sequel to almost every unusual emotional or intellectual excitement or depression, suffer from headache; another will, with atmospheric changes so slight as to be little regarded by the majority of people, habitually take cold.

It is generally conceded that in a very large proportion of instances this neuropathic tendency is hereditary, but that the predisposition is not necessarily manifested in different generations by the same form of neurosis, nor indeed that in the same individual it is always manifested in an identical manner, but that any one or more than one of a

variety of kindred affections may arise as the result of the predisposing tendency.

Anstie, who made special and extensive inquiry respecting this tendency, found that neuralgia, insanity, epilepsy, paralysis, chorea, a tendency to uncontrollable alcoholic excesses, and phthisis were among the group of disorders which, through hereditary tendency, might manifest themselves either in the same manner or interchangeably.

Of immediate causes of neuroses there is so great a variety that any attempt at enumeration would be futile. Among those familiar to all who hear me may be mentioned the depressed condition of the nervous system after recovery from exanthematous diseases, severe and long-continued mental or physical strain, excessive emotional excitements, physical shock, and sudden and extreme changes of temperature. The effect of these and many other exciting causes must, in the nature of the case, be transitory, and, independently of some more permanent influence, can rarely, if ever, account for long-continued, and especially for intermitting, forms of nervous diseases.

Another class of causes should be recognized as exerting marked influence in nervous disorders. This class may be designated as *modifying* tendencies. Among these may be mentioned the influence of vitiated atmosphere, the so-called malaria, the period of life, the performance of certain physiological functions, especially those peculiar to females, and the nature of the employment of the individual. Thus, one subject to recurring headaches, while residing in a malarial region, may find the paroxysms so modified as to resemble attacks of malarial fever. The period of recurrence of migraine or of ordinary headaches is in a considerable number of females governed by the recurrence of certain physiological periods. It is evident that whatever may be the exciting cause of a neurosis, it must, under the great majority of circumstances, be of infinitely less consequence than the influence which leads to it and perpetuates it.

The predisposing influence not only tends to prolong the disorder, but to perpetuate nervous derangements in some form or other, so that when a certain form of complaint is supposed to be cured it very often happens that the subject of disorder becomes the victim of some other nervous disease. So also individuals affected by one form of nervous disorder at one period of life are especially liable to suffer from some other form at another period. Thus, chorea in the majority of instances runs its course in the space of a few weeks, but the person who has been a victim of this affection in early life will be likely to suffer from neuralgia or headaches, and sometimes from epilepsy, in later years. Hence the predisposition is one which is a constant element in the organization of the individual, and may be the same for different forms of disorders; and, moreover, the cure of one complaint may be only the signal for the commencement of another, or, more correctly, the supposed cure of one form of disorder may be only a change in the manner of manifesting a permanent irritation.

We may now inquire whether such a predisposing cause must of necessity be general, pervading the whole organ-

* Read before the New York Neurological Society, March 1, 1887.

ism, or must it necessarily find its seat in the nervous centers, or, finally, may such a predisposing cause be entirely local and outside the great nervous centers? To this question the answer may unhesitatingly be given that the predisposing or irritating cause may be wholly local and confined to any portion of the central or peripheral nervous system. This principle has been too often demonstrated, and is too familiar to those present, to demand any defense. It may not, however, be out of place to remind those to whom the facts are not new of one of Dr. Brown-Séquard's experiments. In enumerating some of the effects of tickling the sole of the foot in a large number of subjects, he speaks, among other things, of laughter, of tears, of jerks of one or both limbs, of a side, or of all the limbs, of tremblings and spasms, while in some instances no effect was manifest.

We are now prepared to inquire whether, inasmuch as this tendency is transmitted from parent to child, the evil may not consist of some peculiarity of anatomical structure, or of physiological adaptations, which are inconsistent with the most regular and easy performance of the function of a part or parts; and whether certain classes of mechanical peculiarities may not be more than usually liable to become factors of physiological disturbance.

Should we answer these two questions in the affirmative, we assume an hypothesis which, in order to be maintained, must be based upon many and long-continued observations, conducted in a spirit of judicial independence and free from all such bias as might result from occasional and exceptional experiences.

It is my purpose this evening to advance just such an hypothesis, and I hope to be able, while having a just regard for the experiences and teachings of all who have contributed to this important subject, and while avoiding any narrow or exclusive view, to establish the hypothesis in the minds of my hearers. The conclusions which will be announced are based upon observations in more than five thousand cases of nervous diseases in private practice and of a considerable number of cases in public institutions, all of which have been made with as much care and precision as the exacting demands of an active professional life would permit.

That in the course of these observations many cases have failed to receive due attention is undoubtedly true, but that in the general results of this investigation the conclusions reached are legitimate, I think may be affirmed without presumption. In the belief that the neuropathic predisposition must of necessity be the manifestation of many structural peculiarities located in various parts of the organism, any of which may descend from parent to child, but which do not necessarily so descend, and fully appreciating the influence of such immediate and modifying causes as have been already mentioned, the conclusions arrived at in this investigation have been thus stated in a memoir submitted to the Royal Academy of Medicine of Belgium in 1883:

Difficulties attending the functions of accommodating and of adjusting the eyes in the act of vision, or irritations arising from the nerves involved in these processes, are among the most prolific sources of nervous disturbances, and, more fre-

quently than other conditions, constitute a neuropathic tendency.

A doctrine so much at variance with ordinary beliefs must of necessity excite suspicion that the proposition has been based upon insufficient data, or that observations have been imperfectly made. That neither of these suspicions is correct, it is hoped may be shown to the satisfaction of reasonable inquirers. If the proposition appears extreme, and tending at best to the recognition of a single class of causes to the exclusion of others, let me recall the fact that the proposition fully recognizes any and all causes of nervous irritation, and that the influences indicated are held to be pre-eminent but not exclusive permanent causes. If greater importance is conceded to the influences mentioned in the proposition than to others, it is from no unmindfulness of the possibility of other conditions acting as irritating influences, or that certain known or unknown influences may give character to the results of irritation arising from the causes mentioned. Let it be remembered that it has been universally conceded that the nature of the neuropathic tendency is unknown. If one pre-eminently important element is demonstrated, it is not to be rejected because it may not include the whole.

In the explanation of the ætiology and treatment of disease, neither settled theories nor novel doctrines are to be accepted only as they are confirmed by undoubted facts. Nor can isolated facts, nor facts divested of their natural environments, be accepted as valid evidence in support of theories, old or new. The facts must be uniform, occurring so regularly as sequences as to demonstrate that they are consequences. Unless the skilled observer is able to predict, with a reasonable degree of accuracy, the result of certain combinations of circumstances, such result, when occurring, must be considered accidental. A fair demonstration of such a proposition would demand a wider range of discussion than could be included in a short paper, and I propose to give this evening only the general result of my experience very briefly.

I shall illustrate that experience by relating a few cases, and by exhibiting some photographs, which will show very remarkable changes of physiognomy, such as habitually occur when certain hurtful tensions of the ocular muscles are relieved.

Were it my purpose simply to report the most striking cases of relief from the various serious neuroses which are here represented, there might have been chosen for the most part cases of much more marked success than some of these. The purpose is, however, not to report the most fortunate results, but by these striking contrasts to show, not by words, but by the evidence of photography, the very marked relief which may be expected from removal of certain ocular muscular anomalies.

As the illustrative cases will be confined to those whose photographs are shown, it will be proper to speak first of the photographs in a general way. They are portraits in pairs, the first of each pair having been taken at the commencement of treatment, the second from two to six weeks or rather more later. The average time between them has been about one month.

The portraits are also in two series, the first series representing cases in my private practice; the second, cases which were under my care for a short time at the Willard Asylum for the Insane last summer. The portraits in the first series have been taken by various photographers. It may not be out of place to say that the only instruction given to the patient or to the person in charge was to get a cabinet-size portrait, with direct front view, and to see that the photographer did not retouch or in any way change the negative. Hence there has in no instance been any posing for effect. The second series was made by Dr. P. M. Wise, Superintendent of the Willard Asylum.

It is greatly to be regretted that several of the most striking of the portraits of both series were destroyed by the fire which recently consumed Mr. Bierstadt's establishment while photo-engravings were being prepared from them. Both the negatives and the only existing copies of the photographs were lost.

The portraits in the first series are mostly of young persons, whose features are plastic and susceptible to favoring influences. In the other group the faces are those of older persons, whose features are less impressible; even in these very marked changes are observed.

The striking alterations of expression shown in these portraits are all the result of relief to the tension of certain of the ocular muscles by relaxation of some one or more of them by tenotomy. They show not only remarkable improvement in health, but to one who studies them attentively they exhibit certain characteristic attitudes and expressions of face which have never been accounted for, but the reasons for which become obvious when studied in this relation.*

No. 1 of the first series represents a child, ten years of age, who from infancy had been the victim of headaches. She was feeble, always tired, and rarely free from pain. Attempts to send her to school had proved unsuccessful, for she no sooner attempted attendance than she became prostrated. Under the influence of atropine, hyperopia 0.75 D. was found. She had insufficiency of the externi, 4° with abducting power of 4° (prism). The operation for its relief was made for one eye June 8, 1883, for the other June 12th.

It is needless to tell one who examines these two pictures, taken with an interval of twelve days, that the change was marvelous. The weary, heavy, discouraged aspect of the child, as shown by the portrait of June 8th, is in remarkable contrast with that of June 20th, when vivacity and courage are embodied in her expression. The child returned home to enter school, where she has done excellent work.

The portraits of No. 2 are even more strikingly in contrast, and the history of the case is one of very great interest.

J. B., aged fifteen, was brought for examination, by the advice of Dr. A. H. Allen, on April 17, 1884.

She was in early childhood an intelligent, and in most re-

spects a healthy, child, subject only to nervous attacks. At the age of twelve she became an epileptic, subject to attacks from three to five times a day, which were characterized by severe convulsions and unconsciousness, and lasting from ten to thirty or more minutes. In addition to these severe attacks, the milder seizures of *petit mal* occurred many times a day. Evidences of the deplorable effects of the disease upon the girl's mind were soon manifest. She became dull, morose, and feeble-minded, losing from month to month the vivacity which had characterized her in earlier years. After making use of such means for relief as were suggested by several competent physicians with little or no favorable result, her parents were induced, a year before her first visit to me, to administer in large doses a secret preparation, which proved to be mainly a saturated solution of bromide of ammonium. Dementia, under this treatment, became the most pronounced feature of her disease. The fits were less frequent, and, indeed, were at one time absent during several weeks. It was known, however, that failure to administer the drug for a day or two would be followed by a renewal of the attacks, and, during the two months preceding her visit to me, notwithstanding the use of six drachms of the solution daily (about two hundred and forty grains of bromide), the fits had returned in nearly the former frequency. The face was devoid of any expression of intelligence, and saliva flowed from the angles of her mouth. When attempting to speak in monosyllables, the voice was smothered in the fluids of the mouth. Indeed, the patient presented a typical picture of marked dementia. Her attendants believed that she did not see well, and, as nearly as could be ascertained, there was slight myopia with $\frac{2}{3}$ vision. The eyes being brought under the influence of atropine, the ophthalmoscope revealed hyperopia 1.50 D. There was an appearance of decided insufficiency of the externi, but there was too little intelligence on the part of the patient to admit of any determination by the equilibrium tests. The bromide solution was discontinued at once, and a little wine was administered two or three times daily, and convex glasses, 1.00 D., were used. Under this regime some improvement in the mental and physical condition could be observed after the first week. The fits, however, became more frequent and severe in proportion to her recovery from the influence of the drug. Thus, during the week ending May 3d, there occurred fifteen fits, in each of which unconsciousness continued from ten to thirty minutes. During the week ending May 31st there were twenty-nine very severe attacks, and attacks of *petit mal* in great numbers. By the 29th of May, after almost daily trials, it was hoped that some progress had been made in the knowledge of the relations of the eyes, and it was supposed that an insufficiency of the externi of from 10° to 30° at twenty feet existed while using the convex glasses. With a clear understanding, on the part of the girl's father, of the difficulties attending the determination of precise conditions under the circumstances, and with his full approval, an operation for insufficiency of the externi was done on the right eye June 4th, and two days later a similar operation on the left, after which the appearance of the eyes was improved, and little, if any, insufficiency was shown by the tests, such as could be made. Going back a few days:

June 1st.—She had five fits.

2d.—She had seven fits.

3d.—She had five.

From June 4th (the day of the operation) to June 14th no attacks occurred. From June 14th to June 31st she had eight attacks. June 21st to June 28th, three attacks, all of which were unusually light. No *petit mal* since June 4th. On July 7th she returned home, her last attack having occurred June 25th. The change in her mental condition had been, since the

* A number of these photographs are to be published, in connection with the English version of the author's memoir presented to the Royal Academy of Medicine of Belgium in 1883, by D. Appleton & Co.

operations, truly marvelous, and her physical condition had equally improved. From time to time the patient has been seen. She continued in robust health, and her intellect returned. An attempt to send her to school some months after her return home was followed by a very slight relapse, but her friends were advised to wait a year before allowing her much close use of her eyes.

She was last seen September 12, 1885, when she was well.

A letter from her physician a few months since reported her still well.*

No. 3 represents a lad with chorea, and exhibits the ocular conditions fairly well. There was myopic astigmatism of 0.75 D. in each eye, with insufficiency of the interni 5°. Tenotomy of the externus of each eye was followed by very marked relief. He had still a considerable tendency to deviation of the eyes in the vertical line, which, from failure to relieve, continued the irritation in a degree. He has been able, however, to go on with his studies for two years with only occasional trouble. When last seen a few months since he was nervous from over-study, and there were ocular disabilities quite sufficient to account for his trouble.

No. 4 represents a young lady who had been two years an epileptic. Great relief followed the relaxation of the interni, which was done in December, 1884, but from time to time at long intervals the malady has continued to manifest itself. Recently it has been found that a condition of hyperphoria,† which was almost totally latent, existed, and an operation for the relief of this has been attended thus far with very happy results, so far as a general relief from a sense of vertigo, which had continued, is concerned. It is hoped that this may complete the relief, which has already been very great. The portraits exhibit a very marked improvement, but less than has actually taken place in the condition and appearance of the patient up to the present time.

No. 5. Miss M., aged twenty-nine. Subject to epilepsy and chorea from the first year of her life. Epileptic attacks from three to five times daily. Occasionally the fits were of great violence, but usually last only a few minutes. Has never since her first year taken objects in her left hand, that side being most affected by chorea. The left elbow is drawn forward and strongly against the chest, the hand turned palm outward, backward, and upward. The left arm and in less degree the whole body are in constant and violent motion. If an attempt is made to bring the arm into its normal position, the whole body becomes convulsed, the face distorted, and both arms move wildly. The visual anomalies were hyperopic astigmatism,

* Since this paper was read, I have heard that the patient has suffered a relapse. If the report is true, of which there is a doubt, it indicates that the ocular trouble has not been completely removed.

† The term *hyperphoria* is employed in the absence of any other single term to express a tendency less than strabismus of a visual line in a direction above its fellow. Thus, "right hyperphoria" signifies that the visual line of the right eye tends in a direction above the direction of the visual line of the left eye, without implying that the line to which it applies is too high, but that it is higher than the other, without indicating which may be at fault. See "New York Medical Journal," December 4, 1886; "Archives d'ophtalmologie" (Paris), November, 1886.

All tests for insufficiencies of the muscles of the eyes were made at twenty feet.

right eye, 1.00 D.; hyperopia, 1.00 D., left; insufficiency of the externi, amounting to diplopia of 5° when red glass was used, and hyperphoria, 2°. The hyperphoria and astigmatism were treated with cylindro-prismatic glasses. Tenotomy of one internus was done under great difficulties, owing to the patient's mental state, November 22, 1884, and of the other, January 3, 1885. Great relief followed the first operation, and the fits ceased from the 1st of December. In a month she was able to use the left hand for the first time in twenty-eight years to a considerable extent, and delighted in showing how she could brush the windows of the consulting-room with a napkin. Her intellect improved, and, as will be seen by the portraits, her head came to the normal position, and her appearance in every respect was better. Up to April 20th, when the last record was made, there had been no return of epilepsy. I have, however, learned that during the summer the fits returned in less frequency and degree. A recent letter from her sister informs me that it is the purpose of her friends to pursue the treatment which resulted so favorably still further as soon as circumstances allow.

No. 6. Miss M., epileptic six years. The position of the head is an excellent illustration of one of the characteristic positions of the head as the result of hyperphoria. The superior rectus of the right eye was relaxed, March 4, 1886. The fits ceased, and the patient's general condition greatly improved, as is shown by the remarkable contrast in the portraits. I have recently learned that the fits have returned. Beyond a doubt a considerable degree of hyperphoria would now be found, which should be relieved. This condition is extremely liable to remain in great degree latent, and to become manifest some months after a full correction is supposed to have been made.

No. 7 represents an interesting case of chorea which had continued during the life-time of the patient, a boy of sixteen. The boy was feeble-minded and incapable of learning. His whole body was in perpetual motion. This is well shown in the photograph taken April 28th, when, notwithstanding the rapidity of modern photography, it was quite too slow to get a clear picture. The shaded borders of the picture show the movements of the head. The same shadings are seen in the first picture in No. 5. The boy had hyperopia 2.50 D., and insufficiency of the interni to the extent of producing, much of the time, homonymous diplopia, which was shown when a red glass was placed before one of his eyes, when the refractive error was corrected. Tenotomy of the left internal rectus was done April 28, 1885, and of the right, May 6th. The change in the boy's condition was marvelous. I am sure that one of the gentlemen who is present to-night, and who saw the boy at the time of one of the operations, will confirm the statement that the photographs do not exaggerate the improvement, nor even adequately represent it. He has had no chorea up to the present time, but when he recently visited me I discovered hyperphoria, which I hope to remove.

No. 8 represents a most remarkable change in the condition of an insane young man. The history of the case is as follows:

The patient was brought to me by his parents bearing a letter from Dr. Wise, Superintendent of Willard Asylum. Accord-

ing to the history given by the parents, October 12, 1886, the boy had been insane a year and ten months (according to the report of neighbors, much longer). During a season of unusual religious interest the boy became unquestionably insane. His condition was gradually more and more hopeless until his friends determined to commit him to the asylum. It was when at this institution that they were advised by Dr. Wise to take the patient to New York. When first seen he was stolid, refusing to speak, and sadly demented. He wept aloud and wrung his hands much of the time. He refused food, and indeed for many months had only taken it as it had been placed in his mouth by others. If standing, he held his arms out in an imbecile manner with the fingers spread apart. The saliva flowed in streams from his mouth to the floor. He was thin and pale, and a cold moisture covered the skin. In this pitiable condition it was difficult to obtain exact information of the ocular conditions, but by the exercise of much patience these conditions were sufficiently made out to enable a generally correct judgment to be formed. Under atropine he showed hyperopia 1.00 D., with insufficiency of the externi 4°. On the 14th of October the first photograph was taken, and on the same day a tenotomy of one of the internal recti was done, and two days later a similar operation was made on the opposite internus. From that day an improvement could be seen in the lad's mental state. Within a week he was so much improved as to amaze those who had seen him in his first condition. He soon began to take food of his own accord, and in two weeks he was in a fair way to complete recovery. On November 2d the second photograph was taken, eighteen days after the first, and three weeks from the day of his first visit he returned to his home, no longer insane. His friends were advised to bring him again after a few weeks, which they wisely did. Slight hyperphoria was then found, and a tenotomy of one of the superior recti was then done. When he returned home the second time he was, so far as could be detected, perfectly well.

The photographs show more than I am able to tell, but even they do not convey a perfect idea of the wonderful revolution which had taken place in the mental and physical condition of the boy in eighteen days.

Dr. A. L. Ranney has very kindly permitted me to add to the photographs of my own cases those of one of his. The pictures represent a young lady who had been for many years an epileptic and for whom he has wrought a most salutary change by relief to the ocular muscle strain. Dr. Ranney tells me that the young lady has remained well during seven months, notwithstanding she had been subject to convulsions, amounting frequently to ten or more in a day. The portraits speak for themselves. The young lady has undoubtedly improved in a remarkable manner, and we do not need his testimony, that the epilepsy has ceased, to recognize the fact of her improvement.

The illustrations thus far have been drawn from my private practice. Those which follow are from cases treated in a public asylum. During the last summer I spent four weeks at a summer hotel in the vicinity of the Willard Asylum for the Insane, and, at the request of the superintendent, examined and treated several of the patients, fourteen in all, twelve of whom were insane epileptics, one an out-door patient, a cataleptic, and one a non-epileptic maniac. I visited the asylum frequently during the four weeks, spending about two hours with the patients at each visit. It is proper to remark that this institution is designed as an asylum for incurables, its inmates consisting principally of insane per-

sons who have already spent considerable time in other asylums where acute cases are treated, and who have been sent here in order to make room for more hopeful subjects.

In correspondence with Dr. Wise previous to taking charge of these people, the wish was expressed by me that only such cases should be selected as were, in his judgment, typical cases of epilepsy of the insane and by ordinary methods absolutely incurable. The more frequent the attacks and the longer the duration of the disease, the more desirable would be the case. Intelligence enough to read printed letters and to answer very simple questions was considered desirable. Of the fourteen patients selected, all except the cataleptic case were in a condition of more or less profound dementia, twelve were cases in which very frequent attacks of epilepsy were associated with more or less frequent paroxysms of frenzy, and all of these were cases in which both insanity and epilepsy had existed during many years. The average length of time of attendance upon these patients was a little more than two weeks.

Dr. Wise kindly promised me he would furnish me with a preliminary report showing the condition of these people a month after the conclusion of my attendance, and that another more complete should follow after several months. The first of these came to hand in October last. The other has not been received, and I have no report of the condition of these patients, with a single exception, since that time. I shall not attempt to give Dr. Wise's report in full, but will furnish a few extracts from it and give its substance. Dr. Wise reports:

"CASE I.—F. C., aged twenty-six. Admitted February 6, 1885, with a history of epilepsy of sixteen years preceding admission. She has almost daily attacks of *petit mal* and occasionally severe fits. She has alternate periods of excitement and depression, when she is suicidal and has made several attempts to destroy herself. She is discontented, but usually she is quiet. On July 7th all medicine was stopped and a record of her convulsions kept. The following is copied from the record. July 7th, two light convulsions; 10th, one convulsion, light; 11th, one convulsion; 13th, one severe, two light convulsions; 15th, one; 16th, one; 18th, three, one severe and two light; 20th, three convulsions; 21st, one; August 2d, one; 7th, one; 9th, five severe convulsions. The first operation was made August 3d, and final August 12th. [The operations were for hyperphoria, by tenotomy of a superior rectus of one eye and afterward of the inferior rectus of the other eye.—G. T. S.] Subsequently to the last operation she had a severe convulsion on August 20th, and none later, with the exception of a *petit mal* on September 9th within the thirty days following the final operation."

In other words, she had twenty-three convulsions for thirty days preceding the operation, and two for the thirty days following it.

"Her general health has improved, and Dr. Bristol, her attending physician, reports: 'She is less irritable and fault-finding, and has not suffered from depression in the same degree as formerly.'"

Of the report of

CASE II I give only a summary. Woman aged fifty-two, epileptic fifteen years, insane many years. Bromides stopped July 9th. During the next thirty days she had fifteen convul-

sions. Tenotomy of superior rectus was made for correction of 2° hyperphoria, and during the thirty days succeeding the operation there were seven convulsions.

CASE IV was an interesting one, as belonging perhaps to the most utterly hopeless class that could be selected. It was about a week from the time that his name was given me as a bad epileptic case before he was able to leave his bed, as he was in a constant state of epilepsy. When finally he was seen he was pale, his skin cold and moist, his face utterly expressionless, the saliva ran from his lips, and he presented the most pitiable spectacle of dementia. In making ocular tests, I supported his chin in my hand as the only means of maintaining any approximation to an upright position of the head. No very marked refractive anomalies were found, but a tending of one visual line above the other constituted the principal ocular defect. The operation was for the correction of hyperphoria of 3° by tenotomy of a superior rectus. I quote from Dr. Wise's report: "A. C., male, aged twenty-four. Second admission to asylum, February, 1886. Has frequent epileptic attacks and occasional status epilepticus. Is frequently violent, turbulent, and noisy. From July 14th to 16th he was excited and confused. He had two convulsions on July 21st, three on the 23d, two on the 24th, two on the 25th, two on the 29th, four on August 1st, four on the 3d. Then followed a period of confusion and excitement lasting several days. He again had two convulsions on the 12th and three on the 13th of August. His bromide of sodium was stopped on August 11th. On the 14th he was operated upon. From that time until September 23d (forty days) he was not observed in a convulsion. His mind became brighter, and he seemed to appreciate his condition and surroundings. From that time to date he has been in a status epilepticus, but is now improving. Dr. Blaine, his attending physician, considers that his eyes have reverted to their former position from which they were relieved by the operation."

Here we have doubtless another instance in which manifest hyperphoria having been relieved, that which was latent afterward became an element of trouble.

Time will only permit me to present one other case of this group in detail. I condense from notes given me by Dr. Allison, the attending physician, and from Dr. Wise's report:

"M. L., female, aged thirty-six. Insanity commenced seven years previous to present record. Subject to epilepsy for an unknown period; certainly longer than the period of insanity. About once a month she is taken with a series of epileptic seizures varying from three to eight or more, and at these times is liable to become greatly excited, depending apparently on the number of convulsions. A period of great exaltation and frenzy follows, during which she is furious, sings wildly, and shouts at the top of her voice, and is exceedingly destructive and violent. The paroxysm may last several weeks. When it has subsided she is orderly, neat, and industrious usually, until another series of convulsions occurs. She was first seen by me July 31, 1886. Examination of the eyes showed, with atropine, hyperopia, 4-00 D.; right hyperphoria of from 2° to 3°; and insufficiency of the externi of 4°, with abduction of 4°. Glasses for the correction of the refractive defect were furnished, and tenotomy of the right superior rectus and of the left internal rectus was made. The final operation was made August 22d. Bromides, which had been previously freely administered, were withdrawn July 31st. August 26th, four days after the last operation, a period of moderate excitement, very much less than usual, commenced and continued until September 12th. On January 2, 1887, more than four months after the ocular treatment, Dr.

Allison wrote concerning Miss L.: 'She has not thus far had any attacks of maniacal frenzy and only one attack (the one above mentioned) of excitement, which was not great. She says she has not had any convulsions; she is very much improved, and feels very grateful.'

Taking conjointly Dr. Wise's report and my own notes made at the asylum as a basis of reckoning, it would appear that among the ten epileptics in whom ocular tests could be made there occurred during the month preceding the operations upon the eyes about one hundred and seventy convulsions, besides several periods of status epilepticus. During the month following the operations there occurred to the same persons about forty epileptic attacks and two conditions of epileptic status. In other words, there was more than four times as much epilepsy among these ten during the month preceding than in the month succeeding the operations, notwithstanding the withdrawal of bromides.

When it is remembered that the time during which attention was given to the ocular conditions was less than the average time usually given by physicians to comparatively trifling affections, these results must be considered not only remarkable but absolutely unique.

It will be asked, in what proportion are we to expect good results from attention given to ocular conditions in nervous diseases? Taking epilepsy, which is undoubtedly one of the highest manifestations of nervous disturbances and certainly one of the least curable of diseases by medication, I find the following results: Of sixty-four consecutive cases of well-marked epilepsy in private practice, of which in every instance the disease had been of more than one and in most of many years' duration, and in all of which the treatment has been directed to ocular conditions, medicines having been, except in a single instance, discontinued, thirty-two have remained free from attacks for a time varying from several months to several years*—a time which would in all ordinary conditions enable us to regard the cases as well. Twenty-one have shown under this treatment such marked improvements as to indicate with certainty that the ocular conditions and the disease were in relation as cause and effect. In some of these cases the change has been very remarkable, but short of absolute relief. In eleven cases no improvement has occurred, or, if any, of only a temporary character. Thus, without the employment of drugs to destroy the nervous susceptibility to irritating causes, 50 per cent. of these patients are, so far as can be known, well; another large proportion much better off than when using bromides, while only 17 per cent. show no improvement.

Are we to conclude that in one sixth of these cases the ocular conditions have no relations to the disease? I am sure that we are not. A better understanding of the means of forming a judgment in this respect will be had if it is stated that, so far as my experience goes, epilepsy very rarely results from simple conditions. The ocular anomalies in epilepsy are of the most complicated and often of the most obscure character. A simple insufficiency may

* Several of these patients have remained well for a period of from five to seven years.

induce headache or other minor manifestations, but the ocular causes of epilepsy are usually of a character most perplexing to the surgeon, and sometimes of a character which can not be completely remedied. Hence great patience and, in certain cases, much time and skill are required to accomplish that which can finally be done. If in the mean time the patient and his friends are constantly assured by both lay and professional advisers that his efforts must of necessity prove fruitless, he is apt to withdraw from treatment even while defects of great importance are known to exist and which by continued effort might be removed.

Again, the extremely complicated state of muscular anomalies in epilepsy has, in my own experience, led to procedures which have resulted in new anomalies quite as mischievous as those which it was hoped to remove. A larger experience and a better knowledge of these complications are, as I believe, helping me to avoid some of these accidents; but it is to these in several instances that the failure of success is to be attributed.

It is reasonable to inquire whether results obtained in this way are permanent. In reply to this it may be said that they are permanent in proportion to the extent to which the irritating cause is removed. In this respect relief to anomalies of the ocular muscles obeys the same law as governs in anomalies of refraction. The young person who corrects a manifest hyperopia obtains relief from asthenopia for a time, but when after a while the trouble returns he is relieved by further correction of that which has since become manifest. Or, better still, by means of certain agents his absolute hyperopia is discovered at once and proper corrections are made from the first. This is not at present possible in excessive tensions of the long muscles, and we must wait for time to enable us to form a correct judgment whether the whole defect has been removed. A sudden and marked relief to a serious and obstinate nervous trouble after a removal of an anomaly of the ocular muscles is sufficient to indicate that the reason for the malady has been found. If a relapse occurs after many months, it is quite reasonable to look in the same direction for the cause of the renewal of the trouble.

The president has kindly requested me to state to the society how much of importance I attribute to this class of conditions, and also to give a summary of my methods of procedure in examining for them and in treating them. I will endeavor to give in as short a space as possible an outline of a reply to both inquiries. Respecting the importance to be attributed to ocular, refractive, and muscular anomalies, I fear that my views will for some time to come continue to be regarded as something more than radical; but I am ready to reaffirm the proposition made years ago, that, among the various elements constituting the neuropathic tendency, these anomalies must be regarded as occupying a pre-eminent position.

Summing up the experience in this field of work, it is shown that, not in occasional and rare instances only, but in a large proportion of cases of the most redoubtable neuroses, unusual and most salutary results may be anticipated from attention directed to visual troubles. The accuracy

of this statement is fully confirmed by the portraits which have been exhibited here, and which clearly show that the disease has not been suppressed. The relief is the legitimate result of the removal of an adequate cause, and the patient, under such circumstances, at once rises into a physical and mental condition greatly in contrast with that which results from the prolonged methods of suppression, such as brominism or other similar means.

While wishing to emphasize the importance of these experiences, may I not be pardoned for repeating the statement that it is not intended in any way to underestimate or to forget other causes of irritation or exhaustion, or the propriety of searching for and of removing them?

The principle of ocular irritation is of wide application, and is not to be compared with the occasional irritation set up by such accidental and usually secondary causes as phymosis, the presence of calculus, the existence of a stricture of a passage, the effects of decayed teeth, and of many other peripheral irritations which might be mentioned. All these are of importance and are not to be overlooked.

The conditions to which I have especially called attention are, however, in general, commensurate with the life of the patient and exist in a vastly greater number of instances than either or all of the conditions belonging to the other class just mentioned. Not only are those painful or irregular conditions usually described as neuroses in great proportion responsive to the relief from ocular tensions, but a great variety of conditions commonly regarded as local affections yield as readily, and prove that with some possible local complications they are in fact reflex phenomena. As an instance of this class of troubles, I may mention the fact that in more than a score of cases of extreme dysmenorrhea—in each of which the periodical suffering has been of intense character, of regular occurrence, and of the full duration of the menstrual life of the patient—the dysmenorrhea has failed to occur after relief to the tension of a superior or inferior rectus.

These experiences have been confirmed by the observations and practice of others. Among these, Dr. A. L. Ranney, who has made many careful observations and has had much success in the treatment of many of the most important neuroses, has assured me that cases of epilepsy of long duration have, under treatment directed to ocular difficulties, been scarcely less tractable than diseases commonly regarded as easily curable.

The discussion of the method of examination and treatment must of necessity be in outline only. In respect to examinations for refractive anomalies I have nothing here to suggest. In respect to muscular anomalies, however, there is much more to be said than can even be touched upon here.

First let me suggest that the methods of determination of muscular anomalies taught by Graefe, Horner, and Nagle can not be most successfully employed in the work directed to these nervous disorders. Graefe's Method No. 3 is a method for determining equilibrium of ocular muscles by which it would be but rarely safe to perform an operation for the relief of a supposed deviating tendency.

In articles which appeared in a recent number of the

"New York Medical Journal" and in the "Archives d'ophthalmologie," I have made general suggestions for making these determinations. For the purpose of going more into detail, I shall ask to be allowed to go over a part of the same ground.

The head being exactly in the primary position, the patient directs the eyes to an object, preferably a lighted candle, situated at twenty feet and directly in the median line. Diplopia (if the patient has binocular vision) is then produced by means of prisms. First of all, and the order of making the various tests is important, homonymous diplopia is induced by placing the prism with its base toward the nose. For convenience and accuracy in making this test, I have had made for me several pairs of spectacles containing, in each side, prisms of equal grade, of 5° , 6° , and 7° , with their base in. The glasses are quite long and in the form of a parallelogram, in order that their exact position on the face may be accurately known. In order that the head may be maintained in the exact position desired, I employ a photographer's head-rest. Double images appearing, if one is seen to be higher than the other, it is to be ascertained what degree of prism with its base up or down will bring the two to the same plane. A difference of one half or even one third of a degree in this direction is of much importance. When the determination is made, it is, if a difference in plane is found, recorded as right or left hyperphoria. A prism of 6° or 7° , or of higher grade if necessary, is then placed in the trial-frame with its base exactly down or up, and tests similar to those described by Graefe for the dot-and-line method are made. The deviation of the images from a vertical line, if a deviation exists, is determined by the degree of prism required to correct, and also the full degree of correction which will be tolerated. The result is recorded as esophoria or exophoria. Beginning next with a moderately high grade of prism (8° or 9°), it is placed with the base in and the patient is required to tell whether diplopia is caused. If so, a weaker and weaker glass is used until he can blend the images, and the result is recorded as the amount of abducting power. The abducting power is next to be tried which may require the use of several prisms.

I can not accept the method introduced by Nagle and adopted by Landolt, in his recent superb work, of reckoning the abducting and adducting power as only negative and positive elements of the same act of convergence, and of adding them together as so much convergence. The abducting power is a subject for special examination and should never be confounded with the adducting power. This latter may well range from 40° to 70° , or even more. For many years I have adopted as the best standard of adducting 50° , but one who can overcome prisms of 50° will generally do much more— 60° or 70° .

And all this is within the limits of easy convergence. On the other hand, the power of abduction should be confined within very strict limits. My own standard has for twelve years past been 8° . Two or three degrees less than this is an unfavorable condition, and more tends to the suspicion of insufficiency of the interni. Hence, where on the one hand a variation of from ten to twenty degrees is

of no account, and on the other a departure from the proper standard of a single degree may be of very great consequence, we are not to consider the two conditions as one.

Of the anomalies found by these examinations I regard that which I have called hyperphoria as of by far the greatest importance. Here a single degree of deviation from the equilibrium may be a source of greater perplexity than 10° or 15° of insufficiency of the interni.

It is impossible to go into all details of questions of dealing with the deviating tendencies which may be found by these examinations; a general statement may, however, suffice to obtain for it the disapproval of many conservative persons. Treatment of muscular deviating tendencies by means of prismatic spectacles is neither satisfactory nor frequently successful. I do not mean that success is never attained, but that in much the largest proportion of cases it can not be attained by such means. Again, such spectacles are not curative, and it would be a mistake to condemn a patient, who did not otherwise require glasses, to their use for years, when a much more complete relief could be accomplished with scarcely an inconvenience of a day.

This, however, is too large a subject to discuss here, and I shall at once proceed to describe the method of performing tenotomy of the ocular muscles in case of deviations less than strabismus.

[Here followed a minute description of the speaker's method, which will appear in another connection. In the main it consists of making a small opening through the conjunctiva, exactly over the insertion of the tendon, when the tendon is seized by extremely fine forceps, and divided in each direction, preserving the extreme outer fibers, or, at least, the reflection of the capsule of Tenon, which serves as an auxiliary attachment.]

I think it not unreasonable to look for the future advance in medical practice along two great lines. That advance along one of these lines was begun when Jenner, recognizing the fact that the human subject may be made sterile to the development of certain organisms when once it has been preoccupied by the presence of the same or a similar class of organisms, introduced vaccination as a preventive of one of the greatest scourges of the race. In our day an army of investigators, well trained and well equipped, is exploring the realms of the minute in search of the micro-organisms which, in their invasions in swarming myriads within the human body, threaten or destroy it by their devastations. It is not impossible that, against the inroads of the various organisms whose incursions constitute typhoid and typhus, scarlet fever and measles, cholera and yellow fever, barriers may be erected which shall in large measure protect against that class of maladies which now destroys so large a proportion of the population of the world. The advances which have already been made along that line are, doubtless, but the earnest of that which is to come.

Along the other line we may look for as great achievements. The class of maladies which has been during all time relegated to the tender mercies of fetishism and superstitious notions of cures by drugs having no relations to the origin or the nature of the disorders themselves, will ere

long be regarded as irregular phenomena resulting from well-defined causes of irritation, which causes must be sought for principally in the direction of difficulties in the performance of necessary functions. With the removal of such difficulties we may look with confident expectation to the cessation of the peculiar irregularity which constitutes the special form of nervous disease. Through such means we may reasonably expect that the great class of functional nervous troubles of which epilepsy and insanity, neuralgia and hysteria may be regarded as representatives will be nearly as effectually guarded against as is small-pox by vaccination. And not only will the relief to such disorders be sought in the removal of an irritating cause, but, as in vaccination precautionary measures are taken before the subject has been exposed to immediate danger, so will the working organs be tested in respect to their working capacity in order that every disability may, so far as it is possible, be removed. Principal among these testings will be that which relates to the organs of vision. The child who enters school will, before the organs upon which he is to depend for his advancement in study are exhausted, and perhaps permanently injured, be examined, and provision will be made that he may not be required to contend against needless frictions and difficulties. Such examinations will not be of the perfunctory sort which one may make by directing the subject of examination to read the letters upon a trial-card, or which the examiner may make by a glance through an ophthalmoscope. That a thorough system of examinations of the visual organs, pursued as universally as the practice of vaccination, attended by the precautionary measures which would thereby be seen to be required, would reduce the prevalence of nervous affections in a surprising degree, I can not for a moment doubt.

If it be said that the origin and prevention of nervous diseases is to be found in a great variety of circumstances, I reply: let us find them all, and adapt our measures to them all; but let us not neglect this because there may be others.

For myself, I do not think that another as important class of causes of nervous disturbance will be found as that which attends the anomalies of the parts engaged in the performance of the visual function. In any case, our aim is to prevent the evils of nervous derangement by the early removal of any known mischievous tendency, and our duty is, when such nervous derangement actually occurs, to remove every perplexing cause. In the observance of such a principle we may leave to superstition and to ignorance the practice of expelling nervous diseases by means either fashionable or obsolete.

A Portrait of Dr. Robert Koch has been sent us by Messrs. Parke, Davis, & Co., of Detroit, who inform us that they will be happy to mail a copy of the same to any of our readers who may apply to them for the same.

A Correction.—In the editorial article entitled "The Specific Gravity of Human Blood in Health," published in our last issue, a slip of the pen was overlooked which involved the following statement: "As it emerges, if it is heavier than the solution, it will rise; if it is lighter, it will sink." The words "rise" and "sink" should have been transposed, as every reader of the article has doubtless perceived.

"EYE-STRAIN" IN ITS RELATIONS TO NEUROLOGY.*

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FOLLOWING the exhibition of a series of photographs of cases which have been shown this evening, it seems to me that little needs to be said in confirmation of the views advanced by Dr. Stevens. These photographs are so startling that they would be accepted, in my opinion, in any court of justice by an unprejudiced jury, as proof that unmistakable benefits had been derived from the treatment. They are from untouched negatives, made with no collusion between the patient and the doctor, or the doctor and the photographer. They tell their own story in a simple way, which needs no comment from me. I have personally seen and examined several of these cases, and I consider the published histories as decidedly understated.

As I have been specially invited, both by the author of the paper and by your esteemed president, to give my views here this evening, it may not be inappropriate for me to state that I have performed the Stevens operation for the relief of ocular insufficiency nearly two hundred times, and have carefully observed the condition of refraction and accommodation, as well as that of the ocular muscles, in several hundred subjects afflicted with various forms of nervous diseases. In the tests made I have followed very closely the methods employed by the author of the paper of the evening.

I desire to say here that I do not pretend to speak as an oculist, but as a neurologist. I am not here to discuss the points that may be raised by the ophthalmologists present. I have simply learned (as every neurologist should do) the details of a method designed for the purpose of diagnosis and treatment of refractive and muscular anomalies, and I have uninterruptedly followed that method in nearly every case seen by me in my office for the past two years. I can here state that originally I was a skeptic. My skepticism, however, became no longer tenable when I saw a choreic and epileptic imbecile in Dr. Stevens's office, who was perfectly restored in a short time to health and mental sanity by the method described by the author of the paper of the evening.

I think this paper will tend to establish a *new era in neurology*. For the treatment of functional nervous disease I should feel myself unfitted to-day without my case of trial-glasses and prisms.

In reference to the *operation* described, I would remark that in no case have I observed any bad effects as the result of surgical interference, or complications which have caused me any anxiety. This line of treatment requires

* This paper comprises the substance of my remarks made before the Neurological Society of New York, in the discussion which followed the paper prepared by Dr. George T. Stevens, of New York, entitled "Irritations arising from the Visual Apparatus considered as Elements in the Genesis of Neuroses," and read by invitation before that society, on March 1, 1887.

a careful regard for detail, accurate records of all observations made, and special skill derived from experience and close observation to insure satisfactory results. If properly followed, I know of no line of treatment which has yielded such startling results in functional nervous diseases. If employed by a novice, it is not hard to understand how serious difficulties might arise.

Respecting the view that the *eye* is an important factor in creating and prolonging the so-called "*neuropathic predisposition*," the following facts are pertinent:

1. No one has yet shown in what this predisposition lies; hence, if Dr. Stevens has shown that eye-defect is an important element in these conditions, a great advance has been made.
2. There is no recognized pathology in functional nervous diseases.
3. Heredity is very common in these affections. It is one of the most marked features in this class of nervous diseases.
4. My records (in common with those of Dr. Stevens) go to show that eye-defect is found in a very large proportion of such subjects.
5. Many of the eye-defects found can be shown to be congenital—being inherited, like other facial peculiarities.
6. The manifestations of the neuropathic predisposition vary with each case. They are called forth often by extremely trivial circumstances. These are too frequently regarded as of great clinical interest.

In the treatment of the *severer forms of functional nervous disease* (for example, in a typical case of chronic epilepsy), one radical cure without the aid of drugs offsets a thousand failures as a proof of the scientific value of a discovery. Let us see how the paper stands in this respect:

1. Radical cures of epilepsy have been reported. In Dr. Stevens's experience seven patients have been free from epileptic seizures for more than five years, after tenotomy of the eye-muscles and without the aid of medication. Such a result can not be attributed by fair-minded critics to the effect of chance or accident.
2. Dr. Wise's report of the work in the Willard Asylum (with the light thrown upon it by Dr. Stevens) is a remarkable record. In spite of the cessation of the bromides and all medicinal treatment, in twelve cases of chronic epileptic insanity the attacks were decreased over seventy-five per cent. during the month following the operations. No unbiased person can fail to see the great disadvantages which existed in treating the hopeless cases of those whose answers could not be relied upon when tests were being made, and whose treatment was of necessity crude and incomplete (Dr. Stevens's stay being of very short duration). It must also be borne in mind that an incomplete relief of ocular tension, made under such disadvantageous circumstances, would naturally be liable to be followed by relapses. If one patient so treated made a perfect recovery, it is the strongest evidence in favor of the necessity for operation.

3. My own experience in the treatment of epilepsy by this method has yielded very satisfactory results.

I have taken from my own record-book the following abstract of cases of epilepsy, treated by me in private practice during the past year and a half. Total number of cases = sixteen. In only two were both eyes emmetropic; in nine, hyperopia or hyperopic astigmatism existed; in five, myopia or myopic astigmatism was found. In only one case was no defect in the eye-muscles found. Insufficiency of the interni (*exophoria*) was not detected in a single instance. Esophoria and hyperphoria predominated. In nine, the mental powers were very markedly impaired. Of these sixteen patients, five refused operation; one was sent to an asylum; one, whose trouble was due to syphilis, recovered under specific treatment; one was too young to make the tests sufficiently reliable to warrant surgical interference; and eight were operated upon by me. Of these eight, three are apparently cured and five are still under treatment. Two have had no fits for over one year. One of these averaged at times as high as ten seizures in a day before I operated upon the eye-muscles. In every one of the five cases still under my observation the attacks have been lessened, in spite of the fact that no medication has been allowed since the date of the operation. One patient has granular kidneys, and the four others bid fair to improve still further, if not to recover entirely. Photographs of one of these are shown you to-night with permission. This young lady is well known to some of the medical gentlemen who are present. She has enjoyed from time to time the skillful services of many of the best neurologists and oculists in this city, who have done all that science could do for her, except to divide her interni and left inferior recti muscles. After ceasing the administration of bromides some two years ago, she had seventeen severe attacks in one night.

One case of *neurasthenia*, with mental symptoms closely bordering on insanity, was completely cured by me through the relief of a high degree of insufficiency of the externi and the correction of a latent hyperopia of about two dioptries. Another subject of *neurasthenia*, with recurring attacks of severe gastralgia, palpitation of the heart, and frequent symptoms of impending suffocation of sixteen years' standing, is to-day apparently cured by tenotomy of the externi. For many years she had not been able to spend evenings in company, or often with her immediate family, on account of the excitement induced by so doing. She had more or less constant tremor, which immediately ceased after the operation.

In cases of *headache* and *neuralgia*, I have had some very remarkable results follow tenotomy of the eye-muscles. I have never yet encountered a case of typical migraine in which some form of eye-defect did not exist.

In *chorea*, I have found that hyperopia and muscular defect in the orbit existed in a very large proportion of the cases examined by me. The externi have been generally insufficient, or hyperphoria has existed in addition to a refractive error. The interni have never been defective in any case which has come under my personal observation, as far as I can recollect.

In *hysteria* and *hystero-epilepsy*, I have had some very

satisfactory results from tenotomies performed upon the eye-muscles. One patient, who could with difficulty get across a room when unaided, walked three quarters of a mile soon after a hyperphoria was corrected by a tenotomy of the left inferior rectus, and a free division of both the externi was performed. At first she was carried each day to my office by hired assistants; to-day she walks daily up and down five flights of stairs, in addition to a walk of from ten to eighteen city blocks.

In summary, I would present the following conclusions as the result of uninterrupted investigations in this field for the past two years or more upon subjects afflicted with nervous diseases:

1. I believe that eye-defect constitutes a very important factor in the so-called "neuropathic predisposition." It is not pretended that it is present in all cases.
2. In neurology the importance of this line of investigation is particularly marked in the so-called "functional" diseases.
3. I am satisfied that "latent" insufficiency exists in many cases, as well as latent hyperopia, which is to-day generally recognized. There are many indisputable facts which confirm this proposition.
4. We have no means of accurately determining, in any given case, the exact amount of abnormal tension which needs correction, as we can do in the case of latent refractive errors by atropine.
5. I believe that tenotomy of the eye-muscles by the Stevens method is a safe and satisfactory way of relieving abnormal tension if practiced by competent experts.
6. Prisms will not meet the requirements of many cases. I regard them, at best, as but a temporary make-shift.
7. A tendency to vertical deviations of the visual axes is of great clinical importance in nervous diseases.
8. Tests for the determination of muscular errors should be made at a distance of twenty feet, in case operative procedures are to be based upon the error detected.
9. The attitude of the head of the patient should be carefully regarded while making these tests. A head-rest is of great value, in many cases, as an aid in making the tests.
10. Statistics show quite conclusively that the benefits derived from tenotomies performed upon the eye-muscles are permanent *when all errors are thoroughly rectified*. No case is to be considered as finally disposed of so long as muscular errors in the orbit are clearly shown to exist. If a relapse occurs, it is generally safe to presume that a renewed search will enable a competent observer to detect some errors which the patient did not exhibit when under observation. The existence of "latent" insufficiency explains how such relapses may occur.
11. It can be shown that repeated tenotomies do not impair the normal functions of the eye-muscles when a proper interval is allowed to elapse for a firm union of the divided tendon to the globe.

12. I believe that a careful regard to the details of the Stevens method of examination and operation, a thorough knowledge of physiological optics, and a full record of the results of every examination made of a patient's eyes (combined with good common sense), will give equally good results in other competent hands as in those of its main supporters.

ON THE VALUE OF ELECTRICITY IN THE TREATMENT OF EPILEPSY, BASED ON THE STUDY OF TWENTY-EIGHT CASES.

By A. D. ROCKWELL, M. D.

If I were asked whether, under any circumstances, electricity alone was capable of curing epilepsy, my answer would necessarily be exceedingly doubtful, but, although I have neither personally known or heard of a case being thus cured, I am not by any means prepared to say that such a result is impossible or even highly improbable. If, on the contrary, I were asked whether I believed that electricity was of any value in the treatment of this disease, I should unhesitatingly and confidently answer in the affirmative. My experience would lead me to go even further than this, and to say that a certain proportion of patients failing to receive more than temporary benefit from the bromides may entirely recover when the treatment has been re-enforced by judicious and persistent applications of electricity. What this proportion is must be a question for further and more general investigation. It would seem to be an easy thing to arrive at correct conclusions in regard to the relative efficacy of remedies in the treatment of individual diseases, but those who have, with much labor and careful analysis, endeavored to establish any important therapeutic truth, know full well the obstacles in the way.

There may be, for example, some one remedy that, above and beyond all others, can be relied upon for the cure of chorea. If so, it has yet to be found, notwithstanding the strong testimony in favor of and the undoubted benefit that often follows the administration of arsenic. The surprising lack of unanimity of opinion in regard to the treatment of chorea is without question due to the fact that in the majority of acute choreic cases recovery is sure to take place under favorable hygienic surroundings alone. My own observations in regard to the undoubted value of electricity in chorea have been confined to chronic cases alone, enabling me to say, and with far greater assurance than when speaking of epilepsy, that electricity will certainly cure many cases after the failure of other methods of treatment. Epilepsy is not, like chorea, frequently self-curative, and has not therefore so many competitors for the honor of its relief. The bromides, of course, hold the first place, but are by no means the only remedies for which important pretensions are made. The literature of the subject teems with suggestions and statements in regard to the good that may come from a score of different remedies. Many of these remedies are undoubtedly of value in dealing with

* Read before the New York Academy of Medicine, March 8, 1888.

epilepsy, not only decreasing the frequency and alleviating the severity of the attacks, but in some cases perhaps effecting an absolute cure. Among these remedies electricity has been found to act favorably on the epileptic seizures; but what should more especially entitle it to consideration in this direction, and incite to more careful testing of its powers, is the statement that I make in regard to its efficacy in certain cases in connection with other and more generally approved remedies, after these remedies alone have failed to give more than temporary relief. In some most excellent remarks made long ago on the treatment of epilepsy, Dr. Meredith Clymer stated that he had never heard of a permanent cure of the disease under the use of the bromides, either alone or in combination; and so careful and experienced an observer as Dr. J. Hughes Bennett declares that he has no personal statistical evidence to offer in proof of the curability of epilepsy by the bromides. In the absence of positive proof that prolonged use of the bromides may thoroughly eradicate the disease, the most cheering observation he has to make is that it is entirely possible that such may be the case. While we may regard the first of these statements at least as extreme, the suggestion that the best results will follow only when we call to our aid every measure that will tend to develop vital power generally commends itself to all. It is not alone, therefore, on the theory of a special influence on the nerve-centers or over the cerebral circulation that we employ electricity as an adjunct to the bromides, but also because of its undoubted powerful constitutional effects. Above all, it is a tonic, and yet its therapeutic range is wide enough to include both stimulating and sedative effects. I can not but regard as both interesting and suggestive certain observations concerning the similarity of effect between the bromides and central galvanization and general faradization. Accepting the theory that a state of cerebral anæmia predisposes to sleep, it is not very difficult to believe that the feeling of drowsiness that so often follows central galvanization, and even general faradization, when specially directed to the cervical ganglion, is due to the influence of the current on the vaso-motor nerves.

In some cases sound sleep has for a few moments been induced with the subject in an upright position while receiving the current through the brain. I recall several instances where, under treatment by central galvanization, patients were repeatedly put to sleep within a minute after the beginning of the application.

Theoretically speaking, there are indications for the use of electricity in epilepsy other than its general tonic influence, or its effects upon the circulation.

Idiopathic epilepsy consists, undoubtedly, in an increased excitability of certain portions of the cerebro-spinal centers.

It may be supposed that the nutrition of certain nerve-cells becomes altered, but this change is, in all probability, dynamical rather than physical, and therefore the microscope would be as useless in detecting differences between normal cells and those possessing excessive reflex excitability as it would be to demonstrate the difference between the native steel and the powerful magnet. An important

indication, then, for the use of electricity in epilepsy is this very superexcitability of nerve-cells. We know that the galvanic current directly affects the brain. We fully appreciate its anelectrotonic effect upon peripheral nerves, and must be ready to admit the possibility of its affecting in the same way the nerve-centers. These theoretical considerations I have, so far as possible, endeavored to submit to practical tests, and I am quite convinced that this abnormal superexcitability that is so characteristic of epilepsy is in some cases held in check by the action of the galvanic current as readily as by the bromides themselves.

In several cases of *petit mal*, especially, I have observed that applications of the galvanic current to the cervical ganglia of the sympathetic had precisely the same effect in interrupting temporarily the frequency of the paroxysms as the bromide of potassium.

In 1878 I read before the Medical Society of the County of New York a paper on this topic, in which were recorded several cases of epilepsy where recovery was apparently greatly aided by electricity. One of the most interesting of those cases, which I saw in connection with Dr. George Fisher, of Poughkeepsie, who had treated it continuously for four years before it came under my care, had a history subsequent to my recital of the case that deserves to be recorded, the whole history, as will be seen, extending over a period of fifteen years:

This patient had had her first attack in 1872, at the age of twenty-six, but for a year previously she had been much of the time in a dazed condition, with great confusion of memory.

From this time until 1876 the attacks had occurred at the average interval of about a month, when, instead of a single seizure, she would have several within twenty-four or forty-eight hours. These attacks had occurred invariably at night. For four years she had been under a thorough bromide treatment, but, notwithstanding, she had for some time before the substitution, or rather the addition, of the electrical treatment, grown decidedly worse, both as to her mind and the frequency of the epileptic seizures. She was nervous and excitable to the last degree, and with tendencies decidedly suicidal. It was evident that, if in no other way, electricity might prove of service as an adjunct to allay irritability, and as a general tonic. I treated her every other day for three months, alternating central galvanization with general faradization, and then gave her an interval of rest for three months. No attack occurred until after the lapse of six months from the initiation of the combined methods of electrical treatment.

After a second three months of treatment another interval of rest was allowed, and was then followed by a third three months' course of treatment.

Eighteen months passed with but a single attack, and twelve months without any, at which point the published history of the case ceased, closing with the remark that we were "hopeful of the ultimate results." Two months subsequently, however, fourteen months after the last attack, a second one occurred, and the central and general electrical treatment were immediately resumed, but, notwithstanding, a third attack occurred within six months.

With intervals of rest, the treatment was still continued, and it was not until November, 1880—a period of twenty-two months—that a fourth attack occurred. In July, 1881—seven months after—she suffered a fifth attack, and in June, 1883, after twenty-three months of freedom, came a sixth attack.

The treatment, both electrical and medicinal, was persevered with on the same general plan for two years more. Up to this date—nearly four years from the last seizure—the patient has been entirely free from even a suggestion of epilepsy. One exceedingly interesting feature of this case relates to the change in the mental and moral make-up of this patient. From being hysterical, passionately unreasonable, and personally unattractive, the graces characteristic of the best feminine type have either been restored or come as a new growth.

It is a notable fact that epileptics are often the most uncertain of patients on account of the discouragement arising from the persistency of the symptoms; but here was a patient following with a faithfulness almost unparalleled, through almost half a score of years, the same routine of treatment at the same hands.

Who can say that success would have followed any efforts, however skillful, had they been changeful and without continuity?

Noteworthy, also, is the fact that the bromides could have been taken for so many years—nearly twelve—with no apparent ultimate evil.

A second case in support of the proposition that electricity may not only prove a valuable aid in the treatment of epilepsy, but that in certain cases it may be apparently indispensable, is as follows:

A. P., an unmarried woman, aged twenty-nine, came to me in February, 1879, through the kindness of Dr. C. H. Atwater. She was a poor physical wreck, and in a condition of mind bordering at times almost upon insanity. Since the age of twenty-one she had suffered from epileptic seizures varying in frequency from two to fifteen a month, and always occurring at night. A year after the first attack she had begun the use of the bromides, and for a time there had been a marked diminution in the number of attacks. This amelioration had been but temporary, and after two years of treatment she had abandoned rational medicine and submitted to various forms of charlatany, the faith cure and prayer test among the rest.

No notable result had followed, and when I saw her she had again resorted to the bromides.

Formerly twenty grains of bromide of potassium and bromide of sodium, equal parts, had modified the attacks, but she now found it necessary to take thirty grains. This she had been doing for three years, seldom having more than two attacks a month. Any marked negligence in taking the medicine invariably caused a decided increase in the number of the seizures. She was in such a wretched condition, body and mind, that I interdicted temporarily the bromides, and for one month administered daily applications of general faradization. It is hardly possible for me to indicate the immense relief that followed this now well known, but not fully appreciated, method of treatment. Although there was no decrease in the frequency of the attacks, on the other hand there was no increase, as had invariably been the case whenever the bromides had been omitted, while in the direction of quieter and more prolonged sleep, better appetite, improved nutrition, and increased mental and physical tone, the change was radical. I now ordered the following prescription, which was taken without change throughout the course of the treatment:

℞ Potass. bromid. ʒ ij;
Chloral hydrat. ʒ ij;
Aque f ʒ xiv.

M. S.: A teaspoonful on rising, and two at bedtime.

This combination of bromide of potassium and chloral has commended itself to my judgment as superior to most others, in connection with electricity at least, in the treatment of epilepsy.

Associated with a grain or so of chloral, a given dose of the bromides is more effective in controlling epilepsy than when the latter is given alone. The record from this time onward is as follows:

The last attack before combining the two methods of treatment was on March 5, 1879. The following month, April 15th, an attack of considerable severity occurred. From April 15th to September 16th the record is clear, but on that day, and again on September 25th, the disease manifested itself.

These were the last attacks, but until February, 1881, treatment was continued. In regard to the electricity, practically the same plan was adopted as in the foregoing case. A few months, and sometimes a few weeks only, of treatment were followed by intervals of rest.

Mrs. G., a widow, aged thirty-seven, gave this history: At the age of thirty she had suffered a miscarriage, from the effects of which she had recovered but slowly. Two years after, an abortion had been produced, attended by copious hæmorrhage, and from the exhaustion that followed she had rallied with difficulty. Domestic dissensions and other causes had told greatly upon her nervous system, and finally, in the early part of 1885, led to a series of epileptic attacks that had always occurred at night. I saw her the following April, and was the first to whom she had applied for relief. Two to three times a week measured the average frequency of the attacks.

I gave the following prescription, which she faithfully took for three months:

℞ Potass. bicarb. ʒ ij;
Ammon. bromid. ʒ vij;
Potass. iodid. ʒ ij;
Potass. bromid. ʒ ij;
Infus. calumb. ʒ j.

M. S.: Teaspoonful at each meal, two teaspoonfuls at bedtime.

Its effects were decidedly beneficial, as during that time the paroxysms were but five in number. The bromide and chloral combination was then substituted, and during the succeeding four months but four attacks occurred. So far the use of electricity had not been attempted; but I now submitted the patient alternately to applications of central galvanization and general faradization, and from that time to the present she has suffered no attack.

But little more than a year has elapsed, it is true, since the last seizure, and it may be too soon to be entirely positive as to her future exemption, but the probabilities certainly are greatly in her favor. Some may say that this case might have progressed fully as well without the electricity. I think it highly improbable, however, and can not but regard it as particularly suggestive and valuable as bearing upon the central idea of this paper.

I refer to still another case as illustrating more especially the value of electricity in sometimes relieving persistent neurotic symptoms, whether they exist independently or are associated with epilepsy:

The patient was a lad of sixteen, who had been under the intelligent observation and treatment of Dr. Perry, of Ridgefield, Conn.

The bromides had been freely used, but with results less satisfactory than usually attend its administration. The story of his illness is a long one, and need be but briefly alluded to here. It dates back to his tenth year, when he began to complain of pain in the head, of dizziness, and nausea. His face would frequently become strikingly pale and his extremities cold. Finally he took to his bed, complaining of noises like the ringing of church-bells, that distressed him beyond measure.

All sounds disturbed him, and it was necessary to keep the house entirely quiet. For a time sleep could be induced only by gently rubbing the spine, and it was not unusual for him to awaken with a cry, followed by vomiting. At times he was better, and then again worse, until two years, before I saw him epilepsy supervened, occurring as often as three times a month. Under the bromide treatment the attacks were held in check somewhat, but when I saw him he was having them sometimes once and sometimes twice a month. The boy was well developed and physically strong, weighing, I should say, about one hundred and thirty pounds.

While an almost endless variety of symptoms had marked the progress of this case, some disappearing permanently, either spontaneously or in response to methods of treatment, and others reappearing with measured persistency, one symptom continued without change. He was unable to entertain the thought of entering a public assemblage of any kind, and was seized with terrible fear if in riding or walking he found himself beyond a certain distance from home. In riding, so long as he kept within a radius of a mile or thereabouts from his house, it was well, but any attempt to enlarge the limits resulted in uncontrollable fright. For this reason it was impracticable to take him away for medical advice, and such treatment as I gave was administered at his home at intervals of two weeks or so. It seemed almost too much to hope for beneficial results from such infrequent applications, but this is what followed a few *séances* of central galvanization.

The interval between the epileptic attacks lengthened to eight and ten weeks; he gathered courage to drive alone to a neighboring town, ten miles away, and was soon able to make occasional visits to the city for treatment. His timidity in regard to public assemblages left him, and he freely took part in some that he attended. With the exception of these occasional epileptic seizures, every neurotic symptom disappeared, and he is now able to do a man's work. Since January, 1886, the patient has abandoned all treatment, but the attacks have not occurred with greater frequency, and he remains free from his old neurasthenic symptoms.

In the consideration of this most interesting and important disease, I am actuated by an earnest desire to arrive at correct conclusions, and it is therefore essential that I refer to the more unsatisfactory side of the picture. The total number of epileptic cases that I have treated since 1874, with special reference to the value of electricity, is twenty-eight. All of these were in private patients, and, of the number, ten abandoned treatment too quickly to be worthy of consideration in a statistical estimate of the value of any remedy.

In three cases which persisted sufficiently to enable me to give the electricity a fair trial, I was compelled to admit that it seemed in no way to aid the bromides in controlling the disease.

It is to be noted that of these three cases, in two the attacks invariably occurred during the day while the patient was awake, and in one they were observed both day and

night. Eight other cases of which I have records were under observation variously from six weeks to nine months. In all of them, as it seemed to me, the good effects of treatment were manifest in greater or less degree, and in two of them, one of which was under observation seven and the other nine months, the manifest improvement was unmistakably due, in part at least, to electricity.

Of the remaining seven cases, four I have here related; the others have been given elsewhere.*

Of these other cases, recovery took place in two and decided improvement in the other.

In regard to these observations, it will be seen that they extend through a series of thirteen years. I have been in no haste to publish these experiences, and can only regret that they are not more extended and more worthy the consideration of the Academy.

The conclusions to which I have arrived are these:

1. Electricity possesses a certain value in the treatment of epilepsy. It is not known nor is it alleged that used alone it can cure epilepsy. Used in connection with the bromides, however, its value is unmistakable, and under its use a certain proportion of patients will recover that otherwise would fail to do so.

2. It is in the nocturnal variety of epilepsy more especially that the good effects of electricity are seen, although day attacks have been successfully controlled.

3. The methods of electrical treatment that have proved most efficacious in my hands are central galvanization and general faradization.

4. When electricity fails to cure, or aid in the cure, it is often efficacious, by the method of general faradization, in affording grateful relief from nervous symptoms of an indefinable subjective character; in other words, from that general instability of the nervous system recognized under the term neurasthenia.

5. The systematic use of electricity renders the system more tolerant of the bromides, and will diminish bromic acne.

6. It is important that electrical treatment should be administered with care and judgment, especially should all interruptions of the current be avoided in central galvanization, as the resultant shock is liable to hasten rather than prevent an attack.

7. Two years must elapse without an attack before any case of epilepsy can be considered as one of positive cure.

ALARMING HÆMORRHAGE AFTER TONSILAR EXCISION ARRESTED BY TORSION OF THE ARTERY.†

BY CLINTON WAGNER, M.D.

SERIOUS hæmorrhage after tonsillar excision, when we consider the frequency with which the operation is performed, is of very rare occurrence. In a paper entitled

* "Medical Record," April 6, 1878.

† Read before the American Laryngological Association at its eighth annual congress.

"Habitual Mouth-Breathing," which I read before the Medical Society of the County of New York five years ago, I stated that an experience embracing over five hundred operations without an accident strongly inclined me to the opinion that tonsillar excision was almost devoid of danger.

Since then I have performed the operation very many times, and, with the exception of the following case, I have encountered no accident.

At the Metropolitan Throat Hospital the operation has been performed seven hundred and forty times without accident; and numerous other institutions which have clinics for diseases of the throat can, I have no doubt, show similar immunity from hæmorrhage.

Madame B. F., aged about thirty, an opera-singer by profession, consulted me for sore throat. I found the left tonsil greatly enlarged, and she informed me that it frequently became acutely inflamed. I recommended excision. The gland was partly covered anteriorly by the column of the soft palate, and extended so far downward into the pharynx that I had great difficulty in encircling its inferior portion within the ring of the guillotine; finally I succeeded in removing almost the entire gland. A gush of blood followed, but apparently not greater in quantity than is usual after this operation. The bleeding increasing instead of lessening, I applied to the cut surface of the gland the persulphate of iron, which failing, I resorted to compression, but I discovered afterward that it had not been exerted in the proper direction. Nearly an hour had elapsed since the operation, a large amount of blood had been lost, vomiting of the blood, which had found its way into the stomach, ensued, and the patient was rapidly losing strength. I cleansed the parts thoroughly of clots of blood, but, not finding the source of bleeding, I forced the tongue, by means of the depressor, upon the floor of the mouth as far as possible. In the space between the pillars of the soft palate, apparently springing from the root of the tongue, I discovered an artery of considerable size, bleeding freely and with such force that the blood was projected over and beyond the depressed tongue to the opposite side of the mouth. The bleeding vessel, now located, was, without much difficulty, taken up with an artery-forceps and twisted, and all further hæmorrhage was effectually controlled. I think the divided artery was either the tonsillar branch of the facial, or the largest of the pharyngeal branches of the ascending pharyngeal, both of which are given off from the external carotid.

Had my patient been a struggling, unruly child, I can readily conceive that the result might have been fatal. Under such circumstances, I think the hæmorrhage could only be arrested by having the child forcibly held, a gag introduced to keep the mouth open, and sufficient chloroform rapidly administered to stupefy and overcome resistance on the part of the child; the tongue well depressed, the artery could then be seized and held for a few minutes with the artery-forceps; this failing to arrest the hæmorrhage, a ligature to the common carotid would be necessary to save life.

In regard to instruments, for the past eleven years I have used Mackenzie's modification of Physick's guillotine. Formerly I preferred the Fahnstock instrument. Two accidents occurred which caused me to regard it as unsafe. On one occasion the fork, which is intended to pierce the tonsil and draw it from its bed, managed to get under the knife. With great difficulty I withdrew the instrument and made a second attempt, which succeeded.

During another operation the fork again found its way under the blade and broke off.

In the "Medical Record," April 24, 1886, the correspondent at Amsterdam mentions a similar accident as having occurred in the practice of Dr. Gaye with the Fahnstock instrument.

A RAPID AND EASY METHOD OF EXCISION OF THE HIP JOINT.

BY MILTON JOSIAH ROBERTS, M.D.,

PROFESSOR OF ORTHOPÆDIC SURGERY AND MECHANICAL THERAPEUTICS:
VISITING ORTHOPÆDIC SURGEON TO THE CITY HOSPITALS ON
RANDALL'S ISLAND; CONSULTING ORTHOPÆDIC SURGEON
TO THE WOMAN'S HOSPITAL, BROOKLYN.

THE method of excision of the hip joint which I have practiced for a number of years merits attention on account of the ease and rapidity with which the operation may be performed. This method has an additional advantage also over that which is customarily adopted in that it avoids the possibility of leaving healthy bone in the wound which has been uncovered of its periosteum. The various steps of the operation may be briefly described as follows:

Incision through the Soft Parts.—The direction of the incision which I prefer is that indicated in Fig. 5 by the continuous dark line. It is begun a little in front of the mid-point of an imaginary line drawn between the anterior superior spine of the ilium and the middle of the summit of the great trochanter. Entering the knife at this point, it reaches the head of the bone at the upper and anterior edge of the acetabulum. From this point a curvilinear incision backward and downward is made, and the knife is passed over the summit of the great trochanter at the junction of the middle with the posterior third of its antero-posterior diameter. Having reached the summit of the great trochanter, the incision is extended in a straight line down the shaft of the femur to a point on a level with the lower border of the lesser trochanter. All the tissues, including the capsular ligament, are divided down to the bone along the line of this incision. Care, however, is taken not to cut through or wound the periosteum in any manner.

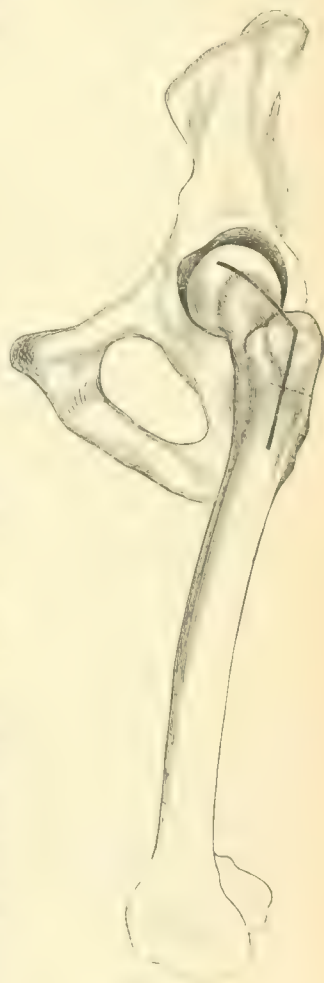


FIG. 1.

The Placing of Protecting Retractors between the Soft

Parts and the Bone.—Having made a clean cut down to the bone, the soft parts on either side of the wound between the great and lesser trochanters, or at any level where it is desired to make section of the femur, are severed a little on either side from their connection with the periosteum by means of a sharp scalpel. At no other point along the line of incision are the soft parts severed from their connection with the periosteum. The reason of such severance at the point where it is desired to make section of the femur is in order to facilitate the introduction of protecting retractors between the bone and the soft parts. The retractors employed for this purpose are made to be used in pairs or singly. The blades of those designed to be used in pairs are illustrated in Fig. 2. They are introduced one at a time much after the fashion of the blades of an obstetric forceps, being placed close to the bone between it and the soft parts. When in position, the bone lies directly upon them, as shown by the dotted line in the figure, and the soft parts behind them. As these retractors are made of steel, the soft parts are absolutely protected from all danger of being cut when using the circular or sectional saw of the electro-osteotome.



FIG. 2.

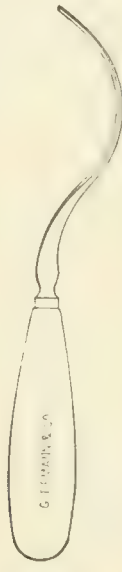


FIG. 3.

That form of retractor designed to be used singly is illustrated in Fig. 3. The blade has a much longer curve than the others, and, though somewhat more difficult of introduction on this account, it is, for other reasons, sometimes the preferable form of retractor to use. The curves of these retractors are made to correspond to the various sizes of circular saws.

Section of Bone.—Having placed the retractors in position, an assistant depresses both handles so as to bring the bone into full view. The electro-osteotome (Fig. 4),* provided with a circular saw of appropriate size, is now grasped

by the hand of the surgeon, the circuit closed, and the rapidly-revolving saw-blade brought down upon the bone at



FIG. 4.

right angles to its shaft. A perfectly clean and smooth section through the periosteum and bone is made in from two to three seconds, according to the size of the bone. By this means it will be seen that the sections through the periosteum and bone coincide absolutely throughout. If the bone were divided inside the periosteum, as some surgeons recommend, a part of the healthy bone on the distal side of the cut would necessarily be denuded of its periosteum.

Subperiosteal Removal of Upper End of Femur.—The next step in the operation is the subperiosteal removal of the upper end of the femur. To this end, the periosteum is divided upon the bone in the line of the initial incision through the soft parts. The end of the femur which has been cut off being firmly held within the grasp of a bone forceps, the periosteum is reflected from the bone at either side by means of a periosteal elevator. As rapidly as the periosteum is reflected, the fragment of bone is raised out of its periosteal bed by means of the bone forceps. When the digital fossa is reached, the attachment of the rotator muscle is divided with the blade of a scalpel and the operation proceeded with. The rapidity and ease with which the detached end of the femur may in this way be removed is truly surprising. It should be noted also that by this method of removal the attachments of the periosteum are only disturbed at one point—viz., where the transverse section of the bone is made.

Subsequent Steps in the Operation.—The subsequent steps in the operation do not differ materially from those practiced by other operators, except, perhaps, in regard to the introduction of sutures. Having cleaned out the acetabulum, should this be diseased, I am in the habit of intro-

* "The Electro-osteotome; a New Instrument for the Performance of the Operation of Osteotomy, and a New Form of Retractor." Communicated to the Northwestern Medical and Surgical Society of New York, October 17, 1883. "Medical Record," October 27, 1883; "Illustrirte Monatsschrift der ärztlichen Polytechnik," January, 1884; "Archivio di Ortopedia," vol. i, p. 364, 1884.

ducing a large-sized rubber drainage-tube and closing the periosteum and soft parts over it with silver sutures. These sutures should be passed from the surface down through the

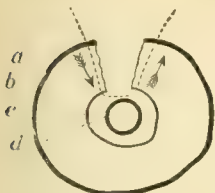


FIG. 5.

entire thickness of tissue and through the periosteum near the line of incision. Drawing the needle out at this point, it is passed up through the edge of the periosteum on the other side of the wound through the tissue to the surface, as indicated by the dotted line and arrows in the diagram (Fig. 5).

Introducing the necessary number of interrupted sutures in this manner, the edges of the wound are drawn together and secured in position. If the operation has been thoroughly performed under strict antiseptic precautions and no diseased tissue remains behind, primary union not infrequently takes place throughout the entire extent of the incision except where the drainage-tube projects.

105 MADISON AVENUE.

Correspondence.

LETTER FROM VIENNA.

Dr. Neusser on Pellagra in Austria and Roumania.—Professor von Basch on Cardiac Compensation.—The late Professor Arlt.

VIENNA, March 15, 1887.

DR. NEUSSER, Professor von Bamberger's assistant, was requested some time ago by the Minister of Education to make a journey to Friuli, in Austria, and to Roumania, to study the nature of pellagra, to investigate the measures for preventing it, and to give an account of the same. He undertook the journey, and at a recent meeting of the Imperial-Royal Society of Physicians he gave some account of his observations. He gave a succinct picture of the well-known clinical history of the disease, and attributed great diagnostic importance to the chess-board-like appearance of the tongue caused by deep *gerçures*, or grooves, among the papillae. His researches had not led him to coincide with Cuboni's view of the etiology of the disease, according to which the *Bacterium maidis*, an organism found in the feces of the victims of pellagra, is the cause: pellagra, he said, was not an intestinal mycosis, but was due to a chemical poison. He agreed to the general impression of the origin of the disease being connected with some peculiar quality of the maize that enters largely into the food of the people who are for the most part affected with pellagra. He thought it was the result of two factors, one of which was to be sought for in the unsound maize, or *polenta*, and the other in the condition of the individual. It was not his opinion that the maize itself was poisonous, but that it contained substances capable of conversion, in the stomachs of those predisposed to the disease, into the poison that gave rise to the latter. In this respect, he likened the maize to amygdalin, which of itself is not injurious, but under certain conditions is transformed into hydrocyanic acid. He spoke at length of prophylactic measures, by which unsound maize could be rendered wholesome, such as restricting the importation of maize to that which had been well ripened and the establishment of drying-kilns and storehouses after the manner of the Mexicans. Taking into consideration

the fact that pellagra is rare in Mexico, where, indeed, unsound maize is mixed with that which is sound, but where the whole, before being used, is boiled with chalk or ashes, he recommends this method of preparation.

At the last meeting of the same society, Professor von Basch read a preliminary communication on "The Mechanical Process of Compensation in Cases of Mitral Insufficiency." He opposed the theory that has prevailed, after the teachings of Traube, Rosenbach, and others, that augmented activity of the right ventricle compensates for the deficiency in that of the left ventricle, and showed a model illustrating clinical observation and experiment to the effect that the compensating action takes place in the left ventricle. It was brought about, he said, by the heart-beats becoming more frequent, so that the blood was driven into the aorta with greater celerity. If the compensation was sufficient, there must also be present a slight degree of stenosis, and this, too, was shown in the model. The latter statement was supported by Professor Rosenstein's view that those cases of mitral insufficiency were the most hopeful in which there was also a slight degree of stenosis. Enlargement of the right ventricle was only a secondary condition, and but a very inferior compensatory importance could be attributed to the right side of the heart.

Ophthalmological science, mankind in general, and the Austrian metropolis in particular, have just sustained a heavy loss by the death of Ferdinand Arlt. You are aware of the events of the last days of his life, of the bodily sufferings which he had to endure, and which he supported with true philosophical tranquillity and devotedness, as Professor von Bamberger remarked some time ago. Professor Arlt was born on the 18th of April, 1812, at Obergraupeu, in Bohemia. He attended the gymnasium at Leitmeritz and the university at Prague, where he took his medical degree in 1839. In 1840 he became the assistant of the famous oculist of Prague, Professor Fischer, in which capacity he served for two years. He was afterward made *professor supplens*, and he was ordinary professor at Prague from 1849 to 1856. In 1856 he was called to Vienna as ordinary professor, and there served as a teacher and as the director of the first ophthalmological clinic until the end of July, 1883, when he was put on the retired list, having reached the age of seventy years. His earlier works appeared for the most part in the "Prager Vierteljahrsschrift für praktische Heilkunde," including papers on xerosis, pterygium, staphyloma, chorioiditis metastatica, pathological conditions of the eyelids, cataracta pyramidalis as the result of blennorrhoea of the new-born, etc. In 1851 he published his book, "Die Krankheiten des Auges," for general practitioners, in three volumes. Subsequent editions were published in 1860 and 1863. In this work he developed his clinico-anatomical system of eye diseases, to which he clung during his whole life. It was this work that established Arlt's reputation in the world. In 1874 he published his "Operationslehre," in von Graefe and Sämisch's "Handbuch für Augenheilkunde." His subsequent notable contributions were on the care of the eyes in health and disease (1875), the causes and origin of myopia (1878), diseases of the chorioid, the cornea, the iris, and the ciliary body (1881), and the theory of glaucoma (1884). In 1855, together with Donders and von Graefe, he edited the "Archiv für Ophthalmologie." His ability and skill as an operator are too well known to call for mention. Among the honors conferred on him was that of the Iron Crown. He was the president of the Vienna Imperial-Royal Society of Physicians for several years, and a member of a number of other medical societies. His humanity and kindness were almost unparalleled. His death, on the 7th of this month, was deplored by all the Viennese, who loved him as a scholar and as a benefactor.

THE

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MALARIAL HÆMATURIA IN ROUMANIAN CATTLE.

In the February number of the "*Revue de médecine*," Dr. Grigorescu treats of a disease of Roumanian cattle which shows many points of resemblance to the malarial hæmaturia of man. It is confined to swampy regions, where it prevails in dry seasons, while it subsides after heavy rain-falls, when the stagnant waters are diluted. The malady is essentially adynamic, and is manifested by inertia, dullness, pendent head, inappetence or anorexia, excessively high temperature, the appearance of petechiæ on the visible mucous membranes and the more exposed and delicate parts of the skin, and red or black urine of a density of 1.009, giving two shades of light-green by refraction and yellow by reflection. The red granular matter is quickly precipitated, leaving the supernatant liquid clear. The sediment dissolved in cold acetic acid, and was composed of hæmoglobin, hippuric acid, uric acid, and oxalate of calcium. The blood, drawn in the last stages of the disease, presented a great excess of white globules, while the red globules were but 2,000,000 in number to the cubic millimetre, as compared with 2,800,750 in a healthy emaciated animal. No micro-organisms were found with a power of 450 diameters and without staining methods being used. The blood was serous and incoagulable, and flowed freely from the carcasses when they were cut into. Petechiæ were numerous in the subcutaneous and inter-muscular tissues and on the mucous membranes, especially those of the third and fourth stomachs, the duodenum, and the ileum, where softening also had ensued. The serous membranes were generally petechiated, and the endocardium was puffy and of a dark brownish-red. The kidneys were deeply blood-stained, especially between the pyramids and the medullary tissue, and the muscles were decidedly discolored. The latter was the case with the parenchyma of the liver also, and the bile was abnormally thick. The spleen was softened and gorged with blood, and measured 63 by 12.5 centimetres. The malady attains its greatest prevalence in late summer and autumn, keeping pace with the malarial fevers in man in the same localities, and it further resembles them in showing a daily (evening) exacerbation. Under an antiphlogistic treatment it is invariably fatal, but it responds favorably to full doses of quinine.

So far, the description is highly suggestive of a relation to intermittent or remittent fever, but the comparative infrequency of the disease in countries and districts where these prevail forbids the idea of their identity. In symptoms and morbid appearances it bears a very close resemblance to the Texas fever of cattle, but differs from it in attacking the cattle of the district in great numbers and with fatal effect, whereas

the Texas fever is comparatively harmless to acclimatized cattle. The remittent phase is often seen in both Texas fever and generalized anthrax, so that this serves in no wise to identify it. These diseases also agree with ague and malarial hæmaturia in a special prevalence during summer and autumn. The affection might well be supposed to be closely related to the enzootic hæmaturia of cattle in marshy and unimproved districts, which usually disappears after the adoption of thorough drainage and cultivation. The degree of its relationship to the malarial hæmoglobinuria of man it would be presumptuous to attempt to state. Dr. Grigorescu gives no hint of the prevalence of any corresponding disease in man, and the parallel which he draws between this disease in cattle and the intermittent fevers in man suggests that he would have been likely to notice the malarial hæmaturia had it been known locally. It can hardly be doubted that this malarial hæmaturia of cattle is one of that extensive class of bacteridian diseases the germs of which are preserved in marshy or badly drained, uncultivated ground, and which are induced by the entrance of the germs or of their chemical products (ptomaines) into the system of a susceptible animal. Allied bacteridian affections of a fatal nature are not unknown in different countries of southern Europe and northern Africa, and it may be that a careful study of these may finally show that our Texas fever, like the lung-plague of cattle, had its origin in the Old World, and has merely been transplanted to American soil.

A SOURCE OF ERROR IN THE EXAMINATION OF DIABETIC URINE.

Owing to the convenience and rapidity with which it may be applied, the polarimetric test of diabetic urine has commonly been considered satisfactory and sufficient. But occasionally a decided discrepancy has been noticed between the indications furnished by the polarimeter and those observed on the application of the ordinary chemical tests, and it has even happened that the polarimetric examination of diabetic urine has not only failed to show any rotation of polarized light to the right, but has shown its rotation to the left, thus leading to the supposition that the urine contained albumins or peptones. The matter has lately attracted the attention of a number of German biologists and that of Dr. Louis Hugounenq, a *professeur-agrégé* of the Lyons Faculty, who gives an interesting summary, in the "*Lyon médical*" for March 20th, of what has thus far been ascertained in explanation of the disagreement between the two sets of data.

It seems that the urine occasionally contains β -oxybutyric acid, a compound differing from the lactic acid of the muscles only in the addition of an atom of carbon and two atoms of hydrogen. It is described as a thick, colorless, uncrystallizable syrup, highly acid and giving all the reactions of lactic acid. It has the property of twisting the polarized ray to the left to the extent of 23.4° , and it is this property which enables it, according to the proportion it may chance to bear to the glucose in a given specimen of urine, to mask the presence of the

latter wholly or in part. Whenever it exists in the urine, therefore, it renders the polarimetric test delusive, and the examiner must then depend on the ordinary tests. β -oxybutyric acid is not easy of detection by the common methods of procedure, but its presence and its amount may be ascertained with the polarimeter after all the glucose in the urine has been got rid of by fermentation. A supplementary method is, to evaporate the fermented urine to the consistence of a syrup over a water-bath, add an equal volume of concentrated sulphuric acid, and subject the mixture to fractional distillation over an oil-bath, care being taken to cool the products at once. The crystals which form are purified by re-crystallization in ether, and dried. It then only remains to determine their fusing point; if this is between 70° and 71° C. ($= 158^{\circ}$ and 159.8° F.), they consist of crotonic acid, proceeding from the β -oxybutyric acid, the presence of which, as indicated by the polarimetric examination, is thus confirmed.

MINOR PARAGRAPHS.

MEDICAL SOCIETIES AND THE LAW IN PENNSYLVANIA.

DR. JOHN C. COTTON, of Meadville, Pa., has prepared a pamphlet setting forth the difficulties which he has met with in the trial of certain ethical charges and counter-charges of which cognizance was taken by the Medical Society of Crawford County, and at a certain phase of the controversy by the State Society. Dr. Cotton states his case very graphically, and his version of the facts, to which the final decision by an officer of the law virtually gives the stamp of corroboration, pointedly illustrates the disregard with which medical societies are apt to treat the requirements of law in their attempts to adjudicate between contending members. We have not space for the story, but a single incident of it is notable enough to be mentioned. It seems that at one time a meeting was held at which the entire number of voters present was six, of whom four were members against whom Dr. Cotton had preferred charges. Although he himself was necessarily absent, the matter at issue was passed upon, the four gentlemen, of course, having things all their own way. Finally, despairing of justice in any other way, Dr. Cotton appealed to the law, and his contention has been fully sustained.

THE LONG ISLAND COLLEGE HOSPITAL.

THE Twenty-ninth Annual Announcement of the college is deserving of notice as being a far handsomer pamphlet than we are accustomed to see in similar publications. But, what is of far greater importance, it is likewise remarkable for the number and character of the advances it sets forth as having been made or in course of establishment at the college. The most important of them is the arrangement of facilities for special study in the Hoagland Laboratory, of which so competent a man as Dr. Sternberg, of the army, is to have charge. It is expected that the building will be in readiness for the opening of the next regular term, although some delay has been met with on account of the necessity of selecting a site different from the one at first intended, some defect in the title of the latter having been detected. The site finally decided upon is directly opposite the college building, and, to judge by an engraving contained in the Announcement, the laboratory will be no mean addition to the architectural attractions of Brooklyn. It has a look of mediævalism befitting a place of study and research.

TENNYSON AND BRITISH MEDICINE.

In the second of the following three lines, from Lord Tennyson's "Jubilee Ode," the "Lancet" discerns "the Laureate's recognition of fifty years' marvelous progress in medicine":

"Fifty years of ever-broadening commerce!

Fifty years of ever-brightening science!

Fifty years of ever-widening empire!"

It strikes us that the recognition might have been a trifle more specific, but, remembering certain verses in which, a few years ago, Tennyson seemed to empty the phials of his wrath upon practitioners of medicine, we presume that there is reason for our contemporary's satisfaction, especially as another line reads:

"Give your gold to the hospitals."

THE POST-GRADUATE MEDICAL SCHOOL OF CHICAGO.

THE Second Annual Announcement of this institution shows not only a fresh indication, added to the many that we have before noticed, of the progress and the promise of endurance of what we may call the post-graduation instruction movement in this country, but also that the faculty of this particular school have at their command clinical facilities in abundance and of an exceedingly high order of fitness for the purpose in view. There were twenty matriculates in attendance on the sessions of the year 1886, and it will be surprising if the list for the current year does not show a handsome increase. Among the members of the faculty we recognize the names of several gentlemen of high position in the American profession, and the fact that a number of them are also connected with the different degree-granting colleges in Chicago argues a harmony between the institutions that is of good omen.

ANOTHER ITALIAN FASTER.

WE learn from the "Union médicale" that a compatriot of Succi's, Signor Cetti, is about to undertake a thirty days' fast in Berlin, under the supervision of a committee of physicians. It is stated that the project was at first opposed by the police authorities, but that they have yielded to Professor Virchow's assurance that the man would encounter no danger, and that the experiment would be of medical interest. Whether or not medicine is to be in any way the gainer by Signor Cetti's undertaking, it is gratifying to learn that he is not to be allowed to make a public exhibition of himself during its progress.

ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Fourth Division of the Health Department for the following statement of cases and deaths reported during the two weeks ending April 12, 1887:

DISEASES	Week ending Apr. 5.		Week ending Apr. 12.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever.....	11	5	15	6
Scarlet fever.....	59	11	66	9
Cerebro-spinal meningitis....	3	2	3	2
Measles.....	111	15	94	11
Diphtheria.....	77	31	99	9
Small-pox.....	10	0	7	5

Bellevue Hospital. The corner-stone of the Townsend Pavilion, to be devoted to abdominal surgery, was laid on Monday. The structure is to be erected with funds generously furnished for the purpose by Mrs. Townsend, as a thank offering, it is said, and is to be under the care of a committee of ladies of Calvary Church.

The New York Eye and Ear Infirmary.—The directors of this most deserving charity, together with members of the professional staff, have subscribed the sum of \$32,000 toward a fund of \$275,000 urgently needed for the erection of a new building. It is to be hoped that the remainder of the amount mentioned will speedily be secured.

A Diphtheria Hospital.—It is announced that steps have been taken which are expected to lead soon to the establishment in New York of a special hospital for diphtheria patients. Among the medical men who are mentioned as favoring the project are Dr. Fordyce Barker, Dr. A. Jacobi, Dr. J. H. Ripley, Dr. G. F. Shradley, Dr. J. B. White, Dr. W. B. Wallace, and Dr. C. J. Macguire.

The Paris Pasteur Institute.—The "Lancet" states that the members of the committee have decided to decline the site offered by the municipality, and to buy one for 430,000 francs; that they have agreed upon the plans of four buildings, to cost 60,000 francs; and that a yearly revenue of 65,000 francs has been secured, leaving 35,000 still to be obtained.

Columbia College.—At the recent centennial celebration, the undergraduates of the medical school (the College of Physicians and Surgeons) were adequately represented in the exercises. Among the persons on whom the honorary degree of LL. D. was conferred were Dr. John Call Dalton, the president of the College of Physicians and Surgeons, Professor John Tyn-dall, of London, and Professor Hermann Ludwig von Helmholtz, of Berlin.

The Health of Chicago.—It appears by the Health Department's "Condensed Statement of Mortality," for the month of March, that the whole number of deaths reported during the month was 1,518, including twenty-four from cholera infantum, one from cholera morbus, a hundred and thirteen from croup and diphtheria, eleven from diarrhoea, four from dysentery, twenty from entero-colitis, five from erysipelas, four from cerebro-spinal fever, one from remittent fever, twenty from scarlet fever, forty-one from typhoid fever, seven from typho-malarial fever, fifty-nine from measles, twelve from pyæmia and septicæmia, and eight from whooping-cough.

A Dutch Prize.—The "Union médicale" announces that the Provincieaal Genootschap van Kunsten en Wetenschappen proposes to award a diploma of honor and the sum of three hundred Dutch guilders for the best essay, founded on experimental investigations, on the action of the salts of sodium, potassium, and magnesium on the alimentary canal, as compared with that of calomel and senna leaves. Until December 1, 1888, essays may be sent to R. Melvil Baron van Lynden, Utrecht.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from March 27, 1887, to April 9, 1887:*

PERLEY, HARRY O., Captain and Assistant Surgeon. Ordered for temporary duty at Fort Maginnis, Montana Territory. S. O. 23, Department of Dakota, March 18, 1887.

HOFF, JOHN VAN R., Captain and Assistant Surgeon. Ordered for duty at Fort Reno, Indian Territory. S. O. 43, Department of the Missouri, April 4, 1887.

CORBUSIER, W. H., Captain and Assistant Surgeon. Granted leave of absence for one month. S. O. 35, Department of Arizona, March 29, 1887.

BURTON, H. G., Captain and Assistant Surgeon. Ordered to Plattsburg Barracks, New York, for temporary duty. S. O. 78, A. G. O., April 5, 1887.

LA GARDE, L. A., Captain and Assistant Surgeon. Ordered for duty at Fort Assiniboine, Montana Territory. S. O. 78, A. G. O., April 5, 1887.

Naval Intelligence.—*Official List of Changes in the Medical Corps of the United States Navy for the week ending April 2, 1887:*

WAGGENER, J. R., Passed Assistant Surgeon. Commissioned a surgeon, March 18, 1887.

FITTS, H. B., Passed Assistant Surgeon. Ordered to the Receiving-ship Vermont.

TRACY, E. C., Assistant Surgeon. Detached from the Vermont, and ordered to the Atlanta.

HEFFINGER, A. C., Passed Assistant Surgeon. Detached from the Atlanta, and ordered on special duty in connection with the construction of Hospital at Widow's Island, Maine.

Marine-Hospital Service.—*Official List of Changes of Stations and Duties of Medical Officers of the United States Marine-Hospital Service for the two weeks ending April 9, 1887:*

URQUHART, F. M., Passed Assistant Surgeon. To assume charge of Cape Charles Quarantine. March 29, 1887.

NORMAN, SEATON, Assistant Surgeon. To report for duty at Cape Charles Quarantine. April 2, 1887.

BAILHACHE, P. H., Surgeon. Detailed as chairman, Board of Examiners, to meet in Washington, April 25, 1887. April 4, 1887.

PURVIANCE, GEORGE, Surgeon. Detailed as member, Board of Examiners, to meet in Washington, April 25, 1887. April 4, 1887.

GODFREY, JOHN, Surgeon. Detailed as recorder, Board of Examiners, to meet in Washington, April 25, 1887. April 4, 1887.

IRWIN, FAIRFAX, Passed Assistant Surgeon. To proceed to Baltimore, Md., on special duty. April 8, 1887.

PETTUS, W. J., Assistant Surgeon. To proceed to Norfolk, Va., for temporary duty. April 4, 1887.

Society Meetings for the Coming Week:

MONDAY, April 18th: New York Academy of Medicine (Section in Ophthalmology and Otology); New York County Medical Association; Hartford, Conn., City Medical Association; Chicago Medical Society.

TUESDAY, April 19th: New York Academy of Medicine (Section in Theory and Practice of Medicine); New York Obstetrical Society (private); Roman Medical Society (private); Medical Societies of the Counties of Kings and Westchester, N. Y.; Ogdensburg, N. Y., Medical Association; Medical Society of Passaic County, N. J. (annual).

WEDNESDAY, April 20th: Harlem Medical Association of the City of New York; Northwestern Medical and Surgical Society of New York (private); New Jersey Academy of Medicine (Newark); Philadelphia County Medical Society (clinico-pathological); Windham, Conn., County Medical Society (annual—Plainfield); Middlesex, Mass., South District Medical Society (annual—Waltham).

THURSDAY, April 21st: New York Academy of Medicine; New Bedford, Mass., Society for Medical Improvement (private); Tolland, Conn., County Medical Society (annual).

FRIDAY, April 22d: Yorkville Medical Association (private); New York Society of German Physicians; New York Clinical Society (private); Philadelphia Clinical Society; Philadelphia Laryngological Society.

SATURDAY, April 23d: New York Medical and Surgical Society (private); Worcester, Mass., North District Medical Society (annual—Fitchburg).

OBITUARY NOTES.

John Marshall Paul, M.D., of Belvidere, N.J., died on Thursday, March 17th, of pneumonia. The deceased was a graduate of the Medical Department of the University of Pennsylvania, of the class of 1868. At the time of his death he was in the forty-fifth year of his age.

Proceedings of Societies.

MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

Meeting of January 24, 1887.

The President, Dr. LAURENCE JOHNSON, in the Chair.

The Use of Aconitine in the Treatment of Nervous Diseases.—Dr. E. WAITZFELDER described the physiological action of the amorphous and crystalline forms of aconitine. The drug, he said, seemed to have a double action on the nerve centers: First, that of irritation; second, that of subsequent paralysis. In the treatment of diseases of the nervous system, it was in neuralgias especially that it was of service, and, after citing evidence in this direction from different authorities, he said his own experience with the drug in this class of nervous affections had been equally satisfactory. He had succeeded in curing some patients and relieving others, who had suffered from facial neuralgia for a varying length of time. He had found a combination of aconitine and veratrine, used externally, to act better than aconitine alone. Caution should be observed in applying it near the eye, and over cuts and bruises, as a poisonous amount might enter the system. He had employed aconitine in three cases of chronic sciatica; in two with decided benefit; in the third with no apparent benefit after a month. In the treatment of pachymeningitis, whether syphilitic or not, he had occasionally observed benefit. A marked example was related, in which a woman was relieved of pain within three days, after antisiphilitic treatment alone, long continued, had been ineffectual. There was a history of syphilis. The use of aconitine was almost always followed by some relief in such cases, but not always so soon. He had used it for agonizing headache from tumor in two cases, but without giving relief. In two cases of exophthalmic goitre no effect upon the tumor or the eyes was observable, but the patients said they felt better after the use of the drug. It was of benefit in active congestion of the brain with increased blood-pressure from excessive action of the heart. Here it was combined with bromide of potassium. In insomnia from business troubles it was of benefit in connection with small doses of bromide of potassium. In selected cases, carefully watched, it was useful for hyperæsthesia from spinal irritation, and in cases in which there were doubts as to commencing myelitis.

Dr. DAVID WEBSTER had used aconitine with benefit in a few cases of nervous affections, such as pachymeningitis, seen with other physicians.

Dr. LESZINSKY had had considerable experience with aconitine, and spoke of the dangers attending its use. It should not be employed in insomnia until other remedies had failed. It should also be remembered that in acute mania there was a tendency to exhaustion, which rendered it important that the action of the drug should be carefully watched. In cases of spinal irritation with hyperæsthesia there was likely to be depression and poor circulation, contra-indicating its use. He frequently used oleate of aconitine locally, as in facial neuralgia,

but it should also be employed with caution. Aconitine was of value in pachymeningitis.

Dr. MESSENGER had used aconitine when it was first introduced, but he had largely discarded it, as it was dangerous. Unpleasant symptoms had followed its use in patients with depreciated general health.

NEW YORK ACADEMY OF MEDICINE.

SECTION IN LARYNGOLOGY AND RHINOLOGY.

Meeting of January 25, 1887.

Dr. BEVERLEY ROBINSON, Chairman.

A Contribution to the Study of Diseases of the Uvula.

—Dr. WENDELL C. PHILLIPS mentioned in the first part of his paper the diseases of the uvula which had been described in literature, and said that primary disease of that organ was rarely seen. A case of angioma primarily developing in the uvula having come under his observation recently, he read the history in detail. The patient, a man aged thirty-nine years, was first seen at the Throat Department of the Manhattan Eye and Ear Hospital, having had difficulty in swallowing for two months, and having lost flesh and strength. The uvula was enlarged in all its dimensions, especially in length, being two inches long, and terminating in a bulbous mass, which caused little trouble except when he was eating. There were what appeared to be venous dilatations over the entire surface of the growth. The patient was positive the condition had not existed more than two months. As he had had chancre two years before, the disease was supposed to be syphilitic, and antisiphilitic treatment was adopted. This was continued until December, 1885; but, as the tumor continued to grow, and the man's general condition became worse, it was abandoned for local applications, and finally, May 4, 1886, the tumor was removed by the actual cautery at red heat. Fears of dangerous hæmorrhage had been expressed, but the operation was almost bloodless. The patient was discharged six days later, and had been seen two or three times since in good health, with no evidence of return of the disease. Dr. T. Mitchell Prudden had examined the tumor, and pronounced it a cavernous angioma.

A Case of Foreign Body in the Nose and Antrum.—Dr. S. O. VAN DERPOEL related the history of a case which had been referred to him in October, 1886, by Dr. Agnew. A man had been struck on the left cheek with a piece of firework prematurely exploding. The wound extended from the inner canthus of the left eye to the ala of the nose. Some paper, etc., were removed, and the wound was closed by suture. It healed slowly, and afterward large quantities of pus were discharged from the posterior nares, and the patient suffered from hemi-crania, trouble with the eye, and impaired voice, and in his general health. The speaker was unable to pass a probe through the left nostril to the pharynx. A foreign body was recognized, surrounded by granulations, occupying the back part of the floor of the left nasal passage, not projecting into the pharyngeal space. It was proved to be metal. Traction with a forceps through the pharyngeal space failed to move it. The patient was then etherized, and the old wound from the inner canthus of the eye to the ala of the nose was opened, but it was still impracticable to remove the body. The soft palate was then divided in the median line, when, with a better grip of the forceps, aided by leverage, the foreign body was slowly dislodged and removed through the pharynx. The manipulations required about two hours. The foreign body was a zinc plate, over two inches long by an inch in width, bent upon itself, lying mainly in the antrum, the long diameter being transverse

to the axis of the floor of the nostril. For some weeks after the operation large quantities of pus continued to be discharged from the antrum; but the wound finally healed, and the man's symptoms disappeared.

Demonstration of a Patient on whom Partial Removal of the Larynx had been Performed.—Dr. J. W. GLEITSMANN demonstrated the case in the absence of Dr. A. G. Gerster, to whom he had sent the patient for operation. The man was fifty-seven years of age, and had consulted the speaker for increasing huskiness of the voice, painful deglutition, and cough. These symptoms had grown worse since the time he had observed a swelling below the left ear. On examination, the speaker found a tumor, of about the size of a hen's egg, below the angle of the jaw on the left side, and, on intra-laryngeal inspection, a growth of about the size and shape of an almond involving the vocal band on the left side. The patient entered the hospital, where, on the 18th of March, 1885, Dr. Gerster performed a preliminary operation, removing the infiltrated submaxillary glands, and in April removed the upper portion of the left half of the larynx (the diseased portion), leaving the right half intact. The patient was discharged May 21st, and had since remained in good health, now nearly two years. The tumor was a sarcoma.

NEW YORK NEUROLOGICAL SOCIETY.

Meeting of March 1, 1887.

The President, Dr. CHARLES L. DANA, in the Chair.

Alcoholic Paralysis; Multiple Neuritis.—Dr. H. M. BIGGS presented the spinal cord and nerves from a case with the following history: Bertha B., aged thirty-five, married, was admitted to the hospital September 20, 1886. There was nothing of importance in the history up to the beginning of her present sickness, about five weeks before admission, when she had begun to have sharp shooting pains in both legs, but more severe in the right. She had begun to lose power in her limbs, and one week later had been unable to walk because her limbs were "too weak." The loss of power had seemed to begin in her feet. She had complained of pain in her back and weakness when she had tried to stand. Afterward she began to have pain and lose power in her arms. She said she had been a moderate drinker, and denied syphilis. On admission, the patient was almost completely paralyzed in her lower extremities; she could barely raise her limbs from the bed. The muscles of the upper extremities, especially the extensors, were also somewhat affected. There were some spots of hyperæsthesia and partial anæsthesia irregularly distributed over the lower extremities, and also considerable numbness. Sensation in the upper extremities seemed to be normal. The reflexes were lost. There was marked atrophy in both legs and thighs, particularly of the extensors of the foot, and a moderate amount in the arms. The extensors here were also most affected. She complained of very severe pain in the arms and legs, which kept her awake at night, and there was marked tenderness on pressure. Temperature at 9 A. M., 100° F.; at 5 P. M., 101.2°. Pulse, 9 A. M., 104; at 5 P. M., 112. Urine, 1.018; albumin, one eighth in bulk; no casts. Two days after admission the patient was found to have a moderate amount of fluid in the right pleural cavity. Twenty-four ounces of serum were withdrawn. She gradually failed, lost strength, and emaciated; the pleurisy developed into an empyema, for which a free opening was made in the chest. Before death, which occurred in February, 1887, she had lost all power over both lower extremities, and the arms were partially paralyzed. Atrophy was very marked in both lower extremities and forearms. Pain was constant, paroxysmal, and very severe. Tenderness on pressure and pain on

movement of muscles were marked. Contraction of the muscles had gradually developed until the thighs were sharply flexed on the trunk, and the legs on the thighs. Attempts to straighten the limbs caused the severest pains. The bladder and rectum, the muscles of phonation, deglutition, and respiration, and the nerves of special sense, were entirely unaffected. The reactions of degeneration were present. The patient died of exhaustion resulting from the empyema.

Autopsy.—Patient greatly emaciated. Legs and thighs markedly flexed. Muscles of the leg of a yellow color, and apparently converted almost entirely into fat. Muscles of the thigh much less affected. Spinal cord, nerve roots, and trunks normal in appearance.

Microscopical Appearances.—Spinal cord apparently normal, with the exception of slight sclerosis in the columns of Goll in the cervical region. Nerve roots normal. In one of the sacral nerves before its exit from the spinal canal was found a marked increase in the endoneurium with diminution in the number of the nerve fibers, and an irregularity and indistinctness in these appearances. The right sciatic nerve showed the same changes more marked. In the posterior tibial the process was even more advanced, and in this only an occasional nerve fiber could be detected. Microscopically the gastrocnemius was composed almost entirely of adipose tissue; only here and there atrophied muscle fibers were found. The small nerve trunks in the muscle showed advanced degenerative neuritis, with comparatively little new growth of connective tissue in the nerves.

The PRESIDENT thought that in this case it had been fully demonstrated that the alcoholic paralysis was due to a neuritis and not to a myelitis.

Dr. M. A. STARR had seen the specimens, and said there was no question with regard to the existence of neuritis in this case, and the normal condition of the anterior cells of the spinal cord. There was slight sclerosis in the columns of Goll, which he was unable to explain. The same condition had been observed in a case of Hamilton's recorded by Grainger Stewart. He referred to a well-prepared specimen by Dr. Van Giesen in a case of Dr. Ball's, not yet published; also to the manner of preparing specimens.

Dr. BIGGS said that, contrary to the ordinary condition found, the process seemed to be more a degeneration of nerve fiber than an interstitial neuritis, especially in the smaller nerves.

Dr. H. D. NOYES spoke of the frequent occurrence of amblyopia with alcoholism, and said it was due to a partial neuritis of the optic nerve, referred, as had been shown, to the center field, and not to the field at large. He suggested that in cases like the one reported by Dr. Biggs the neurologists should make careful examination of the optic nerves. In reply to Dr. Starr, whether scotoma was due as frequently to tobacco as to alcohol, he said it might be due to either, but the patients frequently combined the two habits.

The PRESIDENT said that the name alcoholic paralysis was rather begging the question; this patient, it seemed, had been only a moderate drinker. The same fact had been noticed in other cases.

Irritations arising from the Visual Apparatus considered as Elements in the Genesis of Neuroses.—Dr. G. T. STEVENS read a paper on this subject. [See page 421.]

Dr. E. C. SEGUN said, with regard to the ætiology of neuroses and serious mental disorders, that he thought we ought to look a great deal deeper than the exciting and superficial causes which occurred in many cases of that kind. In epilepsy and chorea, for instance, he thought we had to look for the efficient cause, not in a disturbed external apparatus, but to hereditary predispositions and faulty tendencies. That a faulty external apparatus would cause more attacks, or possibly aggravate the

mental disorder, he thought no one would deny. Consequently, the optic apparatus, the genital apparatus, etc., should be put in perfect order. As to the great improvement after tenotomy in epilepsy, the records of surgery and medicine were filled with cases in which trauma of various kinds had interfered with epileptic manifestations for months, or even years. It seemed to him the report of a case within six months after tenotomy was rather premature. He referred to one of his cases of epilepsy that had been recently submitted to division of the ocular muscles, the bromides at the same time being withdrawn, and three days later the patient had commenced to have from six to twelve convulsions in the twenty-four hours, more than she had ever had before the operation. He had had patients go three years without an epileptic attack, and then have a relapse.

Dr. NOYES thought that the precise ocular conditions in the cases reported should have been recorded; perhaps they were in that part of the paper not read. He had with him exact records of a number of cases of ocular trouble, with the result of treatment. It had not fallen within his experience to meet with the class of cases referred to by Dr. Stevens. He dwelt upon the importance of making a thorough ocular examination, including that of the muscles of the eye, in every case. He had come to realize more and more the importance of insufficiency of the external recti. He had observed benefit in many cases from prisms. He spoke of the method of examination and of performing tenotomy. The paper deserved the most careful consideration.

Dr. D. B. Sr. JOHN ROOSA said that that part of the paper which especially concerned the ophthalmologist was as old as ophthalmology itself, and it did not call for discussion to-night. The real point in the paper was, he thought, that the correction of errors of refraction, improper relation between the ciliary and internal recti muscles, and other deviations of the ocular muscles was capable of curing constitutional disease. He took it that epilepsy was a constitutional disease and not merely a functional disturbance. The same was true of chorea. The question was, Did these operations cure epilepsy and chorea? But it had been shown that people with chorea got well without ever having an error of refraction corrected. It had also been shown that the vast majority of people who were not myopes were hypermetropes, yet suffered no inconvenience from it. In this, the author's second paper, another step had been taken—namely, that these constitutional diseases, epilepsy and chorea, were due not solely to errors of refraction, but to want of co-ordination between the recti and ciliary muscles. Then the prism test came upon the field, and we had to exercise the ocular muscles by prisms. Then in the order of advance came the doctrines taught in the paper of to night. Granting the statements of the paper, that the patients had for a time after correction of an ocular difficulty been greatly relieved, possibly cured, yet that was a long way from assuming that the ocular disturbance, whatever it was, was the cause of the epilepsy. Many great men having strabismus had not become choreic, epileptic, or insane.

Dr. A. L. RANNEY made some remarks, which he subsequently wrote out in the form of a paper. [See p. 429.]

Dr. HERMAN KNAPP said that his practice had not brought him much in contact with people who had neurotic conditions, and most of those whom he had seen had passed into other hands. He was very much surprised to learn that there was so high a percentage of ocular difficulties in the patients Dr. Stevens examined in the asylum. He thought nervous people generally did not show one complaint only. Many people, especially young ladies, who suffered from headache, etc., ceased to complain after correction of a deviation of the eye muscles, etc. He had listened with the greatest attention to Dr. Stevens, and

he felt quite sure not only that his work was legitimate, but that it was highly promising. He was only afraid we should not be spared disappointments in that line of treatment.

Dr. GRUENING said that his experience had been very much like that of Dr. Knapp. He always examined for muscular defect, and said that when one placed a prism before the eye it disturbed binocular vision. For the correction of this apparent muscular defect an operation was performed, but the muscle was sewed to its original place, or the lateral attachment was not divided; and this was only the simulation of an operation. He had benefited many patients by cylinders.

Dr. STEVENS, in closing the discussion, said that there was no suggestion in the paper regarding cures. He did not believe in cures. Take away the cause of the trouble, and patients recovered. If the patients could not be said to be cured, it was still a very fortunate thing that they had got rid of their chorea, epilepsy, etc.

BROOKLYN PATHOLOGICAL SOCIETY.

Meeting of December 23, 1886.

The President, Dr. BENJAMIN F. WESTBROOK, in the Chair;
Dr. A. H. BUCKMASTER, Secretary.

Carcinoma of the Rectum.—Dr. H. B. BAYLES presented a specimen removed from the body of a carpenter, sixty-four years of age, who had come under his care in April, with frequent and painful micturition, shooting pains in the penis, and constant pain near the meatus urinarius. His general health was fair at that time, no calculus could be found, and the trouble was thought to be connected with the prostate. The urine contained pus, with but a slight amount of albumin. The patient was sent into the country, and returned much broken down in health and with his symptoms increased. He consulted Dr. E. L. Keyes, of New York, who, after as thorough an examination as was possible without anesthesia, both the urethra and the rectum being very tender, wrote that he was suspicious of some malignant growth in the bladder, and advised a perineal or supra-pubic incision for purposes of diagnosis and drainage, should the latter be found necessary. As the family objected to an operation, the man was kept in the recumbent posture, and careful attention was paid to his diet. During the succeeding eight weeks he improved, although the frequent and painful micturition continued. There had been diarrhoea while the patient was in the country, but now there was very little trouble with the bowels, except that there was a desire to go to stool when the pain was acute. At no time was the pain referred to any other region than those of the penis and the prostate. About six weeks before the meeting, Dr. G. R. Fowler made a rectal examination, and was confident that there was some growth either in the bladder or behind it, or that there was an encysted calculus. He coincided with Dr. Keyes in recommending an incision. On the 19th of October Dr. Fowler made a supra-pubic incision, but exploration of the bladder revealed no tumor, stone, or ulceration, but the posterior wall of the organ, toward the summit, was so sensitive that pressure upon it caused the patient to move about considerably, although he was thoroughly anesthetized. As the case stood, it looked as if there were trouble either in the kidneys or behind the bladder. A Jacques catheter, inserted into the penis before the operation, was drawn out through the abdominal incision, and left to serve for drainage and for washing out the bladder. After this, the paroxysms of pain were so severe that from twenty to twenty-five minims of Magendie's solution of morphine were required every four or six hours, and then not much sleep was secured. The bladder was washed out every two or three hours with a 1-to-2,000 solution of corrosive sublimate, and free

drainage was maintained. After a time the pain occurred only when the bladder was being washed out. The wound closed gradually, and, two days after the removal of the catheter, there was a severe chill followed by the first constitutional symptom that there had been—a rise of the axillary temperature to 104.5° F. The temperature came down, after the administration of antipyrine and opium, in two hours, and there was no subsequent chill or any great rise of temperature. The lymphatics at the angle of the jaw became much swollen and indurated, and the man sank rapidly into a comatose state and died eighteen days after the operation.

At the autopsy, the kidneys were found in very good condition, no particular lesion being discoverable with the unaided eye. The intestines were entirely empty, both of gas and of fecal matter, and bound down with adhesions. The upper part of the rectum, just below the sigmoid flexure, was the seat of the morbid growth. It was removed with some difficulty, as the adhesions were so firm that the soft mass easily broke down; the greater part was removed, although the surrounding tissues seemed thoroughly infiltrated with it. The specimen presented was the upper part of the rectum, with an adherent portion of the small intestine. The ligature at the lower end was at a distance of about five inches from the anus. The growth had evidently begun near the attachment of the meso-rectum, extended toward the sacral promontory, and perforated the bowel at that point, allowing pus and broken-down tissue to escape in that direction. Near this point there was considerable contraction of the bowel, so that only liquid stools could pass. There was slight adhesion to the bladder.

Drugs and Digestion.—The discussion of a paper with this title, read by Dr. R. G. ECCLES at a previous meeting (see vol. xlv, page 600), was now taken up.

Dr. P. H. KRETZSCHMAR said that he had made some investigations of the same subject several years before, and had arrived at some of the reader's conclusions. In regard to pepsin, however, he thought that the United States Pharmacopœial test could not be so worthless as had been stated. He also thought that the English test was a good one, if the hair sieve was used. In a paper of his own he had referred to the disadvantages of the tincture of the chloride of iron, and had urged the use of the acetate and the carbonate instead. He thought the reader's results would have been more exact if he had employed the temperature of the human stomach.

Dr. ARNOLD STUB fully coincided with Dr. Kretzschmar as to the value of the Pharmacopœia as a guide both for apothecaries and for physicians. He knew little of ingluvin, and less of what became of it after it entered the stomach, but he had prescribed it for the vomiting of pregnancy, and it had checked it after everything else had failed; consequently, he should continue to use it in such cases, and perhaps in those cases only. Tincture of chloride of iron might retard the digestion of albumin by pepsin in a test tube, but to give it, on this account, between the meals instead of after them he considered a mistake; experience had taught him that the tincture caused severe pains in the stomach, if taken at other times than after meals, and his opinion was that its astringent properties contracted the peptic glands, prevented the discharge of pepsin into the stomach, caused pain, and perhaps delayed the digestion of the following meal. By communicating with others who had been engaged in researches like the reader's, he had learned that their experience with the digestive powers of different pepsins agreed well with the author's; but he had also learned that a lot of pepsin made by a given firm might give an entirely different result from that of another lot prepared by the same makers, which certainly proved that what was sold as pepsin was a product of rather uncertain properties. In fact, it was doubt-

ful if any of the so-called pure pepsins were pure at all, and contemporary writers on physiological chemistry denied our ability to make pure pepsin. He had also learned from a maker of pepsin (Mr. Scheppe, of Sixty-fourth Street and Fourth Avenue, New York) that the stomach of one hog might yield an ounce of pepsin, while that of another would furnish only ten grains. That simply showed that the first hog required an ounce for his digestion, while the other needed only ten grains. The questions naturally arose, What was the dose for the human stomach? and How much in each individual case?—a matter, he could safely say, that it was very difficult if not impossible to determine, even supposing that the hog required the same species of pepsin that man needed. In a dose-table which he cited, the dose of saccharated pepsin was set down as ranging from thirty grains to an ounce—a wide range, indeed, simply showing how little we knew about the medicinal action of the so-called pepsin. Whenever he prescribed pepsin for a dyspeptic, he added hydrochloric acid, but he would candidly confess that he was not sure that it was not the acid alone that deserved the credit whenever the desired effect was produced.

The author had said: "It would appear . . . that the failure of appetite in a patient is not due to the checking of digestion by fever. The products of such digestion, however, no doubt seriously affect the same." With regard to this matter, the speaker had failed to recognize a special product of digestion in fever, but considered that the fever caused an increased action of the mucous glands, to the detriment of the peptic glands, which became closed and were not able to furnish the necessary pepsin, in consequence of which we observed failure of the appetite in fever. What share the nervous plexus of the stomach might have in the production of this state of things he would not undertake to say, but it was certain that pepsin, in combination with hydrochloric acid, produced benefit in fever by restoring the digestive powers for a time at least, and perhaps this might be the only time when it was rational to prescribe pepsin, because in dyspepsia it was not the want of pepsin in the stomach that gave rise to the indigestion, but the alkalinity of the fluids of the stomach, which rendered the existing pepsin unable to do its work.

If he had understood the author aright, he had asserted that pepsin, if brought into contact with albumin in the stomach, might, under certain specified conditions, not be able to digest the albumin sufficiently, but, instead of forming peptone, would change the albumin into parapeptone. The latter, the author had argued, would not be precipitated in the stomach, thence to be carried into the duodenum, where it would be brought into contact with trypsin and changed into peptone, but would be carried by osmosis into the walls of the stomach, and put a stop to digestion. The speaker would reply that, if such a thing was possible, the consequence would be that the parapeptone, once inside the walls of the stomach, would act as a foreign body, causing inflammation, suppuration, and perhaps perforation and death; in fact, every person who had indigestion would die of gastritis. He was of the opinion that, if parapeptone was formed in the stomach, it was carried with the chyme through the pylorus into the duodenum, where it was changed into peptone by the action of trypsin. The author had very correctly stated that Meissner had considered it impossible that parapeptone could be changed into peptone, but more recent observers, particularly Brücke, Schöffler, Hammersten, Finkler, Hoppe-Seyler, and Maly, had proved that, if pepsin came into contact with albumin, it must first form parapeptone with the latter before it could be changed into peptone; so that parapeptone might be considered an intermediate product of peptonic digestion. The insoluble peptones of which the author had spoken were only products of artificial digestion carried on

at a temperature far exceeding that of the stomach in health or disease.

Dr. W. H. HUTCHINSON said that he had spent a week in a pepsin-manufacturer's laboratory, and taken great interest in the daily tests of the quality of the product obtained. This varied very much; at one time a grain of the pepsin would digest seventy grains of albumin, and at another time ninety-five grains. The results that he had obtained in experiments with pepsin from different makers differed from any that he knew of.

Dr. A. BRINKMANN corroborated the statement that parapeptone was an intermediate product of peptonic digestion, and, citing Hoppe-Seyler (quoting from Brücke), said that the products of gastric digestion—peptone, parapeptone, acid albumin, and pepsin—after going through the pylorus, entered the duodenum and encountered the bile, which precipitated the parapeptone and the pepsin; and then the trypsin, acting on the parapeptone, converted it into peptone and rendered it assimilable. Iron and pepsin had each been a bone of contention among physicians. Perhaps, in giving tincture of chloride of iron, we made up for a deficiency of hydrochloric acid. Inasmuch as the doses of pepsin given by therapeutists varied from ten grains to half a drachm, it was doubtful if it had much virtue in aiding digestion.

Dr. ECCLES reiterated his statement as to the utter worthlessness of the United States Pharmacopœial test. He, too, had observed good results from the use of ingluvin in the treatment of the vomiting of pregnancy, but the point he had wished to make was that they were not due to its action as a digestive ferment. He had seen benefit from pepsin when no hydrochloric acid had been used. Dr. Stub's point about the appetite being affected in fever by closure of the peptic glands was doubtless a good one, but, as to parapeptone being changed into true peptone in the duodenum, that could happen only after precipitation. He had never known tincture of chloride of iron to give pain when given between meals, provided it was properly diluted. The percentage of extraneous matter in different specimens of pepsin ought not to vary so much as had been observed, and it would not if a common process were used. The dissatisfaction that had been expressed about the action of pepsin was largely due, the speaker thought, to the great number of inferior preparations of saccharated pepsin in the market.

Book Notices.

Drug Eruptions; a Clinical Study of the Irritant Effects of Drugs upon the Skin. By P. A. MORROW, A. M., M. D., Surgeon to Charity Hospital, Dermatological Division, etc. New York: William Wood & Co., 1887. Pp. vi-199. [Price, \$1.75.]

Dr. MORROW has rendered a great service to all practitioners of medicine by placing before them in this book a clear and full statement of all that is known of the action of the more important drugs upon the skin, and the ætiology, pathogenesis, diagnosis, and treatment of the various lesions which they cause. In reading this remarkable book the student is likely to be impressed with the amount of labor that has been expended upon it, with the great number of drugs that give rise to cutaneous symptoms, and with the masterly manner in which the author has handled his subject.

The matter is presented under various headings, as follows: History of the development of the clinical study of drug eruptions;

a definition of what is meant by drug eruptions; classification; general characteristics; ætiology; pathogenesis; general diagnosis; general treatment and prophylaxis; the special study of the drugs that affect the skin—the subject-matter proper, including notices of some sixty drugs, which are arranged alphabetically; a bibliography, with over five hundred references; and a full index.

It would give us great pleasure to notice all these divisions in full, but space will not allow of it. We, therefore, shall note only those features which demand special commendation. Of these the section on pathogenesis is a well-thought-out explanation of the mode of action of the drugs upon the skin, resting upon a sound and scientific basis. Our author shows clearly that the effects produced by either the internal or external use of drugs which are followed by cutaneous phenomena are dependent upon their irritant action upon the nervous supply to the skin, and not, as has been previously taught by others, either upon the drug inducing impairment of the integrity of the eliminating organs, or upon an elective affinity of the drug for the constituent elements of the glands, or upon changes, of a chemical or other nature, in the blood brought about by the presence of the drug in it. We would note also that to the account of the action of many of the drugs there are appended descriptions of ready tests for determining the presence of the drug in the urine. This feature can not fail to be especially appreciated. The most important drugs—such as arsenic, bromine, iodine, and mercury—are treated of with proper fullness.

In conclusion we would say that this book will be found useful both to the general practitioner and to the dermatologist—to the former, because it explains and illustrates many obscure eruptions met with in his daily work, helps him to avoid mistaking a drug eruption for a contagious exanthem, and aids him in preventing and in treating the cutaneous accidents incident to the use of certain medicines; to the latter, because nowhere else will he find so complete a statement of what has been observed of drug eruptions, and because he will find the bibliography of immense assistance in his own investigations in this attractive field.

Refraction of the Eye; its Diagnosis and the Correction of its Errors. By A. STANFORD MORTON, M. B., F. R. C. S. (Ed.), Surgeon of the Royal South London Ophthalmic Hospital, etc. Third Edition. Philadelphia: P. Blakiston, Son, & Co., 1886. Pp. viii-67. [Price, \$1.]

This little brochure was first published in 1881 for the express purpose, as the author states, of enabling practitioners to diagnose and correctly estimate the phenomena of a patient's refraction. The work consists of fourteen brief chapters, in which the entire subject of the anomalies of refraction is supposed to be discussed. We do not approve of these attempts to popularize such scientific branches of medicine, for experience has taught us that where the practitioner of medicine attempts to prescribe correcting glasses for cases of ametropia he almost invariably falls into error, and sometimes into an error of grave import. Only constant experience with a large number of cases, and a thorough knowledge of the intimate connection which exists between the eyes and the general system, together with a full appreciation of the personal equation of each patient, will enable us to avoid mistakes in prescribing correcting glasses. The author's style is clear, but we think he is too brief even for the recognized scope of the work.

BOOKS AND PAMPHLETS RECEIVED.

Cyclopædia of Obstetrics and Gynecology. The Pathology of Pregnancy, being Volume II of a Practical Treatise on Obstetrics. By Dr. A. Charpentier, Adjunct Professor at the Faculty of Medicine, Paris.

Translated under the supervision of, and with notes and additions by, Egbert H. Grandin, M. D., Obstetric Surgeon to the New York Maternity Hospital, etc. In Four Volumes. Forty-five fine Wood Engravings and Two Colored Plates. New York: William Wood & Co., 1887. Pp. 3 to 381.

Elements of Physiological Psychology: a Treatise of the Activities and Nature of the Mind, from the Physical and Experimental Point of View. By George T. Ladd, Professor of Physiology in Yale University. New York: Charles Scribner's Sons, 1887. Pp. xii-696. [Price, \$4.50.]

The Middlesex Hospital. Reports of the Medical, Surgical, and Pathological Registrars for the Year 1885. London: H. K. Lewis. Pp. 400. [Price, 2s. 6d.]

The Ophthalmoscope in General Medicine. By William Oliver Moore, M. D., Professor of the Diseases of the Eye and Ear in the New York Post-graduate Medical School and Hospital, etc. [Reprinted from the "Transactions of the Vermont State Medical Society"]

On Cataract Extraction without Iridectomy. By H. Knapp. [Reprinted from the "Archives of Ophthalmology."]

Captain Glazier and his Lake. An Inquiry into the History and Progress of Exploration at the Head-waters of the Mississippi since the Discovery of Lake Itasca. New York and Chicago: Ivison, Blakeman, Taylor, & Company. ["Educational Reporter," extra.]

The Non-contagiousness of Pulmonary Tuberculosis. By Thomas J. Mays, M. D., Philadelphia, Pa. [Reprinted from the "Therapeutic Gazette."]

Uterine Fibroids and other Pelvic Tumors; their Therapeutic Treatment and Conduct to the Menopause. By Henry Fraser Campbell, M. D., Augusta, Ga. [Reprinted from the "New Orleans Medical and Surgical Journal."]

A Clinical Lecture on Herpes Zoster. By William Oliver Moore, M. D., Professor of the Diseases of the Eye and Ear in the New York Post-graduate Medical School and Hospital. [Reprinted from the "Quarterly Bulletin."]

Clinical Studies of Disease in Children. By Eustace Smith, M. D., Fellow of the Royal College of Physicians, Physician to his Majesty the King of the Belgians, etc. Second Edition. Philadelphia: P. Blakiston, Son, & Co., 1887. Pp. xv-318. [Price, \$2.50.]

Twenty-seventh Annual Report of the Medical Superintendent of the State Asylum for Insane Criminals, Auburn, N. Y. For the Year ending September 30, 1886.

The Practitioner's Hand-book of Treatment; or, the Principles of Therapeutics. By J. Milner Fothergill, M. D., Physician to the City of London Hospital for Diseases of the Chest, etc. Third American from the Third English Edition. Philadelphia: Lea Brothers & Co., 1887. Pp. xx-17 to 660. [Price, \$3.75.]

Announcement of the Twenty-ninth Annual Session of the Long Island College Hospital, Brooklyn, N. Y.

The One Hundred and Sixteenth Annual Report of the State of the New York Hospital and Bloomingdale Asylum. For the Year 1886.

Reports on the Progress of Medicine.

CUTANEOUS AND VENEREAL DISEASES.

By GEORGE THOMAS JACKSON, M. D.

Horsford's Acid Phosphates in Skin Diseases.—Startin ("Med. Press and Circular," Jan. 19, 1887) has found this preparation of great service in the treatment of general eczema, general psoriasis, late syphilis, and lichen ruber.

The Ætiology of Alopecia Areata.—Schütz, of Frankfort ("Mntshft. f. prakt. Dermat.," Feb., 1887), believes in the parasitic origin of alopecia areata, but regards it as caused by the *Trichophyton* fungus. In six out of eight cases of alopecia areata—that is, of patches of typical baldness without scaling—stumps of hair remained after the hair had fallen. Hairs were taken from the patches and surrounding parts in

seven cases, and examined with every precaution to avoid errors. In two cases spores and mycelia similar to, if not identical with, those of the *Trichophyton* were found. Schütz does not wish to appear as an opponent of the neurotic theory, but believes that some cases which, to all appearances, are cases of alopecia areata, may be due to ringworm.

The Clinical Boundaries of Alopecia Areata.—Behrend ("Berlin. klin. Wehnschrft.," Feb. 14) denies absolutely the existence in alopecia areata of either inflammatory symptoms, exudation, or scaling. It is necessary to have in a given case an entire absence of these symptoms to make a diagnosis of alopecia areata from eczema, lupus erythematosus, and ringworm of the scalp. In all these three there are inflammation, exudation, and scaling before there is falling out of the hair, and these manifestations of disease must be overcome before the hair will grow, while the peculiarity of alopecia areata is that the hair falls and grows in again without any such manifestations. In some cases there may be redness, but it is only due to hyperæmia, and is not accompanied by any sign of inflammation. In a few days it disappears, leaving the scalp anæmic and smooth. Further, the stumps of hairs which are sometimes met with about the border of a patch of alopecia areata differ from those met with in ringworm in coming out entire with the lightest pull of the forceps, and in falling out spontaneously in a few days.

Pruritus of the Anus.—This troublesome affection has been found by Bangs ("N. Y. Med. Month.") to be due in some cases to irritation in the genital organs, as by stricture of the urethra, or by acute or chronic enlargement of the prostate, and he has succeeded in curing the pruritus by curing the source of irritation. In one case occurring with acute prostatitis, the intense itching was cured by hot-water rectal injections. In another case of intense pruritus which had resisted all attempts at relief, a very sensitive condition of the urethra was found, dependent upon prolonged sexual intercourse. The patient was cured by the passage of a sound, and by correcting his bad sexual habit. Several other interesting cases are reported, all illustrating the connection in some cases between the itching of the skin and irritation in the genital tract.

The Treatment of Acne.—Lassar ("Therap. Mntshft.," 1887, No. 1) recommends for all forms of acne the following paste:

β-naphthol	10 parts;
Precipitated sulphur	50 "
Vaseline or lanolin, { each	25 "
Green soap, {	

This is to be spread upon the skin to the thickness of the back of a knife-blade, and left on for fifteen or twenty minutes, when it will cause a little burning. It is then to be wiped off with a soft cloth, and the skin powdered with talc. The skin soon becomes inflamed, then turns brown, and finally peels off. The desquamation can be hastened by the application of Lassar's paste with two per cent. of salicylic acid. When the desquamation has ceased, the acne will be found to be greatly benefited.

The Treatment of Erysipelas with Ichthyol.—Nussbaum ("Med. Press and Circular," Jan. 26, 1887) has treated five consecutive cases of erysipelas of the extremities successfully with the application of equal parts of ichthyol and vaseline. The rapidity of cure with this agent he explains upon the theory that the reducing action of ichthyol starves the nutrient soil of the cocci so that they can no longer thrive. The drug is not an antiseptic.

Epithelioma Developing upon a Psoriatic Base.—H. Hebra ("Mntshft. f. prakt. Dermat.," Jan., 1887) reports another case of epithelioma developing upon a psoriatic base. This makes the fourth case of the kind reported, one having been reported by Cartay in 1878, and two by White in 1885. In White's cases and Hebra's there was a transition stage of warty growth of the plaques, a form to which the name of psoriasis verrucosa is given. These cases should make us careful of prognosis when we see a case of psoriasis take on a warty growth; and they show, further, that psoriasis is inflammatory in its nature and not a mere parakeratosis.

Epithelioma Cured with Chlorate of Potassium.—Reclus ("Gaz. des hôp.," March 1, 1887) reports a number of cases cured in a few weeks by keeping the part covered with compresses wet with a saturated solution of chlorate of potassium. He regards this method as

valuable in cases where for any reason an operation with the knife is contra-indicated.

Impetigo Contagiosa in Children.—Zit, of Prague, has contributed to the "Archiv f. Kinderheilkunde" (1887, vol. viii, Heft iii) a very complete study of impetigo contagiosa, founded upon personal observations made in forty cases. He recognizes the disease as a separate entity. He found that in many if not most cases there were no prodromal symptoms, and that the disease developed slowly from one or more initial lesions. When it attacked one member of a family, the other members were liable to be affected with it, one after the other. The general health of the children did not seem to be affected. The pustule begins as a lentil-sized, brownish-red spot, with the epidermis over it loosened. It itches and very soon becomes surmounted with a bleb which bursts before long. In his cases the blebs were of various sizes up to that of a large pea. They were not fully distended, and their contents were thin, yellowish, and sero-purulent. They were most frequently found on the head, face, neck, forearm, fingers, toes, and shins; seldom on the abdomen, and never on the back. After they burst they left round crusts, which were yellowish or amber-colored; or, if mixed with blood, blackish. They at times attain large size and become very thick, but there is no inflammatory reaction in their neighborhood. They heal readily without scars; but for a time a pigmented spot is observable at the site of the lesions. They are isolated and the skin between them is healthy. Children are most liable to the disease, especially those of the very poor. It is eminently contagious by contact and by self-inoculation. As yet no parasite has been proved positively to be the cause. The duration of the disease varies with the care that is bestowed upon the child; it may last many months. In the treatment, a one-per-cent. solution of bichloride of mercury was found most efficacious. If the eruption is extensive, sublimate baths may be advised. Where the crusts have been detached, the raw places may be dressed with sugar or with calomel. The children should be kept perfectly clean, whatever treatment is used.

Cassia Alata in the Treatment of Ringworm.—Conillebault ("Thèse de Paris," 1886) has found that neither tincture of iodine, sulphur, bichloride of mercury, nor oil of cade gives such prompt results in the treatment of ringworm of the body as rubbing the parts with the leaves of *Cassia alata* moistened with water. Where the fresh leaves are not attainable, an extract prepared with acetic acid is advised.

Wet-nurses in the Period of Incubation of Syphilis.—Fournier ("Arch. de tool.," Dec., 1886) draws attention to the danger of wet-nurses, apparently healthy at the time of their engagement, developing chancres on the breast subsequently, derived from syphilitic children they have previously nursed. It is almost impossible to absolutely protect children from this danger, on account of the slowness of incubation of the chancre. Should such an accident occur, he advises that the child, if still showing no symptom of syphilis, be fed on the bottle for a few weeks and carefully watched for any manifestation of the disease. The nurse should be retained and care exercised to prevent her milk from drying up. If at the end of a few weeks the child should still continue healthy, a healthy nurse may be obtained for it. But should it manifest syphilis, then the syphilitic nurse may resume her duties. Of course, if at the time of consultation the child is syphilitic, there is no reason for sending the nurse away or stopping the nursing of the child.

Acquired Syphilitic Vitiligo is the name applied by Poelchen ("Arch. f. path. Anat. u. Physiol. u. f. klin. Med.," cvii, 3, 1887) to the white round or elliptical spots left on the skin, especially of women, by a macular syphilide. He has found that these spots only occur when the skin is protected from pigment-producing agents, especially sunlight; and that they last for from a few days to four years.

The Various Centers of Reproduction of the Syphilitic Virus.—Neumann ("Wien. med. Wchnschr.," 1887, 8, 9) has found by microscopical examination that, besides the lymphatics, which have long been known to be reservoirs of syphilitic virus, there are many other centers of reproduction of the contagium syphiliticum in the skin and mucous membrane. At the site of an active lesion there remains for months or years a collection of round cells which only require some agent to irritate them, in order to wake them up to new life and to the production of a specific lesion or focus of contagion. He would thus

explain the appearance of a papular syphilide upon the nose following an eczema or seborrhœa; a relapse of a specific eruption upon the scrotum or the anal fold from the occurrence of an intertrigo; the communication by a kiss on the denuded mucous surface of the lip; and many other apparently strange relapses of the disease after it had been regarded as cured for months or years. In course of time the exudation cells become changed, undergo fatty or cheesy degeneration, and lose their virulence.

The Treatment of Gonorrhœa.—Casper, of Berlin ("Berl. klin. Wchnschr.," Jan. 31, 1887), has found the oil of sandal-wood very useful in acute gonorrhœa, when given in doses not to exceed forty drops a day. Larger doses he has seen produce congestion of the kidneys. In chronic gonorrhœa this oil is useless; nor has he found any benefit from the use of antiseptics, such as corrosive sublimate, resorcin, carbolic acid, and permanganate of potassium, though he fully believes in the *Gonococcus* of Neisser. The reasons for the intractability of chronic gonorrhœa are believed by him to be changes in the constitution of the individual, and inadequate application of the medicament chosen. Rheumatism, scrofula, and syphilis all interfere with the successful treatment of a case. The second factor, the inadequacy of application, is overcome by him by the use of grooved sounds, and the employment of lanolin as a base for his chosen ointment. He recommends the following:

- Nitrate of silver (dissolved in the smallest amount of distilled water)..... $\frac{1}{2}$ to $\frac{1}{4}$ part;
- The purest anhydrous lanolin..... 35 parts;
- The purest olive-oil..... 15 "

This is rubbed into the grooves of the sound with a spatula; the anterior portion of the sound is oiled, and then passed into the urethra as far as is necessary to bring the ointment into the required place. The sound is left in the urethra as long as possible, say for half an hour. Should the patient have a chill or suffer from much pain, should the penis become erect or the bladder contract, the sound is to be withdrawn. The operation is to be repeated every second day. This procedure is successful in a great number of cases. Some refractory cases will yield to the direct application through a hollow sound of one to ten drops of a one-to-twenty-per-cent. solution of nitrate of silver.

Miscellany.

Government Health Reports.—By direction of the Secretary of the Treasury, Dr. John B. Hamilton, Surgeon-General of the Marine-Hospital Service, has issued the following abstract of sanitary reports received during the week ending April 7th:

England and Wales.—The deaths registered in twenty-eight great towns of England and Wales during the week ending March 19th corresponded to an annual death rate of 22.4 in a thousand of the aggregate population, which is estimated at 9,245,999. The lowest death rate was recorded in Birkenhead, viz., 13.9, and the highest in Manchester, viz., 33.2 in a thousand.

London.—One thousand six hundred and fifty two deaths were registered during the week ending March 19th, including 84 from measles, 15 from scarlet fever, 13 from diphtheria, 42 from whooping-cough, 7 from enteric fever, 1 from typhus fever, 1 from choleraic diarrhœa, and 16 from diarrhœa and dysentery. There were 474 deaths from diseases of the respiratory organs. Different forms of violence caused 65 deaths. The deaths from all causes corresponded to an annual rate of 20.4 in a thousand. In greater London, 2,016 deaths were registered, corresponding to an annual death rate of 19.4 in a thousand of the population. In the outer ring, 18 deaths from measles, 7 from diphtheria, and 7 from whooping-cough were registered.

Ireland.—The average annual death rate represented by the deaths registered during the week ending March 19th, in the sixteen principal town districts of Ireland, was 27.3 in a thousand of the population. The lowest rate was recorded in Galway, viz., 9.7, and the highest in Londonderry, viz., 32.1.

Dublin.—One hundred and ninety-eight deaths were registered during the week ending March 19th, including 2 from scarlet fever, 1 from diarrhoea, 3 from enteric fever, and 2 from erysipelas. Diseases of the respiratory organs caused 47 deaths. In thirty-six instances the causes of death were uncertified, there having been no medical attendant during the last illness. The deaths from all causes corresponded to an annual rate of 29.2 in a thousand.

Scotland.—The death rate in eight principal towns during the week ending March 19th was 26.2 in a thousand of the aggregate population, which is estimated at 1,299,000. The lowest mortality was recorded in Dundee, viz., 15.8, and the highest in Aberdeen, viz., 41.7 in a thousand. The aggregate number of deaths registered from all causes was 655, including 1 from small-pox, 50 from measles, 9 from scarlet fever, 6 from diphtheria, 28 from whooping-cough, and 11 from diarrhoea.

Germany.—The deaths registered in fifty-two cities of Germany, having an aggregate population of 6,763,937, during the week ending March 5th, corresponded to an annual death rate of 24.7 in a thousand. The lowest rate was recorded in Wiesbaden, viz., 10.9, and the highest in Augsburg, viz., 36.3 in a thousand.

Netherlands.—The deaths registered in twelve cities of the Netherlands, having an aggregate population of 1,101,954, during the month of January, 1887, corresponded to an annual death rate of 26.5 in a thousand. The lowest death rate was recorded in Leeuwarden, viz., 20.8 in a thousand, and the highest in Utrecht, viz., 34.9 in a thousand.

New Zealand.—The deaths registered in the four principal boroughs of New Zealand, having an aggregate population of 98,106, during the year 1886 corresponded to an annual death rate of 14.5 in a thousand. The lowest rate was recorded in Dunedin, viz., 12.6, and the highest in Wellington, viz., 17 in a thousand.

Palermo.—The United States consul at Palermo states, March 9, 1887, that "cholera has not reached this city thus far, and there is little or no apprehension that it will. Unlike other periods of cholera prospects during the last three years, the people seem tranquil and fearless. The usual 'demonstrations' have not been held, and it seems, should the cholera present itself, compared with other occasions, few will fear it. Nothing has been done to improve the sanitary condition of the city since the last epidemic." One hundred and eighteen deaths were registered during the week ending March 19th, including 2 from enteric fever, 2 from scarlet fever, and 4 from diphtheria.

Calcutta.—Four hundred and ten deaths were registered during the two weeks ending February 19th, including 36 from cholera and 2 from diphtheria.

Guayaquil.—One hundred and thirty-five deaths were registered during the two weeks ending March 10th, including 17 from yellow fever, 13 from small-pox, and 52 from enteric fever.

Havana.—Four cases of yellow fever were registered during the week ending March 24th, but no deaths from that disease.

Malta.—The Government, under date of March 14th, has directed that steam-vessels arriving there within twenty-one days of leaving Sicily will, if they have not been at Catania within that period, be allowed to enter Marsamuscetto harbor, for the purpose of taking coals and provisions only, in quarantine. Such vessels will be obliged to leave immediately after having taken coals and provisions.

Paris.—One thousand two hundred and forty-three deaths were registered during the week ending March 19th, including 7 from small-pox, 14 from whooping-cough, 36 from enteric fever, 2 from scarlet fever, 51 from diphtheria, and 51 from measles.

Reims.—Forty-nine deaths were registered during the week ending March 19th, including 1 from small-pox, 2 from whooping-cough, 1 from enteric fever, 3 from scarlet fever, and 1 from diphtheria.

Nice.—One hundred and twenty-four deaths were registered during two weeks ending February 15th, including 4 from small-pox and 2 from enteric fever.

Munich.—One hundred and twenty-seven deaths were registered during the week ending March 12th, including 1 from small-pox, 1 from enteric fever, 1 from scarlet fever, and 2 from diphtheria.

Warsaw.—Four hundred and ten deaths were registered during the two weeks ending March 12th, including 17 from small-pox.

Genoa.—One hundred and twenty-four deaths were registered during

the week ending March 19th, including 6 from small-pox, 3 from enteric fever, 1 from scarlet fever, and 2 from diphtheria.

Paita, Peru.—Four deaths were registered during the week ending March 5th, including 1 from small-pox.

Bordeaux.—One hundred and twenty-five deaths were registered during the week ending March 19th, including 3 from enteric fever.

Barmen.—Forty-three deaths were registered during the week ending March 19th, including 1 from diphtheria, 1 from whooping-cough, 3 from typhus fever, 1 from cholera morbus, and 1 suicide.

Bremen.—Fifty-nine deaths were registered during the week ending March 12th, including 1 from diphtheria and 4 suicides.

Leipsic.—Sixty-three deaths were registered during the week ending March 19th, including 1 from scarlet fever, 3 from diphtheria, and 1 suicide.

Amsterdam.—Two hundred and thirteen deaths were registered during the week ending March 20th, including 1 from enteric fever, 1 from scarlet fever, and 2 from diphtheria.

MORTALITY TABLE, FOREIGN CITIES.

CITIES.	Week ending—	Estimated population.	Total deaths from all causes.	DEATHS FROM—							
				Cholera.	Yellow fever.	Small-pox.	Typhus fever.	Enteric fever.	Scarlet fever.	Diphtheria.	
Calcutta	February 12.	433,219	188	17							1
Calcutta	February 19.	433,219	223	19							1
Guayaquil	March 3.	35,000	74		6	8		31			
Guayaquil	March 10.	35,000	61		11	5		21			
Paris	March 19.	2,290,045	1,243			7		36	2	51	
Reims	March 19.	97,903	49			1		1	3	1	
Munich	March 12.	269,000	127					1		2	
Warsaw	March 5.	431,572	236			12					
Warsaw	March 12.	431,572	184			5					
Genoa	March 19.	179,395	124			6		3	1	2	
Paita, Peru	March 5.	3,500	5			1					
Bordeaux	March 19.	240,582	125					3			
Barmen	March 19.	108,000	43							1	
Bremen	March 12.	119,000	50					3		1	
Leipsic	March 19.	170,000	63							1	3
Amsterdam	March 20.	378,680	213					1		1	2
Glasgow	March 19.	487,943	304			1				6	3
Belfast	March 19.	221,322	135				2	1	1	1	
Leghorn	March 20.	101,172	43								
Palermo	March 19.	250,000	118					2	2	4	
Toronto	March 26.	120,000	20							1	
Stuttgart	March 19.	125,510	38								
Mannheim	March 5.	65,000	20								
Cadiz	March 19.	65,028	40								
Gibraltar	March 13.	23,631	12								

Glasgow.—Three hundred and four deaths were registered during the week ending March 19th, including 1 from small-pox, 6 from scarlet fever, and 3 from diphtheria.

Belfast.—One hundred and thirty-five deaths were registered during the week ending March 19th, including 2 from typhus fever, 1 from enteric fever, and 1 from diphtheria.

Leghorn.—Forty-three deaths were registered during the week ending March 20th, including 1 from scarlet fever.

Mayence.—Twenty-six deaths were registered during the week ending March 12th, including 1 from diphtheria.

Toronto.—Twenty-nine deaths were registered during the week ending March 26th, including 1 from diphtheria.

The Health of the State of New York.—According to the State Board of Health's "Monthly Bulletin," for February, the whole number of deaths reported was 6,653, including 1,058 from zymotic diseases.

The Health of Michigan.—During the five weeks ending April 2d, according to the summary prepared by the secretary of the State Board of Health, Dr. Baker, diphtheria was reported from forty-six places, scarlet fever from fifty-two, typhoid fever from thirteen, and measles from thirty-five.

The Health of Boston.—The reports of cases and deaths from infectious diseases that were returned to the Board of Health during the week ending Saturday, April 9th, were as follows: Diphtheria, 18 cases and 2 deaths; scarlet fever, 24 cases and 3 deaths; typhoid fever, 14 cases and 2 deaths; measles, 43 cases and 4 deaths. There were also 34 deaths from consumption; 21 from pneumonia; 13 from heart disease; 11 from bronchitis; and 4 from marasmus. The total number of deaths was 205, against 191 the corresponding week last year.

Original Communications.

DIAGNOSTIC AREAS OVER THE HUMAN CHEST.*

By J. R. LEAMING, M.D.

THE human chest is an acoustic chamber mathematically adapted in its interior form for the reflection and consonation of sound waves originating in the larynx.

It is composed of bones, cartilages, and muscles. The upper part or cone-formed roof is bound firmly together by ligaments. But, by reason of the muscular interlacing of the ribs, the muscular diaphragm, and of the spiral form and elasticity of the ribs and cartilages, the lower part admits of expansion and contraction, enlarging or diminishing the acoustic chamber in capacity and power.

The contents of this chamber are the heart and lungs and their appendages—the air-passages and the great vessels. The pleura is a dense, shining, elastic membrane, which covers the contents, and is thence reflected over the inner chest-wall, and, forming a fold, the mediastinum, divides the chamber longitudinally for the reception of the right and left lungs.

The mediastinum is divided, for description, into upper and lower, anterior and posterior. It in folds the great vessels and the trachea, to which it is attached by cellular tissue.

The heart occupies a portion of both pulmonary cavities, lying through and across the mediastinum, to which the pericardium is attached, and which is also attached to the diaphragm, limiting the too free movement of the apex. The lungs, fixed in position by their attachment to the mediastinum and the trachea above, are free below. The heart, enveloped in the lungs, hangs like a bell in its tower, which may be dislocated to the right or to the left, backward or forward, or may be drawn or pressed upward to a degree, but is not easily displaced downward.

The lungs are divided into lobes for greater freedom of movement and for a greater surface for the full distribution and development of peripheral air-sacs in which the greater part of the blood is aerated.

The lungs fill the chest cavity with expansive force even after expiration. Their great mobility, everywhere moving freely against lubricated smooth pleural membrane, gives opportunity for every air-sac to receive its full proportion of air. The periphery of the lungs is pressed against the chest-wall. In inspiration the lung moves along a definite distance, and in expiration returns again.

Each air-sac, distended with compressed air, is a resonator, and is in direct connection with the outer air during inspiration. Vibrations in the convective air-tube, friction sound of the tidal air, and the susurrus of the muscular covering of the sacs themselves, are all consonated in them. The ear placed, against the outer wall, hears clear through each little speaking-tube as the lung moves along, the repetition being infinite and rapid, the impression of multitu-

dinous vibrations in concerted loudness and smooth volume is heard, which is the natural respiratory murmur.

In a closed room we may measurably exclude outside sounds. We may increase the air and tube friction murmur by hurrying the respiration, which is broncho-respiratory murmur. By holding the breath after a full inspiration we get the muscular susurrus of the air-sacs, which is true respiratory murmur. Thus may we analyze the respiratory murmur and diagnosticate pathological changes in the broncho and true respiratory systems by applying the unvarying laws of sound, and make auscultation scientific.

Every portion of the chest-wall gives these evidences of the condition of the contained lung except that of the apex-beat area; there the heart is pressed against the chest-wall, pushing aside the enveloping lung. These are the two natural grand areas over the chest-wall—the pulmonary and the cardiac.

The heart and lungs, in their movements within the chest-wall, produce sound which may be diagnostic; but this is not the great function of this marvelously acoustic combination of sound chamber and multiple consonating lung. The power, compass, and infinite modulation of the human voice become possible in the multitudinous resonance and sound conduction of the lungs inclosed in a perfect acoustic chamber. Those who listen with delight to the music of the voice of a great singer like Patti must stand in awe at the divine mechanism, sentient with the soul which, through the organic life, governs these harmonious combinations of sound.

Wonderful as is the acoustic quality of the perfect sound chamber in its normal condition of sensitive delicacy, it is still more wonderful that, exposed as is the person to all the vicissitudes of climate and the nervous depression incident upon a life of anxiety and worry, these conditions of nicety of function can be continued so many years in any degree of perfection.

We are told that autopsies frequently reveal organized adhesions of the lungs to the chest-wall, or of the lobes to each other, or to the pericardial sac, which had not been suspected during life. But each attachment is an opening for sound leakage, both of the voice and respiratory murmurs, and constitutes a diagnostic area which should have been discovered by the careful auscultator.

Attached to the outside of the chest-wall by muscles and ligaments are the clavicles and scapulae, the machinery for the movement of the arms. The clavicles are the braces in front, which are points of resistance to the power wielded by the arms. The scapulae are placed behind, and are jointed to the clavicles, but their distal ends are free, and are allowed considerable movement, sliding over the surface backward and forward. This outside machinery has nothing to do with the acoustic conditions of the chest, but is made the basis for regional mapping of the surface by writers on chest diseases. In front there are the supra-clavicular, the clavicular, the infra-clavicular, the supra-mammary, the mammary, the infra-mammary, the sternal, the apex, and the base. Behind these are the supra-scapular, the scapular, the inter-scapular, the infra-scapular, the base, and the apex. At the

* Read by title before the Medical Society of the State of New York at its eighty-first annual meeting.

side are the axillary, the infra-axillary, and the base. This mapping of the chest-surface is useful in locating artificial areas.

The two great natural areas have definite boundaries, but the lung partially overlaps the heart in front, making a shadowy neutral ground of great possible diagnostic importance.

The lung is both a very good and a very poor conductor of sound. The air in the convective tubes is a direct sound conductor, like the air in speaking-tubes. The air in tubes and sacs lying upon each other, as in the mass of the lung, is not sound-conducting in any degree.

Over this borderland of thin lung inclosed within the outlines of the heart and of the lungs, the respiratory sounds are as perfect in the normal condition of the lung as in its greater depths; but it is more subject to pathological products which speedily alter the acoustic conditions and result in pathological or accidental areas, into and through which the respiratory murmurs and heart sounds are telephoned. Consequently this, the cardiac region, is more frequently the locality of artificial areas. But healthy lung anywhere becoming adherent, normal respiratory murmurs are focused into this definite area with so much exaggeration as to be mistaken for evidence of pathological conditions within the lungs. But still more misleading are the signs where the adhesion attaches the chest-wall to a portion of shriveled lung from fibroid invasion extending down to a dilated bronchus. The area over the adhesion is depressed, and there is cracked-pot percussion resonance. There is also cavernous respiration. The voice and whispering tests, all but the coughing test, seem to prove the existence of a cavity, and yet there is none, and there has been none. It is simply conducted sound from a dilated bronchus through consolidated tissue.

A brilliant young member of our profession had such an area of depression over the right bronchus following an acute attack of fibroid from which he recovered, but died of other disease. The autopsy showed shriveled fibroid lung attached to the chest-wall, but no cavity. All of the physical signs, except the cough test, seemed to indicate a cavity. These cases are called anomalous; but are they so? They entirely agree with acoustic law, and, under the same physical conditions, the same physical signs will always be present. President Day had hæmorrhages and other signs of phthisis in his youth, but he recovered and lived to be ninety-five years old. The same physical conditions existed at the autopsy, and no doubt the same physical signs were present in life. The published account called the shriveled lung a cicatrix, which is a mistake, for the lung does not cicatrize after an ulcerated excavation has taken place.

These curious diagnostic areas occur only over large bronchial tubes, particularly over the right bronchus in the right infra-clavicular region. In the left infra-clavicular region another diagnostic area is established by adhesion of the lung to the chest-wall, resulting in hoarseness and altered tones of the voice from involvement of the recurrent laryngeal nerve. Laryngologists will fail in the treatment of this affection unless they recognize its interpleural pathology and apply the means for its removal.

Adhesions of healthful lung to the chest-wall may be cellular, loosely attached, allowing more or less freedom of movement, masking somewhat the respiratory murmur by râles and friction, but interfering but little with the office of aëration of the blood. The size of the râles measures the degree of movement. The adhesion may be so tight and firm that there will be no friction or râles, or it may move but little, and fine crepitant râles result, a sign which has been considered pathognomonic of pneumonia, which it does not always accompany, and, as it frequently occurs without pneumonia, it loses its pathognomonic character. Yet both of these signs indicate conditions of serious embarrassment of the circulation in the true respiratory system, and may be followed by hæmorrhage or pneumonia. A sign of importance accompanying the absence of râles or their crepitant character is feeble respiratory murmur. The lung does not move, but is held fast by the attachment and prevents the passing and repassing of the innumerable speaking-tube arrangements under the ear.

When the pulmonary pleura is partially covered with pseudo-membrane not adherent or loosely so, the air and friction murmur does not pass directly through the chest-wall, but is arrested by the thickened pulmonary pleura and spreads itself over the whole extent of organized exudation. The murmur has an indefinite jarring character, like that of glass in a window after an explosion or the firing of guns, and is spoken of as harsh respiration.

Circumscribed pleuritic effusion, posteriorly in the right pleura, filling the sac to its utmost tension, over consolidated lung, with the colon distended with gas in front, will give tympanitic resonance by percussion over the circumscribed area of effusion. This apparent anomaly is acoustically explained thus: The particles of fluid within the tense sac receive the impulse of percussion, carrying the impulsion on through the consolidated lung into the compressed air of the colon, where it resounds, and these sound vibrations are carried immediately back to the point of percussion, and tympanitic resonance is heard. The familiar illustration of our school days of the ivory balls in a row touching each other is recalled. An impulse given at one end of the row will be passed through all, but the last one only will fly off; but, striking against a resisting barrier, will be sent back, and, striking the second ball, the impulse will be carried back again through the row, and the first ball will fly off in the direction from which it received the original impulse.

Tumors, concretions, or cavities in the center of an otherwise healthful lung are difficult of detection, for the only sound conduction is that of the air within the bronchus, whose branches may be distributed to a portion of lung surface some distance away. This area, if suspected, must be sought diligently, for it is not of great loudness nor distinctness; but should the lung become consolidated and adherent, the diagnosis immediately becomes plain by reason of the great sound leakage.

Peribronchitic exudation of lymph without interpleural exudation gives a diffused murmur, heard over the area of bronchial distribution. But if there is also interpleural adhesion, the respiratory murmur will be feeble or absent, re-

placed by bronchial respiration and bronchophony, the usual signs of phthisis, but not necessarily tubercular.

The apex of the lung is more prone to this pathological change, being inclosed in the cone-shaped roof of the chest-wall, in which the lung has least movement and receives less benefit from expansive treatment than in other portions. Consequently, cheesy or necrotic changes here sooner commence. This is the phthisical area.

The lung below and at each side of the apex-beat area is thin, has less expansive force than other parts, becomes adherent frequently, and causes sound leakage both from the heart and lungs. It has most influence, however, upon the heart, causing irritation and frequency of the heart-beat. The patient also becomes nervously sensitive to sights and smells, causing nausea.

Diagnostic Areas of Heart Murmurs.—The natural areas of heart murmurs are three in number. First, the apex-beat; second, the aortic obstructive and aortic regurgitant; third, the mitral regurgitant of Cammann.

The apex-beat area is over that part of the chest-wall under which the heart lies uncovered by lung, where the heart-beat is felt and where the heart's sounds are distinctly heard.

The portion of the heart thus brought directly in contact with the chest-wall in diastole is the lower part of the right ventricle, the septum, and a small portion of the left ventricle, which in systole, by its superior force in contraction, recedes, turns to the right, and strikes the chest-wall. Consequently, the sounds and murmurs heard over the apex-beat area are properly described as intra-ventricular. Within the boundaries of this area are heard the first and second sounds and the various intra-ventricular murmurs, and the aortic regurgitant murmur, and we proceed to analyze them with the same assurance of coming to the truth as we would in applying the laws of light in demonstrating the conditions of the interior of the eye. The elements of sound vibration within the ventricle are, first, the mitral valve; second, the chordæ tendineæ; and third, the rushing blood.

If the valve or the chordæ have been made *over-tense* or *under-tense*, or if the vibrations have been obstructed by lymph deposits upon the valve or upon the chordæ tendineæ, or if the quality of the blood has been altered, then the first sound will have been altered, and *that* we call a murmur. The force applied is the muscular contraction of the walls of the ventricle. If the contraction is irregular, the tension of the valve or of the chordæ will of course be irregular, and the sound vibrations resulting will be slower or more rapid, of higher or lower pitch, according to the degree of tension of the valve or chordæ, producing discord or murmur. As the chordæ are many, what a variety of discords may ensue! Like the bow of the violinist, the blood is the immediate cause of vibrations. It has been proved by experiment that the heart contracting without blood in its cavity gives out no sound.

The late Dr. George Philip Cammann called all of the intra-ventricular murmurs which had a valvular or partly valvular quality "mitral non-regurgitant." They may with propriety also be called mitral obstructive, for they have a

harsh rasping character, denoting deposits upon the valve which impede the movement of the blood.

The loud blowing murmurs not having the harsh valvular quality denote alteration of the normal tension of the chordæ tendineæ, and may be owing to irregular hypertrophy of the ventricular walls or to spasmodic contraction, from functional disturbance, from deposits upon the chordæ, or from altered quality of the blood.

On account of the great variety of murmurs heard at the apex-beat area, the imagination of writers has been stimulated to fable them as signs of conditions which do not exist. The heart is double; there are two auricles, two ventricles, and two sets of valves, and the endeavor of some writers has been theoretically to give to each chamber, to each orifice, and to each valve a particular murmur which is not found in nature, and this leads to error in diagnosis.

The heart has but *one* action—it *contracts*. Both auricles and both ventricles contract exactly in the same period of time. The contraction commencing in the auricles instantly passes into the ventricles and continues down to the apex, performing the great function of the heart, that of forcing the blood out of its cavities, and is ended by the apex-beat. After this *one* action the whole heart rests, and, being relaxed, again fills with blood passively. Working as one organ, there is perfect synchronism of valve and cavity sound; it is systolic.

The rest or relaxation of the heart is the time between the contractions—the diastole. The second sound is caused by the return blood closing the valves. The cause is extra cardiac; it is the return blood in the aorta. The heart acts and the first sound results: it relaxes and the return blood in the aorta closes the valve, causing the second sound.

The original application of the terms systole and diastole was made under a misapprehension of the physiology of the heart's action. The contraction is not the forcible bending of a resisting spring, nor the diastole its forcible unbending. There is no force of muscle, nor any other, in diastole, except the vis a tergo of the constantly moving blood. The heart is passive except during its contractions. The first sound is long, the first interval of silence is short; the second sound is short, the second interval of silence is long. This measures the full round of the heart-beat.

This is the rhythm of the heart. The relative time of each division of a revolution is as follows (according to Walsh): First sound, 0.4; first silence, 0.1; second sound, 0.2; second silence, 0.3, making ten equal parts for each revolution. This may not be exact, but it is sufficiently so for illustration, and the practiced ear is a perfect micrometer and will in every case detect the slightest fault in rhythm. With perfect rhythm there can be no incapacity of the valves nor obstruction to the course of blood, and consequently it is an absolute test of the perfect action of the heart as a pump, no matter how loud or discordant may be the murmurs.

The aortic obstructive area commences over the aortic orifice and extends across the sternum, following the course of the aorta. There are two points of great intensity—one just beyond the sternum, and the other about one inch and

a half below the aortic orifice in the middle of the sternum. These are points of conduction of sound from the base of the heart by direct attachment. A vegetation or a loose tongue of fibrin adherent at the aortic orifice will give a loud musical murmur which may be heard throughout every part of the chest-wall, but with greatest intensity at these diagnostic points. The cause of sound is between these points, and the vibrations are conducted equally into both. The diagnosis is certain and complete. The point of greater intensity just to the right of the sternum is of low pitch, while the other, being conducted through bone in the sternum, is of higher pitch.

The aortic regurgitant area extends from the aortic orifice to the apex-beat, but has its greatest intensity about one inch from the aortic orifice, in a line toward the apex-beat. It also extends the whole length of the sternum, but has its maximum intensity only at the same point in the sternum where the obstructive murmur is heard, and from the same cause—conduction of sound through attachment to the mediastinum.

The aortic regurgitant murmur is soft and gentle, and may escape the attention of the observer. It generally succeeds the obstructive murmur in the order of time which may have existed two or three months previously as the result of plastic deposit upon the valve, which, still contracting, would finally permit regurgitation. After an attack of inflammatory rheumatism in which we may have reason to believe that there has been plastic deposit upon the valve, we may watch the changes which consequently take place. The obstructive murmur will be our first evidence which proves that the heart has a new resistance to overcome, and the ventricular walls will hypertrophy as a necessary consequence. The rhythm will be lost, for the heart, working with greater energy, throws the blood farther into the aorta and lengthens the first interval of silence. The return blood is thrown back upon, and closes, the valve with greater force, and the second sound is *accentuated*; and, in addition, a blowing murmur commences at the apex-beat as a result of the hypertrophy. The second sound, from being accentuated, becomes muffled. Soon after, regurgitation will take place with a murmur like a faint sigh heard at one or the other of the diagnostic points in the area.

Cammann's Area of Mitral Regurgitation.—When the mitral valve becomes incompetent, so that regurgitation takes place, a characteristic murmur will be heard to the left of the spine over the intervertebral cartilage between the seventh and eighth dorsal vertebrae. Like the aortic regurgitant murmur, it is soft in character, not harsh or blowing, like the intra-ventricular murmur, but differs in this respect from the aortic, that it comes directly into the ear as if shot from a syringe, and gives an idea of largeness as well as directness. Other murmurs may be carried into and over this area, but will want the qualities of largeness, softness, and directness which are absolutely diagnostic of mitral regurgitation.

The late Dr. George Philip Cammann, the discoverer of this diagnostic sign, and whose name I have given to the area described by him, says: "The murmur may be heard from the lower border of the fifth to the lower border of

the eighth vertebrae, with maximum intensity between the seventh and eighth." The diagnostic point, however, is over the intervertebral cartilage between the seventh and eighth vertebrae, and the qualities of softness, largeness, and directness essentially belong to it alone. Like the aortic regurgitant murmur, it signifies that serious mischief has been done, and that more may be apprehended. It is the only unfailing sign of mitral regurgitation. Both the aortic and the mitral regurgitations, when caused by plastic deposits upon the valves, may be prevented by removal of the deposit by timely appropriate treatment.

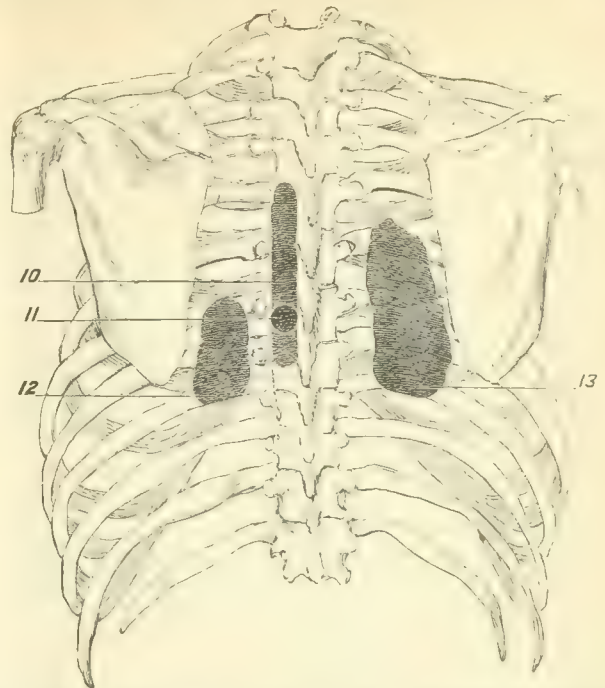
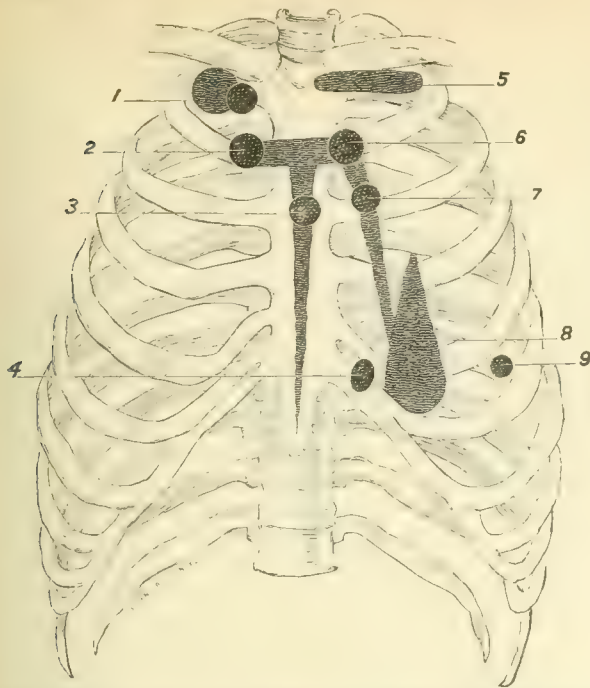
Cammann's area, like the aortic obstructive and aortic regurgitant areas, is fixed, even as the base of the heart is fixed, by attachment to the great vessels and the mediastinum. The apex-beat area is movable, as the apex is. When the heart hypertrophies, it turns upon its side, and the area will be extended to the left under the axilla, or the apex beat may be felt and heard just to the left of the lower end of the sternum, being attached to that point by contracting adhesions to the pericardial sac.

As the heart enlarges, it presses the lung back farther and farther, thus increasing the area of dullness, as well as changing its position.

Besides these natural areas, there are others which are artificial. A band of adhesions, attaching the lung to the chest-wall, which is already adherent to the pericardial sac, forms a direct conduction for leakage of sound, and creates an artificial area, over which there is a murmur so like the apex-beat intra-ventricular murmur as to deceive many. These areas may occur over any part of the chest-wall by which pathological products may directly conduct sound, and, if recent, may disappear under the influence of anti-plastic treatment.

CASE I.—A physician, with a large general practice, called at my office for an examination of his chest. Before I had placed my ear against his chest I could hear a loud cardiac murmur. There was a loud intra-ventricular murmur at the apex beat of a decidedly valvular quality, harsh and sawing. To the left of the apex-beat area, through the lung to the pericardium, there was attachment to the chest-wall, creating an artificial area for the leakage of sound, over which there was a murmur very similar to that of the apex beat. Over the pulmonary area, so called, but nearer to the mediastinum, there were interpleural plastic freshly organized râles, extending deep into the chest, near the mediastinum. The diagnosis that we arrived at was: Lymph deposits upon the mitral valve, intra-ventricular murmurs, with adhesions attaching the pericardial sac to the chest-wall to the left of the apex-beat area, and also adhesions to the pericardial sac over the left auricle and mediastinum.

The treatment concluded upon was mercurialization to the point of ptyalism, repeated small blisters, and the iodide of potash. This round was pursued with the effect of relieving the signs in a marked degree. The same round was twice repeated, when, all of the pathological signs having disappeared, all treatment was discontinued. The doctor had made up his mind that he must give up his practice, but in about six months he was able to resume it, and he continues in all the duties of a large practice, is in excellent



1. An artificial area of condensed tissue over a dilated bronchus, right side: the physical signs simulating those of a cavity. 2. One of the natural areas of obstructive aortic murmur, over the aorta as it emerges from under the sternum. 3. One of the areas of aortic obstructive and aortic regurgitant murmurs. 4. An artificial area of adherent condensed lung tissue, conducting both heart-sounds and respiratory murmurs: it may extend up along the left border of the sternum or along the base of the left lung in front. 5. An artificial area of attachment of the pleura under the left clavicle, altering or abolishing the voice from involvement of the recurrent laryngeal nerve. 6. The aortic natural area, and, extending to the left and upward, an artificial pulmonic area, sometimes incorrectly called the mitral area. 7. The aortic regurgitant natural area, the counterpoint of 3. 8. The apex-beat, or natural cardiac area. 9. An artificial area of false apex-beat from pericardial and pleuritic attachments. This area may extend to the right or left of the point indicated. 10. Cammann's natural area of mitral regurgitant murmur. 11. The diagnostic point in Cammann's area. 12. An artificial area of conducted heart-sounds from condensed adherent lung or excavation. 13. An artificial area of conducted heart-sounds from condensed adherent lung, where tricuspid regurgitation may be heard when it exists with condensed adherent lung.

health, and there are no cardiac murmurs now since about four years. Had he not adopted the radical treatment, the heart would soon have been incapacitated.

CASE II.—A young physician had a noisy and discordant murmur over the pulmonary area, extending up toward the left shoulder. He was strong and active, capable of athletic exercise. He was in no way incapacitated, but he gave a history of chest inflammation in his childhood, but from which he had entirely recovered.

The only explanation that can be given of this case is that there was condensed lung attached to the pericardium and also to the chest-wall. The conduction of the natural sounds into the chest-wall is a murmur, and creates an artificial area.

The pericardial sac may be attached to the lung behind, and the lung to the chest-wall, restraining in a degree the movement both of the heart and the lungs, producing interrupted or cog-wheel respiration. The heart moves two or three times during an inspiration, each time making tense the adhesion, and divides the inspiratory murmur. By careful attention, fine rales may be heard at each arrest of the inspiratory movement by sudden tension of the pericardiac adhesion to the lungs caused by the heart's motion. When these adhesions are more extensive, they restrain the impulse beat, which becomes feeble in consequence. Many cases of supposed fatty degeneration are owing to this cause alone. The adhesions may be so extensive as to withdraw the heart entirely from the chest-wall, and the impulse beat will be lost.

CASE III.—A laboring man was crushed under a falling bank of earth. When he finally left hospital he had hernia, for which he came to the dispensary. In auscultating him, it was found that there was no impulse or apex beat, and no first or second sound. There was obstructive and regurgitant aortic murmur—nothing else—and the heart was beating about forty times in a minute. The man died, and we failed to get an autopsy, but I have no doubt that, could we have had one, we would have found extensive adhesions binding the pericardium and lungs to the posterior chest-wall, and that adhesions of the chordae tendineae and mitral valve prevented the first sound, and the destruction of the aortic valves prevented the second sound, and gave the obstructive and regurgitant aortic murmurs.

An artificial area in the left side, over the eighth to the tenth ribs behind, is created if the lung becomes necrotic and a cavity forms. The heart's movement displaces fluid in the cavity backward and forward, producing a slushing rhythmic sound. Such a case I have seen and heard. No doubt, before the consolidated lung broke down and formed the cavity, the heart in its movement struck the consolidated lung and would have given an impulse beat in the area of the cavity. A case occurred like that a few years ago on the right side of the spine; there was a distinct shock or apex beat which lasted until the lung broke down and a cavity formed, but without fluid, and consequently not accompanied by the slushing sound of rhythmic displacement.

The acoustic character of the chest may be altered or

lost through deformities of the chest by contractions or diseases of the bones, or by tumors or consolidations within, or by effusions of fluids. This is sometimes illustrated in the following manner: An aortic regurgitant murmur, having existed under observation a long time, suddenly becomes almost or entirely obscured. The rhythm of the heart's action is not restored. Whatever has occurred has simply been to alter or destroy the acoustic quality of the sound-chamber. It is generally found to be effusion of fluid in the pleural cavity or the occurrence of subacute pneumonia. Either will so alter the acoustic conditions that feeble or soft murmurs of the heart will disappear. The heart's increasing size thus itself renders the certain diagnosis of its pathological state more difficult to determine.

Could we, when we wish to examine the heart, remove it from its acoustic case and enveloping non-sound-conducting lung, we could examine its action with more certainty of conclusion. But, as we must make our diagnosis under all these difficulties, we must apply the laws of sound, which are unvarying. Areas over the chest, both natural and artificial or false, will help us to do this as we study them acoustically. The popularization of the telephone and the phonograph leads to practical acoustics. It can no longer be said that acoustics is well enough as a science, but is not valuable in physical diagnosis. It must revolutionize much of the teaching of the schools and render many of the text-books useless, which is not to be regretted, because it will give us greater accuracy in diagnosis, the first step toward greater success in treatment.

EXTRA-PERITONEAL RUPTURE OF THE URINARY BLADDER.*

By C. K. BRIDDON, M. D.

DURING my last service in the Presbyterian Hospital in the city of New York the two following complicated cases of rupture of the bladder came under observation:

CASE I.—Reported by Dr. F. W. Shaw. The patient, a man thirty-three years of age, was admitted September 3d, at 4 P. M.; he had been engaged with several others carrying a stone weighing sixteen hundred pounds, when he had fallen accidentally, striking his right hip upon the ground; his companions losing control of the stone, it had fallen upon the left side of his pelvis. When seen by the ambulance surgeon, he was in a condition of very pronounced shock; there was a slight amount of blood oozing from the meatus urinarius. Examined one hour and a half after the accident, it was ascertained from the patient that he had emptied his bladder three hours before he was injured; there was a contusion of the right hip posteriorly, and an abrasion on the left; there was some dullness and fullness in the right inguinal region; he complained of pain and tenderness over the sacro-iliac junction and over the pubes. It was thought, when pressure was made over both ilia, that the right could be appreciably approximated to the median line. The introduction of a soft gum catheter gave exit to one ounce and a half of bloody fluid. A little later a silver catheter was introduced into the bladder; it was noted that its point did not rotate so freely as it should, and it gave exit to one ounce of the same kind of fluid.

An operation was performed by Dr. Briddon four hours and a half after the accident. Strict antiseptic precautions were used, the pubes and perineum were shaved, scrubbed, irrigated with a solution of the bichloride of mercury, and then wiped over with an ethereal solution of iodoform. When the patient was under the influence of ether, an incision three inches long was made in the median line immediately above the pubes. When the subperitoneal fascia was exposed, its meshes were found infiltrated with blood, and on separating this with fingers and forceps, a large cavity was opened in the prevesical space; it was occupied by a considerable amount of bloody fluid that separated the anterior wall of the flaccid bladder from the posterior surface of the pubes. There was found an oblique fracture of the descending ramus of the left os pubis, and a second fracture through the body of the right pubic bone; the bones were locked immovably, and their altered relations could not be restored; some small detached fragments were removed. The muscular and aponeurotic structures connected with the rami were torn, and there was considerable oozing of blood; there was no wound of the peritoneum. After careful and prolonged sponging and the use of large retractors, it was possible to detect a long linear slit, commencing in the upper and outer wall of the prostatic urethra, and passing up into the anterior wall of the bladder; it was estimated to be about one inch and a half in length. With some difficulty a silver catheter was introduced through the urethra and into the bladder, and was secured in position; a large rubber drainage-tube was placed in the lower end of the abdominal incision, its point in contact with the laceration, and the remainder of the cavity was filled lightly with iodoform gauze. The patient was then placed in bed, and surrounded with hot bottles. Temperature, three hours after operation, 101° F.; reaction favorable.

September 4th.—Temperature, 100°. Considerable discharge through the gauze packing, which acts as an admirable drain. Several ounces of urine passed through the catheter, amber in color, acid and slightly albuminous, and contained granular and hyaline casts.

5th.—Temperature, 99°. General condition good; takes enough Magendie's solution to control what slight pain there is, and lithia-water for a drink.

8th.—Wounds dressed by Dr. Briddon. The silver catheter was removed and replaced by a rubber one; the prevesical wound was irrigated and filled with fresh gauze.

15th.—No bad symptoms have presented; his general condition has steadily improved, but during the night the catheter failed to drain, and the urine overflowed through the wound above the pubes. On removing the catheter, its lumen was found closed with calcareous deposits; it was determined to use the instrument only when a desire for urination existed.

23d.—The bladder will now hold several ounces of urine, but unless the catheter is used frequently it will come through the wound; he complains a good deal of pain in the penis, and especially in the corona.

October 6th.—A small piece of semi-detached bone was removed from the right os pubis.

19th.—Two thirds of the urine now passes through the urethra, the remainder through the abdominal wound. There is some irregularity or distortion in that portion of the urethra immediately anterior to the neck of the bladder, and it is deemed proper to introduce a conical sound every few days. The amount of urine passing through the wound gradually diminished, and finally ceased. He was discharged from the hospital in the last week in November; a small fistulous tract leading from the lower end of the supra-pubic incision downward and backward about three inches, which will probably require a counter-opening in the perineum.

* Read before the New York Surgical Society, April 13, 1887.

I present this patient for your examination to-night, seven months since the accident occurred. There is a small sinus at the lower end of the abdominal incision that has not discharged anything for the past week. He was advised to pass a large-sized sound occasionally to counteract a disposition to lateral deviation of the infra-pubic urethra, caused by displacement of the pubic arch, and 29 F. passes with ease. He has had no erection since the accident, and I am not surprised, for the damage done to the soft structures was very great, and has probably implicated the nerve supply.

CASE II.—Reported by Dr. A. E. Hooker. Patient aged forty-two years, native of Ireland, married, engine-wiper, a man of large frame and marked muscular development; good previous history, except an addiction to moderate indulgence in alcohol. He was cleaning a locomotive on the elevated railroad when another engine was backed down, the buffer of the moving engine striking him on his right hip and throwing him into violent contact with the buffer of his own engine, which struck him upon the abdomen. He had emptied his bowels and bladder half an hour before the accident. When seen by the ambulance surgeon, December 2, 1886, almost immediately after the accident, and on one of the coldest nights of the season, the patient was suffering from shock and complaining especially of pain in the right hip. As it was impossible to make a thorough examination where he was, he was at once transported to the hospital, where he arrived at 10.10 P. M. On admission, his condition had improved under the influence of stimulants; there were found abrasions over both ilia, and there was pain referred to the right hip joint and increased by movements imparted to the limb of that side. There were no signs of fracture of the cervix. He experienced a desire to urinate, but was unable to do so. A soft rubber catheter passed in between nine and ten inches, when, after slight resistance, it entered a cavity and gave exit to three ounces and a half of dark, bloody fluid. Some hypogastric distress he had complained of was relieved by this. On percussing the abdomen, a somewhat triangular area of dullness was made out, situated to the right of the median line, its base corresponding to Poupart's ligament. Shortly after this examination, the patient again complaining of pain, the catheter was passed, and less than one ounce of bloody fluid came away; withdrawing the catheter slowly, a point was reached where the dropping ceased, and, on again withdrawing until the eye of the instrument was nine inches and a half from the meatus, there was again a discharge, drop by drop.

An operation was performed at 2.30 A. M. by Dr. Briddon; the night was bitterly cold, and it was found impossible to make the temperature of the theatre comfortable to those who were warmly clad; the patient was, however, well covered with blankets, except in the parts to be operated upon. He had been prepared by scrubbing, washing, antiseptic irrigation, and the local application of ethereal solution of iodoform, and was under the influence of an anæsthetic. A staff was introduced without any difficulty into the bladder, but did not rotate as in the normal condition. Perineal section was made, and when the knife entered the bladder a gush of bloody fluid escaped; the finger was then passed in, but the depth of the perinæum prevented more than the distal phalanx entering, and it was found impossible to thoroughly explore the cavity of the bladder. A Thompson's rubber lithotomy-tube was introduced and secured in position. The patient's posture was now changed to admit of supra-pubic section; an incision was made from a point four inches above down to the symphysis pubis. When the subperi-

toneal layer was exposed it bulged into the wound, its meshes infiltrated with blood. On tearing this apart, a large cavity was opened, bounded below by the posterior surface of the pubes, above by the parietal peritonæum. The contour of the intestinal coils could be seen through the serous tunic, and a suspicious appearance was noticed in the color of the peritonæum; it was purplish blue, significant of blood within; there was no time, however, for exploration, nor was it considered proper to make the attempt in so cold a room. Attention was then directed to the prevesical space; the cavity opened into was filled with blood coagula and fluid; there was a fracture, with some displacement, one inch distant from the symphysis. After diligent sponging and the use of retractors the point of the rubber tube introduced through the perinæum was found lying at the bottom of the cavity and in the neck of the bladder, which lay contracted about the instrument. With some difficulty it was found that there was a rent in the anterior wall, and by the use of tenacula it was made out to be vertical in direction and quite extensive. There was no wound of the peritonæum. A second Thompson's rubber tube was introduced through the abdominal wound down to and into the rent, and it was packed around with iodoform gauze. The patient was then removed from the operating-table to his bed; small, long rubber tubes were connected with the large supra-pubic and perineal tubes, and conveyed the secretions to vessels beneath the bed.

December 3d.—Reaction favorable, general condition good, but slight complaint of pain. There has been considerable flow of bloody fluid by the perineal tube.

4th.—Patient has complained much of thirst. Fluid slightly tinged with blood is discharged through the tube in about the proper quantity; acid in reaction; sp. gr., 1.028; contains 50 per cent. albumin, some pus, and epithelial cells. Wound cavities are irrigated three times a day with warm boro-salicylic solution. In the evening his temperature rose to 101°. Complained much of pain referred to the penis; moderate tympanites; considerable annoyance from eructations of gas. Small doses of morphine were given—only sufficient to allay pain.

6th.—The temperature reached 102° at 8 P. M., the tampons were removed from the supra-pubic incision, and continuous irrigation was instituted.

7th.—Patient was delirious through the night. His temperature rose to 103°, then fell to 98°; it then began to rise steadily until it touched 106° shortly before his death, at 4 P. M. on December 8th.

It was considered very desirable to have an autopsy, but circumstances which could not be controlled by the staff interfered to prevent. It is extremely doubtful if he died from the effects of the rupture of the bladder, as the drainage was perfect, and there was an entire absence of sepsis in the wounds communicating with the same. The symptoms preceding death indicated blood-poisoning, but there were sufficient grounds to regard it as more than probable that there were undiscovered lesions within the cavity of the unbroken peritonæum to which it might be due. It will be remembered that it was noted during the operation that the color of the exposed peritonæum was bluish, such as would be caused by the presence of blood within its cavity, but as the operation was being done in an extremely cold room, and the indications were for its rapid execution, it was not deemed proper to prolong it by further exploration, but I have no doubt there were lesions in the abdominal cavity that were not recognized during life.

Simple extra-peritoneal ruptures of the urinary bladder are generally caused by overdistension, due to obstruction in the urethra, either prostatic or from stricture. Factors aiding or predisposing to such accidents may be various pathological changes, ulcerations, tubercular or malignant, tunicary hernia, or in fact any other conditions that diminish the resistance of the walls. When, under circumstances such as those above referred to, the organ is in a state of repletion, its rupture only requires a very small amount of violence in the shape of concussion, as in lighting on the feet when falling, in injuries applied directly, as from impact with moving bodies, or in the not uncommon instances where rupture has been determined by contraction of accessory muscles in efforts to empty the distended organ.

In the cases which more directly concern us as present—those complicated with lesion of the bones entering into the composition of the pelvis—distension predisposes to rupture, but it may occur when the bladder is nearly empty, as in our second case, in which the patient distinctly asserted that he had emptied his bowels and his bladder half an hour before the accident occurred. And yet in his case—when the operation was done in less than four hours after the accident and before he had recovered from the effects of shock, a condition in which very little urine is secreted—there was an escape of quite a quantity of bloody fluid when the perineal section was completed. In the first case it was presumed that the bladder was moderately distended, as the rupture occurred between three and four hours after urination.

The symptoms of rupture in the uncomplicated cases will vary extremely. Generally something is felt to give way, either after the application of violence or in the attempts to empty the bladder. This is generally followed by hypogastric pain and pronounced symptoms of shock, though in a number of recorded cases it is stated that the patients walked considerable distances to their homes or to the institutions in which they were treated. It not infrequently happens that the cases are obscured by the accident occurring when the patient is under the toxic influence of alcohol. In such, on recovering from his debauch, complaint will be made of pelvic pain, and of the tormenting desire and inability to urinate. The condition will be determined by physical exploration, by percussion of the abdomen, digital examination through the rectum, bimanual palpation, the introduction of soft and metallic catheters—the former to determine whether the organ is empty or not; the latter may reveal nothing in the bladder, but it will probably be found that its movements are restricted. It may be possible, in some cases, to insinuate the point of the instrument into and through the rent, thus giving exit to urine that had escaped into the cavity of the peritonæum, or into the space of Retzius, the prevesical space. If the rent is in the posterior wall, this manœuvre will be best made by using a short-beaked instrument, such as the searcher of Sir Henry Thompson, which may be reversed when in the bladder. When the rent is in the anterior wall, it will be best accomplished by using a silver catheter with a large curve, and directing its point to the anterior wall of the

bladder by depressing the handle of the instrument between the patient's thighs.

A distinguished member of this society brought a method of early diagnosing intra-peritoneal ruptures of the bladder before the profession,* in which he advocated injecting the bladder with an antiseptic fluid. It has struck me that there are two objections to this procedure: First, that in the event of there being a rupture, it would diffuse the already extravasated fluid over a still larger surface; secondly, that it does not give reliable evidence of an intact bladder, inasmuch as there are several cases on record of intra-peritoneal ruptures in which there was a fluctuating tumor in the hypogastric region resembling the distended bladder, and in some of these cases the size of the tumor was diminished by successful catheterism. The escape of a quantity of fluid equal to that injected would be more positive evidence.

In the cases of rupture complicated with fracture of the bones entering into the composition of the pelvis there is generally an assemblage of symptoms which make the diagnosis comparatively easy. The accidents are the result of extreme violence; the patient is in a condition of more or less profound shock, and when he begins to come out of this his principal complaint will be of a desire and an inability to pass water. The introduction of a catheter will give exit to a small quantity of bloody urine. Further evidence can only be obtained either by waiting, to the great detriment of the patient, or by the prompt institution of explorative incisions, which can be utilized for drainage if rupture is found to exist. The treatment resolves itself into that for extravasation; and the anatomical fact that there is no barrier to the extension of infiltration external or internal to the peritonæum is a strong additional reason why the interference should be prompt and efficient.

My impression is, that it is best first to make a perineal section sufficiently free to permit of digital exploration of the bladder; that this should be supplemented by a suprapubic incision, carefully made, to open into the prevesical space, avoiding the peritonæum, unless it should be found involved. In these incisions I would arrange drainage-tubes of large caliber, so that their ends should meet in the cavity of the bladder, the upper tube being surrounded by a light tamponade of iodoform gauze, which is itself an excellent capillary drain.

A CONTRIBUTION TO ANTHROPOMETRY.

By F. J. B. CORDEIRO, M. D.,

ASSISTANT SURGEON, U. S. NAVY.

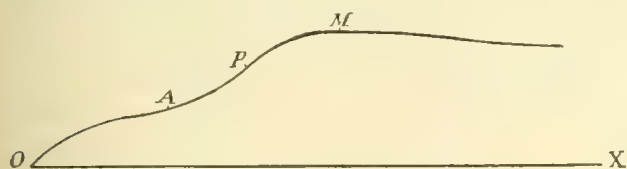
THE curve of growth, wherever it has been taken from a sufficiently large number of observations, such as the tables of Roberts in England and of Bowditch in Boston, demonstrates unequivocally what is a general law for the human race, and probably for all growth, animate and inanimate, viz.: that the increments of height steadily decrease from birth until a short period before puberty, at which

* "On a Satisfactory Method of Early Diagnosing an Intra-peritoneal Rupture of the Bladder." By Robert F. Weir, M. D. "Medical Record," January 22, 1887.

time they suddenly increase; and again, on arriving at puberty, gradually decrease until the maximum height is attained, after which there is a gradual falling off. Thus the primary germinative impulse of the fecundated ovum steadily exhausts itself until, a little before puberty, the increments of growth increase for a short time. This remarkable period is clearly the finishing stroke in the elaboration of the being.

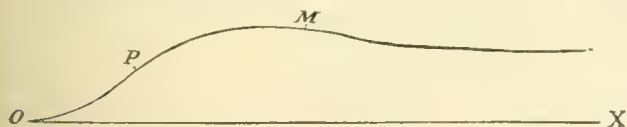
Precisely on the attainment of puberty the rate of growth, as at the stroke of a bell, changes from an increasing to a diminishing value. The maximum value is then approached, and afterward receded from, by diminishing steps.

Thus arranging the ages as abscissæ and the heights as ordinates, we derive a height curve possessing the following characteristics:



In the figure above—diagrammatic—the point *O* corresponds to the impregnated ovum, the point *A* to the period antecedent puberty, the point *P* to puberty, and the point *M* to the attainment of the maximum length. It will be noted that the points *A P* are points of inflexion in the curve.

The curve of weights presents the following general characteristics: The period *OP*, from the ovum to puberty, is convex to the axis of *X*, the portion *PM*, from puberty to maximum weight, being concave. There is afterward the



same slight dropping, as in the curve of heights, corresponding to the period of physiological decay. Thus up to the period of puberty the increments of the weights show a regular increase, after which there is a decrease. There is but one point of inflexion, *P*, in this curve.

In studying the growth of all living things these curves must form the basis, of which curves *A P* and *M* are the cardinal points. For the Anglo-American races we have the following data: In the curve of heights, the point *A* corresponds for boys to the age of twelve to thirteen; for girls to the age eleven to twelve. The point *P* corresponds for boys to the age sixteen to seventeen years; for girls to the age fourteen to fifteen years. The point *M* for men corresponds to the age thirty-one to thirty-four.

In the curve of weights, the point *P* corresponds, as in the curve of heights, to the ages sixteen to seventeen for boys, and fourteen to fifteen for girls. The point *M* corresponds also with the age thirty-one to thirty-four. It will thus be seen that the years thirty-one to thirty-four are the acme of a man's life.

The point *P* in these curves gives probably the most

accurate determination of the age of puberty, and for boys furnishes us with the only reliable criterion. In the cases of girls, of course, an additional means is furnished by the beginning of menstruation.

Our present knowledge of these curves is in many ways uncertain and conflicting. Different writers who have studied the subject have drawn various conclusions, with more or less plausibility. Bowditch's tables show with great probability that the comforts of life have a marked effect during the growing period of life, a result which is also borne out by Roberts in England. The conclusion is permissible that at the age of five and at the age of twenty, children of all classes of society—race and climate not being considered—are of the same height and weight, whereas for all intermediate ages the advantage lies with the upper classes. Thus the effect of comforts is to make the child taller and heavier than the child brought up under privations; but this superiority is not permanent, being limited to the growing period. Consideration will show that this could not be otherwise, the single point of value being that, though privation may retard, it does not permanently affect development. Villermé and Dr. Gould are of the opinion that privation and exposure prevent the attainment of the normal height. Dr. Gould regarded the fact that a number of United States sailors were shorter than a number of soldiers warranted this conclusion, but in fact the opposite conclusion, though equally unwarrantable, might more justly have been drawn, since it is an open question whether a sailor in the national service does not enjoy more of the comforts of life than a soldier. Again, sailors are mostly foreigners, so that the comparison is untrustworthy, since it involves the important factor of race. A few Indians in New York were found to average taller than a number of the native whites of the section, which shows nothing, but could be used as an argument that privation increases the height as plausibly as Dr. Gould's argument from the sailors that privation stunts.*

Dr. Gould also thinks that the stature varies in different sections of the United States, and that children of natives of one section undergo a change in stature on removing to another section. All this is extremely improbable, as, the general comfort of the inhabitants having nothing to do with the stature, it is difficult to suppose that there are any such marked conditions in our climate as to impress themselves upon the stature in different sections.

Boudin concluded that stature is to a great extent independent of comfort or misery, and is, on the contrary, closely connected with race. The tables of Bowditch and Roberts also bear this out, so that it is reasonable to conclude that privation has no effect on the ultimate stature. The researches of Boudin and Dr. Gould show with much probability that stature is closely connected with race and heredity—a conclusion which we may safely adopt.

Dr. Baxter and Dr. Gould, from the records preserved at the Provost-Marshall General's office, have inferred that natives of the United States are taller than those of any other country; also that natives of foreign countries enlisting in

* For a criterion by which to compare averages, see a paper by the writer, "Boston Med. and Surg. Journal," Aug. 21, 1884.

the United States have a greater average height than natives of the same country enlisting at home—both being conclusions which are to be doubted.

The data at the disposal of Dr. Baxter and Dr. Gould have many sources of error. The heights are often taken in even inches, and, being taken by a great number of independent and often inexperienced observers, contain, without doubt, many gross errors. The ages also are very uncertain.

Further, these errors are not of the nature of self-corrective ones, being necessarily always in excess of the true value, so that, though a large number of observations may be taken, carelessness increases the average result by as large an amount as in a smaller number. However, if they have not a positive they possess a comparative value, and Dr. Gould's curves show quite conclusively that the maximum stature is attained between the ages thirty-one and thirty-four.

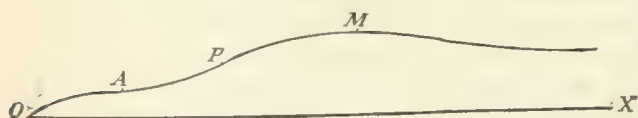
Measurements of heights with shoes or stockings, or weights taken with the clothes, lose much of their value as scientific observations. Heights should be taken with the feet bare by an experienced observer. Another great source of error is fewness of observations. The limits of excess and deficit of the average are so large in such observations as heights that a very large number must be taken to avoid an appreciable error. Not fewer than one thousand observations should merit our confidence.

For this reason Quetelet's curves are valueless, as is shown by their lack of conformity with the normal curve. Quetelet admits that they were derived from a number of observations "*peu considérable*." Cowell's tables, taken from factory children at Manchester and Stockport, England, are for a like reason absolutely valueless. Bowditch's figures for certain ages are untrustworthy. Averages taken from thirty, sixty, or one hundred observations are liable to err by wide limits. Numerous observers favor error. In fact, Dr. Bowditch says: "Many cases were met with of heights and weights differing so widely from the average measurements of the age to which they belonged as to excite suspicion of error in the observation." This is borne out by the irregularity in some of his curves.

Although we have no evidence that climate affects the ultimate stature, still there is reason to believe that it is an important factor of the growth curve.

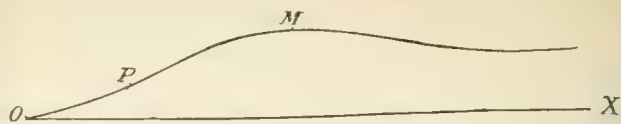
The points A P and M are closely connected with climate. Unfortunately, accurate measurements in different parts of the world are so few that we can not draw positive conclusions respecting the effect of race on the positions of these points. It is probable, however, that they are simply functions of the climate.

We can conclude, then, that the normal curve of lengths for all living things is of the following nature: *



That the normal curve of weights for all living things is as follows:

* No attempt has been made to impress upon the very beginning of the curve its intra-uterine character.

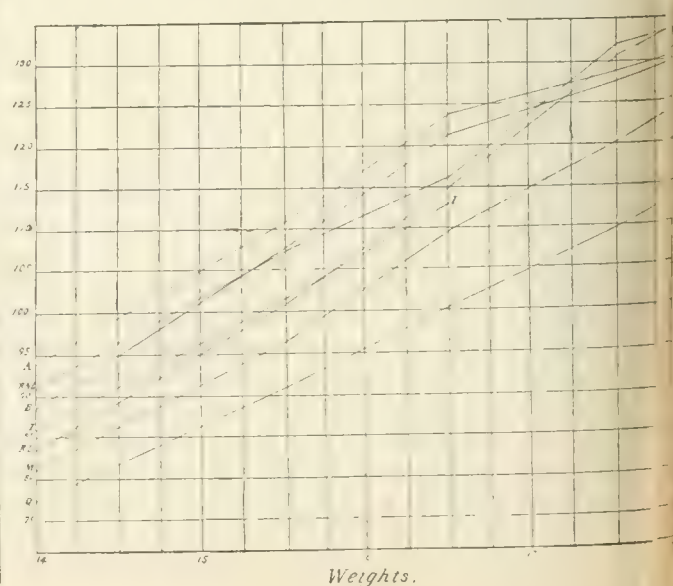
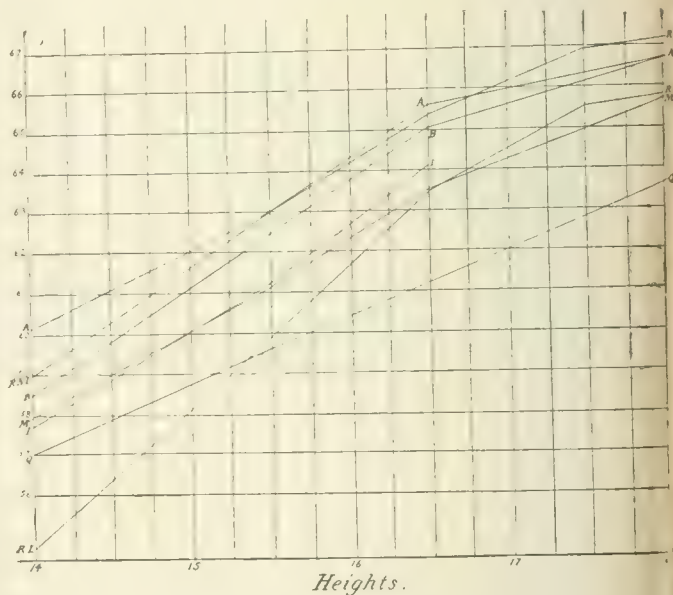


That these curves are depressed during the growing period under the influence of privation, but not permanently.

That the points A P M are not influenced by privation. This is interesting as being opposed to the popular opinion that puberty is sooner attained under the influences of luxury.

That the points A P M are simple functions of the climate.

That the ultimate stature is a function simply of race and heredity, as well as the ultimate weight. [Privation may effect a temporary deviation from the normal in matter of weight, as in the case of clay-eaters, but this probably quickly vanishes where the normal conditions are re-established.]



The functions height and weight are naturally, in all symmetrical development, closely connected with each other, the latter varying as the 2·7 power of the former during the growing period and as the square afterward.

Appended is a study of the growth curve between the ages fourteen and eighteen. The curve marked M was derived from over five thousand observations taken from candidates for the naval service on board the U. S. steamer Minnesota. While mostly of the poorer classes, there were numerous exceptions. As to nationality, the American prevailed, with a large proportion of Irish and Germans. There was a small proportion of country boys.

These observations are larger, and probably taken under more favorable conditions, than any others on record. They were all taken by the same instruments in the same room, by a few experienced observers, from the nude subject. The inches were taken to the nearest eighth, and the pounds to the nearest quarter. A comparison is made with Bowditch's measurements and those of Roberts and Quetelet. Bowditch's and Roberts's weights were taken in "ordinary clothes," the heights probably with stockings.

Quetelet's curves, though possessing none of the characteristics of the growth curve and differing widely from the others, are given merely from the interest attaching to their being a pioneer in this line of investigation.

The irregularities in the other curves are to be attributed to the small number of observations, and, in the case of Roberts's curves, undoubtedly also to errors of observation. It is to be remembered that there is a probable error of excess in all the height curves except M, for reasons previously given.

The curve B represents Bowditch's measurements of Boston school-children. The curve A is Bowditch's determination for American school-children in Boston. The curve I is his determination for Irish school-children in Boston.

The curve R L is Roberts's laboring class, and the curve R N L is his non-laboring class. Q is Quetelet's curve.

Appended are four curves, representing the height,

weight, mean chest circumference, and expansion taken on the Minnesota. The mean chest circumference was taken at the level of the nipples, and follows closely the law of heights and weights. The increments of the expansions increase regularly between the ages considered. The accompanying tables are:

For Heights.

AGES.	Number of observations.	Average.	Maximum.	Minimum.
14 to 15.....	1,040	59·00	67	51½
15 to 16.....	1,423	61·10	69½	51½
16 to 17.....	1,479	63·46	71	55½
17 to 18.....	1,459	64·94	73	58½

For Weights.

AGES.	Number of observations.	Average.	Maximum.	Minimum.
14 to 15.....	843	86·11	145	60
15 to 16.....	1,137	96·34	166	60
16 to 17.....	1,417	109·55	165	70
17 to 18.....	1,415	120·15	195	78

For Chest Measure.

AGES.	Number of observations.	Average.	Maximum.	Minimum.
14 to 15.....	675	27·92	34½	24½
15 to 16.....	895	29·27	34½	24½
16 to 17.....	1,197	30·63	36¾	25½
17 to 18.....	1,137	31·69	37½	27

For Expansion.

AGES.	Number of observations.	Average.	Maximum.	Minimum.
14 to 15.....	669	2·641	4½	1
15 to 16.....	891	2·776	4½	1
16 to 17.....	1,195	2·915	5	1½
17 to 18.....	1,337	3·059	6	1

TYPHOID FEVER:

STATISTICS OF FORTY-FIVE CASES SEEN AT THE ROOSEVELT HOSPITAL.

By LOUIS ASTA-BURUAGA, M. D.

DURING a period of six months, from the 1st of June to the 1st of December, 1886, forty-six patients suffering from typhoid fever were admitted to the wards of the Roosevelt Hospital. Of these, two patients were discharged at their own request, after the diagnosis was made, and are not included in the reports. On the other hand, one patient was readmitted to hospital, and although, strictly speaking, he was then suffering from a relapse, I have considered it proper to enter his case as two separate cases. The following statistics are thus based upon forty-five cases of typhoid fever.

Sex.—Of these forty-five patients, thirty-three were males and twelve females.

Age.—Over three fourths of the cases were in patients under thirty years of age, as the appended table shows:

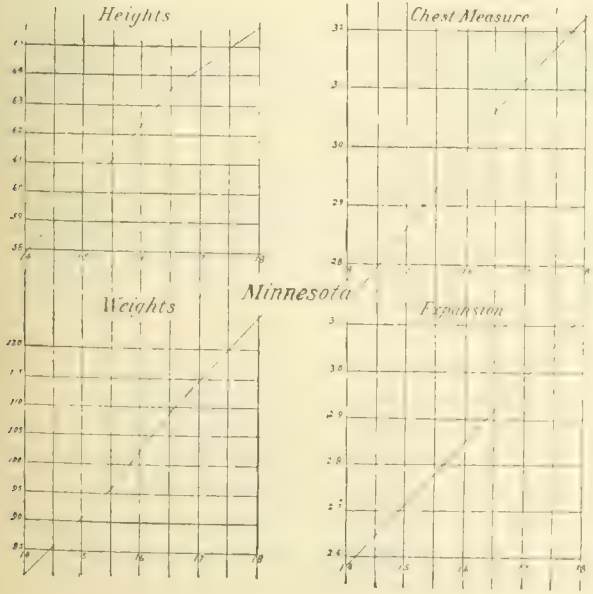


TABLE I.

	No. of cases.
Between 15 and 20 years of age	13
" 20 " 25 " " "	12
" 25 " 30 " " "	10
" 30 " 35 " " "	5
" 35 " 40 " " "	3
" 40 " 45 " " "	2

Civil Condition.—Only three of the patients were married; the remaining forty-two were single.

Month in which admitted :

TABLE II.

No. of cases.	No. of cases.
June..... 2	September..... 13
July..... 0	October..... 8
August..... 12	November..... 10

Nationality :

TABLE III.

No. of cases.	No. of cases.
United States..... 14	England..... 3
Ireland..... 14	Switzerland..... 1
Germany..... 9	Nova Scotia..... 1
Sweden..... 3	

Residence.—Most of the patients were residents of the western district of the city, in the neighborhood of the twentieth and twenty-second precincts. Two of them were brought from the same house. One patient came from Saratoga. Another developed the fever while an inmate of the Woman's Hospital. Two were admitted to hospital, the

rhœa, dry and tremulous tongue, semi-stupor alternating with delirium, muscular tremors, and rose-spots on the seventh day. Twenty days after admission the spinal case had a chill, followed by a febrile movement, headache, anorexia, prostration, cough with muco-purulent expectoration, tremulousness, delirium alternating with stupor, iliac gurgle, and dry, brown tongue. An erythematous eruption, looking like lichen tropicus, masked any rose-red spots that might have been present. The temperature rose as high as 104° F., and it did not entirely subside until about the twenty-fourth day. At the time that these two cases developed in the hospital there were about sixteen typhoid fever patients in the male ward. A night orderly who attended to these patients, and who left the hospital about the middle of September, was seized with the fever about twelve days later.

Occupation.—A variety of occupations was recorded. The largest number of cases occurred in domestics and laborers.

Duration of Illness Prior to Admission.—The average time that the patients were ill before admission was 10·88 days.

Mortality.—Four out of the forty-five patients died, making a mortality of 8·88 per cent. Three of these were males. The causes of death, so far as known, were in one case peritonitis and collapse; in another, meningitis; in another, pyæmia; and in another, intensity of the poison and exhaustion.

CHART I.

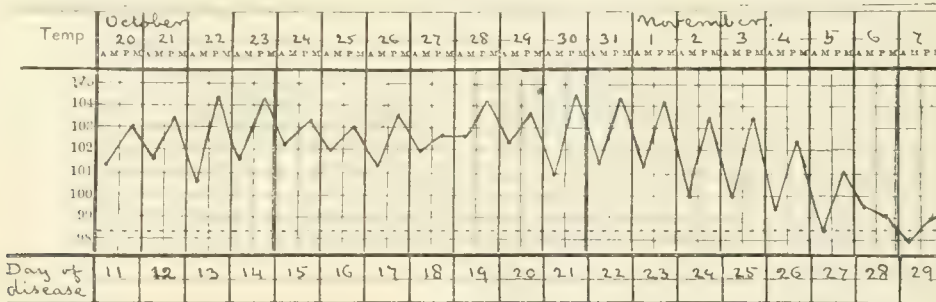
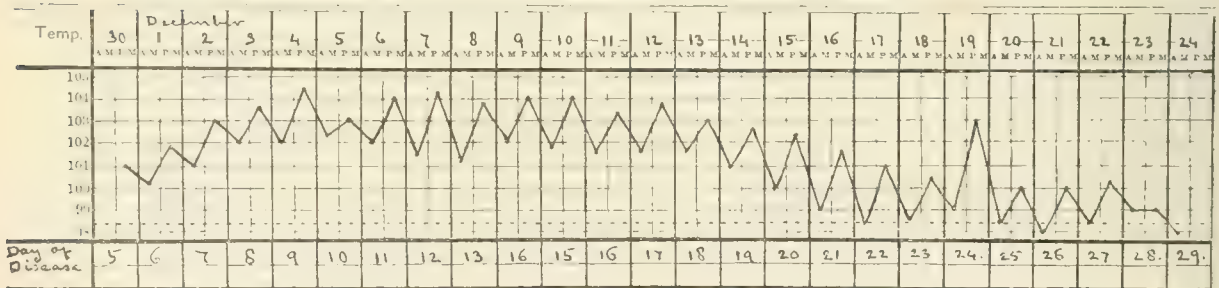


CHART II.



one suffering from rheumatism, and the other from obscure spinal affection, without manifesting any signs of typhoid fever. Nineteen days after admission, the rheumatic case developed a chill, and subsequently symptoms of fever, which ran a fairly severe course of twenty days. At one time the thermometer registered 104° F. During the time that the fever lasted the following phenomena were noticed: Prostration, headache, anorexia, vomiting, iliac gurgle, diar-

*Course of the Fever.**—The curve of the temperature was the typical one of typhoid fever in a number of cases.

The longest run of uninterrupted fever was of fifty-three days. The shortest, exclusive of fatal cases, was of fourteen days; but this happened in the case of the patient who was readmitted, and, truly speaking, was a relapse. The next shortest course of fever was of seventeen days.

* All the temperatures were taken in the rectum.

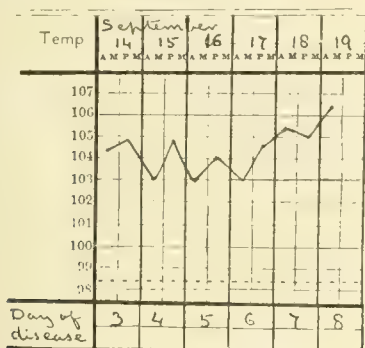
Of the fatal cases, one ended in death on the 29th (peritonitis), another on the 26th (pyæmia), another on the 12th (exhaustion), and another on the eighth day of the fever (meningitis). The following table shows the duration of the fever, irrespective of relapses, in the different cases :

TABLE IV.

	No. of cases.
From 8 to 14 days.....	3
" 15 " 21 "	7
" 22 " 28 "	20
" 29 " 35 "	12
Over 35 days.....	3

The average duration of the fever of all cases while in hospital, exclusive of relapses, was 16.4 days, and that of the total fever was 27.28 days.

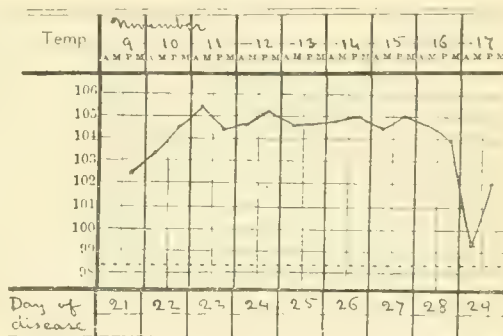
CHART III.



Among the cases that ended in recovery, the highest temperature recorded was, in the evening, 106.4° F., and in the morning, 105.4° F. In one case, which proved fatal

retics, and then suddenly the temperature fell to 99.4°; the patient went into collapse, and died. A mild degree of peritonitis was found at the autopsy, but no intestinal hæmorrhage or perforation, although the ulcers had eaten down as far as the peritoneal coat of the intestines.

CHART IV.



The following table gives an idea of the point reached by the temperature in the different cases :

TABLE V.

	No. of cases.
Above 102°, but not exceeding 103° F.....	1
" 103 " " " 104° F.....	12
" 104 " " " 105° F.....	15
" 105 " " " 106° F.....	15
" 106 " " " 107° F.....	2

In all cases, except two, the temperature reached a high-point in the evening than in the morning.

Febrile Relapses occurred in fourteen cases. In a few, the relapse was distinctly traced to some indiscretion in diet. The longest relapse was of twenty-six days', the next longest

CHART V.

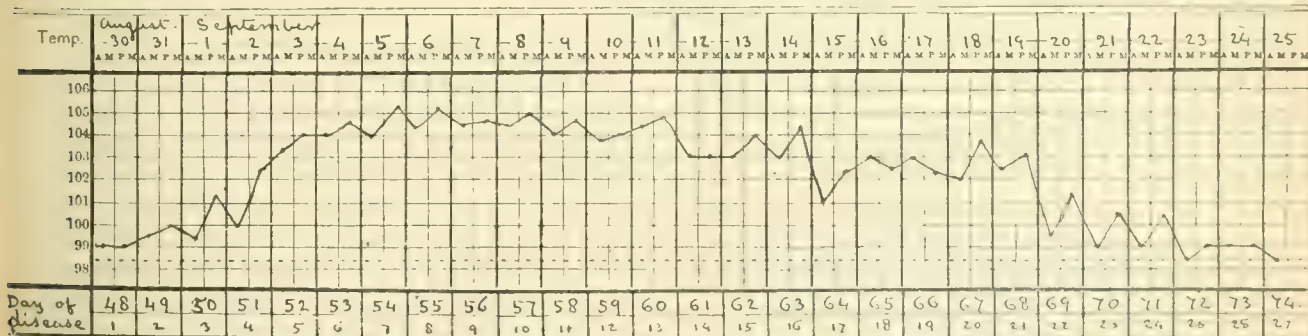
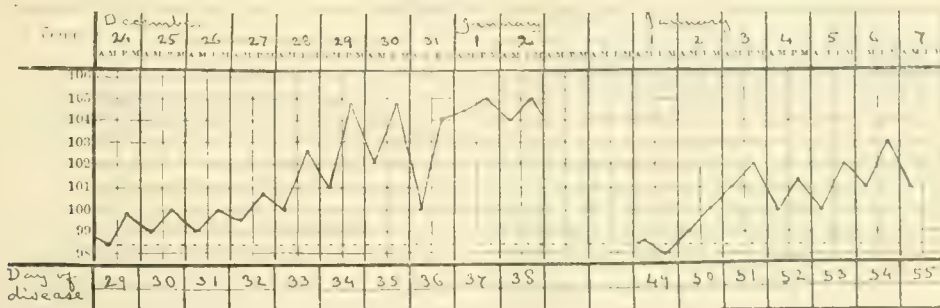


CHART VI.



from meningitis, the temperature reached 106.4° F. in the morning, just before death.

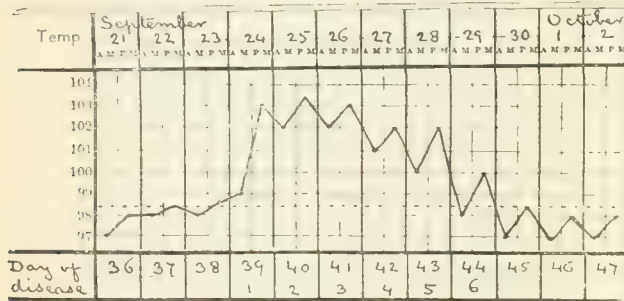
Another continued to have a temperature in the neighborhood of 105° F. for a whole week, in spite of antipy-

retics, and then suddenly the temperature fell to 99.4°; the patient went into collapse, and died. A mild degree of peritonitis was found at the autopsy, but no intestinal hæmorrhage or perforation, although the ulcers had eaten down as far as the peritoneal coat of the intestines.

In some cases the temperature went up by lysis. (Charts V, VI.) In other cases the temperature went up suddenly. (Charts VII, VIII.)

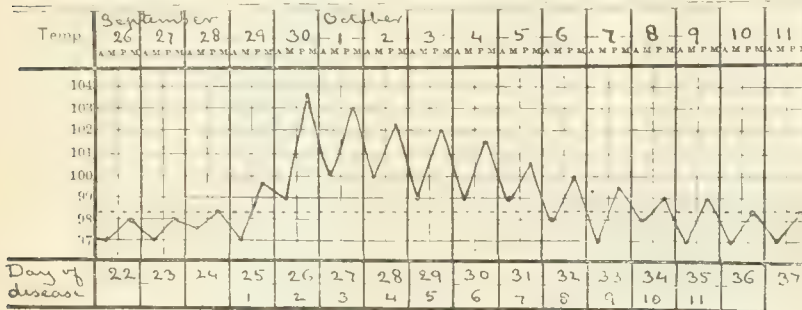
In two cases there were two relapses. In four, the temperature reached a higher point during the relapse than during the regular fever. In one case (*Chart V*) the temperature reached 105.3° F. All cases that relapsed ended in recovery.

CHART VII.



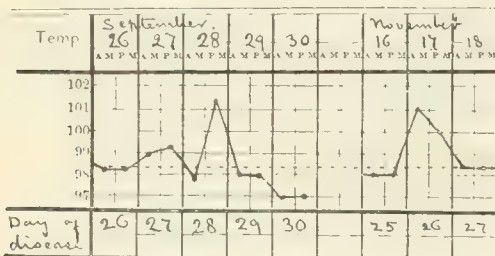
Febrile Exacerbations.—Transitory rises of temperature after defervescence occurred in eight of the cases. In one case the temperature reached 101.4° F. As a rule, the exacerbations were not higher than 101° F.

CHART VIII.



In four of the cases the cause of the sudden elevation of temperature was some error in diet, and in one case it was due to constipation and the administration of an enema. In the three other cases the causes were unknown.

CHART IX.



The Pulse.—The pulse was increased in rapidity in all the cases, with the possible exception of one case, and, as a rule, became feeble during some time in the course of the fever. Only six of the cases did not require alcoholic stimulants. In four cases the pulse was markedly dicrotic. In two it was described as ventose.

Both patients in whom the pulse reached 140 beats recovered. In one, this rapid pulse-beat was counted during a relapse. The next highest pulse rate recorded was 138; the patient died of peritonitis. In one case the pulse was

never higher than 88, and at times only 52 beats to the minute.

The accompanying table shows the rapidity of the pulse:

TABLE VI.

	No. of cases.
Between 80 and 90 beats.....	1
" 90 " 100 "	4
" 100 " 110 "	18
" 110 " 120 "	7
" 120 " 130 "	10
" 130 " 140 "	3
" 140 beats.....	2

Respiration.—The breathing was accelerated in most instances; in only seven patients the respirations did not number 30 to the minute at some time during the course of the fever. In the case fatal from peritonitis, the breathing counted 60 to the minute at one time. In eight cases the respirations were over 40 to the minute.

Appearance.—Most of the patients, upon admission, were fairly well nourished. Only seven were recorded as emaciated, and two as somewhat emaciated. The face was flushed in eighteen, pale in thirteen, and neither pale nor flushed in the remaining cases. In one case the patient's face was described as having a mahogany color.

The pupils were normal in most cases; in one they remained dilated. In four cases the conjunctivæ were injected.

The Skin.—In most of the cases the skin was hot. In the patient that died of peritonitis, the surface of the body was cold and clammy, although the temperature ranged at 105° F.

Sweating was noticed in sixteen cases, and in one it was very profuse. The lenticular rose-red spots were observed in thirty-three of the cases, not counting a negro, who exhibited dark spots which disappeared upon pressure. They were thus detected in 73.33 per cent. of the cases. They were very numerous in eight of the patients, and in one case only one typical spot was found. In two cases they were present upon the forehead, in one on the forearms, and in another on the fingers. In four of the cases that relapsed, the spots reappeared during the relapse, and in one of them the eruption was more copious than during the regular run of the fever.

Petechiæ were common.

Sudamina were present in seven cases, furuncles in five, and erythematous spots in four. Herpes and urticaria were noted once each.

Taches blennâtres were seen in two cases, which ran a very severe course.

Five cases developed bed-sores, and one a phlebitis of the leg.

The Tongue.—The tongue remained moist throughout in twenty-three cases. It was dry, or became so, in twenty-two cases. The organ was covered with a white coating in thirty-two, with a brown coating in seven, and remained clean and red in two cases. The "parrot-tongue," dry and

black, which could not be protruded, was noticed in four cases; and in five cases the tongue was fissured, cracked, and bleeding. In all the patients the tongue was more or less tremulous, but it was very markedly so in seven.

Constitutional Symptoms.—Chills were recorded as occurring in nineteen cases. In one case there were repeated chills.

Subjective sensations of chilliness were experienced in four, of heat in three, of both heat and cold in four cases. One patient complained of a heavy, undefined feeling.

Pain in the back and legs was complained of in thirteen cases. In one case these pains were persistent and very annoying. A number of patient spoke of pains, weary feelings, and weakness in the legs during convalescence.

Prostration was well marked in forty-one cases; in the other cases it was slight. Two boys did not seem prostrated at all.

About seventeen of the cases exhibited the typhoid state to a marked degree. The decubitus in all cases was dorsal. Involuntary fæcal evacuations and incontinence of urine occurred in seven of the patients. Three patients suffered from retention of urine.

All the patients emaciated, some during the run of the fever; but emaciation was startling in only five of the cases.

Cerebral Symptoms.—Headache was more or less present in forty cases. It generally disappeared after the first few days, but in two cases it was severe and protracted.

Dizziness was reported in eight cases.

Insomnia occurred in fourteen cases.

Complete coma was present in only one case, which proved fatal from meningitis. Semi-coma, or stupor, was observed in twenty-three cases, in one of which it was not very marked.

Fretfulness was noticed in four cases, three of which were in women, and jactitation in eight cases.

Delirium was present in about half of the patients. In eighteen, it was altogether nocturnal; in four, it was both diurnal and nocturnal. As a rule, the type of the delirium was mild, and consisted in muttering and talking, in attempts, often successful, to get out of bed, and in fanciful notions. The patients generally were possessed with the idea that they were in some strange place, and expressed their desire to go home. In one of the fatal cases the delirium was of a violent character, and the patient had to be held in restraint.

Tremulousness of the extremities was seen in fifteen cases; subsultus tendinum in eight cases, in one of which it took the form of muscular spasms, or involuntary convulsions of groups of muscles; and in seven cases carphology was noticed.

Gastro-Intestinal Symptoms.—Bad taste in the mouth was much complained of in one case.

In all cases there was more or less anorexia.

Nausea and vomiting were present in twenty-six cases. In seven, vomiting occurred several times; in one it was profuse and repeated; in another it took place every morning for five days.

Thirst was an urgent symptom in four of the cases.

Abdominal pain was spoken of in twenty-one cases, in

one of which, coupled with constipation, it was so severe that the diagnosis of typhoid fever was at first overlooked. In fifteen cases tenderness upon pressure in the right iliac fossa was well marked. Gurgling in the same region was plainly elicited in twenty-seven cases.

Tympanites was present in nineteen cases. The bowels were constipated in seventeen of the cases. In one, the constipation was obstinate. Many of the patients in whom there was diarrhœa at first subsequently had to have enemata administered to secure an evacuation from the bowels.

Diarrhœa developed in twenty-three cases. As a rule, the number of motions was from two to three a day, the stools being yellow, liquid, and offensive. In three cases the diarrhœa was very profuse, there being as many as eight movements a day. In a number of cases the bowels moved regularly every day.

Intestinal hæmorrhages were detected in only two cases; in both there was a fall in the temperature after the bleeding, of one degree in one case, and of five degrees in the other.

Peritonitis developed in one case.

Other Symptoms and Complications.—Epistaxis was recorded in seventeen cases, in eight of which it occurred more than once.

Otitis media purulenta complicated the fever in three cases. Deafness was complained of in five cases, and tinnitus aurium in two.

Five of the patients said they had pain in the chest, eighteen had cough, and four sore throat. Rusty sputa were observed in two, and muco-purulent expectoration in three cases. The signs of bronchitis were discovered in ten cases; and presumably there was hypostatic congestion of the dependent portions of the lungs in six cases.

Enlargement of the spleen was not sought for with great expectations; but in three cases the splenic dullness was noticeable enough to reveal the viscus large in size.

Parotid and submaxillary buboes complicated the case of the patient who died apparently from pyæmia.

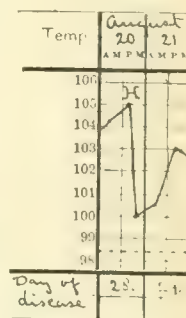
In fourteen cases albuminuria was present to a greater or less extent. In two of the fatal cases there was albuminuria.

Stay in Hospital.—The average length of time that the patients were kept in hospital was thirty-eight days. One remained sixty-eight days, another only eighteen days.

Treatment.—The treatment was mainly expectant. Equal parts of milk and lime-water constituted the sole diet as long as the fever lasted. Forty grains each of subnitrate of bismuth and pepsin, divided into four doses, were given in the milk daily. Stimulants in the shape of whisky were ordered according to requirements. Several patients drank over a quart of whisky a day, and I really think that the giving of such large quantities of alcohol was the only means of keeping them alive.

The convalescents were allowed solid food, commencing with tenderloin steak on the tenth to the twelfth day after the subsidence of the fever, and were generally allowed to sit up about five days later.

CHART X.



Small doses of *Fowler's solution* of arsenic were given, with good results, when the fever was protracted.

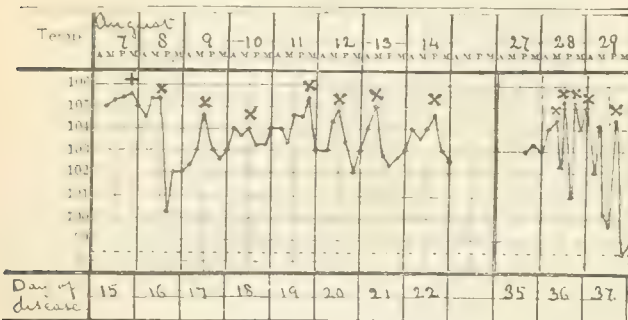
Antipyretics were required in several cases. Antipyrine, antifebrine, the cold pack, the cold bath, and the abdominal water-coil were used.

While in the capacity of junior assistant physician, I had occasion to observe, during the summer and autumn of 1885, various undesirable phenomena following the administration of antipyrine. After a dose of the drug, the temperature fell, but the patient felt no better for it. The tongue remained dry, the pulse was weakened, annoying vomiting would set in, occasionally the patient would be seized with a severe rigor, again profuse sweating would follow, and a condition approaching collapse was often reached, not to mention the antipyrine eruption, which was a source of grave apprehension to the patient's friends. Still further, I have noticed that the temperature soon becomes accustomed, so to speak, to antipyrine; and, although the first dose is followed by a marked decrease in the fever, subsequent doses are not attended with an equal success. Then, again, in some cases, the drug is given just when the fever is undergoing its natural diurnal remission, and then all it accomplishes is to accelerate this process and render the remission greater. The course of the fever is certainly not shortened by antipyrine. On the other hand, after the bath the patient felt much better; he was brighter, he called for food, and fell asleep to awake much refreshed, with moist tongue, cool skin, and good heart action. I have seen cases where all the signs of hypostatic congestion of the lungs have cleared up after the use of the cold bath.

In eight cases antipyrine was given to lower the temperature. From forty to sixty grains, with half an ounce of whisky, were given per rectum whenever the thermometer registered 104.4° F. In three of the cases vomiting was noticed. In one, severe chills and profuse sweating followed the administration. In all the cases the perspiration was so free that the patient's clothing was soaked through. One patient expressed himself as feeling much worse after the fall in the temperature had taken place. In the same patient the temperature fell from 106.4° to 100° in the course of an hour.

The accompanying charts give an idea of the action of antipyrine upon the temperature:

CHART XI.



In one case no reduction of temperature followed the administration of antipyrine. Two cases in which the drug was used proved fatal.

Antifebrine was given in three cases. All the patients sweat profusely, and, in all, the pulse was decidedly weakened. In one case, which went on to a fatal termination (peritonitis case), there were marked prostration, cold bodily surface, copious perspiration, feeble pulse, and vomiting after the drug was taken. Three doses were given in two days: the first dose of five grains, and the remaining two of two grains and a half. After the five-grain dose the temperature fell from 105° to 99.8° in four hours. This patient had been bathed twice, but stood the bath badly.

Baths were given to nine patients. The tub was wheeled to the bedside, and the patient was lifted into it. The tem-

CHART XII.

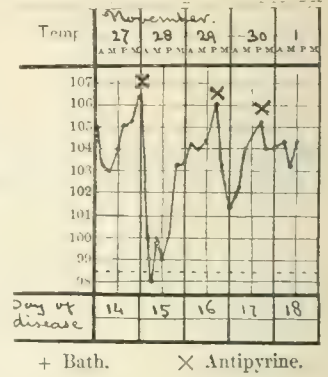
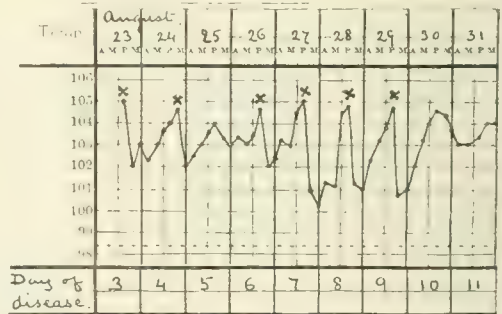
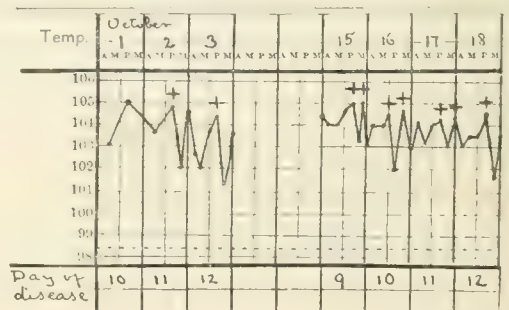


CHART XIII.



perature of the water at the time of immersion was generally above 80° F., and then it was gradually reduced to 68° by means of cracked ice. In some cases the temperature of the bath was not brought down lower than 72°. The patient's temperature was taken every five minutes while he was in the bath, and as soon as the thermometer registered 102° F. he was taken out. The first effect of the submersion was to raise the body-heat a quarter of a degree or so; but as soon as the fever began to abate it would go on decreasing gradually, so that after the patient was removed from the bath the temperature would still continue going down two or three degrees.

CHART XIV.

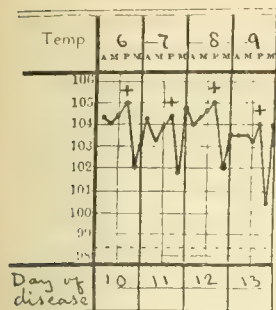


The duration of the baths was from twenty-five minutes to one hour and a quarter. One patient required as many

as seven baths to control the temperature. In five cases the temperature did not go up above 104° after one or more baths. In two cases the temperature was not affected by the bath; in fact, in one of these cases the temperature ran up four tenths of a degree during a bath lasting half an hour. To sum up, in seven cases the patient's condition was very much improved by bathing, in one no effect was obtained, and in another the bath did harm. The latter patient, who afterward got antifebrine, became

cyanosed and chilled during the bathing. Two patients that were bathed died. The two foregoing diagrams show the action of baths on the temperature.

CHART XV.



ON THE UNION OF FRACTURES AND THE HEALING OF WOUNDS IN THE TERRITORIES.

BY R. W. SHUFELDT, M. D.,

U. S. ARMY.

FOR a number of years past I have devoted but little or no attention to surgical literature, and so advance what I have to say in this brief article with some degree of hesitation, fearing lest the few facts that I desire to call attention to may have been already fully recorded by others. Should this prove to be the case, however, I can but trust that they will at least prove confirmatory of the observations of those who may have noted them. Since 1876 it has been my fortune to be so placed that I have been obliged to set a great many fractures for men, women, and children, principally of the long bones of the skeleton. These experiences occurred for the most part in the territories of Wyoming, Dakota, and New Mexico, where the individuals who had sustained them had lived for a number of years, and had drank for the same periods the strong alkali waters of those districts, for which they are so notorious. After the first few years it began to strike me that a very large proportion of these fractures proved to be exceedingly sluggish in uniting, while in a certain proportion of cases artificial methods had to be resorted to in order to bring about any union at all. It was then that I began to notice that a great many surgeons who had set numerous fractures in like parts of the country complained of the same drawbacks to their speedy recovery.

After ten years and more, during which time I accumulated all the reports and reliable evidence that I could, I came to the conclusion finally that this tardiness in the union of broken bones among people who had resided for a number of years in the territories was largely due to the action or presence of the strong alkali held in suspension in the water which they were constantly obliged to drink.

The view that this alkali will profoundly affect other tissues of the economy is sustained by the observations of

those dentists (often very excellent ones) who have from time to time made a tour of the military stations in these regions. These people say that there is no question that this strong alkali water has its deleterious effect upon the teeth, softening the enamel, producing a rapid caries, and often destroying in an incredibly short space of time a set of teeth that had previously been noted for their soundness. The femur and clavicle especially seem to fall into this category, and I have met a number of surgeons whom I have heard say that they had had in their practice at least three or four cases wherein they were obliged to resort to special means in order to produce union in fractures of the former bone.

On the other hand, it seems to me that ordinary incised wounds, amputations, and the like, heal sometimes with the most marvelous rapidity. To instance this I can recall a case that I saw some time during the summer of 1878 at Fort Fetterman, Wyoming. A young man of some eighteen or twenty years of age, while engaged in a quarrel, was stabbed three times with a large jack-knife with a blade some four or more inches long. The first wound passed deep into the left lung just below the heart, the second stab entered the abdomen from behind and passed below the stomach, while the last wound entered the left hip joint. These several injuries were simply treated with antiseptic dressings, and, strange as it may appear, this man was up and about on horseback on the morning of the ninth day, with all three injuries completely healed. A history of this case is on file in the Surgeon-General's office of the army, and I illustrated it with drawings of the knife and the location of the wounds.

Only last Sunday I was called upon to amputate the right thumb of a young healthy German, a man of about twenty-five years of age. He had accidentally shot himself with a 0.45 caliber carbine through the distal joint of this digit, and I disarticulated the member at the metacarpo-phalangeal articulation, the only antiseptic used during the operation being the sponging with the solution of corrosive sublimate, 1 to 1,000 parts of water; this also formed the sole subsequent dressing.

To-day, just one week after the original injury, this wound, or rather amputation, has *completely* healed by first intention, and that, too, without a single sign of any suppuration having taken place whatever, and only a drop or two of clear serum on the third day stained the absorbent cotton dressing. There is not the slightest evidence that an abscess will form in the hand, nor has there been a particle of swelling since the second day, and even what there was then has now entirely disappeared. I have heard of such cases before, though really never fully credited them; but here was an amputation that healed absolutely by first intention, and without the slightest sign of any suppuration. This is the history of a great number of these cases in this western country, by which I mean that they heal very quickly and very kindly, some suppuration taking place in a majority of instances, of course. In the case I have just cited I would say to the uncompromising Listerites that the amputation never saw the carbolic spray, nor was it at any time during the week it took to heal ever enveloped in the several layers of dry-goods insisted upon several years ago by those extremists in antiseptic surgery.

THE

NEW YORK MEDICAL JOURNAL,

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FRANK P. FOSTER, M. D.

NEW YORK, SATURDAY, APRIL 30, 1887.

FOERSTER ON MYOPIA.

A RECENT issue of the "Archives of Ophthalmology" contains a paper on "The Influence of Concave Glasses and Convergence of the Ocular Axes in the Increase of Myopia," by Foerster, which is of great interest. The author is an opponent of what may be called the tensor theory of the increase of myopia: indeed, he thinks that, if the elongation of the myopic eye were caused by the muscular action of the tensor, myopia would carry within itself its own infallible remedy, because the work demanded of the tensor decreases as the myopia increases, whereas it is well known that no such self-regulating action takes place. All such contradictions disappear when we look for the origin and increase of myopia in the excessive convergence of the visual axes. As the myopia increases, the convergence of the visual axes increases for near objects, while at the same time the demands upon the tensor chorioideæ decrease. The persistent increase of myopia, when once it has attained a high degree, harmonizes precisely with the increased angle of convergence. Concave glasses that wholly correct the myopia, and still more those that over-correct the trouble, make the eyes feel so uncomfortable, by the great demands that they make on the tensor of the chorioid, that the wearer involuntarily increases the distance at which objects are held, and at the same time decreases the convergence of the visual axes. But it must of necessity follow that, despite the great demands made upon the tensor of the chorioid, the antero-posterior diameter of the eye does not elongate, owing to the action of the strong concave glasses. Foerster sees in this fact an overwhelming argument against the tensor hypothesis, and an equally weighty one in favor of the convergence hypothesis. In these cases, where the glasses are worn all the time, the myopia remains stationary, in spite of the immoderate exertions of the tensor, and the patients fall into the ranks of the presbyopes. The comparatively early use of correcting or over-correcting concave glasses induces the patients to preserve a relatively greater object-distance, and this prevents excessive convergence of the visual axes.

In the author's opinion, two things are necessary in order to oppose the increase of myopia: 1. The persistent maintenance of a greater reading or working distance by means of mechanical apparatus. 2. The constant employment of correcting concave glasses. If the myopia is less than D. 1.75, the glasses may perhaps be dispensed with, but, if the myopia is D. 2.50 or more, they are absolutely necessary, and they should be worn all the time. We should strive to secure an habitually correct posture of the body. Concave glasses which do not wholly correct are frequently desirable for reading and writing

in the higher degrees of myopia, but they should be combined with abducting prisms. If the concave glasses are extremely strong, the resulting diminution of the retinal images exerts some influence upon the acuteness of vision, which in high degrees of myopia is nevertheless somewhat below the average. Besides these prismatic-concave glasses for near work, the patients will need carefully chosen concave glasses for distant objects. The progressive development of myopia must follow in a vicious circle. The faulty posture of the body demands, first of all, an excessive convergence of the visual axes, and, in order to maintain this convergence for any length of time, too excessive an impulse is communicated to the tensor chorioideæ. The consequence of this is that the retinal images lose more or less of their distinctness, which can be restored only by reducing the distance at which objects are held. Then, again, the diminution of the object-distance demands a greater convergence on the part of the interni, which can be accomplished only by an impulse relatively too strong upon the tensor. Finally, with the ever-increasing tension of the interni, genuine axis-myopia is developed. The vicious circle can be broken: 1. By the compulsory maintenance of a greater object-distance, so that the excessive convergence is prevented. 2. By the use of concave glasses. 3. By the employment of abducting prisms of suitable refracting angle.

MINOR PARAGRAPHS.

THE ASSOCIATION OF GENITO-URINARY SURGEONS.

THE work of organizing this new special society has been undertaken by a number of gentlemen who have the respect and confidence of their professional brethren to a notable degree, and, with two such energetic and representative men as Dr. Keyes and Dr. Taylor for temporary chairman and temporary secretary, it is less to be wondered at than would at first sight appear that so attractive a programme has been made out for the first meeting as the one which we publish in this issue. Making full allowance for the fact that the first meeting of a society almost always calls out a number of papers of unusual merit, it must be acknowledged that in this instance more than the ordinary promise is given of a society of enduring interest and usefulness. The new organization has the advantage that the department of medicine to which it is devoted is one of great interest to the whole profession. We shall be much disappointed if its career does not justify its founders' anticipations.

THE INFLUENCE OF MATERNAL IMPRESSIONS ON THE FETUS.

THIS is a subject with a copious literature. Not only in the days when manifestations of the influence were popularly thought to be the rule rather than the exception, but in very recent years also, there has been no dearth of records of alleged facts pertaining to it, or of ingenious commentary. To make a readable addition to this mass of literature is no trifling task, but it has been accomplished by Dr. Fordyce Barker, in the form of a paper read at the last meeting of the American Gynecological Society, and now published in the eleventh volume of the society's "Transactions." In a paper of very moderate length Dr. Barker gives graphic accounts of a number of striking instances that have either come under his own observation or been communicated to him directly by their observers, and

adds a running commentary that is at once highly suggestive and indicative of his conservatism.

THE DESTRUCTION OF THE ALEXANDRIAN LIBRARY.

For centuries the burning of the vast library of Alexandria has been commonly attributed to the narrow-mindedness of the Arabian rulers and scholars of the time. Modern research, however, seems to be tending to relieve their memory of the odium attaching to the catastrophe. A correspondent writes to us that he has been told by Professor Lanciani, the Italian archæologist, that the destruction of these records was incidental to the uproar and general conflagration due to a riot brought on through the influence of ignorant and religious fanatics. For the credit of a race to which medical literature is much indebted, it is to be hoped that this view will be satisfactorily shown to rest on a substantial basis.

ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Fourth Division of the Health Department for the following statement of cases and deaths reported during the two weeks ending April 26, 1887:

DISEASES.	Week ending Apr. 19.		Week ending Apr. 26.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever.....	5	1	2	0
Scarlet fever.....	59	13	56	15
Cerebro-spinal meningitis....	6	6	1	1
Measles.....	78	13	86	6
Diphtheria.....	79	35	89	38
Small-pox.....	4	4	4	0

The Health of New York City.—During the four weeks ending Tuesday, April 26th, there were reported to the Sanitary Bureau of the Fourth Division of the Health Department 33 cases of typhoid fever and 12 deaths; 240 cases of scarlet fever and 48 deaths; 13 cases of cerebro-spinal meningitis and 11 deaths; 369 cases of measles and 45 deaths; 344 cases of diphtheria and 148 deaths; and 25 cases of small-pox and 9 deaths.

The Association of Genito-urinary Surgeons, which has lately been organized with Dr. Edward L. Keyes, of New York, as temporary chairman, and Dr. Robert W. Taylor, of New York, as temporary secretary, will hold its first annual meeting at the Laurel House, Lakewood, N. J., on Tuesday and Wednesday, the 17th and 18th of May. In addition to an address of welcome, by the temporary chairman, the programme includes the following named papers: "The Connection between Masturbation and Stricture of the Urethra," by Dr. S. W. Gross, of Philadelphia; "On Chaneroid," by Dr. F. B. Greenough, of Boston; "On Horny Growth of the Penis, with exhibition of a Remarkable Case," by Dr. J. H. Brinton, of Philadelphia; "Supra-pubic Cystotomy for Vesical Tumor and Large Calculus, with Comments upon Suture and a Suggestion for Drainage," by Dr. E. L. Keyes, of New York; "Case of Hysterectomy for the Relief of Pyelitis from Obstruction," by Dr. A. T. Cabot, of Boston; "On the Choice of Operation for the Removal of Vesical Calculus in Cases complicated by Prostatic Obstruction," by Dr. J. P. Bryson, of St. Louis; "Idiosyncrasy as affecting the Specific Treatment of Syphilis," by Dr. P. A. Morrow, of New York; "Observations on the Use of Oil of Wintergreen in the Treatment of Gonorrhœal Rheumatism," by Dr. R. W. Taylor, of New York; "Some Cases of Pyelitis in which Frequent and Painful Micturition was the Chief Symptom," by Dr. George Chismore, of San Francisco; "On Tem-

porary Over-strain of the Bladder producing Chronic Retention of Urine," by Dr. F. N. Otis, of New York; "Early Syphilitic Epididymitis," by Dr. J. N. Hyde, of Chicago; "Prostatotomy for Obstruction—Two Cases," by Dr. A. T. Cabot, of Boston; "A Plea for the More General Use of Nitrate of Silver in the Deep Urethra, with an Improved Instrument for its Application," by Dr. E. L. Keyes, of New York; "A Rare Form of Septicæmia following Operation for Urethral Stricture *Septicæmie foudroyante gazeuse*," and "Exhibition of Sections of Tubercular Testes with Bacilli, and of the Coëxistent Bacilli in the Sputum," by Dr. R. W. Taylor, of New York.

A Medical Directory for 1887.—Messrs. P. Blakiston, Son, & Co., of Philadelphia, have just published the 1887 issue of the "Medical Directory for Philadelphia, Pennsylvania, Delaware, and the Southern Half of New Jersey." The work has evidently been carefully revised, and an improvement has been made in the arrangement of the matter which greatly facilitates reference. In addition to complete lists of physicians, lists of dentists, veterinarians, druggists, and manufacturers, more or less intimately connected with the medical profession, are given; also all necessary information in regard to medical colleges, hospitals, medical societies, etc. A new and important feature of the work is a map of Philadelphia and suburbs, which is contained in a pocket in the cover. The directory is handsomely bound and is in every way creditable to its publishers, who seem to have been successful in surmounting the difficulties incident to the preparation of such a work.

The Diagnosis in the Case of the late Captain Lull.—We have received a letter from a well-known member of the medical corps of the navy, in which, under date of March 19th, the writer says: "In the 'Army and Navy Journal,' March 12, 1887, concerning Capt. E. P. Lull, U. S. N., recently deceased, I read: 'Although greatly emaciated and exhausted by his prolonged struggle with disease, the exact nature of which was not discovered until within a few weeks, Captain Lull died in harness, having attended to official duty only two hours before what most nearly resembled diabetic coma ended his useful and honorable career.' I beg leave to state, *veritas causa*, that I have seen the official certificate of the death of Captain Lull, wherein I find that 'he died of phthisis pneumonica chronica.' 'An autopsy established pulmonary tuberculosis, both lungs.' By the medical officer of the U. S. Naval Hospital to which he was invalided from the Hartford, the same diagnosis was made, recorded, and reported officially upon his arrival at the U. S. Navy-Yard, Pensacola."

An Alleged Instance of Remarkable Fecundity.—A correspondent sends us an extract from a book giving the history of a journey to Saragossa, Barcelona, and Valencia, in the year 1585, by Philip II, of Spain. The book was written by Henrique Cock, who accompanied Philip as his private secretary. On page 248 the following statements are to be found: At the age of eleven years, Margarita Gonzalez, whose father was a Biscayan, and whose mother was French, was married to her first husband, who was forty years old. By him she had seventy-eight boys and seven girls. He died thirteen years after the marriage, and, after having remained a widow two years, the woman married again. By her second husband, Thomas Ochoa, she had sixty-six boys and seven girls. These children were all born in Valencia, between the fifteenth and thirty-fifth years of the mother's age, and at the time when the account was written she was thirty-five years old and pregnant again. Of the children, forty-seven by the first husband and fifty-two by the second were baptized; the other births were still or premature. There were thirty-three confinements in all.

The University of Athens is said by Dr. C. Schmit ("Union médicale") to have the only medical faculty in Greece. It consists of forty-four professors, and the courses are attended by between eight hundred and fifty and nine hundred students.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from April 10, 1887, to April 23, 1887:*

RICHARD, CHARLES, Captain and Assistant Surgeon. Granted two months' leave of absence on surgeon's certificate of disability. S. O. 82, A. G. O., April 9, 1887.

KANE, JOHN J., Captain and Assistant Surgeon. Resigned April 13, 1887. S. O. 85, A. G. O., April 13, 1887.

WALKER, FREEMAN V., First Lieutenant and Assistant Surgeon. Ordered from Fort McIntosh, Texas, to Post of San Antonio, Texas. S. O. 45, Department of Texas, April 11, 1887.

Appointments.

WOODRUFF, CHARLES E.; CABELL, JULIAN M. To be Assistant Surgeons with the rank of First Lieutenant, to date from April 14, 1887.

The Army Medical Board, New York City, New York, is dissolved. S. O. 82, A. G. O., April 9, 1887.

SMITH, J. R., Lieutenant-Colonel and Surgeon. Detailed as member of board to meet in Washington, D. C., April 28th, to prepare rules and regulations for the government of the hospital corps of the army. Par. 8, S. O. 92, A. G. O., April 21, 1887.

TAYLOR, MORSE K., Major and Surgeon. Relieved from duty at Fort Sill, Indian Territory, May 10, 1887; to proceed to his home, San Antonio, Texas, preparatory to retirement. Par. 20, S. O. 92, A. G. O., April 21, 1887.

HEIZMANN, CHARLES L., Major and Surgeon. Detailed as member of board to meet in Washington, D. C., April 28th, to prepare rules and regulations for the government of the hospital corps of the army. Par. 8, S. O. 92, A. G. O., April 21, 1887.

AINSWORTH, FRED. C., Captain and Assistant Surgeon. Detailed as member of board to meet in Washington, D. C., April 28th, to prepare rules and regulations for the government of the hospital corps of the army. Par. 8, S. O. 92, A. G. O., April 21, 1887.

MOSELEY, EDWARD B., Captain and Assistant Surgeon. Ordered for duty at Whipple Barracks, Arizona. S. O. 89, A. G. O., April 18, 1887.

CABELL, JULIAN M., First Lieutenant and Assistant Surgeon (recently appointed). To proceed to Fort Omaha, Neb., and report in person to the commanding officer of that post for temporary duty. Par. 19, S. O. 92, A. G. O., April 21, 1887.

Society Meetings for the Coming Week:

MONDAY, May 2d: New York Academy of Sciences (Section in Biology); Medico-chirurgical Society of German Physicians; Morrisania Medical Society (private); Brooklyn Anatomical and Surgical Society (private); Utica, N. Y., Medical Library Association; Boston Society for Medical Observation; Boston Medical Association (annual); St. Albans, Vt., Medical Association; Providence, R. I., Medical Association; Hartford, Conn., City Medical Association; Chicago Medical Society.

TUESDAY, May 3d: New York Obstetrical Society (private); New York Neurological Society; Elmira, N. Y., Academy of Medicine; Buffalo Medical and Surgical Association; Og-

densburg, N. Y., Medical Association; Hudson, N. J. (Jersey City—annual), and Mercer, N. J. (annual), County Medical Societies; Connecticut River Valley Medical Association (Bellows Falls, Vt.); Androscoggin, Me., County Medical Association (Lewiston).

WEDNESDAY, May 4th: Harlem Medical Association of the City of New York; Medical Society of the County of Richmond, N. Y. (Stapleton); Essex, Mass., North District (annual—Haverhill) and Plymouth, Mass., District (annual) Medical Societies; Bridgeport, Conn., Medical Association.

THURSDAY, May 5th: New York Academy of Medicine; Society of Physicians of the Village of Canandaigua, N. Y.; Medical Society of the County of Orleans (semi-annual—Albion), N. Y.; Ocean, N. J., County Medical Society (Tom's River); Boston Medico-psychological Association; Obstetrical Society of Philadelphia; United States Naval Medical Society (Washington).

FRIDAY, May 6th: Practitioners' Society of New York (private).

SATURDAY, May 7th: Clinical Society of the New York Post-graduate Medical School and Hospital; Manhattan Medical and Surgical Society (private); Miller's River, Mass., Medical Society.

Letters to the Editor.

MALARIA AND PNEUMONIA.

MEMPHIS, TENN., April 8, 1887.

To the Editor of the New York Medical Journal:

SIR: Having read Dr. Phillips's article, in your issue for March 26th, in which he says: "It must be conceded that a pneumonia may go no further than the stage of engorgement or congestion, and physicians would save themselves from troublesome questions if they called this first stage pulmonary engorgement, and not pneumonia, reserving the use of the latter term until consolidation has taken place"—I am reminded of a class of cases occasionally seen in this section. I have been called to this kind of a case: The patient has suddenly had a chill, followed by fever, with pain in the side, free expectoration of blood, and abundant crepitant râles. In a few hours the fever subsides, and there is then an improvement in both local and constitutional symptoms. Without proper treatment, another paroxysm will occur in twenty-four or forty-eight hours, and the patient will die in the third or fourth attack. Quinine, given promptly and freely in such cases, will prevent a return of the paroxysm, and the patient goes on to recovery at once. There is also a remittent form of pulmonary engorgement, in which, while there is not a disappearance of the local symptoms of the disease, there is generally a periodical improvement in the symptoms and in the patient's general condition, with a decline of the fever. However, in the majority of the cases I have treated I have failed to discover the characteristic rise and fall in the temperature or the other leading features of malarial manifestations. Again, in further illustration of a case of pulmonary engorgement where consolidation did not take place, I will quote from a report of a case which I published in the "Mississippi Valley Medical Monthly" for August, 1883:

"June 3d, 8 P. M., we were called to see Tom H., aged twenty-four, occupation a cooper, a native American. He was temperate in his habits, and his health had generally been good. He stated that about

one o'clock that day he had a hard chill, and during the entire afternoon had very high fever, with some pain and a feeling of tightness about the right side of his chest. On examination, we found his temperature 104°, pulse 100, and respiration 30; ordered six grains of calomel, to be followed by six grains of quinine every three hours, and sponging the body with equal parts of alcohol and water.

"June 4th, 9 A. M.—Temperature 103°, bronchial breathing and crepitation heard over lower portion of right lung, tongue coated, and the expectoration tenacious and tinged with blood. There was pain in right side with each full inspiration. Gave a quarter of a grain of morphine, continued the quinine in free doses, and sponged the body frequently. 6 P. M. Temperature 104°, and general condition about the same as at morning visit.

"June 5th, 9 A. M.—Patient rested well last night. Temperature 102°. 6 P. M. Temperature same as in morning.

"June 6th, 9 A. M.—Patient clear of fever, tongue clean, and on physical examination we find all local symptoms of pneumonia have disappeared. Patient discharged."

With a little digression from the main subject under consideration, I should like to speak of malaria as a frequent factor in the etiology of pneumonia in this section. It is conceded by eminent authority that any cause which tends to lower vitality will increase the liability to pneumonia; alcoholic stimulants taken to excess—the nervous system being prostrated from the effects of constant stimulation and the consequent alteration in the integrity of the blood—may act as a predisposing cause. The various forms of toxæmia and anæmia occupy a causal relation to attacks of the disease. In a highly malarial region nearly all acute diseases are influenced to some extent by malarial poison. It is probable that it acts as an underlying cause in predisposing to attacks of pneumonia by producing impoverishment of the blood, by its depressing effects on the nervous system, and by an interference in the circulation and secretions of the abdominal viscera, caused by an engorgement of those organs. Hence, in the pneumonia of this section of the country, where we have to contend with malaria as a pathological element in all its intense and protean forms, the leading and most frequent factors which increase the liability to the disease seem to be blood-perversion and lowered function of the vasomotor system, produced by the effects of the malarial poison.

If malaria plays such an important part in our pneumonias, why is it that its characteristic symptoms are not easily discovered? In idiopathic erysipelas, and in a great many other acute diseases, we undoubtedly have malaria associated with them, and we may assume that the physician is not far wrong when he takes the position that nearly all our acute diseases are influenced to a greater or lesser degree by the malarial poison. It is possible that in pneumonia, as in some other acute diseases, the malarial manifestations are masked by the primary disease. Quinine, too, is promptly prescribed in nearly all our acute diseases, and it no doubt prevents a discovery of the malarial features.

W. W. TAYLOR, M. D.

Proceedings of Societies.

NEW YORK SURGICAL SOCIETY.

Meeting of April 13, 1887.

Dr. LEWIS A. STIMSON in the Chair.

Removal of both Parotid Glands.—Dr. WYETH presented a patient from whom he had removed round-celled sarcomata of both parotids. The main points were as follows: Z. M., aged

forty-seven, began about sixteen months ago to notice enlargement of both parotids, which continued until her admission into Mt. Sinai Hospital. She was strongly advised not to have an operation performed, and was told that, even if she survived, facial paralysis would result, but she insisted on being relieved. The right external carotid and superior thyroid were tied, and the corresponding neoplasm was then dissected out. Three months later the more extensive growth on the opposite side was removed with great difficulty. The patient made a good recovery. A careful examination of both tumors was made by a competent microscopist, who pronounced them to be typical round-celled sarcomata. Attention was called to the fact that the patient had facial paralysis on both sides, more marked on the left. She could not close her eyes completely, but had no keratitis. She was much troubled with dryness of the mouth, and had been advised to use olive-oil, which had benefited her. There was no trouble about her nourishment, as she was restricted mainly to liquid diet. There was slight power of motion in some of the muscles on the left side of the face, but it was difficult to tell whether it was the group supplied by the motor branch of the fifth nerve, or that supplied by branches of the facial. The patient had no pain and could talk very well. She could chew without much difficulty, and was not obliged to push the food between her teeth with her fingers.

Dr. ABBE asked if it was possible during the operation to distinguish the divided nerves at the edges of the tumors. Could not the opposite ends, he asked, have been united by sutures, since the gaps left after the removal of the neoplasms could not have been very wide?

Dr. WYETH replied that he saw the main branches of the facial nerves, but if he had stopped to apply sutures to the ends, the operation would have been prolonged beyond all hope of the patient's surviving.

Rupture of the Quadriceps Extensor Tendon; Perfect Recovery after suturing the Divided Ends.

—Dr. McBURNEY presented a patient who, two years before, had slipped while lifting a heavy packing-box from a truck; the edge of the box struck him just above the patella, causing a rupture of the quadriceps tendon near its insertion, but without any external wound. A transverse incision was made across the joint, above the patella, and the capsule was found to be extensively lacerated on either side of the bone, while there was a quantity of coagulated blood within the joint cavity. The fibrous fringes and the torn ends of the muscles were turned inward. The latter were excised, the rent in the capsule was closed with catgut, and the ends of the tendon were united and kept in close apposition by quill sutures, which were secured by doubled silver wire, passed through the edge of the patella. A plaster dressing was applied and the wound healed quickly, the recovery of motion being slow but eventually complete. Now there was apparently no difference between the two limbs. The patient had refused to allow the use of passive motion, yet the result had been perfect.

In reply to a question, the speaker explained that the "quills" (which were pieces of rubber tubing) were placed transversely, one two inches above, and the other about two inches below, the incision. He was not aware that this form of suture had been previously employed under similar circumstances.

Dr. BRIDGEMAN asked if the inverted fibrous strips lay over the torn muscle.

Dr. McBURNEY replied in the affirmative.

Dr. MARKOE asked if there was any record of a similar operation.

Dr. McBURNEY replied that he had never read of one.

Dr. MARKOE said that Dr. Weir had had two cases in which

the lesion was the same as in the case described, and that he himself had observed one.

The CHAIRMAN said that he had had a patient who had long previously ruptured both quadriceps tendons. Although reunion failed, the patient, who was a laboring man, was able to attend to his work. He could ascend a ladder by aiding himself with his hands and keeping the knees extended, and could stand without difficulty as long as he kept his legs straight, but as soon as he bent his knees he would fall.

Dr. SANDS thought that the operation performed in this case was undoubtedly the proper one. He believed that it had been performed before, and that Maydl had reported a successful case in the "*Zeitschrift für Chirurgie*."

Dr. MARKOE asked if the separation occurred close to the patella.

Dr. MCBURNEY replied that it took place as near as possible to the bone: there was a gap of an inch and a half or two inches between the patella and the torn end of the tendon.

Extra-peritoneal Rupture of the Urinary Bladder.—Dr. C. K. BRIDDON then read a paper on this subject. [See page 482.]

In connection with the paper he presented the patient upon whom the successful operation had been performed. There still remained a small fistulous opening in the supra-pubic wound.

The reader added at the conclusion of his paper that the patient whom he had presented was troubled with a distressing symptom—viz., he had been unable to have an erection since receiving the injury. He asked if any member of the society could suggest a remedy. He had himself advised the use of faradization, but the case appeared to be a hopeless one. In reply to a question by Dr. Abbe, the reader said that the patient had sexual desires.

Dr. WEIR suggested that perhaps the galvanic was preferable to the faradaic current.

Dr. BRIDDON thought that the interrupted galvanic current might meet the indications. There was some doubt as to whether the condition was due to a cutting off of the nerve-supply or to muscular paralysis.

Dr. WEIR said that, although his experience had been limited, he would venture to criticise the practice of making the perineal opening first. He would first make the supra-pubic incision, then carry the end of a forceps through the infiltrated tissues and cut upward upon it from the perineal side. He called attention to the fact that the method of detecting a rupture of the bladder which he had suggested was based on two points—the presence of increasing dullness in the hypogastric region, from the gradual distension of the bladder, if uninjured, by the injected liquid, and the fact that the same quantity of fluid flowed out as was originally thrown in. Even if in this test some of the fluid did escape from the torn bladder, it would only give rise to an increased area of dullness over the hypogastrium, and do no harm, as the surgeon would at once make his incisions to allow of the escape of the urine already extravasated.

Dr. BRIDDON thought that the method suggested by Dr. Weir was not reliable, because there were so many cases in which the rupture was intra-peritoneal. Heath and Rivington had been unsuccessful with it. He himself did not allege much for the perineal section. It was not performed in the case of the patient who recovered, because his condition was so bad that it did not seem justifiable. In the other case it was done as an exploratory measure, and the opening could afterward be used for drainage.

The supra-pubic operation was quite easy; as soon as the retro-peritoneal fascia was reached, it bulged into the wound,

and could readily be torn apart. There was no danger of opening the peritonæum. He reiterated his preference for the perineal section as an exploratory measure, because in cases of extensive fracture, with great injury to the soft parts, it might not be advisable to make firm pressure over the hypogastrium to aid in digital exploration.

The CHAIRMAN thought Dr. Briddon's experience showed that little was to be gained by the perineal incision; he believed that, if it was made at all, it should be limited to a small opening for purposes of drainage. He had recently seen Dr. Keyes drain a bladder in this way after supra-pubic lithotomy. A soft catheter was prepared by passing a needle, carrying a long piece of silk, into the eye and out through the adjoining blunt end of the catheter. In the middle of the silk was a large knot, and the silk was drawn through until the knot stopped it. A long, narrow-bladed knife was passed into the membranous urethra, and along it, and then along the groove of the staff was carried an eyed probe threaded with the silk before mentioned. The end of the probe was passed into the bladder, and drawn out through the hypogastric incision, and then, by pulling upon the silk, the end of the catheter was brought into the bladder. The other end of the silk hung out of the perineal wound, and was used to withdraw the whole piece, leaving the catheter in place.

Dr. SANDS thought it was generally conceded that in lithotomy cases the bladder could not be drained satisfactorily through the perineal wound.

Dr. WEIR said that the bladder could not be drained through the perineal wound without a drainage-tube being introduced through it, unless the lateral section had been made.

The CHAIRMAN said that in two of Dr. Keyes's cases the supra-pubic wound had closed, and the bladder was perfectly drained from below.

Dr. BRIDDON thought that, if a perineal opening had been made in the case of the patient presented, the sinus would not have continued to discharge so long; in fact, it might still be necessary to perform that operation in order to cause its closure.

NEW YORK ACADEMY OF MEDICINE.

Meeting of February 17, 1887.

The President, Dr. A. JACOBI, in the Chair.

Progressive Spastic Ataxia and the Combined Sclerosis of the Spinal Cord.—Dr. C. L. DANA, who read a paper on this subject, preferred the term progressive spastic ataxia to that of ataxic paraplegia, proposed by Gowers; he admitted, however, that a satisfactory name for the condition was not yet at hand. The term combined fascicular sclerosis, based on the pathology, might be employed, were it not that there were rare cases in which this sclerosis was found when the symptoms during life had been those of locomotor ataxia with flaccid paralysis and not with spasm. In analyzing a large number of cases of disease of the spinal cord, Dr. Dana had selected sixteen from among forty-five cases in which autopsies had been made as having a bearing upon the subject of his paper. In addition to the description of these sixteen cases he gave the histories of eight which had come under his own observation, in two of which an autopsy had been made. In one other the classification was doubtful owing to the suspicion of hysteria. The author believed that most of the cases described as spastic paraplegia were apparently cases of *tabes dorsalis* to which there was added a disease of the lateral columns, especially of the pyramidal tracts, often of the direct cerebellar tracts. According to his own observation, it did not seem possible always to draw the line between cases in which the spastic symptoms and those in

which the sensory symptoms predominated. In one class the background was a sensory one, the cases resembling locomotor ataxia of a mild grade plus spasm. In the other the fundamental features were spasm and paralysis with ataxia or anæsthesia and pains superadded. A study of the sixteen cases in which autopsies had been made, and of the eight which had come under his observation, brought out the following facts: Syphilis was rare, occurring in not more than five per cent. Heredity was an important factor, spastic ataxia even showing a family type. In cases occurring in early life sexual and alcoholic excess had been noted. If the disease came on later it was due to hard physical strain and exposure. The disease began usually with ataxia, then there appeared stiffness in the legs and trembling; sexual power early declined; then there was temporary vesical trouble, generally retention or slowness in emptying the bladder; a feeling of numbness and pains of a fulminating character appeared, but did not last long. There were often patches of anæsthesia over nerves, disappearing under treatment. The muscle sense was often good. There were no gastric or enteric crises. Muscular tension and spasm were marked features, usually in the lower extremities, but sometimes involving the arms. The gait was a combination of that of tabes and that of spastic paraplegia. The main lesions in spastic paraplegia were sclerosis or degeneration of the three long systemic tracts, viz., the direct cerebellar and pyramidal tracts and the columns of Goll. But in many cases there was a considerable extension of the sclerosis, especially in the dorsal region. If the sclerosis was superficial, the prognosis was more favorable than would be expected from its extent. The lateral sclerosis was apt in time to encroach on the mixed lateral columns, and even on the cornua cells. In the majority of cases the lesion was most marked in the upper dorsal region. Barring accidents, the prognosis as to length of life was more favorable, the author thought, than in typical tabes.

As to treatment, the nervous excitement might be allayed with bromides. Rest was essential. Slight sensory symptoms might disappear under the use of electricity. A thorough course of antisyphilitic treatment should be tried when needed. Warm baths and cold douches were of benefit; hot baths were dangerous.

Dr. M. ALLEN STAER thought we had still to look for a suitable name for the class of cases referred to by Dr. Dana. Gowers admitted that the term which he had employed, ataxic paraplegia, was not appropriate, for the cases were not always ataxic, and they were not always paraplegic. The same objection applied to the name employed by Dr. Dana, spastic ataxia. As to the pathological name, combined fascicular sclerosis, he thought the term fascicular should not be employed, because, as had been shown, the sclerosis was not exclusively fascicular. The question of diagnosis between tabes and combined sclerosis was a difficult one to decide. The picture of combined sclerosis was a somewhat hazy one.

Dr. G. W. JACOBY did not think we should gain much by purely clinical pictures. The cases cited by Dr. Dana in which autopsies had been made would undoubtedly prove of great value. What we really knew with regard to system-affection in the spinal cord was that there were cases of tabes in which certain strands of the lateral columns were affected, and in which the tabetic symptoms were predominant, but there were other cases, in which the lateral columns were affected, but the posterior columns primarily so, in which the spastic symptoms took the lead. Then there were intermediate cases. It seemed that the number of cases of tabes with secondary spastic symptoms was much larger than that of those in which the tabetic were secondary to the spastic symptoms.

Dr. E. C. SEGUIN agreed with the previous speakers that

there were deviations from the type of strict fascicular degeneration in the posterior columns and the pyramidal tract. He related the history and post-mortem appearances in a case which had come under his observation. Paralysis with a spastic condition occurred before death, and the spastic paraplegia and slight ataxia involved the arms. There were very few of the sensory symptoms, and none of the fulminating pains of tabes. At the autopsy there appeared to the unaided eye to be a mixed sclerosis of the posterior and lateral columns, but the microscope showed extension of the lesion to the extreme lateral portions of the cord, and it was rather irregular at different levels.

Dr. W. R. BIRDSALL acknowledged that, taking a large number of cases, they could be subdivided into different classes with regard to the symptoms, but it was a question in his mind whether these subdivisions would not be found to have as a basis a difference in degree of the same disease rather than different types of disease. The same disease, affecting different columns or different nerve-tracts, would produce different symptoms by disturbing the function of those tracts. The extent of the disease might vary not only at a given level of the cord, but also at different levels, and this would change the clinical picture, although, so far as the diseased process was concerned, a separation of the cases into different classes would hardly be justified.

Dr. BRILL said it was a recognized fact that certain fiber tracts in the cord were more disposed to the sclerotic process than others, but why the disease should skip about in the manner it did, we were unable to say. The group of cases cited by Dr. Dana depended upon the involvement of special fiber systems and special nerve cells in the cord.

The PRESIDENT suggested that the peculiarly irregular distribution of the diseased process in the cord might be accounted for by its following the course of the blood-vessels, the ramifications of which had been shown to be extremely fine.

NEW YORK PATHOLOGICAL SOCIETY.

Meeting of January 26, 1887.

The President, Dr. T. MITCHELL PRUDEN, in the Chair.

A Double Mitral Orifice.—Dr. W. H. PORTER presented a heart in which, instead of one mitral orifice, there were two, the accessory one being smaller than the other. So far as he knew, the specimen was unique.

Miliary Aneurysm of the Brain.—Dr. PORTER presented a photograph of a miliary aneurysm of the cortical substance of the brain, it being the most satisfactory specimen illustrative of this lesion which he had ever obtained. The aneurysm consisted of a globular swelling or dilatation of the vessel, the vessel being somewhat increased in size on the proximal side of the aneurysm, and somewhat diminished in size on the distal side. The coats of the vessel, as of all the vessels throughout the body, were thickened. There were no large aneurysmal dilatations.

Lepto-meningitis and Pachymeningitis.—Dr. L. E. HOLT presented a specimen, consisting of the brain of a child twenty months old, which was of interest in connection with the history. The child had been under the speaker's observation since it was four months of age. A twin and the mother had died of tuberculosis. Last summer it had gastro-enteritis, and its life was saved with difficulty. There was subsequently marked anemia, and in August there was albumin, but no casts in the urine. The temperature rose, and became variable, ranging from 102° to 105° F. Careful and repeated examinations failed to reveal any cause for the elevation of the temperature. The

use of drugs was stopped and improvement followed. But in September the temperature rose again, and varied from 102° to 105°. Tuberculosis was borne constantly in mind, but there were no physical signs of that disease. The spleen was considerably enlarged, but quinine was given without benefit. The next provisional diagnosis was that of syphilis, although there was nothing pointing to that disease except persistent cachexia and enlargement of the spleen. Mercurial treatment was employed, and, although the spleen diminished in size, and there was considerable improvement at first, it did not continue. The child sat listlessly, without any decided brain symptoms, and, while feeble and delicate, it seemed to have no definite disease. It remained in this condition until about three days before its death, when the temperature went up suddenly, reaching 105.5, and just before death advanced to 108° F. There were Cheyne-Stokes respiration, contraction of the pupils, and symptoms of meningitis. Death seemed to take place from the high temperature. There had been no suspicion of meningitis prior to the last days of its illness. The lesions of pachymeningitis and lepto-meningitis were found to be marked, the former of weeks', if not of months', duration, the latter being recent.

Salpingitis.—Dr. PRYOR presented, through the courtesy of Dr. Sims, the body of a uterus to which was attached a tumor formed by a pyosalpinx, removed on the 11th inst. The history was the usual one of so-called recurring cellulitis. The tumor was attached to the uterus in such a manner as to make it necessary to amputate this organ near the internal os. The patient died about three days afterward, of constriction of the bowel by an old adhesion. The sac contained several pus cavities, one of which was ready to burst into the peritoneum. The largest cavity was filled with greenish pus, and the speaker thought that it represented the cavity of the tube. Dr. Prudden had examined carefully for the bacteria of suppuration, but had failed to find any; he remarked that the surface of the cavity was covered with granulation tissue, and the material which had formed pus was an excess of the cells from which the new membrane was developed.

Stricture of the Oesophagus from Malignant Disease.—Dr. ROOSEVELT presented the stomach and oesophagus of a woman who, for more than a year before he had seen her, had complained of nausea and vomiting, and some abdominal pain. She never vomited any blood. Shortly after he first saw her, about six months before her death, the abdominal pain entirely ceased. She continued to vomit not long after eating, but she never vomited except when the stomach, or what was supposed to be the stomach, was filled with food. The speaker had thought she was suffering from chronic gastritis, but, on attempting to introduce the tube to wash out the stomach, it was obstructed near the cardiac orifice and doubled upon itself. Two weeks before her death he was unable to pass a probe through the stricture. She was able to take some solid food and a quart of fluids at a time, but within a short time, without particular expulsive effort, it would return practically unchanged. She lived principally on milk; solid food was taken now and then, and returned after about two hours. At the autopsy the only points of interest lay in the oesophagus and stomach. The oesophagus, near the cardiac orifice of the stomach, admitted of the passage of only a small probe; above that point, and nearly up to the level of the thyroid cartilage, it was dilated to about the size of a quart champagne-bottle. The stomach was decidedly narrowed. The stenosis of the oesophagus was due to a ring composed of small nodular tumors surrounding it, malignant in nature.

Dr. VAN GIESON presented a variety of tumors removed from a dog, including a fibroma of the uterus, a sarcoma of the mesentery, an intra-canalicular fibroma of the mamma, etc.

Book Notices.

On the Pathology and Treatment of Spermatorrhœa. By J. L. MILTON, Senior Surgeon to St. John's Hospital for Diseases of the Skin. Enlarged and Reprinted from the Original Papers published in the "Lancet" for 1854, and the "Medical Circular" for 1858. Twelfth Edition. London: Henry Renshaw, 1887. Pp. viii+213.

THE twelfth edition of this most excellent book is arranged upon the same plan as the eleventh, which was published in 1881 and noticed in our columns in 1882. The whole work has been carefully revised, and some twenty pages have been added. All the author's writings are entertaining and instructive reading, and marked by perfect fearlessness and boldness in advocating his individual ideas. The book is one that should be read by every practitioner; it bristles with histories of cases, gives the author's actual experience with remedies, and tells the reader fully and clearly just how he should proceed in treating a case. No matter whether we may or may not accept all we find between the covers of the book, we recognize that the author is writing in the light of a wide experience and with honest convictions.

Spermatorrhœa, though the subject of the book, is not the only one treated of. The pathology and treatment of impotence, as well as of various complicating affections—such as those of the prostate, the bladder, and the urethra—have more or less space devoted to them. We earnestly commend the book, though it seems to us that the author paints the results of involuntary seminal emissions rather too dark.

GENERAL LITERARY NOTES.

AMONG recent foreign publications we note the following:

J. B. BAILLIÈRE & FILS, Paris.—J. J. Cornilliac, "Recherches . . . sur la fièvre jaune dans les Antilles et sur la côte occidentale d'Afrique." (87*fr.*) — Hallopeau, "Traité élémentaire de pathologie générale." (12*fr.*) — S. Schack, "La physionomie chez l'homme et chez les animaux dans ses rapports avec l'expression des émotions et des sentiments." (7*fr.*)

G. FISCHER, Jena.—R. Deutschmann, "Ueber Neuritis optica, besonders die sogenannte 'Stauungspapille' u. deren Zusammenhang mit Gehirn-affectionen." (1*M.* 60.) — O. and R. Hertwig, "Untersuchungen zur Morphologie u. Physiologie der Zelle." 5. (8*M.*) — E. Klebs, "Die allgemeine Pathologie." 1. (14*M.*) — F. Skutsch, "Die Beckenmessung an der lebenden Frau." (5*M.*) — E. Ziegler, "Lehrbuch der allgemeinen u. speciellen pathologischen Anatomie." 5th ed., 2. (18*M.*)

A. HIRSCHWALD, Berlin.—C. A. Ewald, "Handbuch der allgemeinen u. speciellen Arzneiverordnungslehre." 11th ed. (20*M.*) — Wernich, "Lehrbuch zur Ausbildung von Heilgehilfen." 2d ed. (2*M.* 40.)

J. U. KERN, Breslau.—F. Cohn, "Beiträge zur Biologie der Pflanzen." iv, 3.

G. THIEME, Berlin.—M. Schmidt, T. Hering, and H. Krause, "Ueber die Heilbarkeit u. Therapie der Larynxphthise." (2*M.*)

DRUCKER & TEDESCHI, Verona.—G. Nuvoletti, "Dell' identità della tisi perlacea dei covini colla tubercolosi umana e della sua contagiosità." (3*L.*)

E. PAPINI, Palermo.—G. Profeta, "Trattato pratico delle malattie veneree." 1, 2. (2*L.*)

BOOKS AND PAMPHLETS RECEIVED.

Medical Electricity: a Practical Treatise on the Applications of Electricity to Medicine and Surgery. By Roberts Bartholow, A. M., M. D., LL. D., Professor of Materia Medica, General Therapeutics, and Hygiene in the Jefferson Medical College of Philadelphia, etc. Third Edition, enlarged and improved. With One Hundred and Ten Illus-

trations. Philadelphia: Lea Brothers & Co., 1887. Pp. xxiv-17 to 304. [Price, \$3.50.]

A Practical Treatise on Impotence, Sterility, and Allied Disorders of the Male Sexual Organs. By Samuel W. Gross, A. M., M. D., LL. D., Professor of the Principles of Surgery and Clinical Surgery in the Jefferson Medical College of Philadelphia, etc. Third Edition, thoroughly revised. With Sixteen Illustrations. Philadelphia: Lea Brothers & Co., 1887. Pp. vii-17 to 172. [Price, \$1.50.]

Live Birth in its Medico-legal Relations. Annual Address delivered before the Medical Jurisprudence Society of Philadelphia, January, 1887. By John J. Reese, M. D., Professor of Medical Jurisprudence and Toxicology at the University of Pennsylvania, etc. Printed by the Society, 1887.

Will Contests. By Walter E. Rex, Esq., formerly Register of Wills for the City and County of Philadelphia. Read before the Medical Jurisprudence Society, February 8, 1887. Printed by the Society.

A Report of Analyses of Samples of Water and Ice from the Mississippi, Minnesota, and St. Croix Rivers, made in the Laboratory of the State Board of Health of Minnesota, in November and December, 1886. By Charles Smart, Major and Surgeon, U. S. A. [Reprinted from "Public Health in Minnesota."]

A Sketch of the Management of Pregnancy, Parturition, and the Puerperal State, Normal and Abnormal. By Paul F. Mundé, M. D., Professor of Gynecology at the New York Polyclinic, etc. Detroit: George S. Davis, 1887. Pp. 110. [The Physician's Leisure Library.]

Reports on the Progress of Medicine.

OPHTHALMOLOGY.

By CHARLES STEDMAN BULL, M. D.

Optic Neuritis after Head Injuries.—Edmunds's and Lawford's communication ("Ophth. Rev.," Nov., 1886) is based on twenty-four cases of head injury, in which the condition of the optic nerve had been observed either ophthalmoscopically or microscopically. The microscopic evidence of neuritis consisted in a considerable increase of staining corpuscles in the sheath space and in the nerve. The cases were divided into three groups: 1. Cases which ended fatally directly from the severity of the head injury; eleven cases, in four of which there was optic neuritis, were included in this group. 2. Cases which ended fatally indirectly from complications; this group comprised four cases, in two of which there was optic neuritis. 3. Cases of recovery; this group comprised eight cases, in six of which there was optic neuritis. The optic neuritis was attributed to spread of inflammation from the seat of injury to the optic nerves, either along nerve tissue or by the meninges. The authors adopt the latter view for the following reasons: 1. While in some of the cases in which there was optic neuritis basal meningitis was found, it never occurred in those in which optic neuritis was absent. 2. In cases in which the base of the skull or brain was injured there was generally optic neuritis, while in those in which the injury was confined to the convexity of the brain there was not. 3. In some cases of neuritis transverse sections of the optic nerves showed the inflammation most marked at the periphery of the nerves and in the sheath-space.

Ophthalmoplegia dependent upon Thrombosis of the Cavernous Sinuses.—Coupland (*ibid.*) reports a case of this kind in a woman, aged forty-three, who suffered from cerebral symptoms, including bilateral ophthalmoplegia. The patient first had proptosis and more or less complete ophthalmoplegia externa of the left eye, following great supra-orbital pain, succeeded by proptosis of the right eye with ophthalmoplegia externa and interna, but with no distinct ophthalmoscopic changes. The symptoms had commenced with headache and deafness of the left ear four months before any ocular trouble; iridoplegia and strabismus, and then left ptosis, supervened. When admitted into the hospital she was drowsy and the face was dusky. All the signs of paralysis mentioned were present. There were no ophthalmoscopic changes

and there was no facial paralysis. Cutaneous sensibility of the left side of the face was impaired. Knee-jerk absent on both sides; no ankle-clonus. No plantar reflex on the right side, and only slight on the left side. Loss of voluntary control over the bladder. The patient died comatose two days later. The autopsy showed basic meningitis of recent date. The cavernous sinuses were plugged with old caseo-purulent and colorless thrombi, as were also the circular and transverse sinuses. The petrosal sinuses were empty. The ventricles were distended with fluid. The ophthalmoplegia, at first unilateral and then bilateral, was explained by the obliteration of both sinuses. The absence of choked disc was attributable to the free inosculcation of the facial and orbital veins.

The Unilateral Field of Fixation.—Kahn ("Arch. d'ophthal.," Sept.-Oct., 1886) draws the following conclusions from his investigations: 1. The field of fixation varies with the state of the refraction, being narrow in high degrees of myopia and wide in moderate degrees of hypermetropia. 2. The relation between the amplitude of convergence and the field is not subject to fixed rules. 3. Though the total excursion of both eyes outward is notably greater than the excursion inward, the simultaneous contraction of both internal recti carries it much beyond that of both external recti. 4. In convergent squint the field is sometimes normal and sometimes diminished. 5. The narrowing of the field of the two eyes in non-paralytic strabismus favors the view of a congenital weakness of the muscles. 6. The influence of tenotomy on the field is shown in the majority of the cases. 7. The simple advancement of a muscle increases the size of the field, especially toward the side of the advanced muscle. 8. There is no close connection between the correction of the squint and the change undergone by the field. 9. The refraction, visual acuity, and re-establishment of binocular vision exert a notable influence on the definite extent of the field after operation.

Ulcerative Keratitis in the Form of Stellate Furrows.—Gillet de Grandmont (*ibid.*) describes a form of keratitis characterized by numerous ulcers scattered over the surface of the cornea in the form of a star with four, five, or six rays. This he regards as the primitive form of an ulceration of bacillary origin, which by the development of the colonies of bacilli becomes the "branched keratitis" of Hausen-Grut, or the "keratitis dendritica" of Emmert.

A New Syringe for Washing Out the Interior of the Eye.—Panas (*ibid.*) has devised a new intra-ocular syringe which has the following advantages: It can not be injured by any mercurial or other solution that may be employed, as it is made entirely of glass and hard rubber. It prevents the possibility of any alteration of the liquid used and all soiling of the piston. It has a flat, delicate cannula of hard rubber, which admits of ready introduction into the interior of the eye. It prevents the entrance of bubbles of air into the interior of the eye, and thus admits of a real aseptic injection.

Anatomical and Physiological Researches on the Operations for the Cure of Strabismus.—Kalt (*ibid.*) concludes his subject with a discussion of the operations of advancement of the muscle and advancement of the capsule. As regards the advancement of the muscle, he concludes that the adhesion of the advanced tendon takes place through the medium of the capsule. Hence it is necessary to introduce the needles as far back in the capsule as possible. The effect of the advancement is thus increased, and the tendon is also protected against any injurious action of the suture. In regard to the advancement of the capsule Kalt draws the following conclusions: The capsular advancement may be anatomically demonstrated, for the autopsy shows a fibrous band uniting the body of the muscle to the corneal margin, and shorter than the tendon. This tendon may be folded with some difficulty. The advancement of the capsule ought not to be combined with advancement of the still attached tendon.

The Bacillus of Acute Conjunctival Catarrh.—Weeks's paper ("Arch. of Ophthal.," xv, 4) is based upon his own observations and cultivation experiments. The first case occurred in a woman, aged thirty, in whom there was a rather profuse muco-purulent discharge. Weeks made a dry cover glass preparation of the secretion, stained it with gentian violet, and examined the specimen with a one twelfth oil immersion. The examination disclosed large numbers of small well defined bacilli, which were aggregated on and in the pus cells, and free in the mucus. He then examined the secretion from the eyes of five

persons in one family affected with acute conjunctival catarrh, and found the bacilli in all. He then determined to ascertain positively the contagiousness of the secretion by inoculating healthy conjunctivæ with secretion from an affected eye. At first rabbits were used, but no conjunctival inflammation was induced. He then inoculated the healthy conjunctivæ of six eyes in five men who had previously lost their vision. In five of the six eyes inoculated the same form of conjunctivitis was produced, the bacilli being found in the secretions. Weeks has observed about one hundred cases of this disease since March, 1886. Attempts were made to cultivate the small bacillus on agar-agar and gelatin, in tubes and on plates, but the bacillus did not develop. On particles of pus transferred to the tubes the bacillus developed rapidly, but could not be induced to feed on the agar-agar. A mixture was then prepared containing only about 0.5 per cent. of agar-agar, and the bacillus developed feebly in this preparation in tubes. The bacillus in the tubes was contaminated with a club-shaped bacillus, and repeated attempts to separate the two proved fruitless. On the one third per cent. to one half per cent. solution of agar-agar in tubes, the bacillus with its contamination was carried to the sixteenth generation. Although repeated attempts have been made to cultivate this small bacillus on sterilized blood-serum, they failed to carry it beyond the second generation. It developed rapidly in beef-tea, and very feebly on potato. On agar-agar but little growth can be seen during the first twenty-four hours. At the end of forty-eight hours a slight haziness appears along the track of the needle, and on the surface of the agar-agar a small elevation is noticeable, of a pearly color and glistening surface. By the formation of concentric colonies, the growth extends for a short distance from the point of puncture on the surface of the agar-agar. The growth reaches its height in from five to seven days, at which time the above-described appearances are but slightly exaggerated. The bacillus then gradually degenerates, breaking up into small particles. The one-half-per-cent. agar-agar is the best medium yet found on which to cultivate this bacillus. An even temperature of from 34° to 37° C. is most favorable for the development of this microbe; it is also necessary to have abundant moisture. The bacillus varies considerably in length, being from one to two micro-millimetres long; in thickness it is always the same—about 0.25 of a micro-millimetre. In preparations from cultivations on agar-agar, Weeks has observed a number of the bacilli joined, forming quite long threads, but there was never any tendency to a double arrangement as in *Bacillus subtilis* or in Leber's bacillus of xerosis of the conjunctiva. The bacillus under consideration stains readily with watery solutions of fuchsin, gentian violet, and methylen blue. There is nothing peculiar to this bacillus in the effect produced upon it by the various acids, alkalies, alcohol, chloroform, or ether. A number of inoculations of the human conjunctiva have proved to the satisfaction of the author the innocence of the clubbed bacillus in the production of acute conjunctivitis. The bacillus in question is present in these cases of acute catarrhal conjunctivitis as long as the yellowish discharge persists. Sections of the conjunctiva in some of the cases, obtained by cutting out small portions from the lower *cul-de-sac*, showed the bacilli in rather scanty numbers in the anterior layers of the epithelium, either singly or in small colonies lying between the cells. Some leucocytes or pus-cells found in the epithelial layer showed the bacilli apparently in the interior as well as on the surface of the cells. Weeks has never met with this bacillus except in the form of acute conjunctivitis just described.

The Micro-organism of the so-called Egyptian Ophthalmia (Trachoma-coccus).—Michel (*ibid.*) has been making some investigations into the nature of an eye-disease which had broken out in the Boys' Orphan Asylum at Aschaffenburg. The number of inmates was 97. Of these, 28 were not affected, 55 were slightly affected, and 14 were severely affected; and of these last, 7 were affected in an especially intense manner. The average age of the boys was about thirteen years. The picture of the disease in general was characterized by the presence of circumscribed nodular elevations designated as follicles, granulations, or granules. These were found most abundantly in the retro-tarsal folds chiefly of the lower lid, and on the tarsal conjunctiva of the upper lid. There are three gradations of the disease to be recognized, and among these different forms there was a series of transitions. The conclusion is evident that the same noxious influence can call forth

forms of disease which clinically differ uncommonly in severity. The view that the so-called "follicular conjunctivitis" and trachoma, or the so-called Egyptian ophthalmia, are different pathological processes must be given up. The swelling of the pre-auricular glands is without doubt in intimate relation with the disease of the conjunctiva. It is sometimes unilateral, but is usually present on both sides. The enlarged glands were never painful and were moderately soft and elastic. There exists, without doubt, a direct connection between the lymph-vessels of the conjunctiva and the pre-auricular glands, and we may also assume that the lymphatics of the skin of the lid are likewise in connection with the pre-auricular gland. We know that there also exists a direct communication between the lymph-vessels of the outer skin and of the conjunctiva of the lid. The so-called Egyptian ophthalmia is therefore distinguished clinico-anatomically also by the fact that the pathogenic material is received into the lymphatics of the conjunctiva, and thence conducted to the neighboring lymphatic glands. It is probable, at least in the severer cases, that the lymphatic vessels of the skin of the lid are implicated. The bacteriological results of the investigations may be summarized as follows: 1. The trachoma-coccus is found in the tissue of the conjunctival follicle. 2. Morphologically, the trachoma-coccus is a diplococcus of the shape of a double roll, and distinguished by its minuteness and the slight development of the dividing line. It stains with all basic aniline colors, and possesses no individual movements, though, on the other hand, a rotary and oscillating movement can be demonstrated. 3. In puncture cultivations the trachoma-coccus grows as a glistening, whitish turf, with at first a slight mixture of gray, and spreads chiefly on the surface. The gelatin never becomes liquefied. Afterward the cultivations assume a light-yellowish color, and there is retraction of the surface in the test-tubes charged with gelatin. 4. In blood-serum it grows along the inoculation punctures in ribbon-shaped, white streaks, and spreads out in little white clouds; the same in plate cultivations. 5. On potato the growth is very scant. 6. The increase in growth is in general the most rapid at a higher temperature. 7. Inoculation of particles of a pure cultivation by puncturing the human conjunctiva produces typical trachoma. The micro-organism, either at a wounded spot of the epithelium, or perhaps even through the uninjured epithelium, penetrates directly into the cytogenic tissue and here produces a hyperplastic enlargement of the lymph-follicles, eventually leading to new formation of follicles. As regards treatment, the patient, as well as the doctor, must learn to regard the so-called Egyptian ophthalmia as an infectious disease. At the outbreak of such an epidemic in closed apartments, not only must there be a separation of the healthy from the diseased, but a copious disinfection of the rooms in use, the linen, etc., must be undertaken. Locally, a disinfection of the conjunctival sac should be made many times a day with a solution of mercuric bichloride (1 to 5,000). Massage of the lids should be performed once a day, after application of an ointment composed of yellow mercurial precipitate, 0.05, in vaseline 10. When the secretion is purulent and proportionally copious, and the conjunctiva is spongy, nitrate of silver is to be employed in solution (0.1 to 10) or in combination with vaseline. When the papillæ are exuberant, sulphate of copper must be employed. When medicaments fail to effect a cure, Michel advises incisions of the conjunctiva and squeezing out of the contents of the follicles, or the use of the thermo-cautery and sharp curette.

Miscellany.

Adhesive Plaster.—Dr. Addinell Hewson recently gave a description of a method of preparing adhesive plaster: Bookbinders' paste, which in its pure and clean state is simply a wheaten flour paste, made in a porcelain crock by boiling thoroughly one part of flour in three or four parts of cleanly filtered water, always for twenty minutes, stirring the mixture all that time by a clean, new wooden or bone spatula, is applied by a thin strip of wood directly to the bare, clean integumentary surface of one of the edges which are to be secured, and then one end of a strip of gauze is to be laid on it and rubbed gently and smoothly

so that the paste will come through its meshes. It should be applied no nearer the edge of the wound than collodion would be. It dries as quickly as the latter, and has, indeed, the advantage of always drying fast even, on a moist or dampened surface—a property wanting in liquid glass as well as glue, even where expedients have been previously used to dry the parts. When the end of the strip first applied is fixed by the paste, some of the latter is to be put on the other side of the wound, and the gauze strip drawn smoothly across it and pressed on that side, the surgeon watching the contact of the lips as to how well it is secured, rectifying any irregularity to be seen through the meshes by a probe. Sometimes in a long wound it may be advisable to secure the initial extremities of the gauze strips alternately on both sides. On other occasions it may be better to fix them on one side and draw all by their free extremities across, and so get equal amount of traction and tension in that way. The paste, when made strictly according to the directions I have given, and kept covered in a dry place, will not sour, and such paste can be made the vehicle of various kinds of antiseptics and disinfectants. By the addition of a small quantity of corrosive sublimate (one grain to a pint) immediately after it is fully boiled, it effectually prevents the germination and development of various kinds of microbes wherever it may be applied.—*The Polyclinic*.

Terebene and the London Apothecaries.—A correspondent of the "British and Colonial Druggist" says: "I am, as you are aware, 'connected with the trade'—the last word should perhaps have been 'profession,' but that will not affect the value of my narrative. Staying in London for a few days was a friend of mine, and as one evening this week we were investigating the mysteries of the metropolis it became apparent that his interest was beginning to flag. With the instinct of a pharmacist who may one day have to prescribe in order to pay his rent and taxes, I soon detected reflections of physical pain in the countenance of my companion. Ably following up the symptoms, I arrived at the truth—stomachic inflation. Good! Terebene indicated. Get some. To the nearest chemist we went. He was busy. Happy man! Five real customers in his establishment at one time. Not revealing 'my connection with the trade,' I modestly preferred a request for five drops of terebene in a little water. 'Terebene?' quoth the professional gentleman behind the counter. I assented. 'Terebene?' he repeated; 'what for?' 'Flatulence.' He smiled broadly. 'Terebene!' he continued. 'I've heard of "Terebene Soap."' Again smiling in a manner which plainly meant 'I am a man of superior knowledge, but I'll give you another chance,' he inquired, 'Are you sure it's terebene?' I was. Then came his thunderbolt. 'Why, terebene's a kind of turpentine. You don't want to take that internally.' I was crushed and we retired.

"We had an almost similar experience in the next pharmacy we went to, and I was there told I must be mistaken about the name. I must mean 'peppermint.'

"Three more establishments were visited, but none of them had terebene in stock. All these five pharmacies were in the W. C. district, and in selecting these to call at I avoided, after my interview with the 'Terebene Soap Man,' several shops of inferior size as being unlikely places to get what I wanted."

The University of Vienna.—According to the "Revue générale de clinique et de thérapeutique," Dr. Max Gruber, of Graz, has been nominated for the professorship of hygiene at Vienna.

The University of Berlin.—The "Lancet" states that Dr. Olshausen, of Halle, has accepted an invitation to fill the late Professor Schroeder's chair of obstetrics, and will begin his lectures on the 1st of May.

The Windham County, Conn., Medical Society.—At the recent annual meeting, held in Putnam, at which the attendance was large, Dr. J. B. Kent, of Putnam, read an essay, and officers and delegates were elected as follows: President, Dr. Charles J. Fox; vice-president, Dr. F. G. Sawtelle; secretary and treasurer, Dr. Charles N. Allen; censors, Dr. W. A. Lewis, Dr. T. M. Hills, and Dr. E. H. Davis; county medical reporter, Dr. R. Robinson; delegates to the State Medical Society, Dr. T. R. Parker, Dr. Lowell Holbrook, Dr. R. Robinson, Dr. W. A. Lewis, and Dr. H. L. Hammond (alternates, Dr. F. O. Bennett, Dr. E. E. Gay-

lord, Dr. N. Hibbard, Dr. E. H. Davis, and Dr. E. D. Kimball); delegates to the American Medical Association, Dr. E. A. Hill, Dr. T. M. Hills, and Dr. F. G. Sawtelle; essayist for 1888, Dr. W. W. Foster (alternate, Dr. O. B. Griggs). The next annual meeting will be held in Willimantic.

The Health of Boston.—During the week ending Saturday, April 23d, the following numbers of cases and deaths from infectious diseases were reported to the Board of Health: Diphtheria, 19 cases and 5 deaths; scarlet fever, 29 cases and 2 deaths; typhoid fever, 26 cases; measles, 38 cases and 1 death. There were also 24 deaths from consumption, 23 from pneumonia, 3 from whooping-cough, 19 from bronchitis, 20 from heart disease, and 7 from marasmus. The total number of deaths was 203, against 190 in the corresponding week last year.

The Health of San Francisco.—According to the Health Department's "Condensed Statement of Mortality," for the month of March, the whole number of deaths reported during the month was 445, including 1 from cholera infantum, 20 from croup and diphtheria, 3 from cerebro-spinal meningitis, 2 from diarrhoea, 1 from dysentery, 3 from erysipelas, 9 from typhoid fever, 1 from whooping-cough, 2 from pyæmia, 2 from septicæmia, and 2 from scarlet fever.

Government Health Reports.—By direction of the Secretary of the Treasury, Dr. John B. Hamilton, Surgeon-General of the Marine-Hospital Service, has issued the following abstract of sanitary reports received during the week ending April 21st:

England and Wales.—The deaths registered in twenty-eight great towns of England and Wales during the week ending April 2d corresponded to an annual rate of 21.6 in a thousand of the aggregate population, which is estimated at 9,245,099. The lowest rate was recorded in Brighton, viz., 14.6, and the highest in Blackburn, viz., 33.1 in a thousand.

During the year 1886 there were recorded in the twenty-eight great towns 300,635 births and 189,629 deaths, the proportion being 33.2 and 20.9 in a thousand of population respectively. The birth rate was the lowest since 1850, and the death rate lower than any previous year excepting 1885. The death rate varied greatly in the different towns, ranging from 17.1, in Brighton, to 28.9, in Preston.

London.—One thousand five hundred and eighty-eight deaths were registered during the week ending April 2d, including 85 from measles, 6 from scarlet fever, 14 from diphtheria, 31 from whooping-cough, 1 from typhus fever, 8 from enteric fever, and 12 from diarrhoea and dysentery. There were 417 deaths from diseases of the respiratory organs. Different forms of violence caused 70 deaths, and 9 suicides were registered. The deaths from all causes corresponded to an annual rate of 19.7 in a thousand. In greater London, 1,997 deaths were registered, corresponding to an annual rate of 19.2 in a thousand of the population. In the outer ring, 27 deaths from measles, 9 from whooping-cough, and 5 from diphtheria were registered.

Ireland.—The average annual death rate represented by the deaths registered during the week ending April 2d, in the sixteen principal town districts of Ireland, was 30.6 in a thousand of the population. The lowest rate was recorded in Armagh, viz., 5.2, and the highest in Lisburn, viz., 43.5 in a thousand.

Dublin.—Two hundred and twelve deaths were registered during the week ending April 2d, including 4 from measles, 4 from scarlet fever, 1 from typhus fever, 3 from whooping-cough, and 4 from enteric fever. Diseases of the respiratory organs caused 49 deaths. In twenty-nine instances the causes of death were uncertified. The deaths from all causes corresponded to an annual rate of 31.3 in a thousand.

Scotland.—The death rate in eight principal towns during the week ending April 2d was 23.5 in a thousand of the aggregate population, which is estimated at 1,299,000. The lowest mortality was recorded in Leith, viz., 11.5, and the highest in Aberdeen, viz., 51.5 in a thousand. The aggregate number of deaths registered from all causes was 588, including 43 from measles, 6 from scarlet fever, 8 from diphtheria, 31 from whooping-cough, and 18 from diarrhoea.

Glasgow.—Twenty-four deaths were registered during the month of March, including 1 from small pox.

Nice.—One hundred and nineteen deaths were registered during the

two weeks ending March 15th, including 9 from small-pox, 3 from scarlet fever, and 2 from enteric fever.

Monterideo.—Three hundred and thirty-five deaths were registered during the month of February, 1887, including 57 from cholera, 2 from small-pox, and 3 from enteric fever.

Callao.—The United States Consul, under date of March 6, states that "there is as yet no appearance of cholera in Peru. Some cases have been reported on the eastern interior frontier of Bolivia, doubtless proceeding from the Argentine Republic, and energetic measures were being taken to prevent the spreading of the disease. . . . Should the presence of cholera become more manifest in Bolivia, the necessary sanitary precautions will be adopted toward that republic. Later advices, however, state that the reports alluded to are unfounded." The consul also incloses copies of official cable messages from Chili, as follows:

"*Santiago, March 4th.*—From the inception of the cholera epidemic 2,458 victims of the pestilence have been interred. In the twenty-four hours there have been 27 cases (new) and 35 deaths. Number of cases now, 152. The cholera is decreasing."

"*Valparaiso, March 4th.*—Ten new cases and 6 deaths have occurred within the last twenty-four hours. Number of cases now, 35."

"*Quillota (between Santiago and Valparaiso), March 4th.*—Cholera has made its appearance here."

"*Santiago, March 5th.*—Cholera diminishing. Fifty-nine cases yesterday; 34 deaths."

And the following cable message sent to a prominent business house at Lima:

"*Valparaiso, March 4th, 5.15 p.m.*—Cholera rapidly decreasing. Cases at Santiago, 195; Valparaiso, 39; provinces, 99."

Lima.—The United States minister, in his dispatch dated March 21st, states that . . . "it seems the only way in which our ships now on the Chilian coast can gain admission to Peruvian ports is by obtaining entry to some uninfected port north of Panama, and clearing from there with a clean bill of health. . . . No case of cholera, so far as known to me, has occurred at any port north of Valparaiso; yet, so great is the concern felt along the coast that it is apprehended, owing to unfounded rumors, and I might almost say the sanitary craze, that Panama may close against the Peruvian ports, thus cutting off supplies, resources, and the mail connections from the outside world. Peru has quarantined also against Guayaquil; but this is quarantine—not prohibition—on account of yellow fever there. The steamer which came in this week was kept in quarantine at Callao for several days because some man died on board, though from what I gather there was only a suspicion that it might have been from yellow fever."

Corea.—The United States *charge d'affaires ad interim* at Seoul, under date of February 25, 1887, reports that "a contagious and infectious disease, 'yin pyung' (relapsing or famine fever, plague, etc.), is now epidemic in the southern provinces of Corea. This disease is endemic in parts of the country (Corea) the year round. It is fatal in about 30 per cent. of the number attacked. It is more dreaded than is small-pox, and ranks next to the cholera in the minds of the people."

MORTALITY TABLE, FOREIGN CITIES.

CITIES.	Week ending	Estimated population.	Total deaths from all causes.	DEATHS FROM—							
				Cholera.	Yellow fever.	Small-pox.	Typhoid fever.	Enteric fever.	Scarlet fever.	Diphtheria.	Whooping cough.
Calcutta	February 26	433,216	198	22	...	...	...	...	...	...	...
Calcutta	March 5	433,216	235	49	...	...	...	...	...	...	...
Guayaquil	March 17	35,000	61	10	...	...	...	...	...	...	...
Paris	April 2	3,260,000	1,240	6	...	...	...	...	...	...	...
Warsaw	March 26	431,572	215	12	...	...	...	...	...	...	...
Havre	April 2	113,054	49	2	...	...	...	...	...	...	...
Rome	February 19	344,541	109	4	...	...	...	...	...	...	...
Palermo	April 3	250,000	119	...	...	...	...	...	...	...	...
Bremen	March 26	119,000	47	...	...	...	...	...	...	...	...
Munch.	March 26	230,000	133	...	...	...	...	...	...	...	...
Leipsic	April 2	170,000	63	...	...	...	...	...	...	...	...
Amsterdam	April 2	373,690	214	...	...	...	...	...	...	...	...
Glasgow	April 2	545,678	215	...	...	...	...	...	...	...	...
Belfast	April 2	224,422	131	...	...	...	...	...	...	...	...
Reims	April 2	180,083	45	...	...	...	...	...	...	...	...
Toronto	April 2	120,000	27	...	...	...	...	...	...	...	...
Leighorn	April 3	101,172	54	...	...	...	...	...	...	...	...
Cape Haytien	April 2	10,000	3	...	...	...	...	...	...	...	...

THERAPEUTICAL NOTES.

The Physiological Action and Therapeutical Uses of Methylal.

"For some time past," says the Paris correspondent of the "British Medical Journal," "therapeutists have sought for a new hypnotic among acetals. Methylal, which belongs to that group, was first classed by M. Malaguti in 1839. It is highly volatile, boils at 42° C. (107.6° F.), has a density of about 0.85, and is soluble in water, alcohol, and oil. M. Personali's experiments proved that methylal rapidly induced sleep in frogs after a dose equal to 50 per cent. of their own weight; in rabbits after a dose of 25 per cent. of their weight; in birds after a dose of 20 per cent.; and in dogs after a dose of 10 to 16 per cent. A dose of a gramme and a half caused death in a pigeon. Methylal is rapidly eliminated. It modifies the action of the heart, and increases the number of its beats during hypnosis. It lessens arterial pressure, and at the same time lowers the temperature; it reduces the activity of exchange in the tissues, while it modifies the circulation and respiration. If methylal be administered to a warm-blooded animal at the beginning of strychnine poisoning, the tetanic convulsions are checked, and, the poison being eliminated, the animal may recover. In the case of cold-blooded animals, in which the process of elimination takes a considerable time, the toxic phenomena are suspended while the action of the methylal lasts, and reappear when it has ceased. Methylal may be administered without difficulty either hypodermically or by the mouth. M. Nicot proposed to administer it externally, prepared with oil of sweet almonds, in the form of a liniment composed of 85 grammes of the excipient to 15 grammes of methylal; or with alcohol at 80, in the proportion of 10 grammes of methylal to 110 grammes of alcohol and 5 grammes of essence of lavender. An ointment might be made with methylal, containing 33 grammes of fatty material and 5 grammes of the medicament; and an application for toothache might be made with 2 grammes of methylal in a suitable excipient. A draught might be made of 1 gramme of methylal mixed with 150 grammes of water and currant syrup; a syrup with 1½ grammes of methylal to 100 grammes of golden syrup; and an injection with 1 gramme of methylal in 125 grammes of gum-water."

Potassium Chlorate in the Treatment of Epithelioma.—This method of treating epithelioma, which was brought forward in 1847, and again in 1857 and in 1863, and successively abandoned, has lately been resorted to again by M. Reclus ("Gaz. des hôp." Mar. 1, 1887; "Rev. gén. de clinique et de therap.," April 14, 1887), who has had four successes with it, together with some failures. His conclusion is that it has no effect on epitheliomata seated on mucous membrane or at the junction of skin and mucous membrane, but that it is efficient enough to be tried on cutaneous epitheliomata in patients who are too feeble to endure excision or who decline to do so. He applies a supersaturated (six-per-cent.) solution.

The Aniline Treatment of Phthisis.—According to the "British Medical Journal," a committee appointed by the Moscow Congress to investigate the value of Professor Kremianski's proposal has now issued its report. The members, Dr. Ostrumoff, Dr. Subotin, Dr. Shervinski, Dr. Klein, Dr. Vogt, and Dr. Bogoslovski, first made a number of experiments on animals in Professor Bogoslovski's laboratory, introducing the aniline combined with oleum gaultherii into the blood directly, subcutaneously, and by means of inhalations with Professor Kremianski's apparatus. Instead of this being followed by no ill effects, or only very slight ones, as the professor believed would be the case, all the animals died a few hours after the introduction of aniline with symptoms of paralysis of the respiratory center, even when very small quantities of aniline had been administered. When given to patients it caused them extreme disgust, and appeared to be utterly useless from a therapeutic point of view. The committee, therefore, has decided to make no further investigations on the subject.

Opium and Belladonna in the Treatment of Diabetes.—Villemin ("Semaine méd.," 1887, No. 7; "Ctbl. f. die ges. Therap.," April, 1887) gives the history of a case in which the symptoms were repeatedly and strikingly controlled by the use of these two drugs, quite irrespective of the diet. The influence of opium in this disease is well recognized, but the author satisfied himself that in his case the effect was not due to either drug alone, but to the combination.

Original Communications.

A SUCCESSFUL CASE OF CÆSAREAN SECTION.

By WILLIAM T. LUSK, M. D.

BRIDGET CURRY, primipara, aged twenty-four, domestic, Ireland, was sent to me, from the country branch of the Mother's Home on Staten Island, by Dr. O'Reilly, the attending physician, because of marked pelvic deformity. The patient entered my service at the Bellevue Hospital on March 21, 1887. She had menstruated last early in the previous July, and was presumably in the ninth month of pregnancy. She was suffering from lameness due to hip disease, which dated from her eleventh year. At that time sinuses had formed in the neighborhood of the right acetabulum from which there had been a discharge, which had continued for some time, and for which she had been sent to a hospital in Dublin for treatment. A cure had been then effected, but during the latter months of her pregnancy fresh suppuration with sinus formation, and purulent discharge, had taken place at the site of her previous trouble.

On the 22d of March I visited her at the hospital, with a view to making a careful measurement of the pelvis, in order to decide upon the proper course to pursue. The woman was, however, found on my arrival to be already in labor. The pelvic measurements were as follows:

Distance between the anterior spines....	21.5 centimetres;
Distance between the cristæ ilii.....	24 "
External conjugate.....	16 "
Distance between the anterior and posterior spines (right side).....	14½ "
Distance between the anterior and posterior spines (left side).....	16 "
Diagonal conjugate	9 "
Internal conjugate (estimated).....	7.5 "
Distance between the ischia.....	6.5 "

The shortening of the right leg (measured from the trochanter to the malleolus) amounted to 4 centimetres. The pelvis belonged to the oblique variety. On the right side the iliac bone ran in a nearly straight line, and on the left the curve was greatly diminished.

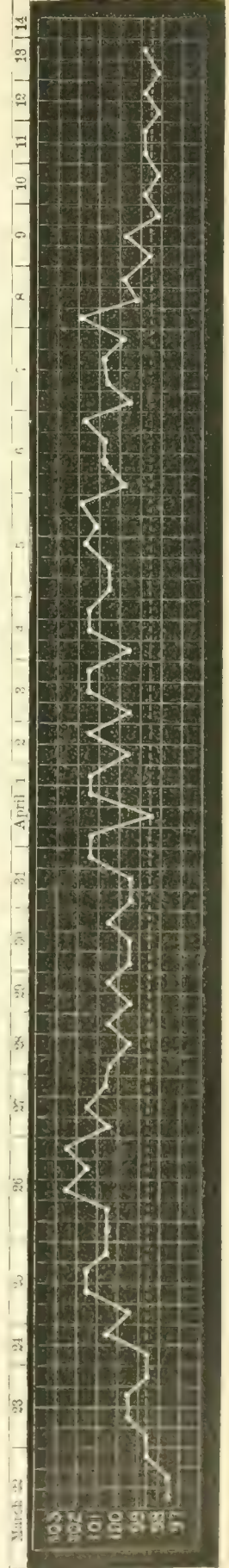
The promontory projected to a marked degree into the pelvic space. While with these dimensions it did not seem impossible to remove the child by craniotomy, still the risks of extracting the child through the natural passages, owing to the combined transverse and antero-posterior narrowing, I concluded would equal if not exceed those to which the woman would be exposed if subjected to Sænger's operation—*i. e.*, the old Cæsaean section, modified by the employment of an exact series of deep muscular and superficial peritoneal sutures for the closure of the uterine wound. In this decision I was sustained by Dr. I. E. Taylor and Dr. Garrigues. The examination took place about noon, and at once, in all haste, preparations were made for the operation. As the private pavilions were both in use at the time, it was necessary to operate in one of the public wards of the hospital without preliminary disinfection.

The operation was begun at 3.30 P. M. Dr. Garrigues kindly assisted me. His thorough knowledge of each step in the operation proved of great value to me. The incision through the abdominal wall extended from a point three inches above the navel to within two inches of the symphysis pubis. The uterus was then tilted with its left border to the front, and everted from the abdominal opening by firm downward pressure upon

the abdominal walls. After the uterus had been turned out, the intestines were retained by a large, flat sponge placed behind the uterus and beneath the abdominal parietes. A piece of rubber tubing was placed around the lower segment to control hæmorrhage.

The exposed uterus was wrapped in towels, wrung out in a warm corrosive-sublimate solution (1 to 5,000), which were replaced at short intervals. A short incision about two inches in length was first made in the median line near the lower uterine segment. The tissues were divided slowly and with care until the membranes were exposed. Then with scissors the incision was rapidly extended upward toward the fundus until an opening five inches in length was obtained. As the uterus contracted, the membranes formed a hernial protrusion from the wound. Owing to the elastic ligature the incision was nearly bloodless. While Dr. Garrigues drew the abdominal walls tightly around the uterus, to protect the peritoneal cavity, the membranes were ruptured. The child presented by the head, in the left occipito-anterior position. A knee was seized, and the child was rapidly extracted. It weighed five pounds and a half, and was deeply cyanosed, but was happily resuscitated by my friend, Dr. A. B. Ball. The separation of the membranes and placenta was accomplished by tractions upon the protruding sac, and by means of two fingers inserted between the decidua and the uterine walls. This act furnished a beautiful demonstration of the fine cobweb-like processes described by Leopold, which connect the decidua with the residual portion of the mucous membrane which remains adherent to the uterus. The uterine cavity was carefully sponged with a corrosive sublimate solution (1 to 10,000). With the removal of the child and the subsequent retraction of the uterus, it became necessary to employ towels, rendered aseptic by immersion in warm corrosive sublimate solution, to keep back the intestines. Owing to the arrest of the circulation by means of the elastic ligature, the uterus presented a pale, waxy appearance.

In the closure of the wound carbolized silk was used. As



cording to Dr. Taylor's count, thirty-four sutures in all were employed. Of these, probably sixteen were deep and the others superficial. The deep sutures were introduced about a third of an inch from the cut border, and were passed obliquely inward, so as to avoid impinging upon the mucous membrane. The superficial sutures were inserted at short intervals, to secure complete approximation of the peritoneal surfaces. The Lembert stitch was employed. No lifting of the peritoneum nor resection of muscular tissue was found necessary. When the temporary ligature was removed, the blood slowly returned to the pallid organ, which, from a waxy white, became at first suffused with a pale pink, the color then gradually deepening to a rose-red, and finally to a dark-purple hue. A little oozing from a stitch-wound at the placental site was observed as the blood returned to the organ. After twenty minutes, during which hot-water applications, pressure, and deep sutures at a right angle to the bleeding stitch were vainly resorted to to arrest the oozing, the uterus was returned to the abdominal cavity, a drainage-tube was inserted behind the organ, and the abdominal wound was closed by ten silver sutures. Owing to the extreme contraction of the antero-posterior pelvic diameter, there was no room for the drainage-tube in the *cul-de-sac* of Douglas.

At the close of the operation the patient's condition was excellent. The time occupied was one hour and fifteen minutes. For two days subsequent to the operation the temperature was below 100°. At the beginning of the third day the temperature (afternoon) rose to 100.5°. On the fourth day there was considerable tympanites, which was relieved by three grains of calomel followed by a Seidlitz powder and an ox-gall enema. The highest temperature (102.8°) occurred on the fifth day, but fell, however, to 100.5° after a large spontaneous evacuation of the bowels. On the sixth day the temperature was 99.5°. As the serum from the abdominal cavity had become colorless, the drainage-tube was withdrawn. On the seventh day the abdominal stitches were removed. On March 31st the temperature was 101.6°. Upon a careful examination, pus was detected in the line of the incision. The pus was evacuated and the wound dressed with iodoform gauze. On the 9th of April a large abscess was found at the site of the old sinuses over the right hip. After lancing the abscess the temperature fell to the normal point, and no further disturbance took place. From the second day the patient took an abundance of liquid food, with tea, toast, and eggs by the end of the week. There was no vomiting or other gastric derangement. The patient sat up at the end of the fourth week, and her condition was greatly improved as compared with that which existed previous to the operation. Indeed, had it not been for the symptoms resulting from the hip-complication, the period of puerperal convalescence would have compared favorably with that following an easy natural labor. The child was weighed on the 24th of April, and was found to have gained three pounds and a quarter.

Too great praise can not be given my house physician, Dr. L. M. Silver, for the intelligent care he bestowed upon my patient.

SOME UNSOLVED CLINICAL PROBLEMS.*

By W. H. FLINT, M. D.

URGING, as my excuse for the presentation of too small a number of observations to be of any value for purposes of scientific generalization, the fact that one of the objects of our society is the rescue of *isolated* clinical experiences

from the oblivion into which they must fall if merely recorded in the note-books of individual practitioners, I pledge myself to always offer at the common altar such fruits of personal observation as may not seem unworthy of a place on our monthly clinical banquet-table.

It is the part of simple discretion to preface my remarks by this promissory note, drawn in favor of my fellow-workers, lest their patience be exhausted by a communication whose nature is chiefly interrogatory, and the main object of which is the eliciting rather than the imparting of information.

The cases to which I invite your attention are still under my observation, and I shall await, with interested expectation, the suggestions of my *confrères* regarding ætiology and indications for treatment, promising any one, who may be interested, to report the results of further observation, together with such conclusions as the premises may seem to justify. Certain facts in each history seem to point to some trophic or other disturbance of the vascular apparatus, regarding the nature of which enlightenment would be particularly desirable.

The first case is one the characteristic feature of which is intermittent, asymmetrical œdema:

The patient, Mrs. R., aged twenty-nine, first came under my care in 1880. Her family history presents nothing of importance. She has never had rheumatism, syphilis, or malaria, has led a temperate life, and been blessed with general good health. She has had no children, but had two abortions ten years ago, since which pregnancy has not recurred. My professional aid was first sought by the patient in 1880 for the relief of an attack of chronic bronchitis, attended by marked bronchorrhœa. A careful examination showed everything to be normal, with the exception of the bronchitis, slight cervical endometritis, and moderate anæmia. The urine was quite normal and no heart lesions existed. After a month's treatment the diseased conditions alluded to had disappeared, and the patient was apparently well, when, on awaking one morning, after a night of tranquil sleep, Mrs. R. found the fingers of her right hand markedly œdematous. There was neither pain nor redness. There was no evidence of undue pressure or restraint having been exerted upon the right arm or hand during sleep. The œdema disappeared without treatment in a few hours. The urine was entirely normal. The patient subsequently enjoyed perfect health until July, 1882, when she had a more pronounced attack of œdema, which developed suddenly without known cause, involved the right hand and arm, and disappeared in two days, the only treatment being with a mild alkaline diuretic. The urine was normal and the heart's action undisturbed. There was slight anæmia, which soon yielded to iron. In August, 1883, there was an attack of anasarca, after exposure in sea-bathing, accompanied by emesis and semi-coma, apparently of hysterical character. At this time there was no albuminuria, and a quantitative analysis showed a normal amount of urea. The acetate of potassium was used, diuresis resulted, and the anasarca vanished in a few days. Since 1883 attacks similar to those described have frequently recurred, although the patient's general health has been excellent. My history-book records the following attacks: In October, 1883, involving the left leg and foot; in March, 1884, involving both arms; in July, 1884, involving the left arm and hand, with partial anæsthesia of the parts; in August, 1884, involving the left thigh and both hands; in December, 1884, affecting the eyelids and the right hand; in April, 1885, involving the right hand and forearm; in October, 1885, affecting

* Read before the New York Clinical Society, January 25, 1887.

both hands and both feet; in July, 1886, causing hydroperitonæum and general anasarca; in October, 1886, involving the left leg and foot; on January 5, 1887, affecting the face and the left foot.

I have not entered into the details of the treatment in individual attacks, because no single remedy has seemed superior to any other. The œdema has invariably disappeared in a few hours or days, whether treatment was active or purely expectant. Ergot, digitalis, iron, the iodides, purgatives, and diuretics have all been tried, and in each instance the œdema has vanished with surprising celerity.

There have been no local capillary congestions indicative of vaso-motor paresis. Anæmia has not been so marked at any time as in many cases unaccompanied by œdema.

Renal and cardiac disease have been excluded by careful and repeated examinations. Albuminuria has never existed, no casts have ever been found, and the urea has averaged between six and eight grains to the ounce. The pulse has been regular and of average strength and frequency. Careful search has failed to show any morbid growths the pressure of which could produce local venous hyperæmia. There have been no hæmorrhages, nor has there been any increase of arterial tension or rigidity of the superficial arteries. The only ascertained condition apparently having any constant ætiological relation to the symptoms was chilling of the surface from draughts or cold baths, such exposures having preceded some of the attacks.

The fact which has most impressed me in the case is the apparent proneness of the vascular walls, whether of the bronchial, of the cutaneous, or of the peritoneal vessels, to permit the effusion of the watery constituents of the blood, somewhat as the renal capillaries do in chronic nephritis. Being at a loss for a theory as to the causation of the difficulty, and noticing a tendency to more frequent recurrence of these attacks, I hope that my fellow-members may make some helpful suggestions as to ætiology and prophylaxis. I should also like to inquire whether there are any recorded cases of this kind in which post-mortem examinations of the vessels have been made.

My next case is that of a lady, slightly past middle age, of gouty and diabetic ancestry, but who has never suffered from gout, rheumatism, or venereal disease.

In the spring of 1886 she was attacked by diabetes. She had great thirst, a ravenous appetite, loss of flesh, burning on micturition, and polyuria. The urine presented the characteristic appearances of diabetes, and contained large quantities of sugar, but no albumin, and no casts. The iodide of calcium was administered in three-grain doses, thrice daily, and a strict anti-diabetic diet enforced, with the result of quickly causing the disappearance of the symptoms. Simultaneously with the subsidence of the polyuria and the glycosuria, albuminuria developed, and hyaline and granular casts appeared. As the specific gravity was not low, averaging from 1.022 to 1.026, and the urea averaged from seven to nine grains to the ounce, it was not considered necessary to adopt other measures, and the anti-diabetic regimen, with the iodide of calcium, was continued. Within a week the diabetic symptoms returned, and they persisted, with alternate amelioration and aggravation, during the entire summer of 1886. The patient resided in the country

meantime, probably did not strictly adhere to the prescribed diet, and was unavailingly treated with nux vomica, alkalies, and Fowler's solution. At the middle of October there was no change, and ergot was prescribed. At the end of October the symptoms were even more marked. Eighty-four ounces of urine were daily evacuated, and there were 4.80 grains of sugar to each ounce, with only 3.64 grains of urea, and with large quantities of oxalate of calcium and of uric acid. The anti-diabetic diet was enforced, the patient being in town and subjected to closer supervision, and the arsenite of bromine was prescribed. On November 9th the quantity of urine was reduced to sixty-nine ounces *per diem*, the sugar to 3.94 grains to the ounce, and the urea raised to 10.60 grains to the ounce.

On November 27th the urine was reduced to fifty ounces and the sugar had disappeared, and there were 8.44 grains of urea to the ounce; but albumin had again made its appearance, and small hyaline and granular casts were discovered. There was also an excess of uric acid. On December 7th the conditions were reversed. There were fifty-eight ounces of urine, which had 4.98 grains of sugar to the ounce, and a large quantity of uric acid, but neither casts nor albumin. On December 17th there was an immense increase of urea (thirteen grains to the ounce) and of urine, which rose to seventy-eight ounces, while the amount of sugar had risen to 5.76 grains to the ounce. The specific gravity was 1.030, and uric acid was present in enormous amounts. The patient had become considerably emaciated. As she confessed to recent violations of the prescribed dietetic rules, all medication was now stopped, and the strictest anti-diabetic regimen insisted on. The result was most satisfactory, for, on January 7th, there was neither sugar, albumin, nor casts. The total quantity was fifty ounces, the specific gravity 1.021, and there were 8.25 grains of urea to the ounce. There was also much uric acid and oxalate of calcium.

On January 11th, under the same treatment, but with the aliment greatly reduced below the demands of the appetite, the specific gravity was 1.018, the quantity fifty ounces. There was, moreover, no sugar, no albuminuria, no casts, six grains of urea to the ounce, but little uric acid, and no oxalate of calcium. Emaciation was, however, rapidly progressive. On January 26th the patient was yet more emaciated, the specific gravity was 1.011, and there was no sugar, no albumin, no casts, no uric acid, and no oxalate of calcium.

The following points are of interest to me in this case:

1. The alternation of albuminuria with casts and glycosuria.
2. The persistence of oxaluria and of lithuria so long as glycosuria and albuminuria continued.
3. The simultaneous disappearance of glycosuria and albuminuria without remedies when the anti-diabetic diet was strictly observed.
4. The gradual diminution and final disappearance of oxaluria and of lithuria when the anti-diabetic diet was reduced largely below the amount demanded by the appetite.

The problem which I have not yet solved in this case relates to the significance of the appearance of albuminuria and casts simultaneously with the disappearance of sugar—*i. e.*, to the reciprocal relations of the glycosuria and the albuminuria.

My last case, which I have recently seen through the courtesy of Dr. A. H. Smith, in his service at the Presbyterian Hospital, belongs to the category of nervous diseases, but seems intimately connected, like its predecessors, with some abnormality in the vascular mechanism.

The patient, a middle-aged man, of good family history, who indulged moderately in alcoholic drinks until five years ago, when he abandoned their use, had syphilis nine years ago, but the symptoms disappeared under treatment and he enjoyed robust health until quite recently, when his present ailment commenced. The first symptom which attracted his attention was slowness and hesitation in his speech. His mental processes far outstripped his powers of expression. Aside from this, there were no morbid phenomena and all his bodily functions were well performed until three months ago, when he suddenly became paralyzed in his right arm and leg. Sensation was retained and there was no absolute loss of consciousness, although there were notable mental confusion, pain in the head, and slight feverishness. All these symptoms disappeared within a few hours. Two similar attacks have occurred since the original one, the only symptom during the intervals having been the same slowness of speech, which existed before the first paralytic paroxysm. The writer witnessed the symptoms immediately preceding the last attack as well as the attack itself. Forty-eight hours before the development of paralysis the patient's condition was as follows: The functions were all well performed, the organs were healthy, and the urine was normal. There were no enlarged lymphatic glands and no cicatrices. The pulse, respiration, and temperature were normal. There were no arterial or heart murmurs. The superficial arteries were not rigid. The mind was clear and the patient cheerful. The only morbid phenomena were the following: The left pupil was somewhat dilated, but responded readily to light. There was slight ataxic aphasia, but no amnesic aphasia, no word-blindness or word-deafness. The sensibility of the left side was normal, that of the right side slightly exaggerated. The motor power was everywhere normal. The tendon and cutaneous reflexes were somewhat increased on both sides. The electrical reactions were normal. There was no nystagmus, but slight volitional tremor of the hands. Forty-eight hours after my first examination, the patient, feeling unusually well and buoyant, walked into the room of the resident physician, which was at some distance from the private room occupied by himself. While in the doctor's room he suddenly complained of vertigo and of inability to stand erect. He was carried to his room, when it was found that he was hemiplegic on the right side. I saw him soon after the development of the paralytic symptoms. He then had marked ataxic and amnesic aphasia, besides word-blindness. He wrote a telegram which he supposed to be a coherent message to his mother, but which consisted of the word *come*, repeated, in full or in part, at least twenty times in parallel columns. There was well-marked motor and sensory paralysis of the right side, excepting the face, with right hemiplegia. The reflexes on the right side were notably exaggerated. There was flushing of the face, with suffusion of the conjunctivæ and frontal cephalalgia. The pulse was 100 and regular. The temperature was 100.5°, the respirations 24 to the minute. The left pupil was widely dilated. The volitional tremor had disappeared. The mind was confused and there was general restlessness with discomfort. The urine was normal and retention did not exist. There was no dysphagia. Within four hours these symptoms vanished as suddenly as they came, and were replaced by those which existed before the attack. Within the past week no new developments have taken place.

The questions I desire to submit relate to the etiology, to the prophylaxis, and to the curative treatment. The absence of cardiac lesions and the rapid disappearance of the symptoms would seem to exclude embolism. The absence of rigidity of the arteries and of aortic murmurs renders the existence of syphilitic endarteritis or of endarteritis oblite-

rans doubtful. There are no symptoms directly pointing to pachymeningitis hæmorrhagica or to tumor. The presence of persistent mydriasis on the left side, with ataxic aphasia, and of volitional tremor, suggest the possibility of cerebral sclerosis. Might not the sudden paralytic symptoms be referable to local vaso-motor paresis, owing its origin to the irritating effects of the doubtful primary lesion?

DOES PULMONARY CONSUMPTION TEND TO EXTERMINATE THE AMERICAN INDIAN?

By THOMAS J. MAYS, M. D.,
PHILADELPHIA, PA.

In an article published in "The New York Medical Journal" for January 1, 1887, entitled "Pulmonary Consumption among the Indians," Dr. Washington Matthews adduces evidence which "goes to show that consumption increases among the Indians under the influences of civilization," and that "where the Indians have been longest under civilizing influences the consumption rate is the highest." That the first proposition is quite in harmony with the operation of the law of adjustment between living bodies and their environment no one will, we think, call into question; but that the second proposition rests on an equally firm foundation neither follows from the truth of the first, nor is substantiated by facts as gleaned from the medical statistics reported by the commissioners of Indian affairs.

Dr. Matthews roughly divides the Indian population into two classes: (a) those living on reservations, and (b) those not living on reservations, or those at large. The latter constitute the class which has been most fully brought under the influences of civilization, two thirds of whom reside in the States. The former, or the reservation Indians, chiefly reside in the Territories, and have been most recently subdued and brought under civilizing influences. Following this he gives the consumption rate of 1880 among the Indian population in thirteen different States and Territories thus: "Nevada, 45; California, 70; Arizona, 83; Colorado, 107; Nebraska, 150; Montana, 176; Dakota, 200; Oregon, 240; Idaho, 250; Washington, 302; Michigan, 333; Wisconsin, 361; New York, 625." He concludes as follows: "It is seen in the foregoing table that in the States east of the Mississippi—the oldest States, where the Indians have been longest under civilizing influences—the consumption rate is the highest."

These figures reveal a startling condition of things, and, if true, would clearly show that the extermination of the Indian by natural means is only a matter of a comparatively short time, and they at once raise the question, Why should the fate of the Indian in respect to pulmonary consumption be harder than that of the white man? for we have * elsewhere given what we consider satisfactory proof that this disease is on the decrease among the white population in this country, owing to an adjustment of internal to external relations.

Before proceeding any further it is important to con-

* "Study of Pulmonary Consumption in the City of Philadelphia," "Trans. of the College of Physicians," Nov. 3, 1886.

sider the methods which Dr. Matthews employed in getting the above-mentioned results; and this will serve to explain the variations in the calculations which each of us obtains. His "consumption rate is the number of deaths from consumption in a thousand deaths from all known causes." This obviously may become a very unreliable standard for comparison, especially when our estimates are to cover the statistics of a number of years. If the number of deaths from all causes were unvarying, or very nearly so, from year to year, or would necessarily bear a proportionate relation to the number of deaths from consumption, the plan would answer admirably. This not being so, results vary in accordance with the prevalence or absence of other diseases than consumption; hence more reliable results can be obtained when the number of deaths from any given disease is compared with the whole population or class among which it prevails. This latter method is the one which we adopted here.

In looking up the data for this paper we encountered a great many obstacles. In the first place, we found that up to 1882 the reports of the Indian Commissioners gave no statistics in regard to consumption among the Indians, for prior to that time consumption and scrofula were classed together under the heading of tubercular diseases; and at no time do these reports furnish the number of deaths from consumption—only giving the number of those suffering from this disease in each agency. Imperfect as the work therefore is, and brief as the period is over which it extends, we think sufficient information may be gathered to show that consumption pursues the same general course among the Indians as it does among the white race—viz., first contact with the influences of civilization increases its death-rate, and prolonged contact diminishes it.

NAMES OF AGENCIES.	Population.	Proportionate average no. of cases of consumption to population from 1857 to 1886.	Proportionate no. of deaths from all causes to population in 1886.	How and when they were brought under the influences of civilization.
<i>First Group.</i>				
1. Mission, Cal.....	2,958	1 to 1,494	1 to 73	By treaty with Hidalgo.
2. Mackinac, Mich.....	4,000	1 to 896	1 to 93	By executive order in 1855.
3. White Earth, Minn.....	5,885	1 to 840	1 to 49	By treaty in 1855.
4. Nevada, Nev.....	3,757	1 to 535	1 to 79	By executive order in 1859.
5. Navajo, New Mex.....	23,000	1 to 1,200	1 to 82	By treaty in 1863.
6. Pueblo, New Mex.....	7,762	1 to 1,500	1 to 46	Received under old Spanish grant in 1848.
7. New York, N. Y.....	4,990	1 to 681	1 to 34	By treaty in 1797.
8. Umatilla, Or.....	902	1 to 301	1 to 54	By treaty in 1855.
9. Green Bay, Wis.....	3,036	1 to 303	1 to 41	By treaty in 1848.
<i>Second Group.</i>				
10. Colorado River, Ariz.....	1,012	1 to 253	1 to 23	By congressional act in 1865.
11. Round Valley, Cal.....	602	1 to 120	1 to 33	By congressional acts in 1864 and 1873.
12. Cheyenne River, Dak.....	3,288	1 to 125	1 to 20	By treaty in 1868.
13. Pine Ridge, Dak.....	7,000(?)	1 to 100	1 to 30	By treaty in 1868.
14. Fort Hall, Idaho.....	1,432	1 to 238	1 to 45	By treaty in 1868.
15. Osage, Ind. Ter.....	1,582	1 to 258	1 to 20	By congressional act in 1872.
16. Colville, Wash. Ter.....	3,568	1 to 298	1 to 46	By executive order in 1872.
17. Shoshone, Wyom.....	1,800	1 to 267	1 to 50	By treaty in 1868.
<i>Third Group.</i>				
18. Pima and Maricopa, Ariz.....	5,050	1 to 2,500	None.	By congressional act in 1883.
19. Papago, Ariz.....	7,300	None.	None.	By executive order in 1882.
20. Sac and Fox, Iowa.....	380	One case reported.	1 to 48	By purchase deeds, 1876, 1882.

For the sake of clearness and comparison we add the above table, in which are given the population, the proportionate

average number of deaths from all causes, and the manner in which the Indians were brought into civilization, in each of twenty Indian agencies. These agencies are divided into three groups: (1) those which existed prior to 1863, (2) those which were established from 1863 to 1880, and (3) those which have been established since 1880. This division is made for the purpose of showing the different degree of effects produced by civilization on the Indian race. This is very natural, for, if civilization has any deteriorating tendency in this respect, it must be granted that a few years are necessary for its development: hence the third group should manifest no or very little deterioration; the second group more; and the first group, if prolonged contact with civilization increases deterioration, should show most of all; while, on the other hand, if there is any tendency of adjustment between the constitution of the Indian and the causes which generate consumption, the first group should be comparatively free, or at least more so than the second group.

From this tabular arrangement it will be perceived that the Indian follows the same law of adjustment concerning consumption as that which is followed by his white neighbor. The Indians of the first group may be divided into two classes—those belonging to the Mission, Navajo, and Pueblo agencies, and those belonging to the rest of the agencies. Those of the first division are socially of a higher type than those of the second division. They bear a strong resemblance to the Mexican Indians, from whom they acquired many arts, and they are principally engaged in civilized pursuits. The Mission Indians are said to be the longest-lived people in the world—one per cent. of them are reported to be centenarians. As a rule, they live now as they have lived during the last three centuries. The Navajos are like the Pueblo and Zuni Indians. They pursue agriculture, spin wool, and weave cotton, and are famous for the fine blankets which they manufacture. On account of the higher state of their civilization, the Indians of this division never underwent that marked transition which those of the second division encountered when confronted by the higher plane of civilization.

The Indians of the second division of the first group more definitely represent that type of the savage with which we are familiar at the present day, and are the descendants of those with whom our Indian wars were carried on in earlier times, and they are analogous in nature to the Indians of the second group. An examination of the table shows quite a uniformity in the death-rate of nearly all these agencies. Thus, among the New York Indians, which have been longest under the jurisdiction of the Government, the consumption rate is exceedingly low (1 to 681). So is the consumption rate of the Mackinac (Michigan), White Earth (Minnesota), and Nevada (Nevada) Indians, while that of the Umatilla and Green Bay Indians is higher, but still makes a remarkably favorable showing. The conclusion, then, which can be drawn from these statistics, unless they are entirely unreliable, is that the influence of civilization on the American Indian in the long run is not detrimental to his well-being, so far as pulmonary consumption is concerned.

The agencies of the second group represent those Indians who have been brought under civilizing influences in more recent times—from 1863 to 1880—and, in contradistinction to the first group, the reports show that their consumption rate is high.

Group third represents those Indians who have been subjugated most recently. They are still leading a very primitive life, in many respects they bear a strong resemblance to the second division of the first group of Indians, and their consumption rate, as shown by the table, is almost *nil*. The Pimas are agriculturists and vegetarians, and live in adobe houses. The Papagos are Catholics, industrious and friendly, and their form of government is much like that of the Mexicans and Pueblos. The Sac and Fox tribe of Iowa are said to be physically as fine a class of men and women as it is possible to find. They live in the rude huts of their ancestors, cook their food on the ground floor, and leave the smoke to escape through the roof, thus securing good ventilation.

While it is much to be regretted that the reports of the Indian Commissioners contain no medical statistics concerning the Cherokee, Choctaw, Chickasaw, Creek, and Seminole Indians, who probably represent the highest grade of civilization yet attained among this race, these statistics show that the Indian in his primitive condition is almost free from pulmonary consumption; that his first contact with civilization vastly increases his liability to the disease, and that a prolonged contact diminishes this liability. And we see, therefore, that the Indian follows the same law of adaptation as that which is followed by the white and colored races, and does not occupy that exceptional position in this respect which is ascribed to him by Dr. Matthews.

Probably one of the chief causes of disintegration among the Indians when first coming in contact with civilization consists in an entire reversal of their previous habits and customs. The life of physical open-air activity, which invigorates the Indian's respiratory organs as well as his whole body, is now exchanged for a reservation life, where his nomadic instincts are curbed and his wants are fully satisfied, and in consequence he sinks into a state of lethargy and idleness from which he soon merges into pulmonary disease. After having endured the first shock of the conflict, a reaction begins to show itself. He gradually becomes accustomed to his new relation, assumes an industrious and peaceful life, and so elevates himself out of his physical and moral degradation.

It is not true, as is often stated, that the Indian only acquires the vices and not the virtues of the white man. It is no doubt true that he acquires his vices first, and consequently sinks early into disease and crime; but his history shows, too, that after he is adjusted to his new condition he also becomes capable of leading a highly moral and virtuous life—a life which compares very favorably with that led by his white neighbor.

Another important factor which tends to bring the Indian into harmony with his surroundings is a blood mixture with the white race. Mixture with white blood, which is already adapted to a higher plane of civilization, will certainly improve the Indian, and serve to increase his resist-

ance to disease; and there is sufficient proof to show that this process of conservation, or blood adjustment, is going on at a rapid rate among those Indians who have been longest in contact with the white race, like those of New York and Michigan, who are largely composed of mixed bloods. There can be no doubt that this influence contributes largely to the greater immunity of these Indians from pulmonary consumption. This observation is full of meaning when it is linked with the opinion of one who has had a wide experience among the Indians, that "the half-bloods resist disease and death from pulmonary troubles better than full-bloods."*

1716 CHESTNUT STREET.

WHAT CASES OF NASAL CATARRH REQUIRE SURGICAL TREATMENT?†

By CLARENCE C. RICE, M.D.

THIS subject has received as much attention from this association as any other, if not more, during the past three years, and I am aware that newer, fresher topics would be more entertaining. That there is no unanimity of opinion here in regard to the frequency with which surgical measures are required in the treatment of catarrhal inflammations of the nose I think we all know. The discussion on this subject by the members of this association one year ago will show that there were almost as many opinions as speakers. Dr. J. Solis-Cohen, who has had large experience in the treatment of nasal disease, concludes that "in keeping the parts clean and in caring carefully for the patient's general health" he is doing the maximum for the cure of nasal inflammations. Dr. Daly, of Pittsburgh, is quoted as saying that "when we become more throat surgeons and less throat doctors, we shall get better results in the treatment of our cases." A number of the gentlemen last year expressed it as their opinion that there had been, and there still was, a tendency to do too much cutting and burning and boring and snaring, while others contended that in these very methods we had the most efficient therapeutical means in the treatment of catarrhal diseases of the upper air-passages. To me this diversity of opinion is not at all discouraging in endeavoring to arrive at the correct principles which should regulate the treatment of nasal catarrh. I believe that the members of this association are more agreed in their actual methods of treatment than the various opinions expressed by them would indicate.

In the treatment of nasal disease there is a middle ground between the local application of mild remedies on the one hand and radical surgical measures on the other, where we can safely stand. No surgical method is to be shunned completely because it has been employed too frequently, or because it has been at times improperly followed. I have seen disastrous results from the use of the galvano-cautery, and yet I am fully in accord with a statement made at our

* Captain Pratt's report of the Indian school at Carlisle, Pa. See "Report of Indian Commissioner for 1886," p. 22.

† Read before the American Laryngological Association at its eighth annual congress.

last meeting by our president, Dr. Harrison Allen. He said that he "believed that the galvano-cautery was the best single agent at our command to relieve nasal disease." One reason for the large increase in the use of surgical methods in our specialty is undoubtedly due to the more perfect diagnosis of diseases of the nasal chambers, which has been made possible by improved methods of investigation, for the instruments we have for the diagnosis of nasal disease are to-day most complete. (Such a thorough illumination of the upper respiratory passages can now be effected, by means of strong, well-directed lights, that disease in these parts is readily discovered.) The addition of the electric light (the electric laryngoscope and post-nasal electric lamp) and the wonderful drug, cocaine, as means of diagnosis, to the equipment of the rhinologist, leaves little to be desired. The use of cocaine has, in a measure, revolutionized nasal therapeutics, for, whereas before it was discovered an examination of the nostrils showed nothing but hypertrophied tissue over the turbinated bones, guarding the entrance to the nostrils and preventing further inspection, now this obstructing tissue can be pushed aside, and the entire nasal cavities are visible. The case now perhaps presents entirely new and unexpected features; exostoses of the septum, polypi, or hypertrophies of the soft structures are seen in the posterior half of the nasal chambers. Surgical measures are more frequently employed than formerly, too, because better methods of examination now more clearly disclose the *causes* of inflammation which can not be removed by the older methods of spraying and douching. This, after all, is the most difficult part of the physician's work, to locate and determine the precise character of the pathological condition. If we were all agreed as to the local predisposing and exciting causes of a catarrhal inflammation, we should also probably be agreed as to the best method for removing them. With the recently invented and convenient forms of the electric cantery, hot and cold snare, drills, forceps, and cutting instruments, there are few nasal hypertrophies or obstructions which can not be easily reached and removed. In fact, surgical measures in this department are so much more easily carried out than they were a few years since, perhaps the temptation is frequently great to cut and remove too much tissue from the nasal passages, in the endeavor to make straight channels of what were intended, and with great wisdom, to be curved, tortuous passages. There comes a time in any line of surgical practice when, after rapid progress in means of diagnosis and great improvement in instruments, it is well to stop for a moment and look back over the field. It is wise to compare the new methods of treatment with the old, and to determine whether they are, in every sense, superior to them. The old question, "Can catarrh be cured?" still comes to us, and I believe it can be answered affirmatively with much greater assurance and certainty than it could have been five years ago. Every physician has patients who serve as guide-posts along the road which has been traveled, showing how much could be accomplished at that time to cure catarrhal diseases of the nose, and indicating, too, how far surgery has advanced in heroism, if not in skill.

The physician at one time was quite content to excise

small portions of enlarged tonsils, but now one sees, not frequently to be sure, pharynges which have lost all semblance of tonsils, and with them the pillars of the pharynx have also disappeared; nostrils, too, with septa thinned, and turbinated bones ground off. This last is said not so much as a criticism of any existing wrong as a warning against too extreme surgical measures. Of all the diseases of the throat and nose, those requiring surgical interference are the least troublesome, both in determining the prognosis and in effecting a cure. They are the most satisfactory cases we meet with. It is much easier to remove a polypus than to cure a painful throat in which no cause of pain can be discovered. It is less difficult to apply the electric cautery to hypertrophied nasal tissue than to check supersecretion in a case where but few pathological changes can be seen, and so, where there is no opportunity to correct such changes with knife or cautery, the surgical treatment of catarrhal inflammations of the nose, if properly employed, is in no way more radical or more apt to produce disastrous results than the application of the various astringent, sedative, or stimulating drugs.

Almost any effect can be produced with the galvano-cautery electrode, depending entirely upon the manner in which it is used. It can be applied to the mucous membrane so gently as to be hardly more than an astringent, the very superficial ulceration produced causing only slight contraction of the tissues. Those who condemn this instrument should go far enough to specify what mode of using it they consider injurious. It might seem heroic treatment to apply a platinum wire at white heat to the sensitive congested nasal mucous membrane when in a condition of acute coryza, but it is much more rational treatment than to cover this same membrane with a solution of tannin or of nitrate of silver, a mode of procedure which has been generally employed.

Let us for a moment note the effects produced by these two different methods of treatment (and I refer to an article lately published by myself, "The Surgical Treatment of Colds in the Head"). In the first instance the actual cautery burns down the swollen tissues, leaving a small ulcerated surface. This affords relief in several ways: it opens the closed nostril so that the patient can breathe; it acts as an excellent counter-irritant, determining the inflammation from other and neighboring parts to this one locality, and so lessens greatly the area of inflammation. It does more than this: the character of the inflammation is changed from that of a coryza, which may be more or less peculiar, to that of a simple burn. In the other case, when a supposed milder measure is employed, and some mild astringent solution is sprayed or brushed into the nasal cavities, it is possible that a little contraction of the tissues is effected for a short time, but this effect is very transient, and the inflamed mucous membrane quickly reacts, and is soon more congested and swollen than before the application of the drug, so that the mild astringent has proved to be an irritant. This uncertainty in the action of medicinal applications has at all times been a most discouraging feature in the treatment of chronic nasal catarrh. One after another the various classes of drugs have been

employed, but results have been far from satisfactory or uniform; the reaction of the astringent has proved most stimulating; the desired sedative has been most markedly irritating. How uncertain the action of remedies is when employed upon mucous surfaces in other portions of the body I do not know, but the nasal mucous membrane is a peculiar structure, which can not be acted upon by drugs with any degree of uniformity, and the reasons for this are evident. The nasal mucous membrane being constantly exposed to irritation of all kinds—foreign bodies in the air, rapid changes in the temperature of the atmosphere, etc.—the effect of drugs locally applied is greatly modified and frequently changed altogether by these external causes. If all extraneous influences could be excluded, if the nostrils could be closed to dirt, dust, and air, we could more exactly determine the action of medicines upon the nasal mucous membrane. The physiological action and the peculiar anatomy of the soft nasal tissues are factors which not only predispose them to catarrhal inflammations, but, what is more pertinent to this paper, they strongly compromise the benefit to be derived from all topical applications, rendering such applications ununiform and uncertain in their effects. They furnish, too, a strong argument for the adoption of surgical measures in the treatment of inflammations of the nasal mucous membrane. The cavernous tissue of the nasal cavities performs an important function, and it is well to take this into consideration in selecting the medicinal remedy or in planning the operation to be employed.

The value of having erectile tissue in the nose is appreciated when we remember that the nostrils warm air which is too cold, cool air which is too warm, moisten dry air, and strain out a large portion of the foreign particles which, without the nostrils, would enter the lungs. The hypertrophied masses of tissue over the anterior turbinated bones are sentinels which are almost automatic in their action, at times puffing up and almost occluding the nostrils when air is unfit for respiration, and at other times retracting and becoming almost invisible when their aid is not needed. I speak of this well-known physiological action of the erectile structure of the nose only to emphasize the fact, which I believe may be easily overlooked—namely, that the tissues over the turbinated bones are not always hypertrophied (using that word in a pathological sense), even when they nearly occlude the nostrils, so that not every so-called “anterior hypertrophy” should be operated upon. The presence or absence of other symptoms of nasal catarrh should alone determine whether the tissues of the nose are normal or pathological. But, while the erection of the cavernous tissue of the nose serves a most valuable physiological purpose, it is unquestionably a most difficult structure to influence with astringent or sedative solutions. It repels all such remedies as it does foreign bodies in the air. All the drugs commonly used in nasal catarrh, without regard to their physiological action elsewhere, do little but irritate the nasal mucous membrane; and the astringent which is used in a subacute inflammation, instead of diminishing the trouble, oftentimes renders the process acute. These are a few of the disadvantages which have attended the use of medicines applied to the nasal mucous membrane. In a

word, this method of treatment has been most discouraging, and it is not surprising that any surgical procedures which promise satisfactory, uniform, and permanent results are looked upon with favor, and are coming to be more generally used. The difficulty in former methods of treatment has been, apparently, not so much in the selection of proper drugs as in the correct appreciation of the condition of the mucous membrane to be treated. What is the stage or grade of inflammation? What amount of active process is going on? And it is not sufficient to determine whether the inflammation is acute or chronic, for between these two conditions there are many minor stages, which it is necessary to appreciate in determining the proper plan of treatment to be followed. The physiological function and the peculiar anatomy of the nasal mucous membrane, and the extraordinary conditions under which it is placed, render a division of catarrhal inflammation of this membrane into stages, for the sake of intelligent therapeutics, well-nigh impossible.

Dr. J. N. Mackenzie* has simplified matters in his classification of chronic nasal inflammations, and I believe that he correctly describes the successive pathological conditions that usually take place.

It is a matter of regret that the relation existing between the pathological appearances of catarrhal inflammations of the nose and its symptomatology can not be more precisely determined and stated. The physician rarely examines nostrils in which the nasal mucous membrane presents a normal appearance; so-called “hypertrophies” can be discovered in almost every nose; enlarged blood-vessels are hardly ever absent, even though the patient is not a catarrhal one.

It is manifest that not every case presenting pathological conditions requires either medical or surgical treatment. In addition to pathological appearances as a means of diagnosis, I wish to suggest that more stress be placed upon the symptoms of the patient as a safe guide in deciding whether the case requires surgical methods of relief. I would not advocate less careful and painstaking examinations of the changes which have taken place in the nasal tissues; but the *special complaint* which the patient brings to the physician to relieve is, at least, something tangible for the physician to combat. It is good advice to the beginner in any specialty to make it his strong endeavor to control or alleviate the annoying symptoms which are distressing his patient. He must always keep this point in mind if he would gain the confidence of his client and score a success. The patient who breathes easily through his nostrils cares nothing for the removal of thickened tissue, if such an operation does not check at all the excessive secretion of mucus which he is constantly obliged to clear by violent exertion from the posterior nares. The majority of patients, though thoroughly ignorant of the *nature* of catarrhal disorders, have a very correct understanding of the *particular symptoms* which annoy them. What are the symptoms of nasal catarrh which should be relieved, and

* J. N. Mackenzie, “Notes on the Classification, Diagnosis, and Treatment of Chronic Nasal Inflammation,” *Medical News*, April, 1885.

what pathological conditions producing these symptoms should be corrected by surgical measures?

In arriving at a diagnosis of catarrhal inflammations of the nasal tissues, we take into consideration the color of the mucous membrane, the degree of thickening of the tissues, the amount of secretion, and such subjective points as pain or disordered sensibility of any kind. In the matter of color of mucous membrane we have little of value to guide us in the treatment of nasal catarrh. The vivid redness of acute inflammation and the gray appearance of a chronic process described in text-books are here of slight diagnostic significance, for the coloring changes with every variation in the surrounding temperature. The common act of sneezing will change a pale mucous membrane to one of a bright-red color, and the nasal membrane which, judging from its color, we infer is acutely inflamed will, perhaps, in half an hour have lost all traces of congestion.

Very close to the question of color or congestion is the second point—the amount of swelling, the degree of thickening or of hypertrophy; and here a great deal of information can be obtained as to the nature and extent of the catarrhal process and the advisability of surgical treatment. As has been said, there is scarcely an instance where so-called “anterior hypertrophies” can not be found; but are they “hypertrophies” in a pathological sense? Is the swelling of the soft tissues due at all to actual increase of connective tissue underlying the mucous membrane, or is it entirely produced by either active or passive congestion of the cavernous tissue? The function of these swellings must be constantly remembered in deciding how much of them should be removed. Nostrils are frequently examined in which the mucous membrane on both sides is found to be in contact with the septum, and it is difficult to see how any air can pass; but the patient assures the physician that he rarely has any difficulty in breathing through the nostrils, and this is explained by the fact that it does not seem necessary that the erectile tissue on both sides should be enlarged at the same time for physiological purposes, and, consequently, one nostril is usually open. The use of cocaine here will decide the question. Place a four-per-cent. solution on any of these swellings, and notice how much thickness of tissue remains after the cocaine has expelled the blood. If there is still hypertrophy enough to interfere with comfortable breathing, or if a portion of the obstruction is found to be due to an enlarged turbinated bone, the passages should be made larger by using the platinum electrode, or the small cautery loop, as recommended by Dr. Harrison Allen. It is manifestly a waste of time to endeavor to contract erectile tissue with astringent drugs. Such contraction must necessarily be very transient, and I believe that most medicines, applied to the nasal mucous membrane, are stimulating and irritating, and eventually cause permanent dilatation of the cavernous tissue. This is especially true of medicine sprayed into the nostrils, as the air-current serves as an additional irritant. Permanent enlargement of the soft tissues does more than to obstruct the nostrils; it steadily increases the amount of inflammation by the irritation produced in its contact with the cartilaginous septum. The irritation produced by such friction soon shows itself

in heightened color, and a secretion of thin glairy mucus between the two surfaces—a condition of “cold in the head.” The electric cautery should be used to destroy enough of the blood-vessels to prevent this contact between the soft tissue and the septum. By so doing, we remove one of the exciting causes of chronic hypertrophic catarrh. Great care, then, should be taken to destroy only sufficient tissue to afford comfortable breathing, and at the same time to leave the erectile structure of the nose in a condition still capable of performing its physiological function. It is because the cautery and knife have been employed too freely that conservative laryngologists have deprecated their use. Certain it is that the nasal passages should be long and tortuous, that the inspired air may come in contact with as large a surface of the moist, warm mucous membrane, and for as long a time, as possible. I dare say we have all seen cases where surgical measures have been abused in the attempt to cure nasal inflammations. I saw a young man recently who had had his nose thoroughly cauterized on both sides, and he complained that he was more annoyed by sensations of heat and pain through the nostrils when he breathed than he had been by nasal obstruction before the operation. The mucous membrane on both sides showed long, deep bands of cicatricial tissue. The cautery had accomplished too much; the nostrils were too open, and too little mucous membrane remained to warm the air or to prevent the entrance of foreign bodies. The cold air was the cause of the neuralgic pains, and the dirt and dust, striking directly against the post-nasal pharynx, had produced a dry pharyngitis, just as that condition follows an atrophic nasal catarrh. I have seen two cases where acute inflammation of the middle ear followed extensive cauterization of the nasal tissues, not, as I believe, by extension of inflammation, for there was but slight inflammatory reaction, but by the sudden exposure of the Eustachian orifices to an increased current of cold air.

The width of the nostril should be considered in determining how much of the soft structures should be removed. The septum rarely occupies an exact median position, and it will not be necessary to use the cautery or snare so freely in the wide nostril as in the narrow one. In the ordinary cases of chronic nasal inflammation, three fourths of all that can be effected in the way of cure has been accomplished when the soft or bony structures of the nose have been so reduced in size by surgical measures that they can no longer prevent free nasal respiration.

115 EAST EIGHTEENTH STREET, NEW YORK.

A REPORT OF TWENTY-ONE CASES OF TRAUMATIC LESIONS OF THE EAR;

WITH REMARKS

By GORHAM BACON, M. D.,

AURAL SURGEON TO THE NEW YORK EYE AND EAR INFIRMARY

CASE I. *Injury to the Ear from a Blow.*—William T., aged twenty-six, a sailor, came to the infirmary September 2, 1884, and said that last January, when on board ship, he was struck on the right side of the head by the wheel-house door. Gradually he began to suffer from pains on the right side of the head, in

the right ear, and over the right half of the forehead. Pains are severe, paroxysmal, and of a cutting character, and have continued ever since.

A day or two after the accident the right ear began to discharge, and has since continued discharging pus, and occasionally blood. He has also been troubled with constant tinnitus, sounding like the blowing off of steam.

In June last a doctor examined his ear and pulled out some "flesh," and since then he has been worse as regards pain and discharge. He has frequent dizzy sensations, and occasionally his memory leaves him for some minutes at a time. He has never noticed any facial distortion.

He has slight left facial paralysis. Right membrana tympani destroyed; canal filled with pus, which is thick and offensive; the bottom of the canal filled with small red granulations. The Eustachian tube is permeable.

Hearing distance, watch, right ear, 0; left ear, 1". The ears were inflated by Politzer's method, and pulv. zinc. oxid. et acid. boric. insufflated.

CASE II. Concussion of the Labyrinth (probably) from a Fall.—John R., aged nineteen, January 13, 1885. Five days ago, after drinking freely, the patient fell, striking against the right side of his forehead and right ear. There was no bleeding from the ear. He was carried home, and was not able to get up till the following day. The day after the fall he noticed that he was deaf in the right ear, and the hearing has not improved since then. He has been annoyed by marked whistling or singing tinnitus. There is no pain in the ear or head. The day after the accident, on trying to walk, he staggered and had to catch hold of a support to keep from falling. At the same time he felt dizzy and light-headed. The same dizziness is felt every time he starts up quickly or tries to walk, but not when he keeps still. The staggering also has kept up ever since up to to-day, when he was able to walk pretty well.

An examination showed the left membrana tympani somewhat hazy and retracted. Right membrana tympani hazy and retracted, and it has a peculiar corrugated appearance in the posterior superior quadrant.

Acoumeter, right ear, 0, before and after Politzer inflation; left ear, 8 ft.

Tuning-fork, when placed in different positions on the head, heard better in the left ear, although still audible in the right ear.

Air does not reach the right middle ear by Politzer inflation; catheter used. The patient has chronic naso-pharyngeal catarrh and bad teeth.

CASE III. Rupture of the Membrana Tympani from a Fall.—M. M., aged twenty-eight, bookbinder by occupation, consulted me March 3, 1885. He is subject to catarrh, but before this he never had an earache or any trouble with his ears. Last Saturday he fell down a flight of cellar-steps, striking against the left side of his head. He was stunned for a few moments. The ear immediately bled profusely, and continued for twenty minutes.

Acoumeter, right ear, normal; left ear, 2½ ft. Tuning-fork on vertex craniæ heard better in the left ear.

Examination.—Right membrana tympani a little hazy; some congestion around the short process and along the handle of the malleus. Cone of light fairly good. Left auditory canal and membrana tympani covered with dried blood; canal posteriorly ragged, as if torn by an instrument, and the whole canal congested. Membrana tympani congested and fleshy-looking. After removing some coagula, a large perforation in the drum-head is seen in the lower portion. The membrane has the appearance of having been torn, but is not well seen on account of the swelling of the canal.

CASE IV. Inflammation of the External Auditory Canal and Middle Ear after using an Ear-scoop.—F. K., aged seventeen, a bookbinder, was seen April 21, 1885. He has chronic naso-pharyngeal catarrh, and last winter he suffered from earache and a discharge from the right ear. His general health is good. The left ear has pained him since last Friday night, when he put an ear-scoop into the left auditory canal. He thought he felt a hard substance in the ear. He suffered immediate pain, which continued all night, and has been troublesome every night since. The ear began to discharge on Saturday.

Acoumeter, right ear, 15 ft.; left ear, 2". Tuning-fork on vertex heard louder in left ear.

Examination.—The right membrana tympani dull and retracted, and contains calcareous deposits. No cone of light.

The inner half of left canal somewhat narrowed and inflamed, especially posteriorly. The membrana tympani perforated but not well seen; dermal layer peeling off. The canal filled with a thin purulent matter.

April 24th.—Pain has been less; also the discharge. There is a dull sound in the ear all the time.

CASE V. Inflammation of the External Auditory Canal from scratching the Ear with the Point of a Button-hook.—P. W., aged eighteen, jeweler, consulted me April 28, 1885, and said that he never had any ear trouble before. He has chronic naso-pharyngeal catarrh, and the tonsils are very large. He had a sore throat and cold April 25th, Saturday. Sunday he ran the end of a button-hook into the left ear, as his ear felt stopped up, and immediately experienced pain. The pain persisted all day Sunday, and Monday he obtained some drops of landanum and sweet oil from an apothecary. Sunday afternoon the parts in front of the ear became swollen. Monday he noticed a discharge from the ear, and it contained some blood. He has not heard any whistle in that ear on blowing his nose.

Acoumeter, right ear, 15 ft.; left ear, 2".

Tuning-fork vibrating and placed on the vertex, heard better with the affected ear.

Examination.—Right membrana tympani somewhat retracted. Cone of light good. Canal and drum-head both somewhat congested. The left canal contains some blood and pus, the dermal lining of the canal peeling off and the parts beneath very red. Membrana tympani swollen and congested; no perforation seen.

May 1st.—Not much pain since; discharge profuse and muco-purulent. Membrana tympani less inflamed, and less inflammation in the canal.

CASE VI. Injury to the Ear from a Pencil having been pushed into the Auditory Canal.—A., aged ten, June 9, 1885. He says that last week, while sitting in school, he had a pencil driven into the ear by a companion. Two days ago the ear began to pain very badly, keeping him awake at night. On the following day the ear began to discharge, and the pain has abated somewhat, but has been severe again to-day.

Examination.—The membrana tympani red and fleshy-looking; no perforation visible; moderate amount of pus in the canal. The Eustachian tube pervious.

CASE VII. Rupture of the Membrana Tympani from a Blow.—Mary R., aged twenty-four, was seen October 27, 1885. She says that since childhood the right ear has been discharging, and she has been deaf on that side. Ten days ago she was struck across the left ear with the palm of the hand. She had some pain for a moment, and was dizzy, and noticed that she had suddenly become deaf. The deafness has continued up till now, but she has had no more pain, and no tinnitus or discharge. There is a stopped-up feeling in the ear. She picked the ear with a hair-pin, and made it bleed and pain her. She

then washed out the ear with a lotion obtained from an apothecary.

Hearing distance, acoumeter, left ear, 12 ft. König rod, 30,000 vs.; right ear, 42"; left ear, 8". Bone conduction better on the left side. Left Eustachian tube not very pervious. Nasal passages contracted, and the post-nasal tissues spongy.

Examination.—Right membrana tympani, anterior half gone, and surface granular.

Left membrana tympani congested and much retracted; short process prominent; calcareous deposit just below the latter. There is a depression in the posterior portion of the membrana tympani, in the center of which is a linear perforation occupying the posterior inferior quadrant. In front of this is a very small perforation.

CASE VIII.—James F., aged forty-one, Italian laborer, was seen May 12, 1885. Three months ago the patient fell into a ditch (twenty-five feet deep) and struck the right side of his head. He was insensible, and taken to a hospital. Since the accident he has had a dead, numb feeling in the right ear; also a buzzing noise. He heard perfectly well before he fell. When the weather is damp he does not hear as well, and the tinnitus is worse. The noise is present all the time. He feels dizzy very often when he walks, and objects seem to move from left to right.

Hearing distance, acoumeter, right ear almost contact; left ear, 3½ ft.

The tuning-fork on teeth is heard very slightly in the right ear. When placed on the mastoid the sound is referred to the left ear. It is heard, however, when held about an inch in front of the right ear. The aerial conduction is better than the bony conduction for the left ear.

He has naso-pharyngeal catarrh and granular pharyngitis. The hearing distance is not improved after using the catheter on either side.

Examination.—Left membrana tympani dull, retracted, with prominence of the short process.

Right membrana tympani more retracted and hazy than the left, and somewhat congested along the handle of the malleus.

Both membranæ tympani move but little under Siegle's otoscope; the right less than the left.

The patient hears the medium tones of a Galton whistle at a distance of eighteen feet.

CASE IX. *Deafness from being Hit by a Snow-ball.*—J. B., aged twenty-three, January 26, 1886. Patient says he was struck on the right ear by a snow-ball some days ago. He was nearly stunned and quite dizzy, and the ear has been very painful.

The cervical glands just below the right ear are enlarged.

Hearing distance, watch, right ear, 1"; left ear, 2½ ft. Acoumeter, 18 ft. for both ears, but heard louder in the left.

Tuning fork, right ear, the bony conduction is better than the aerial conduction, while in the left ear the aerial is better than the bony conduction.

Examination.—Right membrana tympani atrophied, and a calcareous deposit in the anterior portion.

Left membrana tympani: atrophic changes less marked.

CASE X. *Deafness from being Hit by a Snow-ball.*—Samuel F., aged nine, was seen December 10, 1886. Says he had an earache a month ago in the left ear. He is a catarrhal subject. He further says that day before yesterday he was hit by a snow-ball on the left ear, and he immediately noticed that he was deaf on that side; there has been no pain nor tinnitus.

Hearing distance, watch, right ear, 2½ ft.; left ear, 14 inch.

Examination.—Right membrana tympani fairly normal; slightly retracted. Left auditory canal slightly congested; membrana tympani slightly congested and somewhat more retracted than the right drum-head.

After Politzer inflation, the hearing distance for the left ear was increased to six inches.

CASE XI. *Otitis Media Purulenta Acuta caused by a Sharp Stick "run into the Ear."*—J. M., aged nineteen, was seen July 21, 1886. A week ago, he says, he had a sharp stick "run into" the left auditory canal. It bled then and for several days after. There has been pain ever since. This morning a discharge of pus appeared.

Hearing distance, watch, left ear, ½"; right ear, 12".

Examination.—Left membrana tympani red, swollen, fleshy-looking, and coated with pus at the lower part; there is also a perforation in the lower segment.

Right membrana tympani retracted.

The Eustachian tube is pervious on the left side, but not on the right.

CASE XII. *Lacerated Wound and Diffuse Inflammation of the Auricle.*—Patient was seen August 25, 1886, and says that two months ago he received a blow on the left auricle which caused a slight wound, which healed, although the ear remained sore. Two weeks ago the same ear was badly sun-burned, and the present condition was gradually developed. He has used various applications, none of which have done any good.

Examination.—On the inner aspect of the left concha is a deep ulceration, with thin discharge and adherent sloughs; no sinus; auricle very tender: there are also two slight superficial enlargements over the mastoid region, and diffuse swelling of the cervical region just below the angle of the jaw.

Iodoform powder dusted over the ulceration and a cotton compress applied.

CASE XIII. *Rupture of the Drum-head (probably) from the Report of a Cannon.*—H. S. B., aged forty-three, was seen July 13th. He says he has been deaf in the right ear for a year or so, and there has been a discharge. He suddenly became very deaf July 4th after firing off a cannon; there has been no discharge, pain, nor tinnitus.

Hearing distance, acoumeter, right ear, 3; left ear, 1½.

Examination.—Right auditory canal contains a thick discharge. In the left membrana tympani is seen a small perforation in the posterior inferior quadrant; the dermal layer is gone and there are no landmarks.

CASE XIV.—M. D., aged twenty-four, June 11, 1886. Yesterday he was thrown from a truck and struck on the right ear, which bled. He immediately became deaf; no pain, but a buzzing noise in the ear.

Examination.—Right auditory canal contains clotted blood; the dermal layer is peeling off of the wall of the canal.

Hearing distance, right ear, watch, c".

CASE XV.—B. D., aged thirty-eight, seen June 15, 1886. Six days ago a window-sash fell on the left side of her head, since which time she has been troubled with tinnitus and a stopped-up feeling; there has been some discharge, also pain when she syringes the ear. An examination showed a small rupture in the center of the drum-head, and the dermal layer peeling off from the latter.

CASE XVI. *Acute Purulent Inflammation of the Middle Ear from having scratched the Canal with a Pin.*—Patrick T., aged twenty-four, February 23, 1886, says that a year ago he pricked his left ear with a pin and it became sore and discharged; this has continued ever since; at times the ear has been painful, and for the past month the pain has been growing worse, and last night was severe.

Hearing distance, left ear, 12" for the watch.

Examination.—Left auditory canal contains a small amount of thick, non tenacious pus; membrana tympani perforated in the posterior superior quadrant, swollen, red, and in places denuded of epithelium.

CASE XVII. *Inflammation of the External Auditory Canal from scratching the Ear with a Pin.*—Bridget G., aged thirty, May 25, 1886. The right ear itched and she pricked it with a pin last week, and for three days it has been sore. There is no discharge, but the pain and tinnitus (like bells ringing) are severe. Right auditory canal congested as well as the drum-head.

CASE XVIII. —Mary H., aged ten, November 17, 1886. She says that the left ear discharged for some time a year ago. She pricked the right ear with a brass pin two weeks ago, and the ear has been discharging ever since. There is pain in this ear, which is especially bad at night, keeping her awake.

Examination.—Eczema (pustular) of right auricle, which is somewhat thickened. Right auditory canal inflamed down to the drum-head, which is sodden and somewhat congested. Left auditory canal filled with dry scales and cerumen. There are mites in the hair.

CASE XIX. *Injury to the External Auditory Canal from a Hair-pin.*—Amelia O., aged forty-four, July 21, 1886. She has had pain in the left ear for two weeks from having scratched the canal with a hair-pin.

An examination showed that the left canal was narrow, reddened, and tender at the upper portion of the inner end of the cartilaginous canal. No light reflex seen on the drum-head.

CASE XX. *Inflammation of the Auditory Canal from scratching the Ear with a Hair-pin.*—Sophia L., aged thirty-six, July 28, 1886. For the past six months the ear has itched, and she has scratched it frequently with a hair-pin; three days ago the left ear commenced to pain her so that she could not sleep.

Examination.—Left auditory canal very narrow and filled with a darkish mass, which contains membranous, semi-transparent shreds, leaving a reddened, excoriated surface when removed; membrana tympani congested at upper portion; lower portion not seen. Eustachian tube pervious.

CASE XXI. *Inflammation of the Auditory Canal from picking the Ear with a Steel Pin.*—Patrick D., aged twenty-two, September 8, 1886. Three weeks ago he picked the left ear with a steel pin, since which time he has been annoyed by tinnitus and some deafness, but no pain.

An examination showed that the right ear was normal; left canal (inner end) covered with a whitish, non-coherent deposit, and the surface red after its removal; drum-head uniformly congested, but no perforation.

Neither Eustachian tube pervious when inflation was attempted by Politzer's method.

In reviewing the notes made of these cases, it will be seen that in six inflammation of the auditory canal was caused by the patients having introduced hair-pins, etc., into the meatus to relieve the itching. In three cases, acute purulent otitis media followed from the patients trying to scratch the ear, in one case with a pin; in one case it was caused by a pencil having been pushed "too far" into the canals; while in the third patient it was due to a sharp stick having been forced into the meatus.

In one case the patient, in attempting to use an ear-scoop, set up an inflammation of the auditory canal as well as of the middle ear.

In Case I a suppurative inflammation of the middle ear was caused by a blow from a wheel-house door striking against the side of the head, and possibly associated with it was an abscess of the brain. The patient, however, was only seen once.

In Case XIV the patient, in falling from a truck, produced inflammation of the auditory canal.

The causes of ruptured drum-head were a fall in one case, a blow in another, while in the other two, one was probably due to the loud report of a cannon which the patient was firing at the time, and in the fourth the membrana tympani was probably ruptured from the blow of a window-sash striking against the side of the head.

Snow-balls striking against the ears produced deafness in two cases. In one case the auricle was injured. In two cases disease of the labyrinth was undoubtedly produced by falls, if we can believe the statements made by the patients as to good hearing before the accidents, for tests with the tuning-fork showed that in both the bony conduction was much impaired in the affected ears, and both complained of tinnitus, dizziness, and staggering gait.

In the four cases of ruptured drum-heads, in Case III, due to a fall, the patient suffered from well-marked nasal catarrh, and in the membrana tympani, which was not perforated, there were catarrhal changes. In Case VIII, due to a blow, the patient had had a discharge and had been deaf in the right ear since childhood, while on the left side (ear injured) the Eustachian tube did not allow air to enter freely the tympanum; the nasal passages were contracted and the tissues in the posterior nares spongy. In Case XIII, due probably to the explosion of a cannon, although there were no notes made as to catarrh, the patient had had a discharge and suffered from deafness for over a year in the ear which was not injured. In the fourth case, Case XV, unfortunately nothing was said in my notes as to the presence or absence of catarrh.

In three cases reported in the "Med. Record," April 11, 1885, where the drum-heads were ruptured by blows, there were well-marked catarrhal changes in the drum-heads in two, while in the third no mention is made of catarrh. In Case IX, where deafness followed from the blow caused by a snow-ball, the membrana tympani on the injured side was much atrophied and contained a calcareous deposit. In Case X a snow-ball also caused the deafness in a catarrhal subject who a month before had had an earache, and both drum-heads were retracted and congested.

In Case VIII, injury to the labyrinth from a fall, the patient had chronic naso-pharyngeal catarrh, and both drum-heads were retracted and dull, with prominence of the short processes. Case II, injury to the labyrinth from a fall: in this patient also both membranæ tympani were hazy and retracted with chronic naso-pharyngeal catarrh; there was also an obstruction to the passage of air through the Eustachian tube on the injured side. In two patients, Case I and Case XIV, both injuries to the ear, one from a blow and the other from a fall, unfortunately no mention is made in my case-book about catarrh.

On account of the catarrhal condition of the nasal passages, etc., found to exist in most of these cases of injuries from blows, falls, etc., I wish to emphasize particularly a statement which I made in an article published in the "Med. Record," April 11, 1885, "that in most all the cases of rupture of the membrana tympani due to the sudden condensation or rarefaction of air or from blows, falls, etc., an exami-

nation of the ears will show a catarrhal condition of the middle ear, with more or less obstruction to the entrance of air through the Eustachian tube, or some calcareous deposit or other change in the membrana tympani itself."

Roosa, in his "Treatise on the Ear," says: "I am inclined to doubt if persons with well-ventilated tympanic cavities and normally acting drum-heads ever suffer a rupture of the membrana tympani except from very great direct violence."

Gruber's experiments on the cadaver prove that in cases of normal drum-heads the resisting power of the membrane is very great.

The prognosis in these cases of traumatic lesions of the ear depends very much on the nature and cause of the injury. Direct injuries to the canal and membrana tympani from the introduction of hair-pins, etc., into the meatus, may cause but slight inflammation in many cases, and may heal, leaving but little deafness. Injuries to the drum-head from sharp-pointed instruments usually heal rapidly if inflammation of the middle ear does not follow. Inflammation and suppuration of the middle ear may occur where the canal or membrana tympani has been injured, and become chronic, or the various complications may arise, making the prognosis serious. Where thickening of the drum-head with adhesions has taken place, or there is concussion of the labyrinth with or without rupture of the membrana tympani, permanent disturbances of hearing generally remain.

Injuries to the ear from blows, falls, etc., on account of their medico-legal significance, become of special interest to the aurist, who is frequently asked to give his opinion in court as to whether the hearing has been injured by such accidents. In order to decide if a rupture is of traumatic origin, it is necessary to see the patient almost immediately after the supposed accident, as in indirect injuries the edges of the rupture are then sharply defined, and covered more or less with dark-red coagulated blood. If the perforation is a large one, the inner wall of the middle ear will show through, of a yellowish-pink color. If suppuration has already taken place at the time of the examination, it is impossible to decide that the case is of traumatic origin. An important point made by Politzer in deciding whether a traumatic rupture of the membrana tympani has taken place is as to the character of the sound made by the air in passing through the orifice of the rupture, on inflation of the ears by the Valsalvian method. In cases where the perforation has been caused by disease of the middle ear, even when there has been much loss of substance, the air rushes out with a sharp hissing noise, while in a normal ear which has been ruptured by traumatism, the escaping air has a broad, deep breathing sound.

In cases of labyrinthine disease, where the aurist is called upon to determine whether the deafness is due to a blow or fall, etc., and the membrana tympani and external meatus appear normal, a diagnosis can not be made, for in these cases the question depends upon the answers given by the patient when his hearing is tested with the tuning-fork and König rods. The perception of sound by bony conduction becomes much lessened or is quite wanting in such cases, and the patient is apt to complain of subjective

noises, giddiness, deafness, and a dull feeling in the head; but the fact must not be overlooked that catarrh and other diseases may produce similar symptoms.

In the case of a suit for damages, reported in this Journal December 12, 1885, by Dr. Roosa and myself, it was alleged that the deafness was caused by a blow on the ear. The patient presented the usual symptoms and appearances of chronic catarrhal inflammation, not only of one but of both ears, and the tests with the tuning-fork showed that there was no labyrinthine disease. There was nothing in this case to show that the blow had anything to do with the deafness; in fact, the principal testimony of reliable witnesses proved that the boy had been deaf for some time before the occurrence of the alleged injury.

A CASE OF

IRRIGATION OF THE KNEE JOINT

FOR CHRONIC SEROUS SYNOVITIS (WITH A COMPLICATION).*

By EVERETT M. CULVER, M. D.

MR. PRESIDENT AND GENTLEMEN: I have to relate as my subject a simple case, where a well-known operation was employed for the relief and cure of my patient.

I desire also to direct attention to one point in the operation that may be of some benefit to my fellow-members when about to perform the same.

I shall, moreover, endeavor to make my remarks more interesting to you by prefacing them with as much of the history of the subject as it is possible to give in my limited article.

We may count the birth of the theories of Lister as being in July, 1867, since Simpson's article first appeared at that date in the London "Lancet." Then followed articles by Lister himself in the years 1869 and 1870, which quite completed and confirmed those mighty theories that revolutionized the surgical world.

By these means the confidence of ambitious surgeons was stimulated to again successfully undertake the performance of operations theretofore positively fatal.

Operations upon the joints, and especially the knee, had long been looked upon as *derniers ressorts*, and, indeed, were but little performed, amputations above the diseased joints being preferred as much better and positively safer.

Indeed, many a limb had been sacrificed for so small a matter as a chronic synovitis, to say nothing of the severer cases resulting from traumatism or disease.

In the "Pitha-Billroth Archiv. für Chirurgie" R. Volkmann says that "as early as 1796 puncture of the knee joint for serous synovitis was practiced." Then by Goyrand, and at an early period of the present century by Bonnet (1845), and afterward by Velpeau, who practiced puncture and the injection of the tincture of iodine; but these were uncertain in their results, and very often proved fatal.

Puncture was also made with a tenotome, and the effused fluid let out into the surrounding connective tissue, the external wound being carefully closed by plaster and

* Read at a stated meeting of the Hospital Graduates' Club.

collodion. This method was also of doubtful value. The first to take practical advantage of the Lister antiseptic method for operations and wounds of the joints seems to have been Schede, then of Berlin.

In 1875 ("Centralblatt für Chirurgie," No. 10) he published an article, "On the Method of treating Wounds of the Knee Joint with Antiseptic Precautions," in which he praises the good results of the Lister dressing for draining the knee in acute suppuration of that joint, and details a list of six cases; three of these were for severe injury, in which acute suppuration had occurred. He advocates the making of incisions on either side of the patella, irrigating the joint with a solution of carbolic acid (strength not given), inserting drainage-tubes, applying antiseptic dressings, and removing the tubes from the wounds in from four to seven days after the operation. The dressings were removed at the end of fifteen days, and recovery occurred in all three cases, with perfect use of the limb without loss of motion. He details also three cases of fungous disease, of the ankle, the wrist, and the elbow joint, respectively, where an 8-per-cent. solution of zinc chloride was used, each attended with similar good results.

Following Schede, in the same year, C. Hüter published a case of perforating wound of the knee joint in which an incision was made into the joint at the point of its greatest swelling and pain, and a 2-per-cent. solution of carbolic acid injected, which relieved the pain and tenderness, and reduced the temperature. Unfortunately, no mention of the result is made.

In 1875, also, Franzolini, an Italian surgeon, reported two cases that he calls "synovitis hyperplastica granulosa," in which he injected 33-per-cent. and 55-per-cent. solutions of carbolic acid respectively, and, although solutions of this almost corrosive strength were used, it is reported that when injected at the seat of greatest swelling they relieved the pain better than morphine, and reduced the temperature, and for a time the patients seemed to be much benefited by the treatment. Unfortunately, however, both eventually died from tuberculosis.

If one desires to read the most masterly articles upon the subject under consideration, he would do well to turn to F. Rinne's two papers in the "Centralblatt f. Chirurgie," Nos. 49 and 50, for 1877. These occupy almost the entire space of two numbers of that journal, and, although somewhat wearying to read, as they view the subject from every point, are fullest in detail and technique, and will fully repay one contemplating this operation. After reviewing the older methods of treatment, and the clumsy, not to say almost barbarous, varieties of immobilizing apparatus, all of which are of doubtful benefit, he advises by all means the method of irrigation.

Then follow the indications for treatment, the complete *modus operandi* of the operation, and a detailed history of eleven cases, dating from February 17, 1876 (less than a year from the date of Schede's paper), nearly all of which were for more or less acute and chronic cases of effusion in the knee joint. He sums up as follows:

Nine cases fully cured, with full return of competent joint action, one patient dying from tuberculosis, and one

being so far relieved as to be able to go around with the use of a stick, whereas he had been confined to his bed for some years previous.

In a second paper he advocates the same method for the relief and cure of effusions into the joints from acute and chronic rheumatic troubles (probably gonorrhœal).

From this date on the French and German journals contain almost monthly articles describing the success of these operations at the hands of different Continental and English surgeons.

Notably may be mentioned one by Jules Boeckel, "Gaz. des hôpitaux," pp. 1147 *et seq.*, in which he recognizes the serious nature of diseases of the joints, and points out the theretofore almost fatal results of the same, either from the absorption of pus from a synovial cavity, or from the consequent amputations necessary.

He pronounces the method of irrigation of joints one of the greatest advances of surgery.

This eminent writer divides the cases into two elementary classes—namely, those in which the joints have been opened by an accident or injury, and those where it becomes necessary to either puncture or incise them.

Fifteen cases are related by him: seven cases for simple hydrops articuli, and eight cases for accident involving the knee joint by opening the capsule together with bony and tissue lesions, and the presence of blood and pus within the joint, the former having been treated by irrigation made through a trocar or by the aspirateur of Potain, the latter by drainage.

M. Nicase (November 16, 1881) reported a double case of the same, operated upon at an interval of four months, showing, after the seventh month of the second operation, a complete cure.

In 1882, Volkmann ("Centralblatt f. Chirurgie," No. 33) reports over one hundred cases; his paper, however, communicates but one new feature to the already full list of successes. It is a well-known fact that after a joint has been the seat of chronic inflammation for a length of time, the lateral ligaments become relaxed, and the joint is then unsteady, permitting unnatural lateral movement and rotation upon its long axis.

This defect, Volkmann says, may be remedied and the joint brought to a perfect mechanical relation, if not at least to its normal condition, by repeated irrigations with a 3½-per-cent. solution of carbolic acid, with an interval of four or five weeks succeeding each operation until three or four washings have been made.

R. F. Weir's paper, read by him before the Medical Society of the State of New York, and published in the "New York Medical Journal" of February 20, 1886, is the most concise and the clearest paper I have yet seen, citing some of the references to which I am indebted for part of the foregoing history.

This article gives a clear and good description of the necessary technique, and presents a list of five cases operated upon by him, each attended with a complete cure, and advises the operation upon all patients with serous synovitis that have not been benefited by three months' treatment by the older and commoner methods.

I trust I have not wearied you by reciting the foregoing history, and I shall hasten to lay before you the case that presented itself for examination at the New York Hospital, Out-Patient Department, in June, 1884, and which I have made the subject of this paper.

Mrs. S., aged twenty-five, U. S., married. The patient was a pale, anæmic-looking woman, had been married several years, had had no children and no miscarriages, and, although her appearance was unhealthy, had never had any serious illness. Her family history was good. There was no evidence of rheumatism or syphilis.

In June, 1884, she came to the Out-Patient Department of the New York Hospital for treatment of a swelling in her right knee. Careful questioning failed to elicit anything of the nature of a traumatism having occurred to the joint, nor had she at any time had anything like rheumatic trouble.

She stated that about six months previous to that time she had felt a little weakness in the joint upon going up stairs, but had supposed she had twisted her leg at some time without having noticed it. This had not troubled her at first except upon certain occasions, whenever she had been carrying a weight, or when she had walked a long distance. After a few months she had noticed a slight swelling in the joint, not at all red or shiny, but soft, natural in color, and only a very little larger than the joint upon the opposite side. The weakness had become greater and had caused at times a perceptible limp from the bending in or out of the leg at uncertain times. She had then consulted a physician, who had given her a powder to take thrice daily, and had painted the joint with tincture of iodine. This had seemed to help her for a time, but, although continuing the treatment for some two or three months, she had gradually become worse.

Upon a very careful examination of the joint at this time, I found only a moderate amount of fluid; the patella was somewhat elevated by pressure of fluid within, and could be made to click against the articular surfaces of the femur by a smart blow with the finger-tip. The capsule was but very little thickened, and one could easily pinch up a fold of it between the fingers for the purpose of ascertaining whether there were irregularities upon its inner surface or not. Upon examining the articular parts of the joint by manipulation, I could not discover any evidences of floating cartilage, nor any soft lipomatous bodies, either as fringes or as corpora libera. The skin was of natural color, the joint was about three quarters of an inch larger than that of the opposite side, and fluctuation was easily obtained.

After examination, the affection was recognized as a case of serous synovitis. I therefore advised wearing an elastic webbing bandage of moderate strength over the knee, and during treatment favoring the joint as much as possible, and ordered her Bland's pills for her anæmia, commencing with three thrice daily and gradually increasing to six thrice daily; then stopping them entirely and taking an interval of a week after reaching that number, and an occasional saline purge to prevent any possible concretion of the iron occurring.

In a few weeks she returned and begged me to put on a splint (some friend having suffered with a like trouble, and having been relieved by one), saying that she must attend to her household duties, and that the joint had grown larger and the weakness more pronounced.

Upon a second examination being made, it was found that the joint was more enlarged than before. A plaster splint was therefore applied long enough to immobilize the knee, and the patient went away: this was worn for three or four months, when it was cut open, and the effusion had considerably diminished. So soon, however, as the patient had gone about for a

few weeks without the splint (although a rubber bandage had been worn) the swelling was greater than before, and, to make a long and tedious history of the case short, at the end of a year (June, 1885) she was advised to have the joint washed out. I advised her to go into the hospital and have the operation performed there, but she would not consent. After another year had gone by, during which time she was treated with all the usual methods of blisters and counter-irritations by the Paquelin cautery and the compound ointment of iodine, and with the reappliance of the splints, she finally consented that I should come to her house to perform the operation I had so long counseled her to have done.

Remembering Dr. Weir's article, already mentioned above, in which he advocated an operation for similar cases persisting over three months which could not be cured by the ordinary methods already detailed, and thinking the time limit a little short, I determined to examine some articles upon the conservative side of the case.

Dr. Judson kindly directed me to such an article in the "Boston Medical and Surgical Journal" of 1882, which may be summarized as follows: That, although these cases are annoying to surgeon and patient alike, still, as they cause no pain and but little annoyance, and principally from the fact that no one in such situations is likely to see them, they should be treated in a most conservative manner, and no operation for their radical cure be ever attempted.

This sage advice, in the light of progressive surgery and the repeated good results of foreign and home surgeons, was not altogether satisfactory, and, feeling that, under perfectly antiseptic precautions, such a case might be most satisfactorily undertaken, I asked Dr. Weir's advice, which was to operate by all means. He gave me at the same time many valuable hints as to the proper treatment and procedures.

On April 15, 1886, with the assistance of Dr. Stokes, we performed the operation as follows:

Carefully examining the joint by deep digital pressure, we were not able to make out either any roughened bodies on the deep surfaces of the joint, or much unevenness of the capsule itself.

The outer side of the knee at the place selected for puncture was injected with a 4-per-cent. solution of cocaine into the skin itself, taking care that it did not get into the subcutaneous tissue: the joint and surrounding parts were scrubbed with a nail-brush, using the bichloride-of-mercury soap and a solution of the bichloride (1 to 1,000), and we were then ready for the operation.

We had provided a fountain syringe with a metal nozzle, and a large-sized trocar and cannula, the nozzle made to fit into the latter, all the steel instruments having been boiled in a carbolic solution, and everything else thoroughly antiseptically cleansed, also one thousand grammes of a 1-to-30 solution of carbolic acid made from distilled water, carefully filtered and warmed to 80° F.

The technique of the operation is to plunge the trocar into the lower and most distended portion of the synovial pouch, the assistant meanwhile making careful pressure over the whole joint with both hands, so that the serous fluid may first flow nearly out, and then the joint is to be carefully distended with the irrigating fluid, and by pressure gently emptied, and this is to be repeated until the fluid comes out clear, using from 450 to 1,000 grammes of the irrigating fluid.

I selected a point just below the lower edge of the patella, and plunged in the trocar; only a few drops of amber-colored fluid flowed out, even on pretty firm pressure. We then let some fluid flow into the cannula, and, to our surprise, only a small area of the joint was distended by it, although the bag was at an elevation of five or six feet and must have exerted a pretty considerable amount of pressure. The nozzle of the fountain syringe was then removed, but only a very small quantity of bloody fluid came out from the cannula. This was repeated several times, each with a like result, and I thought I had struck what is known as a "dry tap," until it suddenly occurred to me that I must have pushed the trocar into the præpatellar bursa, which was the seat of either an inflammation or an effusion.

Just here I should describe the appearance of the joint, to explain the circumstances that led me to make the mistake that, however easily rectified, caused considerable consternation to me.

The joint was about three inches and three quarters larger than the sound one. The superior pouches on the inner and outer side were distended, as also was the pouch on the anterior aspect of the femur under the extensor muscles of the thigh, the inferior pouches only moderately distended; good fluctuation all over joint; the patella "danced" upon the fluid, but at the time was not observed to be situated at a distance from the surface—*i. e.*, occupying a middle position, as having fluid above and below.

Such, however, must have been the case, for I am positive that no normal bursa (præpatellar) could have held the amount of normal fluid that this one did, nor have been distended through such a wide area as to have misled us to several attempted washings before I found my mistake.

I shall take occasion here to remark that whenever it is my good fortune to do another operation of this kind, I shall follow the details that I am about to explain.

After clearing up the joint very carefully from the blood, as there had been a small amount of hemorrhage, I grasped the patella very firmly with my fingers, made some traction upward, withdrew the trocar and cannula outward until the point was past the edge of the patella, being careful not to withdraw it entirely, but using the original tract from which to change the direction, pushed the instrument under and *not over* the patella, and was at once able to appreciate that the point was now free in a large cavity; and, upon withdrawing the trocar, was delighted to see a large, steady stream of a pale straw-colored fluid flowing out. This was perfectly clear, thin, and somewhat sticky; free from lumps or flakes of fibrin.

About three ounces and a half of this fluid were evacuated. The joint was fully distended several times with the 3-per-cent. solution of carbolic acid until the returning fluid ran perfectly clear, at each irrigation making a general kneading and massaging of the joint in order to bring the fluid into contact with every part of the joint, a point much insisted upon by all writers.

The cannula was then withdrawn with a jerk, while pressure was made on the joint to prevent any possible entrance of air; a soft rag soaked in carbolized oil was laid over the trocar wound in order to guard against the entrance of bacteria, and at the same time to allow draining and oozing from the wound. This little wrinkle I had gained from observing that where iodoform is dusted or blown upon a wound, in a very short space of time it becomes firmly mixed with the blood, making a hard plug, which often prevents primary union. An antiseptic dressing of the sublimate gauze and borated cotton was firmly applied a hand's breadth above and below the joint; over this were laid

a few turns of a plaster bandage—enough to immobilize the limb from present action.

During the operation the patient had experienced no pain whatever, merely exclaiming "What a queer sensation!" when the trocar entered the joint and the fluid commenced to flow out. She was, however, extremely nervous; but after a drink of warm wine, and so soon as the dressings were in position, she immediately became cheerful. The temperature on the afternoon of the same day was normal.

April 16th, A. M.—Temperature 101.5° in mouth. Quinine sulphate, grs. x. No pain.

P. M.—Temperature normal.

No other reaction followed during the whole convalescence.

The patient was kept in bed ten days. At the end of the seventh day, however, the original bandage was cut up. The trocar wound had entirely healed; the joint was much more swollen than before the operation, but this I took as a good sign, since all who have done this operation have frequently observed that a fresh exudation generally takes place which is quickly removed; a new dressing was applied with only one or two layers of a plaster bandage, and the patient allowed to make some slight movement of the limb in bed.

On the eleventh day the patient got up and sat upon the sofa, making more and more movement in the joint until the fifteenth day, when she was advised to walk around about her household duties, the swelling having almost entirely disappeared.

It is now nearly eight months since the operation was performed. The joint is but half an inch larger than the opposite one, the capsule thickened to some extent, and the looseness of the whole joint effectually remedied, the patient going about without any pain or trouble whatever, the effusion never having returned. The accidental opening into the præpatellar bursa no doubt might, under some circumstances, have caused a cellular inflammation, and certainly was an unpleasant error. Under the conditions related, however, it not only has taught me a good lesson, but cured an unsuspected bursitis.

Permit me, in closing, to say a word as regards the pathology of these cases. Barwell gives a concise description of them, so far as their known aetiology and the microscopic examination of the joints are concerned.

They occur principally in persons who are debilitated, whose vessels are too much weakened to recover their tone when injured, after having had synovitis, or the synovitis which comes without previous or accompanying inflammation and is not attended by any change in structure of the joints.

The change in these cases occurs simply in the serous membrane itself, and never invades the deeper layer of the periarticular connective tissue. The inner surface of the capsule becomes opaque in some places, while patches or fringes of new connective tissue may cover a part or the whole surface of the inner side of the capsule.

The greater the amount of connective tissue found upon the surface of the membrane, the greater has been the quantity of serum found within the joint.

The quality of the exudation has been found to be an index also to the grade of the disease. The lighter-colored fluid and that freest from fibrin and coagula seem to accompany the lightest cases.

The accumulation of fluids in the joints, while analogous to the well-known effusions into the tunica vaginalis testis or the membranes of the spermatic cord, resembling them in some of their chemical constituents, notably albumin, salts, and fibrin, contains but a small amount of mucin. These effusions can not, moreover, be removed by active purgation, and no amount of serum removed from the venous system can in any way possibly affect the fluids so contained within the joints.

For a most excellent pathological description of this disease, together with indications for the treatment and technique of the same, see Billroth's "General Surgical Pathology and Treatment," Lecture XXXVIII.

REPORT OF A CASE OF POISONING BY FLUID EXTRACT OF BELLADONNA.

By STANLEY M. WARD, M. D.,
ELLENVILLE, N. Y.

At 12.45 A. M., March 11, 1887, I was summoned to Lottie N., aged about twenty, who was reported as having taken poison. On entering the room, I saw the girl, supported by her mother and sister, who were endeavoring to walk her through the room and adjoining hall. She was unable to stand alone, and staggered when unsupported as if under the influence of alcohol. A rapid examination of the patient, revealing dilated pupils, hurried respirations, feeble and quickened heart's action, with excessive volubility, though her articulation was indistinct, aided by the fact that a half-ounce phial of fluid extract of belladonna had been found in her dress-pocket, disclosed the cause of the symptoms. She was lifted on the bed, and then began one of the most perfect pantomimes I ever saw. The "busy delirium" so well described by writers on materia medica and therapeutics was typical. She sewed imaginary stitches in imaginary dresses, washed her face and hands "with impalpable soap in imperceptible water," applied hypothetical powder, and dressed herself with intangible clothing—she was doing something all the time, it mattered little what it was. She muttered and mumbled a good deal of the time, at times laughed and smiled, at others cried. She seemed to be in an entirely different sphere and lived regardless of all her surroundings. I gave her an eighth of a grain of morphine sulphate hypodermically, and in twenty minutes repeated it. The phial had contained a half-ounce if it was full; now it had in it but a trifle over a drachm; how much she had taken was only a matter of conjecture. Before my arrival, presumably two hours at least after the drug had been swallowed, her mother had given her a teaspoonful of warm mustard-water; this was followed by emesis, but the girl refused to swallow any more. Taking the condition of the pupils, immoderate dilatation, respirations 40 to 60 a minute, the quickened and weakened heart's action, with the most absolute wakefulness I ever saw, I gave another eighth of a grain of morphine hypodermically at 2.30 A. M., and in a half-hour gave the same dose by the mouth, inducing her to swallow it easily. I attempted to give her some strong coffee, too, in the same way, but this she spat out with great glee. At four o'clock the delirium became less active, the respirations lessened in number, and the heart's action more regular; she still sat upright on the bed and attempted to sew and to perform other occupations, but there were not the same tenacity of purpose and thoroughness

of action, and occasionally she would lose her balance and partially fall, though she recovered quickly; the pupils were still very large and she voided urine involuntarily. At five o'clock I gave her one sixth of a grain of morphine by the mouth and left her until eleven. During the interim she had dozed a little, had been quite "busy" at times, was now quite rational, and had, a little while before I came in, asked for something to eat. When shown the bottle of belladonna and asked how much she had taken, she indignantly denied ever having seen it before; complained that her arm was sore where the punctures had been made with the hypodermic needle; but when asked the reason, replied that she "absolutely refused to answer—that it was none of my business." Pupils somewhat smaller than in the early morning, but still much dilated. I gave one sixth of a grain of morphine by the mouth. Saw her again at 11 P. M. the same day. She had rested very well during the day and slept some. Her pupils were dilated, throat a trifle dry, no eruption. Gave one eighth of a grain of morphine. She refused to say anything about the belladonna, except that she had bought the bottleful on the night of the poisoning, and had taken a little about ten o'clock to relieve a toothache. Three days afterward I again saw her and found a slight rash on her face and chest, with a tympanitic abdomen. Her ankles also were somewhat bloated. Whether or not these last two symptoms may be referred to the belladonna, I have no means of knowing. She then informed me that she had saturated a piece of cotton with the drug, and applied it to a tooth instead of swallowing it. I can not believe this, as her conversation early in the evening would go to show that she contemplated suicide.

Correspondence.

LETTER FROM LONDON.

Moore's Treatment of Aneurysm.—Dr. Broadbent on the Pulse.—The Croonian Lectures in the Future.—Guy's Hospital.

LONDON, April 21, 1887.

At the last meeting of the Royal Medical and Chirurgical Society the subject of Moore's treatment of aneurysm occupied the evening. The debate was opened by Dr. Pringle, who reported a case of abdominal aneurysm in which, after the usual treatment had been tried unsuccessfully, Mr. Henry Morris had performed laparotomy and introduced some wire into the aneurysm. The chief difficulties encountered were the introduction of the wire into the cannula, which was of necessity held deep in the abdomen, and the adjustment of the cannula. Between the outward force of the pulsation and the inward force of pressing the wire into the sac, the danger of the cannula slipping out of the aneurysm must have been not inconsiderable. Only about a foot of wire could be introduced, owing to a kink that formed in it. The patient did well for two days, but ultimately died on the fifth day from asthenia. At the autopsy the aneurysm was found to arise from the aorta at the level of the cardiac axis. It was saccular and filled with clot, more than one third of which was laminated and considered to be due to the treatment. Mr. Gould and Mr. Hulke followed with cases of thoracic aneurysm treated in like manner, but in their cases also a fatal result had ensued. The discussion chiefly turned on the amount of wire that ought to be used, on the advisability of introducing it all at one time, and on the best material for introduction. Mr. Bryant thought that fishing gut or horsehair might be used, but Mr. Morris objected that they would not be likely to coil up in the aneurysm. Mr. T. Smith

suggested that the wire should be introduced through a hollow needle, such as he used for cleft palate, with a fishing-rod reel at the end of it; and there will be little doubt in the minds of those who have seen this ingenious little instrument that it would be well adapted for the purpose. It is worthy of note that, with the exception of Mr. Barwell, who would seem to be always ready to try any novelty, this operation for aneurysm has not found favor anywhere but at the Middlesex Hospital, for all the cases just referred to were under the care of Middlesex men.

Dr. Broadbent has delivered the last of the old series of Croonian lectures, having taken the pulse for his text. As he was well known to have worked a great deal at this subject it was expected that his lectures would arouse a good deal of interest; and so no doubt they did, but it must not be measured by the somewhat scanty audiences that he attracted, for the weather was at its worst at the time, and no one cared to be out at six o'clock in the evening if he could help it. The chief interest in these lectures will be the virtual renunciation of the sphygmograph as a reliable guide in diagnosis or prognosis, a most important step, seeing that Dr. Broadbent was one of the pioneers with that instrument. The lectures will be published by the Messrs. Cassell in the excellent series of clinical manuals that they are now issuing, and may certainly be expected to be one of the best of the series.

I said that he gave the last of the old series of Croonian lectures, and so it is, for the lecturership has been entirely remodeled, and the new scheme comes into operation forthwith. The Croonian lectures were founded some two hundred years ago out of a trust fund left by a lady for that purpose; the money, I believe, was derived from property in the city, in Warwick Lane, where the College of Physicians was then located, and since last year, owing to the expiration of some long leases and the rise in value of property in the city, the income of the trust has risen from about £15 per annum to something over £200. This made some recasting of the lecturership necessary, as the payment would have been quite out of proportion to the work done in the existing lecturership, and it would have been rather hard on the other college lecturers. The matter was therefore referred to a committee, and, after many discussions, it has now been finally settled that the lecturer shall deliver four lectures on some subject "in anatomy, physiology, or pathology, with a view to the prevention, control, and cure of disease." It is expected that the lecturer will engage in original observations and bring his results forward in his lectures, and he will be assisted in this work by grants from the trust fund, for the fee for the lectures has been fixed at £100, leaving a good balance in the hands of the college wherewith to encourage research. The lecturer is to be re-eligible, and it is hoped thereby that some man with energy and time will hold office for several years, and be thus enabled to do some really good work.

The authorities of Guy's have announced that for two of the existing vacancies they will receive applications from men not connected with the hospital. There is a good deal to be said in favor of their desire to introduce new blood into the school. The appointments have been so numerous of late years that it is not to be expected that men of sufficient caliber could be so constantly supplied from within; but, on the other hand, it is a somewhat risky step, and the introduction of outsiders has not always at some of the other large schools been found a success. In this matter I believe Guy's is the most conservative school in London. The contributions toward the funds of the hospital have not yet reached £60,000, which does not look as if they would get the required amount, £90,000, by the 1st of May. If they do this, they have the promise of a donation of £10,000 to complete the total they originally asked for.

THE

NEW YORK MEDICAL JOURNAL, *A Weekly Review of Medicine.*

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FRANK P. FOSTER, M. D.

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URETHRAL DISCHARGES OF CONSTITUTIONAL ORIGIN.

WHILE the researches that have recently been made concerning the supposed parasitic nature of gonorrhœa and its specific germ are entitled to respectful consideration, it must be admitted that the methods of diagnosis which they have thus far afforded are not very satisfactory. It would seem that to distinguish between the alleged virulent form of urethritis, which is supposed to depend upon a special microbe, and the various other forms of urethral inflammation with the aid of the microscope would be no very difficult task. But peculiar difficulties have been encountered, arising from the fact that in the urethral secretions, even when apparently normal, many different forms of bacteria occur, some of which are easy to be confounded with the alleged specific germ. Diplococci of an indifferent nature appear, which bear the closest resemblance to those that have been fixed upon as the essential cause of gonorrhœa, and the two forms can be distinguished only by mere shades of difference perceived in coloring. The methods first proposed by Neisser for the identification of the gonococcus have since proved wholly inadequate to the purpose. Moreover, it is the common experience of those who pursue these investigations that in the most suspicious cases of blennorrhagia the gonococcus has been found wanting or strangely elusive. Here, as elsewhere, it not infrequently happens that the microscope affords less satisfactory evidence regarding the nosology of the disease than the grosser methods of clinical observation.

It is well known that inflammation of the urethra may arise from a variety of causes. Some of them extraneous to the organism, such as traumatisms and contact with chemical irritants, toxic agents, morbid secretions, and vitiated pus, and very possibly a distinct form may be due to infection with the gonococcus; others are inherent in the individual, or constitutional. Of these latter we have comparatively little knowledge. Their characteristic features form the subject of a recent paper by Deligny ("Union médicale," March 10, 1887), entitled "Contribution à l'étude des écoulements urétraux d'origine constitutionnelle." Various diatheses have been said to be capable of causing urethral inflammatory symptoms—more especially, the arthritic, the herpetic, and the strumous. Another, which has a much greater interest, but to which Deligny makes no allusion, is the syphilitic. Henry Lee and others have described certain urethral discharges as peculiar to syphilis, occurring sometimes at the inception of the disease and sometimes in the secondary period, and have given reasons for attributing to them the property of conveying syphilis. The strumous diathesis, according to Bazin, may excite a blennorrhœa which has distinctive traits. In young girls it appears in

the well-known form of a purulent inflammation of the vulva, while in men it usually assumes the form of prostaticorrhea. Certain writers, Swediaur for example, have alleged that herpetism may be the cause of a urethral discharge, but the statement has received but little corroboration.

But, of all the constitutional conditions that may play a part in urethral inflammation, by common consent the arthritic diathesis stands first. Many writers have noted instances in which a urethral discharge has co-existed with gouty or rheumatic attacks and been apparently symptomatic of a constitutional malady. Some of these writers have described purulent forms of inflammation closely resembling virulent gonorrhoea. Besnier, however, in this connection has called attention to the fact that rheumatism never gives rise to suppurative forms of inflammation, unless under very exceptional conditions; and Deligny is disposed to question the correctness of those reports in which purulent forms of urethritis have been attributed solely to the constitutional condition. It would be easy to believe that in such cases the diathesis acted rather as a concomitant than as the exciting cause. Certain it is that the influence of arthritis is most commonly manifested in the way of aggravating or protracting a urethritis originally provoked by some other cause. It has been intimated also that, when a urethral discharge has followed the ingestion of certain substances, such as asparagus, pepper, guaiacum, beer, and the like, it has always been associated with some constitutional vice, and in most instances with the gouty or rheumatic habit. When the urethral disease is purely arthritic, Deligny maintains that it is invariably in the form of a subacute and non-purulent inflammation. The writer presents the histories of four cases in illustration. It can not be said that he has presented any evidence of the urethral discharge being due to arthritis which can be regarded as conclusive; nor have we sufficient evidence that the affection must always bear the subacute character which is assigned to it. The practical deduction which the writer draws relates to treatment, and is expressed in the form of a caution against severe local interference with a urethral discharge that may be presumed to be gouty or rheumatic. By refraining from such interference we may avoid converting into a grave and prolonged urethritis what would otherwise have remained a simple muco-serous discharge tending to prompt spontaneous recovery.

NEW INDICATIONS FOR HYSTERECTOMY.

In a recent number of the "Centralblatt für Chirurgie" we find an abstract of an article by Professor B. S. Schultze, of Jena, published in the "Deutsche medicinische Wochenschrift," in which he describes a case of supra-vaginal amputation of the uterus done on account of the decomposition of a placenta retained in a portion of the uterine cavity so shut off from the remainder that, the cervix being very narrow, the mass could not be removed by the ordinary means. Schultze argued that the uterus contained a source of systemic infection not otherwise to be got rid of, that it was the only source of such infection present, and that, if not interfered with, it was sure to

give rise to the infection. Happily, his patient recovered. The indication may be said to have been legitimate, although novel.

Not so much can be said of a series of sixteen more or less complete hysterectomies performed by a Cologne surgeon, Herr Frank, whose account, entitled "Ueber extra-peritoneale Uterus-exstirpation," published in the "Archiv für Gynäkologie," is made the subject of criticism by Dr. C. H. Stratz, in an article headed "Ueber Furor operativus," contained in a recent issue of the "Centralblatt für Gynäkologie." While Dr. Stratz credits the editor of the "Archiv" with freedom from partisanship, he feels that, in the interest of humanity, the Cologne hysterectomist's enormities ought to be shown up; and so do we. It seems that only five of the operations were done for cancer, while the procedure was resorted to four times for endometritis, three times for retroflexion or retroversion with fixation, twice for prolapse (complicated in one instance with endometritis), once for "pruritus uterinus," and once for neuralgia and retention of urine! We should like to know what the Liverpool committee in the Imlach case would think of such a record as this.

Herr Frank seems not to have been over-particular as to niceties of diagnosis, if the statement is true that in one instance he was led to perform the operation because, "besides the pains in the sacrum, the patient quite precisely indicated the situation of the uterus as the point from which the wholly unbearable pains proceeded." But, in view of the variety of lesions that he evidently looks upon as indicating the operation, it is hardly to be wondered at that he should have considered precision in diagnosis a work of supererogation. We may suggest to those who are anxious to obtain the views of their professional brethren that they endeavor to ascertain if there is any abnormal state of the genitalia in women that some enthusiast does not consider an indication for removal of the uterus, the ovary, the oviduct, or all three.

MINOR PARAGRAPHS.

THE RAG IMPORTERS' SUIT.

The result of the trial of the case of Lockwood & McClintock vs. E. B. Bartlett & Co. and Dr. Smith, the health officer of the port, is doubtless gratifying to the rag importers from the fact that Bartlett & Co. have been mulcted in damages. It would have been more satisfactory to the medical profession, represented *volens volens* by Dr. Smith, if that official's exculpation had been more decided than the disagreement of the jury can be interpreted as signifying. The charge that he had entered into a conspiracy with the Bartlett company is not all that has to be taken into account, and the failure of the testimony to convince the jury of the justness of that charge does not do away with the plain fact that the health officer is bound to superintend any disinfection that he orders, and is not justified in turning cargoes over to the mercies of a corporation.

THE SCHOOL OF PHARMACY OF CORNELL UNIVERSITY

In the "Cornell University Register" for 1886-'87, various interesting particulars are given concerning the new school of pharmacy, which is to be opened to students at the beginning

of the autumn term of the current year. The course is to extend over two full college years, and is to include, besides the branches usually taught in colleges of pharmacy, laboratory work in analytical and pharmaceutical chemistry, toxicology, and microscopical botany. Candidates for admission must be eighteen years of age, and must pass the regular English examinations, besides an examination in German or Latin. Those who fail in German may be admitted provisionally, being required to pursue the study of that language in addition to the regular work of the course. Those who have been engaged in the business of pharmacy for two years may be admitted as special students (not as candidates for a degree) without examination.

THE CHARITY ORGANIZATION SOCIETY.

ON several occasions we have commended the objects and the workings of this society. Among its recent praiseworthy achievements is to be mentioned the conviction of one of the promoters of the St. George Medical Dispensary, on the charge of practicing medicine without a diploma. Thinking there was reason to suspect the genuineness of this so-called charity, the society "thus," says the "Commercial Advertiser," "reached a result on technical grounds which it would have been much more difficult to reach in any other way, and which it was very desirable to reach, if we may judge of the case by the utterance of Recorder Smyth, who is reported to have said, in passing sentence, 'the scheme was a fraud from beginning to end—one of those pestiferous nuisances that affect a large community and swindle the people out of their money.'"

CEREBRAL DEVELOPMENT AND THE NASAL PASSAGES.

DR. ALLEN's remarks on the degenerate state of the nasal passages in man (see the discussion of Dr. Rice's paper, in the proceedings of the American Laryngological Association, published in this issue of the Journal) are interesting not only from the comparative anatomist's point of view, but as relating to one more illustration, added to the multitude already known, of the directness with which feminine instinct arrives at conclusions that scientific research takes centuries to reach. How can we explain the fondness of women for the pug on any other theory than that they have jumped to the conclusion that, since his cerebrum has encroached more on his nasal area than is the case with other dogs, he is the most civilized of all? And what do they care if that encroachment is considered degeneration?

ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Fourth Division of the Health Department for the following statement of cases and deaths reported during the two weeks ending May 3, 1887:

DISEASES.	Week ending Apr. 26.		Week ending May 3.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever.....	2	0	8	2
Scarlet fever.....	56	15	47	8
Cerebro-spinal meningitis....	1	1	6	5
Measles.....	86	6	81	4
Diphtheria.....	89	38	104	41
Small-pox.....	4	0	15	5

An Honorary Degree.—The "Lancet" states that the University of Edinburgh has conferred the degree of LL. D. on Professor Kölliker, of Würzburg.

Recent Changes of Address.—Pending the appearance of the forthcoming volume of the "Medical Register," it may be serviceable to some of our readers to know that the following

changes in New York physicians' addresses have come to our knowledge:

BORN, R. O., from 131 W. 34th St. to 25 W. 34th St.
 BOZEMAN, N., from 307 5th Ave. to 9 W. 31st St.
 BROWN, C. H., from 62 W. 19th St. to 25 W. 45th St.
 COE, H. C., from 124 E. 55th St. to 987 Madison Ave.
 CONRAD, L., from 27 W. 51st St. to 112 E. 57th St.
 CULVER, E. M., from 419 Madison Ave. to 120 W. 95th St.
 GERSTER, A. G., from 107 E. 23d St. to 56 E. 25th St.
 GIRDNER, J. H., from 69 W. 36th St. to 120 W. 35th St.
 HAWLEY, J. S., from 17 W. 9th St. to 17 Waverley Place.
 HEPPENHEIMER, F. C., from 783 Lexington Ave. to 112 E. 57th St.
 HOLT, L. E., from 23 Park Ave. to 15 E. 54th St.
 KINCH, C. A., from 256 W. 54th St. to 285 W. 70th St.
 NEWMAN, R., from 68 W. 35th St. to 68 W. 36th St.
 PARDEE, C. I., from 57 W. 37th St. to 34 W. 38th St.
 SATTERTHWAITE, T. E., from 251 Madison Ave. to 17 E. 44th St.
 SCHOTTKY, E., from 107 E. 23d St. to 56 E. 25th St.
 SEGUIN, E. C., from 24 W. 50th St. to 419 Madison Ave.
 SHAFFER, N. M., from 31 W. 36th St. to 28 E. 38th St.
 SHULTZ, R. C., from 151 E. 85th St. to 178 E. 76th St.
 STARR, M. A., from 34 W. 38th St. to 22 W. 48th St.
 VINEBERG, H. N., from 635 Lexington Ave. to 123 E. 59th St.

A Town in Need of a Doctor.—Looking abroad, we occasionally find out what is going on at home. The reflection is called up by an advertisement in one of the Berlin medical journals, by which it appears that some of the people of St. Cloud, Minnesota, desire a Catholic physician, and that they guarantee his being able to earn an income of from seven to ten thousand marks.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from April 24, 1887, to April 30, 1887:*

WOODRUFF, CHARLES E., First Lieutenant and Assistant Surgeon (recently appointed). Ordered for duty at Fort Wayne, Mich. S. O. 96, A. G. O., April 26, 1887.

Naval Intelligence.—*Official List of Changes in the Medical Corps of the United States Navy for the two weeks ending April 30, 1887:*

RUSSELL, A. C. H., Passed Assistant Surgeon. Ordered to duty at the Naval Laboratory, New York, May 2, 1887.

HEFFINGER, A. C., Passed Assistant Surgeon. Ordered to Widow's Island, Me., to superintend building a naval hospital, wharf, and other improvements, under instructions of the Surgeon-General of the Navy.

WOODRUFF, CHARLES E., Assistant Surgeon. Resignation accepted, to take effect April 8, 1887.

ATLEE, L. W., Assistant Surgeon. Ordered to the Receiving-ship Vermont.

BIDDLE, CLEMENT, Passed Assistant Surgeon. Detached from the Naval Academy and ordered to the Naval Rendezvous, Philadelphia, Pa.

ASHBRIDGE, RICHARD, Passed Assistant Surgeon. Ordered to the Naval Academy.

HUDSON, A., Medical Inspector. Ordered to the U. S. Steamer Trenton.

HIBBETT, C. T., Passed Assistant Surgeon. Ordered to the U. S. Steamer Trenton.

DECKER, CORBIN J., Assistant Surgeon. Detached from the Receiving-ship St. Louis, and ordered to the U. S. Steamer Trenton.

Society Meetings for the Coming Week:

MONDAY, May 9th: New York Academy of Medicine (Section in Surgery); New York Ophthalmological Society (private);

New York Medico-historical Society (private); Lenox Medical and Surgical Society (private); New York Academy of Sciences (Section in Chemistry and Technology); Boston Society for Medical Improvement; Gynecological Society of Boston; Burlington, Vt., Medical and Surgical Club; Norwalk, Conn., Medical Society (private).

TUESDAY, May 10th: New York Medical Union (private); Medical Societies of the Counties of Albany (semi-annual), Greene (annual—Cairo), and Rensselaer, N. Y.; Newark, N. J. (private), and Trenton, N. J. (private), Medical Associations; Medical Societies of Camden (annual—Camden), Morris (annual), and Sussex (annual) Counties, N. J.; Norfolk, Mass., District Medical Society (election—Hyde Park); Franklin, Vt., County Medical Association (annual).

WEDNESDAY, May 11th: American Surgical Association (Washington); New York Surgical Society; New York Pathological Society; American Microscopical Society of the City of New York; Medico-legal Society; Pittsfield, Mass., Medical Association (private); Franklin (annual—Greenfield), Hampshire (annual—Northampton), and Worcester (annual—Worcester), Mass., District Medical Societies; Philadelphia County Medical Society (conversational).

THURSDAY, May 12th: Society of Medical Jurisprudence and State Medicine; Brooklyn Pathological Society; Medical Society of the County of Cayuga, N. Y.; South Boston, Mass., Medical Club (private); Pathological Society of Philadelphia.

FRIDAY, May 13th: New York Academy of Medicine (Section in Neurology); Yorkville Medical Association (private); Medical Society of the Town of Saugerties, N. Y.

SATURDAY, May 14th: Obstetrical Society of Boston (private).

OBITUARY NOTES.

Alfred Meadows, M. D., F. R. C. P., of London, the obstetrician to St. Mary's Hospital, died somewhat suddenly, as we learn from our London exchanges, on Tuesday morning, April 19th, in the fifty-fifth year of his age. It seems that for some time his health had been manifestly deteriorated, with signs of cardiac weakness, and that the severe suffering incident to a sharp and sudden attack of colic so depressed the action of the heart that it failed to respond to treatment.

Dr. Meadows was well known in this country by his excellent "Manual of Midwifery," but chiefly as the translator of Bernutz and Goupil's "Clinical Memoirs on the Diseases of Women." His personal character caused him to be more than ordinarily esteemed by his fellow-physicians of London. He was actively engaged in practice and in society work up to the time of his fatal attack.

Frederick M. Dearborne, M. D., surgeon, U. S. Navy (retired list), died in this city on Sunday, April 24th, at the age of forty-five. He was born in Malden, Mass., was graduated from Harvard Medical School, and was appointed an assistant surgeon in the navy, September 15, 1864. In 1867 he was promoted to the rank of passed assistant surgeon, and attained that of surgeon May 21, 1875. On December 10, 1883, he was placed on the retired list. His death, which was somewhat unexpected, is said to have been due to pneumonia and chronic diarrhoea, the latter being the result of Chagres fever contracted while in service at Panama about ten years since.

Gustavus P. Pratt, M. D., of Cohasset, Mass., died on Friday, April 29th, at the age of forty-seven. The deceased was born in Cohasset, received his early education at the Phillips Academy, Exeter, N. H., and was graduated from Harvard Medical School in 1863. Immediately after his graduation he

was appointed an assistant surgeon of the Thirty-third Massachusetts Regiment, and was afterward transferred to the Nineteenth Regiment, of which he was made surgeon. He was subsequently appointed a brigade surgeon in the Army of the Potomac, in which capacity he served until the close of the war. In 1867 he settled in Cohasset, where he has since resided. His death is said to have been the result of pneumonia, with which he was attacked in February last.

Proceedings of Societies.

NEW YORK ACADEMY OF MEDICINE.

Meeting of March 3, 1887.

Dr. CHARLES CARROLL LEE in the Chair.

The Pathology and Treatment of Epilepsy.—Dr. WILLIAM H. THOMSON read a paper on this subject. Sometimes the most striking symptoms of a disease were most misleading, because they diverted attention from the essential features. This was true, he thought, of the motor or convulsive symptoms in epilepsy, for, while these were most striking, and were apt to absorb the attention, they were not essential, as in many cases they were entirely absent. The essential feature must be present in all cases, and he regarded it as *suddenness*. He did not regard epilepsy as necessarily a convulsive disorder at all, and in the place of a definition based on this view of the case he would offer the following: "Epilepsy is a disease characterized by sudden but temporary loss of function on the part of one or more cerebral centers, the attacks being introduced probably in every case by an afferent impression."

After reciting an illustrative case in which the principal or only symptom at times was the sudden development of temporary aphasia, he asked, What were these attacks of aphasia? Were they imperfect attacks of epilepsy? Were they partial or incomplete epilepsy? Were they almost, but not quite, epilepsy? or were they anything else than epilepsy?

It was in just such cases, he thought, that there was the whole disease with all its serious import, although there was not a single motor symptom. At times this patient had the so-called initial aura, then loss of consciousness, then the convulsion. The essential and invariable element in epilepsy was thus seen to be suddenness. Epilepsy was the only truly sudden disease. This feature was only apparently present in certain other diseases, which might be rapid in their onset, but never sudden in the sense that epilepsy was. All recurring symptoms, whether sensory or motor, when characterized by suddenness, were ominous because they suggested epilepsy. The homicidal tendency, mental degeneration, etc., occurred in cases of epilepsy called *petit mal*, as well as in those called *grand mal*.

The author then gave illustrations to show that epilepsy was characterized by weakness rather than by an excess of energy; by a paralysis of nerve centers (sensory, he believed) rather than by an explosion. A propeller when going at a rapid speed through the ocean rode upon a large wave which suddenly lifted the screw above the water. The vessel acted as if it had an epileptic convulsion, yet there was no more energy being expended than there had been while it was pursuing its even course through the water; the sudden and peculiar change was due to misdirected energy, a sudden withdrawal of resistance, and not to an increase of energy expended under normal con-

ditions. Although it might be said that convulsive movements could be initiated by direct irritation of a motor ganglion, either in the spinal cord or in the cortical gray matter, yet movements in the enormously preponderating cases were not thus initiated, but were rather consequent on sensory influences, either excitant or the reverse. One great objection to the theory that a motor discharge was the primary and essential lesion of epilepsy was that it required more than one mechanism to explain the fact. It could not be denied that a sensory or peripheric irritation was by far the most frequent antecedent of an attack, and it was known that a severe sensory impression occurring during a motor action might in an instant turn that previously regulated motion into a virtually powerful unregulated convulsion.

These views regarding the nature of epilepsy were considered as important because of the bearing they had upon the treatment. Whereas he had formerly often felt discouraged with the therapeutics of epilepsy, he was now growing less so. The first indication to be met was to supply nerve nutrition, and the best agent for this purpose was cod-liver oil. He tried this remedy in every case of epilepsy as persistently as in phthisis. It also tended to prevent impoverishment of blood by the bromides. Another tonic was phosphorus. In diet, animal flesh was excluded to a large extent. Carnivorous animals had convulsions oftener than the herbivorous, because flesh as a diet predisposed to convulsions. Rapid eating should be guarded against. Sensory nervous instability should be met, and it was not necessary to dwell upon the value of bromides, as no physician would treat epilepsy without them. If there were indications of persistent cortical irritation, he gave corrosive sublimate, and sometimes rubbed in the oleate of mercury. He used belladonna in every case in which there were symptoms pertaining to the digestive tract. Chloral hydrate was called for at night in some cases. Digitalis was indicated when there were pronounced vascular symptoms, or symptoms referable to the genito-urinary tract.

Dr. L. PUTZEL thought that the prodromal symptoms of epilepsy, which often existed two or three days before an attack, disproved the theory of the suddenness of the disease. He could not understand why Dr. Thomson regarded the sensory impulse as inhibiting the motor impulse. He thought the sensory impulse generally was a stimulus which set the mechanism of the motor cells going, and that then, from the vital force within them, they discharged their power in motion. Then, he did not think the paralytic attacks in *petit mal* were very frequent. Paralytic attacks in epilepsy occurred, as a rule, after prolonged severe convulsions, and were then probably due to exhaustion. He did not think the convulsions of teething children were epileptic; they were epileptoid, and might after a time become epileptic. At first, however, there was simply the local trouble, which gave rise by reflex action to a general brain discharge, while in true epilepsy there was an unknown abnormal condition in the brain itself.

Dr. W. H. DRAPER could not say that the author had thrown much light on an obscure subject by his ingenious theory, or that he had seriously shaken existing hypotheses as to the pathology of epilepsy. He believed that it was generally admitted that a large proportion of attacks probably had their origin in the convulsion centers of the cerebral hemisphere, and it was thus easy to account for attacks of temporary aphasia, transient psychical and sensory auras preceding or even occurring without the motor discharge. The question of the determining cause of the phenomena of an epileptic attack, whether it was the result of vaso-motor spasm or not, was still undecided, and the author's hypothesis that it was a withdrawal of the control which the sensory functions of the nervous sys-

tem exercised over the motor functions did not appear, in spite of the illustration of the epileptic ship, to make the cause clearer. The speaker agreed with Dr. Putzel that it was not correct to regard convulsions of peripheral origin, like those of dentition and gastro-intestinal irritation, as the exact parallel, pathologically, of idiopathic epilepsy, except in so far as both might involve a sensory cause. He cordially concurred in what the author had said about the treatment of epilepsy, and especially of the importance of improving the nutrition of the nervous centers with cod-liver oil and tonic medication. He thought that, next to this, the most important point in the management of the disease was a careful study of the possible peripheral irritations which might provoke the attacks. These were very often found in errors of diet. He could not agree with the author as to the avoidance of animal food by epileptics—on the contrary, he had been inclined to believe that the gastro-intestinal irritations, which were the exciting causes of epileptic seizures, were much more likely to follow the indigestions caused by over-feeding with the carbohydrates and fermented liquors. He preferred a diet of milk and animal food for his patients, and had had excellent success in diminishing the frequency of the seizures by regulating the diet upon this principle. The next important point in the treatment was, of course, the administration of some drug which would diminish the extreme irritability of the convulsive centers. For this purpose, no remedy had yet been discovered which equaled potassium bromide. Yet, despite all these measures, every physician could recall cases in which all forms of treatment had failed to control the disease—cases in which the patients preferred to have their fits rather than suffer the self-denials imposed by dietetic restrictions, and especially the misery of mental and physical hebetude caused by large doses of the bromides.

Dr. THOMSON said it was not unusual to see prodromes in epilepsy, but they did not constitute the attack, and when he spoke of suddenness it was with regard to the actual steps in the attack. As to the sensory impulse, he looked upon it as being of a regulative character, allowing the motor impulse to be expended in a particular direction. As to the convulsions of teething children, etc., not being epileptic but only epileptoid, he would like to have the difference between them explained; the phenomena were the same. He knew of no better example of the saying, "a distinction without a difference," than these cases presented; no, not in the whole range of medical speculation.

Dr. DRAPER remarked that he had meant to convey by the term epileptoid simply the idea of the form of epilepsy, and not the substance or nature of it.

Dr. A. D. ROCKWELL then read a paper on the value of electricity in the treatment of epilepsy. [See page 431.]

Meeting of March 17, 1887.

The President, Dr. A. JACOBI, in the Chair.

A Portrait of the late Gunning S. Bedford, M. D., presented by the family of the deceased, was accepted with thanks.

On Bacteria in Ice and their Relations to Disease, with Special Reference to the Ice-supply of New York City.—Dr. T. MITCHELL PRUDDEN read a paper in which he said that our knowledge of the dangers of impure water had become much more precise since we had learned that many common and fatal diseases were caused by the bacteria which such water might contain. Chemical examination could determine the presence of bacteria only inferentially. In the new method of research it was no longer necessary to infer their presence, but it should

not be inferred that the biological had superseded the chemical method of water analysis. The biological method was very simple in principle, but it required for its execution considerable patience, care, and experience. The material had to be sterilized, which was usually done by prolonged heating. The food prepared for the bacteria in water analysis was usually beef-tea, nutrient gelatin. When a water analysis was to be made, the nutrient gelatin in one of the tubes was melted and thoroughly mixed by shaking with a measured quantity of the water to be examined. The quantity of water usually employed was 1 c. c. The mixture was poured out on a sterilized glass plate. This was put into a clean glass saucer, covered from the dust, and set in a moderately warm place. The bacteria now began to grow and formed colonies. The number of colonies indicated the number of bacteria originally in the water. The kind of bacteria could now be studied by the cultivation process, etc. A series of thirty-two analyses of the Croton water as it was delivered through one of the faucets at the College of Physicians and Surgeons on different days during the past five months showed the lowest number of living bacteria to 1 c. c. to be 57, the highest 1,950, while the average was 243. But a large proportion of the bacteria which were everywhere so common were, so far as we yet knew, perfectly harmless. It was true, however, that a certain number of species which could live in water as well as elsewhere could and did produce deadly diseases, in the form of some of the most frightful epidemics. If there was a possibility of sewage contamination, and large numbers of bacteria that were not water bacteria were present, we might justly infer that the natural processes of water purification had not been active or efficacious, but that the conditions had been favorable for the prolonged existence of the sewage bacteria, including disease-producing forms. A great variety in the species of bacteria present in a water was rather indicative of sewage contamination.

Taking all things into consideration, we might say in a general way, for the sake of having some sort of temporary standard, that water containing more than from 50 to 100 living bacteria to 1 c. c. should not be used for drinking purposes without filtration or other mode of purification. If water was known to be either immediately or remotely polluted with sewage, or human or animal excreta, it should under no circumstances be used for drinking purposes without filtration or other form of efficient purification, whatever the number of bacteria it might contain. The same facts applied equally to ice. The examination of ice was conducted in the same way as that of water, but it was first thoroughly cleansed and then melted. It was a popular belief that water purified itself in freezing. This belief was based partly upon fact, but the clearest ice might contain numerous bacteria capable of causing disease. In order to obtain some positive data about the action of low temperatures on bacteria, the author had carried out a series of experiments on the effects of cold on pure cultivations of six different species of bacteria when these were suspended in water. The method was to put into the different sets of tubes appropriated to each bacterial species a little pure distilled water which contained a known number of bacteria to the c. c. These different sets of tubes were then frozen in a refrigerator, the temperature of which was kept from 14° to 30° F. for over three months. The tubes were removed from time to time, and the number of bacteria remaining alive was determined in the usual way. The species used for experimentation were: 1. *Bacillus prodigiosus*. 2. *Proteus vulgaris* [Hauser]. 3. A slender fluidifying bacillus common in Croton water. 4. The *Staphylococcus pyogenes aureus*. 5. A non-fluidifying fluorescent bacillus common in water and ice. 6. The bacillus of typhoid fever. In the summary of the results of the experiments on the bacillus of typhoid

fever it was seen that, while many of the individuals were destroyed, many still remained alive even after prolonged freezing. A large reduction in the number of viable individuals of the different bacteria took place at the first freezing, while a more gradual destruction went on as the low temperature was maintained. The typhoid bacteria were soon destroyed after alternate thawing and freezing; also the *Staphylococcus pyogenes aureus* and the *Bacillus prodigiosus*.

The author then described the three great sources of ice-supply of New York city. The chief source was the Hudson River; the surrounding lakes gave a limited amount; the third source was Maine, which was drawn largely upon during seasons when the home supply was poor. Unless soil filtration purified the sewage of a small town near Rockland Lake, from which considerable ice was drawn, its waters must be polluted thereby. Two thirds of all the Hudson River ice was cut within thirty miles of Albany, and nearly one fourth within twelve miles. The sewage of the large cities of Troy and Albany entered the Hudson, but nothing had been more definitely established than that impure water could and did free itself under favorable conditions, such as exposure to air in running streams, etc., from a good deal of its organic impurity. But that the same conditions destroyed the bacteria, which were, after all, so far as we knew, the more important active agents in the diseases produced by bad water, had not yet been demonstrated in a sufficiently comprehensive way. He had made nearly three hundred complete analyses of ice taken at different times from the Hudson River, and from the ponds and lakes. Taking the results of all these analyses, he had found that the average number of living bacteria to 1 c. c. was 2,033. Thus, he who, impressed with the importance of pure drinking water, should perfectly filter half a glass of the average winter Croton water and then add to it an equal quantity of the average ice, would have the satisfaction of replacing the bacteria removed by filtration with more than eight times as many, or two hundred thousand, from much more questionable sources. But such general statements were misleading. In his series of analyses the ice had been grouped into two classes: 1. Clear ice, or that which contained but few scattered bubbles. 2. Snow ice and very bubbly streaks. A distinction had also been made between the ice gathered near Albany and that taken some distance below. It was evident from the charts that by natural agencies the water of the river was freed to a certain degree from the bacteria after running for some distance. But the ice did not, as one might at first expect, get freer and freer from bacteria as the distance from Albany increased, but from six to fifty miles below Albany, with local fluctuations of not much importance, it remained very nearly the same.

The remarkable difference in the bacterial contents between the snow ice with the bubbly streaks and the clear ice prevailed in all parts of the river alike, and it was surprising to notice not only its constancy, but also the abrupt transition in the number of bacteria as we passed from one form of ice to another in the same block. There might be 46 bacteria in 1 c. c. in the transparent ice while less than an inch away in the same block the snow ice contained over 10,000; or 32 in the clear and 520 in the snow; 2 in the clear and 1,308 in the snow, etc. He had found on an average that the snow ice contained about seventeen times as many bacteria as the clear ice. The very bubbly streaks contained, as a rule, many more bacteria than the adjacent clear ice, but still not so many as the snow ice.

A comparison of the analyses of the lake and pond ice with Hudson River ice showed that the average number of bacteria in 1 c. c. of transparent ice from the lakes and ponds, free as they were from obvious sources of sewage pollution, was still almost as great as the average in transparent ice from all parts

of the river; while, if Albany ice was excluded, the river ice appeared to have a decided advantage.

The number of different species of bacteria in the Hudson River ice was much greater than that from the lakes and ponds. This was to be expected on account of the great sewage pollution of the river. It was a little curious that in the same block of ice different strata often showed a marked difference in the species of bacteria which preponderated. While the conditions in the upper Hudson did not seem during the ice-forming season to be such as would favor purification from organic matter by oxidation, they did seem to be theoretically, and were shown to be practically, favorable to a considerable degree of spontaneous purification from bacteria by sedimentation. But the limits and extent of this purification were yet to be made out.

The measures which might be adopted for the prevention of the conveyance of disease through ice were, under the present condition of affairs, of two kinds: 1. Such as would come under the supervision of health officers. 2. Those which belonged in the province of the individual consumers. In the first place, it would seem necessary that the State Board of Health, or some other authorized body, should be placed in charge of the ice-harvesting fields, and, by a system of inspection not less strict than that which should exist in the case of the ordinary water-supply, determine which, if any, of the sources of ice-supply were so situated as to imperil the health of the consumers of ice. In view of what we had seen, this would appear to be comparatively simple in all cases except that of the Hudson River. Here it would be necessary to establish by a most thorough scientific examination the distances from all sources of sewage pollution at which it might be safely assumed that the water had freed itself from bacterial and other impurities sufficiently to form safe ice. A compulsory system of disinfection of excreta in infectious diseases might be instituted.

NEW YORK CLINICAL SOCIETY.

Meeting of January 25, 1887.

The President, Dr. A. A. SMITH, in the Chair;

Dr. B. FARQUHAR CURTIS, Secretary.

Some Unsolved Clinical Problems was the title of a paper read by Dr. W. H. FLINT. [See page 506.]

Dr. ROBERT ABBE thought that the absence of fever and the short duration of the attack in the third case indicated spasm of the cerebral vessels rather than paresis. He had seen a similar case recently. The patient was a military man of advanced life, but healthy, who had never before had a similar attack. One morning he found that he could not shave himself, and needed more help in dressing than usual. He found also that he could not talk fluently, and, although he went to breakfast as usual, he grew excited. The speaker could find nothing abnormal on examination, except amnesic aphasia and great mental distress and excitement. The patient was put into bed, and aconite, blisters to the neck, potassium bromide, and one drop of croton-oil were ordered. The last caused four purgative movements during the day. During the day the patient suffered from cramps of the right side of the body, especially in the leg, and uttered a succession of oaths, although that was altogether contrary to his habits. A little albumin, but with no casts, was found in the urine. The next day he was pretty well, but had some weakness or very slight paralysis of the right side. Several consulting physicians made various diagnoses—uræmic angiospasm, embolism, and arterial thrombosis. It was now (at the time of the meeting) one month after the attack, and the patient was intelligent, tried to talk, and had gained somewhat in ability to do this. Very slight paralysis still persisted.

The PRESIDENT thought the term "vaso-motor disturbance" was very vague, and he always used it with a consciousness that he was reserving it for cases of which he knew little or nothing. In regard to the unilateral dilatation of the pupil, he would like to ask Dr. D. Webster (present by invitation) how to explain this symptom, so frequently seen in nicotine poisoning.

Dr. WEBSTER replied that he had never seen dilatation of one pupil, or even of both, in nicotine poisoning. With amblyopia the pupils might not react to light, and this might cause dilatation of one pupil if the amblyopia was limited to that side.

Dr. O. H. EMERSON remarked that a man who was habitually placed at his work with a bright light on one side had often a constant dilatation of the pupil on the side away from the light as compared with the other, persisting even when the eyes were not so exposed.

Leucæmia without Pallor.—Dr. ARBE wished to ask if any members of the society had observed absence of pallor in leucæmia. He had recently seen a case in which the number of leucocytes in the blood had very much increased and the spleen was enlarged, but the patient, a man, was not at all anæmic in appearance. There had been no hæmorrhage of any account.

Dr. W. H. KATZENBACH had seen a lady with a very large spleen, who was not anæmic and seemed very healthy, but he had not examined the blood.

The PRESIDENT had seen a lady with a very large spleen, in good health, the organ having been supposed to have begun to grow after she had received a blow upon the abdomen. He thought that the spleen had been enlarged before this accident—it was thirteen inches long. There was no pallor, although the number of white blood-corpuscles had very much increased.

The PRESIDENT related the history of a case of abscess of the liver. At the patient's request, it was omitted from the minutes.

Meeting of March 25, 1887.

The President, Dr. ROBERT ABBE, in the Chair.

Hereditary Syphilis; Periostitis of the Right Humerus, Ulna, and Tibia, and of the Left Radius and Ulna, and Syphilitic Testicle in a Boy of Five Years.—Dr. L. E. HOLT presented a child, five years of age, with the following history: His father's history was unknown; his mother had shown no signs of syphilis until within the past three months, during which time she had suffered from headaches, and had lost her hair. She showed no nodes, cicatrices, or glandular enlargement. Her first child, fourteen years old, was in good health. The second, third, fourth, and fifth pregnancies ended in miscarriages; in her sixth a child was born, which lived eight days and died of umbilical hæmorrhage. Another miscarriage followed, and then the patient was born. After this there were two pregnancies. One resulted in the birth of a child now living, three years old, who, though apparently healthy, showed enlarged epitrochlear, inguinal, and post-cervical glands, and had suffered in infancy from snuffles. The last child cut two teeth at the age of four months, had suppurating glands in the neck, was always delicate, and died at the age of nine months. The mother had been told, after an autopsy, that all the internal glands were found diseased. The patient cut his first teeth at the age of nine months, and walked at that of eighteen months. When three months old he had suppurating cervical glands, the cicatrices of which were now present. He had always had snuffles, but there was no history of infantile eruptions. A year ago he had sore eyes, and about the same time swellings in both ankles and both wrists, lasting about five months. The

enlargement of the right testicle was first noticed at that time. The left forearm was broken about a year ago, and had never been normal in size since. The swelling about the left elbow was of six months' standing, and that of the left tibia dated back about six weeks. For a long time he had suffered much at night, often screaming out as many as fifteen or twenty times in the course of a single night. He had gone the rounds of the different dispensaries and clinics of the city, but had not seemed to have any continuous treatment anywhere. On March 5th his condition was as follows: Teeth much decayed, posterior cervical glands enlarged, epitrochlear glands of the size of beans, two felt on the left side. There was a swelling of the external condyle of the right humerus, also of the upper fourth of the ulna on the same side. The right elbow measured half an inch more in circumference than the left. There was a cylindrical swelling of the right tibia throughout its middle two fourths. The bones of the left forearm were uniformly enlarged from wrist to elbow, and that forearm measured seven inches in circumference, the other one measuring five inches only. The evidence of an old fracture existed about the middle of the bones, and over this point there was a soft, semi-fluctuating swelling of about the size of half a hen's egg. Tenderness existed over all these bony swellings, and they all seemed to be of the nature of periostitis, with some superficial osteitis. The axillary and inguinal glands were enlarged. The right testicle was as large as a horse-chestnut; it was smooth and very hard, was not tender, and had never been painful. The spleen was enlarged so that it could easily be felt below the ribs. The liver was normal. There was a chronic rhinitis with moderate discharge. The general condition was poor without being very cachectic. The boy was given iodide of potassium in doses which had been gradually increased until he had now been taking forty-five grains daily for a week. Marked improvement was noticed within ten days, and during the three weeks that he had been taking the drug the periosteal swellings had been reduced fully one half, the nocturnal pains were entirely gone, and he was improving rapidly in his general condition. The special points of interest in the case were, the mildness of the secondary symptoms, the severity of the tertiary ones and their distribution, and, most of all, the syphilitic testicle, which, in the author's experience, was exceedingly rare in children.

Dr. KATZENBACH had never seen an enlarged testicle as the result of hereditary syphilis, but he always considered enlargement of the epitrochlear glands as evidence of syphilis.

Dr. J. W. WRIGHT considered enlargement of the testicle as exceedingly rare in hereditary syphilis, and could not recall a single instance in his experience. Regarding enlargement of the epitrochlear glands, he thought that, when it was associated with other symptoms, it was strong evidence of syphilis.

Dr. JACKSON would not lay much stress upon enlargement of the epitrochlear glands alone.

Dr. BANGS also thought enlargement of the testicle in children exceedingly rare. Enlargement of the epitrochlear glands he regarded as a strong presumptive argument in favor of syphilis. He would not, however, make a diagnosis from it alone.

Dr. ABBE remarked that he had seen a counterpart of the case presented. It was in a boy with supposed sarcoma of the testicle. He had numerous bone lesions, which also were thought to be sarcomatous, and he was apparently cured with iodide of potassium in large doses. The resemblance to sarcoma was considerable, but the affection was double, and there were the bone lesions. He had felt the epitrochlear glands enlarged in non-syphilitic cases, and would, therefore, lay very little stress upon them.

Dr. BANGS thought that most patients who presented a chancre with suppurating inguinal glands, and subsequent enlargement of the epitrochlear glands, turned out to be syphilitic.

Dr. ABBE could not understand why the syphilitic poison, which was slow and continuous in its progress, should attack by preference the epitrochlear glands, which were so far removed from the site of infection.

Dr. HOLZ had invariably found enlargement of the epitrochlear glands in syphilitic children, but he had found it in other dyscrasias also, such as scrofula.

Neuralgia of the Ulnar Nerve, following a Fracture of the Olecranon; Operation.—Dr. WRIGHT related the history of the following case: H. J., aged seventeen, was struck in May, 1886, on the point of the left elbow by a brick thrown with considerable force. The joint was greatly swollen and painful, and was treated with liniments. Two weeks later he fell on the sidewalk and struck heavily on the same point. He was on this occasion also treated with liniments and evaporating lotions. During the first week in January, 1887, he came under the speaker's notice. At that time the elbow joint was nearly useless, except with regard to pronation and supination. The muscles of the forearm were atrophied and the hand was œdematous. There was constant pain along the ulnar side of the forearm, and there were pain and tingling in the third and fourth fingers of the hand. The olecranon process was separated from the shaft of the ulna for a distance of an inch, the interval being filled with fibrous tissue. On January 10th, under bichloride irrigation, the fracture was exposed by a long, straight incision, the fibrous bond of union between the fragments was removed, thereby opening the cavity of the joint, and the adjacent bony surfaces were freshened with a bone forceps. It was then found that a splinter of bone, an inch long by an eighth of an inch wide, had been detached from the head of the ulna and was pressing upon the ulnar nerve. This was carefully dissected out and removed. The bones were then drilled and wired together with two strands of No. 26 silver wire. The wound was closed and drained and dressed antiseptically. The highest temperature (101°) occurred on the day following the operation. On January 17th the wound was dressed. Union had occurred by first intention. There was no pus in the tube, which was now removed, and the wound was redressed. In a few days the joint was put up in a plaster splint, which was worn three weeks, when passive motion was begun. There had been no pain nor tingling in either the forearm or the fingers since the operation. The forearm could now be flexed to a right angle, and was rapidly improving in this respect. Pronation and supination were perfect, and there was close bony union of the olecranon with the shaft of the ulna.

(To be concluded.)

AMERICAN LARYNGOLOGICAL ASSOCIATION.

(Continued from page 247.)

What Cases of Nasal Catarrh require Surgical Treatment?—Dr. C. C. RICE having read a paper on this subject (see page 510), the following discussion took place:

Dr. BOSWORTH: I have heard two papers by Dr. Rice lately—one read before a society in New York, and this one. In reference to the first I have nothing to say; I agree with him thoroughly. With regard to the paper of to-day I wish to make some remarks. I consider the term "erectile tissue of the nose" as an unfortunate one. There is no evidence whatever to warrant the view that there is anything in the mucous membrane covering the turbinated bones at all analogous to erectile tissue in other parts of the body. The

author said that the physiological action of the erectile tissue of the nose was to swell up and exclude air from the nose. It does not have this function at all. It is merely a mass of blood-vessels, and physiologically does not swell up at all. It would be very strange, indeed, if it should be the function of the mucous membrane to prevent the entrance of air, and thus to compel it to enter through the mouth. Again, he said that, in regard to abnormalities in the nasal chambers, all patients presented abnormalities. In other words, there is no such thing as a normal standard. This is the view also of Morell Mackenzie, who declares that there are so many variations that there is no normal type. I do not admit this; I regard it as a mistake to say that there is no such thing as a healthy nose. In my dispensary and private work I see cases frequently with which I can find no fault whatever. The author also said that we need not remove hypertrophied tissue if the patient could breathe freely through the nose; for this he takes the patient's statement. I must say that here he is in error, as the patient's statement can not be relied upon. An obstruction may exist and not be recognized by the patient. He may say that he can breathe freely; but, after hypertrophy has been removed, he realizes that he never has breathed freely before the operation, and will tell you so. Patients can not decide whether they have catarrh or not. If they have been in a morbid condition for fifteen or twenty years, they are not able to say positively what it is to be well.

Dr. F. I. KNIGHT: I have thought of the protective function of the turbinated bodies, to which my attention was drawn by the following case: A gentleman, a dentist by profession, found that his work was much interfered with by difficulty of breathing through his nose. I removed very large hypertrophies from the posterior ends of the turbinated bones, and the patient expressed the greatest gratification at the result; he could continue his work without continually stopping to walk around the room to get his breath. He subsequently sent several patients to me for the same operation. At the end of a year I met him, and he said that he believed that he was getting too much air; he had irritation in his naso-pharynx, and laryngeal catarrh. He said that he feared that I had given him too much ventilation. This was an instructive case, and I think that the patient may have been right. There is another interesting point, to which Dr. Delavan called attention some years ago: Where there is a deviation of the septum, making a large space upon one side, the turbinated body of that side comes out to partially fill up this space. There is probably some good reason for this, as explained by Dr. Delavan. For my own part, I rarely look into a nose without finding something abnormal.

Dr. SHURLY: Some three or four years ago I read a paper before this association, calling attention to the fact that there might be too much space for the passage of air through the nasal chambers, especially as a result of too decided surgical interference, thereby giving cause for a more or less permanent atrophic nasal catarrh.

Dr. MACKENZIE: The turbinated nasal corpora cavernosa are something more than mere plexuses of veins, for both inspection and histological examination show them to be formed of a tissue which in all essential respects may be regarded as the anatomical analogue of the cavernous structure of an erectile organ. Without entering upon the discussion of their uses, which are undoubtedly manifold, they unquestionably possess the faculty of sudden engorgement or erection, and I believe that this sudden reflex turgescence serves, among other things, the purpose of guarding the air-passages against the entrance of foreign particles of matter, noxious exhalations, etc. In this connection I would refer to some experiments made long ago in France. Horses were driven through clouds of dust and killed

immediately afterward, when it was found that not a particle of dust had passed beyond the nasal fossæ. Now, it seems to me that this is best explained by the erection of the turbinated tissues. The nasal erectile, or, if you prefer it, contractile, bodies also occasionally become erect and engorged at a physiological epoch, such as the menstrual. If you ask, with Dr. Bosworth, What is the use of such engorgement? I answer, I do not know. Possibly the dilated cells may serve as collateral channels for the surcharged cerebral circulation, thereby bringing about relief of the headache and other congestive disorders incident to the menstrual period. The thyroid gland, as we all know, enlarges in some women at that epoch; why, is not sufficiently apparent; but because we have no adequate explanation to offer, it obviously does not warrant us in denying the existence of a physiological fact.

Dr. BOSWORTH: If I might be allowed to explain, I should like to say that I did not assert that these bodies never swelled, but I stated that they never swelled as a physiological function. Dr. Mackenzie is referring to a pathological fact. I can not understand how man should have been created with such a clumsy contrivance as this device for shutting off the air from the nasal chambers and making it go through a much more vulnerable passage.

Dr. ALLEN: The existence of erectile tissue in the nose may be explained by the very short passage for the air. There is no question that the nasal chambers in man are exceedingly degenerate. In the first place, they are disproportionately small. The proper development of them is only to be found in long-faced animals, such as the horse. In man the brain cavity has gradually encroached upon the bones of the face, so that the nasal passages are very much shortened. It is a rule that structures in process of degeneration are always excessively variable, and paleontologists are agreed that as an organ approaches extinction it shows the greatest variety of forms; so that the great number of abnormalities in the nose of civilized races of men, and its liability to disease, are the natural result of its degenerate condition. There is one point to be especially observed. It is that animals with short noses have these erectile bodies in their nasal chambers. In a section of a cat's skull this is well shown; it is also seen in rabbits. It is also supposed to have some protective function. Now, in saying this, I do not say that we can allege the same function for the erectile tissue here as for that which exists elsewhere in the body; but we can state that its function is protective and obstructive; and, as a result of its presence, these bodies will swell up at times and become prominent.

(To be concluded.)

Book Notices.

BOOKS AND PAMPHLETS RECEIVED.

Anatomy: Descriptive and Topographical, in 625 Illustrations. By Carl Heitzmann, M.D. English Edition by Louis Heitzmann, M.D. Bones, Articulations, Ligaments.—Musesels, Fasciæ, Topography.—Organs of Sense.—Viscera, Topography.—Nervous System.—Vascular System, Topography. New York: J. H. Vail & Co., 1887. Pp. xxii-3 to 144, 147 to 238, 3 to 270, 36.

Natural law in the Business World. By Henry Wood. Boston: Lee & Shepard. New York: Charles T. Dillingham, 1887. Pp. 13 to 222.

A Clinic on Heart Disease. By Stephen Smith Burt, M.D., Professor of Physical Diagnosis, New York Post-graduate Medical School and Hospital. [Reprinted from the "Medical and Surgical Reporter."]

Seventy-third Annual Report of the Trustees of the Massachusetts General Hospital and McLean Asylum, 1886.

The Negligence and Result of Vaccination. By B. Merrill Ricketts, M. D., Ironton, O.

Transplantation of a Rabbit's Eye into the Human Orbit. By Charles H. May, M. D., Instructor in Ophthalmology, New York Poly-clinic. [Reprinted from the "Archives of Ophthalmology."]

Practical Examples in Prescription-Writing. By Charles H. May, M. D. Issued for the Use of his Quiz Classes.

Epithelioma: its *Ætiology*, Diagnosis, and Treatment. A Paper read before the Ohio State Medical Association, held at Akron, Ohio. By B. M. Ricketts, M. D., Former House Surgeon, N. Y. Skin and Cancer Hospital.

The Relation of Red Corpuscles to the Brain. By B. Merrill Ricketts, M. D.

Annual Address delivered before the American Academy of Medicine at Pittsburgh, Pa., October 12, 1886. By R. S. Sutton, A. M., M. D., President of the Academy.

Report of the New York Hospital Saturday and Sunday Collection of 1886. Eighth Annual Report.

Athothis. A Satire on Modern Medicine. By Thomas C. Minor. Cincinnati: Robert Clarke & Co., 1887. Pp. viii-5 to 194.

L'enseignement actuel de l'hygiène dans les facultés de médecine en Europe. Par le Dr. W. Loewenthal, Professeur agrégé à l'Académie de Lausanne. Paris: H. La Soudier, 1887. Pp. 126.

Remarks on Cataract Extraction. By Swan M. Burnett, M. D., Professor of Ophthalmology and Otology in the University of Georgetown, etc. [Reprinted from the "Journal of the American Medical Association."]

Twenty-sixth Annual Report of the Cincinnati Hospital to the Mayor of Cincinnati for the Fiscal Year ending December 31, 1886.

A Case of Intra-ligamentous Ovarian Cyst; General Peritonitis; Universal Adhesions; Ovariectomy; Recovery. By L. S. McMurry, A. M., M. D., of Danville, Ky. A Paper read before the Central Kentucky Medical Association. [Reprinted from the "Journal of the American Medical Association."]

Baked Beans: a Serio-humorous Medical Paper. By Ephraim Cutter, A. M., M. D., etc. [Reprinted from the "Albany Medical Annals."]

Tracts on Massage. No. III. The Uses of Massage in Medical Practice. Translated from the German of Reibmayn, with Notes, by Benjamin Lee, A. M., M. D., Ph. D., Secretary of the State Board of Health of Pennsylvania, etc.

Persistent Pain after Abdominal Section. By James B. Hunter, M. D., Surgeon to the Woman's Hospital, New York, etc. [Reprinted from vol. xi, "Gynecological Transactions."]

Operations for Phimosis as a Means of Cure or Relief of some Nervous and Other Symptoms. By G. L. Magruder, M. D., of Washington, D. C. Read before the Washington Obstetrical and Gynecological Society, June 15, 1883. [Reprinted from the "Journal of the American Medical Association."]

New Inventions, etc.

A SIMPLE AND EFFICIENT INSUFFLATOR.*

By D. H. GOODWILLIE, M. D.

Is a paper read before the Medical Society of the State of New York in February, 1882, on the "Application by Insufflation of Medicated Powders to the Upper Air Passages for the Relief of Catarrhal Conditions," and published in the "Transactions" of the society, and also in the "Archives of Medicine" for April, 1882. I gave some formulas for the powders and indications for their use. Since that time

* Exhibited at the New York Academy of Medicine, Section in Laryngology and Rhinology.

they have been favorably made use of, and there appears to be a growing demand for them. In order that they may be more generally used by the practitioners who see the need of ready means of treatment at the beginning of these troubles, I have devised a simple and efficient insufflator, as seen in the accompanying cut. It consists of a soft rubber bulb flattened at one end, upon which it stands when not in use. The other end contains the stem, the upper end of which is made as so to fit the vestibule of the nostril. The lower end of this passes to the center of the bulb. A ball-valve is contained within this, and answers two purposes, viz.: (1) To prevent the powder coming out in a mass. When the bulb is pressed upon, the ball-valve is raised to the top of the recess, and rests against many projecting points. The powder, striking the ball-valve, passes round it, and has its exit through the many openings at the top of the recess. (2) When the bulb is at rest and stands on its flat end, the valve closes the opening to the powder, and prevents the entrance of air or moisture.

To use the insufflator, place the nasal end well into the nostril, press the bulb between the thumb and fingers, and at the same time inhale through the nose. A forced inspiration will make an application to the nose, pharynx, and larynx. Insufflation to the pharynx and larynx can be made through the mouth if desired.

The insufflator holds, when in good working order, half an ounce of powder, which will last a long time. To refill the insufflator, unscrew the stem at the top of the bulb, take out the ball-valve, compress the bulb well; then place the open end in the powder, let the bulb regain its shape, and the powder will be drawn into the bulb; repeat until the half ounce of powder is drawn in. The following are a few of the powders in general use:

No. I. Benzoin and cocaine.

The old formula has been improved by the addition of one per cent. of cocaine.

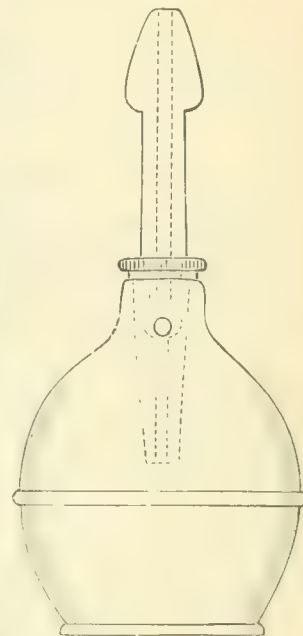
No. II. Iodoform and camphor.

No. III. Alum and acacia.

No. IV. Belladonna and aconite.

These therapeutical agents are triturated to a dust with subnitrate of bismuth and nitrate of potassium. Very much depends on their preparation.

These powders and others have been prepared and sold with the insufflators by Fraser & Co., 208 Fifth Avenue, New York, who have a well-earned reputation for medical triturations.



Miscellany.

The New York Academy of Medicine.—At the next meeting of the Section in Surgery, Monday evening, the 9th inst., Dr. J. A. Andrews will read a paper "On the Exostoses of the Orbit and the Neighboring Cavities," and Dr. F. Abbott will read a paper "On Amputation of the Teeth."

At the meeting of the Section in Neurology, Friday evening, the 12th inst., Dr. Allan McLane Hamilton will describe "A Case of Hysteria Neurotica," and Dr. Frank Ferguson will describe "An Obscure Case of Syphilis with a Peculiar Lesion of the Brain."

At the meeting of the Section in Ophthalmology and Otology, Monday evening, the 16th inst., Dr. D. H. Goodwillie will describe "Two Cases of Abscess with Necrosis of the Frontal Sinus, treated by Means of the Electric Revolving Knife," and Dr. F. E. D'Oench will read a "Report on 500 Successive Cases of Enucleation of the Eye, compiled from the Case-books of the New York Ophthalmic and Aural Institute."

At the meeting of the Section in Theory and Practice of Medicine, Tuesday evening, the 17th inst., Dr. T. H. Burchard will read a paper on "The Therapeutic Effects of the Saratoga Waters," and Dr. G. B. Fowler will read on "The Significance and Detection of Sugar in the Urine."

The Treatment of Consumption with Gaseous Enemata.—The editor of the "Polyclinic" (Dr. Henry Leffmann, P. O. box 791, Philadelphia) requests those who have made use of the method to communicate the result to him, giving the formula used and adding any special information that may be useful—for publication in the "Polyclinic."

The Stomach-Pump Treatment of Gastric Catarrh.—Dr. J. J. McKone, of the Garfield Hospital, Washington, sends us a brief account of a case illustrating the value of this method of treatment. The patient, a woman, thirty years old, had had her trouble for a long time, and had been treated with various remedies without relief being afforded. A siphon was then used, and afterward the stomach-pump, half a gallon of warm water being employed daily, with almost immediate relief.

Government Health Reports.—By direction of the Secretary of the Treasury, Dr. John B. Hamilton, Surgeon-General of the Marine-Hospital Service, has issued the following abstract of sanitary reports received during the week ending April 28th:

England and Wales.—The deaths registered in twenty-eight great towns of England and Wales during the week ending April 9th corresponded to an annual rate of 20.5 in a thousand of the aggregate population, which is estimated at 9,245,099. The lowest rate was recorded in Portsmouth, viz., 17, and the highest in Manchester, viz., 32.6 in a thousand. Two deaths from small-pox were registered in Cardiff, and 1 in Blackburn.

London.—One thousand four hundred and thirty-seven deaths were registered during the week ending April 9th, including 62 from measles, 6 from scarlet fever, 15 from diphtheria, 35 from whooping-cough, 4 from enteric fever, 2 from cholera and choleraic diarrhoea, and 9 from diarrhoea and dysentery. There were 363 deaths from diseases of the respiratory organs. Different forms of violence caused 52 deaths. The deaths from all causes corresponded to an annual rate of 17.8 in a thousand. In greater London, 1,861 deaths were registered, corresponding to an annual rate of 17.9 in a thousand of the population. In the outer ring, 32 deaths from measles and 4 from diphtheria were registered.

Ireland.—The average annual death rate represented by the deaths registered during the week ending April 9th, in the sixteen principal town districts of Ireland, was 26.8 in a thousand of the population. The lowest rate was recorded in Sligo, viz., 9.6, and the highest in Kilkenny, viz., 76.1 in a thousand.

Dublin.—Two hundred and three deaths were registered during the week ending April 9th, including 5 from measles, 2 from scarlet fever, 1 from typhus fever, 1 from whooping-cough, 1 from enteric fever, and 1 from cerebro-spinal fever. Diseases of the respiratory organs caused 49 deaths. In twenty-five instances the causes of death were uncertified. The deaths from all causes corresponded to an annual rate of 30 in a thousand.

Scotland.—The death rate in eight principal towns during the week ending April 9th was 22.9 in a thousand of the aggregate population, which is estimated at 1,299,000. The lowest mortality was recorded in Perth, viz., 14.6, and the highest in Aberdeen, viz., 32.4 in a thousand. The aggregate number of deaths registered from all causes was 524, including 1 from small-pox, 6 from measles, 2 from scarlet fever, 3 from diphtheria, 11 from whooping-cough, and 12 from diarrhoea.

Netherlands.—The deaths registered in twelve cities of the Netherlands, having an aggregate estimated population of 1,101,000, during

the month of February, 1887, corresponded to an annual rate of 24.9 in a thousand. The lowest was recorded in Hertogenbosch, viz., 20, and the highest in Dordrecht, viz., 33.9.

Montevideo.—Four hundred and forty-nine deaths were registered during the month of January, 1887, including 82 from cholera, 3 from measles, 1 from small-pox, 2 from scarlet fever, and 13 from enteric fever.

Gibraltar.—Seventy-two cases of measles and 7 deaths from that disease were registered during the week ending April 3d.

Greece.—The Greek Government has issued an order subjecting all vessels from Sicily to a quarantine of eleven days.

MORTALITY TABLE, FOREIGN CITIES.

CITIES.	Week ending—	Estimated population.	Total deaths from all causes.	DEATHS FROM—							
				Cholera.	Yellow fever.	Small-pox.	Typhus fever.	Enteric fever.	Scarlet fever.	Diphtheria.	
Calcutta	March 12.	433,219	209	36							
Guayaquil	March 21.	35,000	66	18		5		16			
Guayaquil	March 31.	35,000	70	19		4		24			
Warsaw	April 2.	431,572	199			12					
Rome	February 26.	364,511	197			4		1			
Trieste	March 26.	148,157	78			2			1	3	
Paris	April 9.	2,360,045	1,237			15		44	6	38	
Reims	April 9.	98,083	55						1	1	
Munich	April 2.	269,000	129					1	2	3	
Havre	April 9.	112,074	46					1			
Palermo	April 9.	250,000	114					2	9	8	
Leghorn	April 10.	101,172	56						1		
Stuttgart	April 9.	125,510	37					1			
Bremen	April 2.	119,000	54					1		1	
Leipzig	April 9.	170,000	88						1	9	
Barmen	April 2.	108,000	62							2	
Mayence	March 26.	65,701	34					1			
Glasgow	April 9.	545,678	253						3	4	
Bristol	April 9.	223,695	97						7		
Edinburgh	March 26.	258,629	122						12		
Leith	March 26.	72,297	15						1		
Toronto	April 16.	120,000	24							1	
Maracaibo	April 2.	40,000	22					1			

UNITED STATES.

Yuma, Ariz.—The United States sanitary inspector at Yuma, in his report for the week ending April 16, 1887, states that the Yumas and other tribes of Indians in that vicinity have been thoroughly vaccinated, and are well protected against small-pox. For the past two months they have been suffering from a severe epidemic of measles; 180 cases and 60 deaths have been reported up to April 16th. They have no physician, and their vicious habits of destroying their property for the benefit of their dead left them early in a destitute condition, without food, clothing, or houses; and the great percentage of mortality may be accounted for by complications arising from exposure and want of proper food.

The Health of the State of New York.—According to the State Board of Health's "Monthly Bulletin," for March, the whole number of deaths reported during the month was 7,830, 32.5 per cent. of which were those of children under five years of age. In each thousand deaths there were 211.11 from zymotic diseases, including 79.83 from diarrhoeal diseases, 9.20 from typhoid fever, and 63.50 from croup and diphtheria. The mortality from pulmonary consumption (84.80 in each thousand deaths) was the lowest ever recorded in the "Bulletin," but that from all zymotic diseases, except measles, was increased over that for the preceding month. There were 12 deaths from small-pox in the Maritime District.

The Health of Boston.—During the week ending Saturday, April 30th, the following numbers of cases and deaths from infectious diseases were reported to the Board of Health: Diphtheria, 31 cases and 4 deaths; scarlet fever, 23 cases and 2 deaths; typhoid fever, 14 cases and 9 deaths; measles, 73 cases and 2 deaths. There were also 26 deaths from consumption, 24 from pneumonia, 1 from whooping-cough, 12 from heart disease, 8 from bronchitis, and 9 from marasmus. The total number of deaths was 191, against 156 in the corresponding week last year.

Longevity in Vermont.—Of the twenty-five deaths reported by the health officer of Burlington during the month of February, three are ascribed to old age.

Original Communications.

ON THE DIAGNOSIS OF HYPERTROPHIED PROSTATE, AND THE TREATMENT OF ITS EFFECTS.*

By L. BOLTON BANGS, M. D.,

SURGEON TO ST. LUKE'S AND CHARITY HOSPITALS.

NOTWITHSTANDING all that has been taught and written upon this subject, cases are constantly coming to notice in which the diagnosis has not been made or in which the treatment has been either inefficient or bad. It has seemed to me that we might study some of these cases together and possibly derive some profit from the errors as well as from the experiences of others. I therefore beg that you will regard this paper as suggesting to you a topic for discussion rather than an argument—I in my turn hoping to evoke from you that which will enlighten and broaden the scope of my own practice.

The diagnosis of the condition known as hypertrophy of the prostate gland is not always so simple nor so easy as it may appear to be, and perhaps some of the difficulties may be found in the patients themselves. The mental condition of many of the subjects of this affection is such that they are often suspicious of the doctor's inquiries, and readily withhold the essential facts or refuse to allow the necessary examinations. Many of them are men who, having "sowed their wild oats" and attained positions of eminence and responsibility in the community, resent any and all inquiries which will remind them of the "sowing"; and others, equally successful and proud of their station in life, but who have never been immoral, are equally resentful because they fancy that the questioner implies that their malady is the result of a bygone vicious or dissolute life. Even if the preliminary questions have been answered and the diagnosis made, these imperious, successful men, these men of affairs, who have been so long in the habit of directing others, yield a reluctant obedience to a medical adviser and are refractory to his measures—till experience has taught them their value. It often requires great tact and personal adaptation to secure the confidence of these gentlemen, especially if the unfortunate family practitioner, as is often the case (fortunately for the surgeon), has not already borne the brunt of the attack. But the unsuccessful "poor devil," whose lot in life has been less fortunate and whose sole accumulations are represented by the aggregate of his prostate, is much more likely to be tractable and confiding. A few years ago I was hurriedly summoned to a gentleman from out of town, a wealthy western manufacturer, who was said to have a "tumor of the abdomen" and who was in great distress. I found a man of about sixty years of age who was in an extremely prostrated condition and who certainly had an abdominal tumor of some kind. It filled the hypogastrium to and above the umbilicus, was semi-elastic, doubtfully fluctuant, and was slightly tender on palpation. I asked the usual questions as to the development and dura-

tion of this tumor, and then began to inquire about the urinary organs, as to difficulty and frequency of urination, etc. These questions were immediately resented, and resented so vigorously that I was discharged and another doctor called. Fortunately for the patient, the doctor was my personal acquaintance, and, although chagrined at my failure, I confided to him my view of the nature of the tumor and suggested a more insidious way of approach, which resulted in the diagnosis of hypertrophied prostate with over-distended bladder. I am sure there was nothing in the mode of the inquiry, but that it was the fact that the questions were directed to the urinary organs, which excited such an antagonism. The history of another patient to whom I was summoned in the interior of this State presents some features which also illustrate the difficulties under which the practitioner often labors, and I give it in full:

This patient was aged fifty-eight. For an indefinite period, say several years, he had noticed that he was obliged to wait several seconds before he could start his urine, and that the stream was slow and hesitating. For about four years he had been obliged to urinate on the average every two hours, and this was especially noticeable at night. He never had had any pain, and never had passed any blood from the urethra. Although the frequency of urination increased and he had a constant sense of fullness of the bladder, he did not seek any medical advice till about three weeks before I saw him. Then he had suddenly found himself unable to make any urine at all. He endured this for forty-eight hours, taking domestic remedies meanwhile, and finally sent for his doctor, who easily passed a catheter and drew off twelve ounces of healthy, odorless urine, but not entirely emptying the bladder. This gave him great relief, and he immediately resumed his ordinary mode of life in spite of the doctor's precautionary advice. He would not listen to any advice and heeded no remonstrance. For example, he would rise at night in the month of December, wrap a blanket around him, and go down into the cellar to draw a pitcher of cider. He was utterly uncontrollable, but did permit the doctor to pass the catheter once a day, in the mean while dribbling and straining in his efforts to empty his bladder. He soon began to experience pain whenever the bladder filled up, and this pain was always relieved by the use of the catheter. At the end of a week he had another retention. In the absence of the doctor he undertook to pass the catheter and failed to remove any urine, but caused some blood to flow. The doctor on his arrival also failed to relieve the bladder; a local consultant likewise, and it was not till the next day that a soft catheter was entered with the aid of a stylet. After that there was no trouble in passing the catheter twice a day, and the patient was able to make some urine naturally, but the latter always contained blood, and he suffered intense pain just after each act of urination. This pain was relieved by morphine suppositories. The introduction of the catheter did not increase the quantity of blood, and, instead of aggravating his symptoms, it was always a relief to him. A few days later I was sent for. I found that the patient was one of the leading men in his community—the political director and legal adviser of the district. A robust man of good sense, and, although rendered somewhat more docile by his sufferings, he was still unyielding to his doctor, arguing over and combating everything that was undertaken for him. He was suffering constant suprapubic pain, which was aggravated by the distension of his bladder and relieved by the voluntary evacuation every hour and a half of about an ounce of urine. *Per rectum* the

* Read before the New York Clinical Society, March 25, 1887.

prostate gland was found to be enlarged to the size of a lemon, firm, but unusually tender for a chronic condition. Bimanual palpation was not possible owing to suprapubic tenderness, nor did it seem advisable to introduce a sound. The diagnosis of chronic hypertrophy of the prostate, with subsequent over-distension and atony of the bladder, was based upon the long antecedent history of hesitating and finally frequent and imperfect urination. The sudden retention might have been due to atony, but, as there was no history of dribbling, it was no doubt caused by an acute congestion of the prostate excited by a long drive two days before, at the end of which he had come home thoroughly chilled. But it was evident also that he was suffering from symptoms of an inflammatory character, which began at the time of the second retention. It is probable that he would have escaped these more serious changes if he had remained in bed and otherwise obeyed his doctor's injunctions, but, as I have said, he thought that he knew more than the doctor and paid no attention to his advice. The second retention was more difficult to overcome and was accompanied by greater constitutional disturbance, and the subsequent acts of urination were immediately followed by intense pain and free blood. As the bladder, in emptying, closed down upon the inflamed prostate, pain was felt and blood was squeezed from the congested vessels. The tenderness *per rectum* was also indicative of inflammation, for usually the simply hypertrophied organ is remarkably insensitive.

The diagnosis had already been made in great measure by the medical attendant, and the treatment, employed in so far as the patient had yielded, had been eminently judicious and skillful. It was plain, though, that the patient's condition had been aggravated by his willful disregard of the directions of his doctor; and it was equally plain that my province was to awaken his confidence in and solicit his obedience to the latter, who was somewhat discouraged. A brief but vigorous statement on my part soon satisfied the patient that his doctor was right, and that, although he knew nothing about law, he did know about diseased prostates and their management, and that strict obedience to him was necessary for a speedy recovery. I afterward heard that this had the desired effect, and that in a few days the patient was able to be up and about, and has since done well. The treatment advised was for the acute condition and was very simple: Absolute rest in bed till the pain and bleeding ceased. The catheter to be used as seldom as possible and only to prevent over-distension. Morphine in quantity to relieve the irritability and tenesmus of the bladder, and to cease giving it as soon as possible. Absolute milk diet. And to discontinue the diuretics (buchu and uva ursi) which had been given, for they only served to increase the quantity of urine, and thus gave the bladder more to do. After the acute attack had subsided the patient was to be taught to pass the catheter himself and to wash out his bladder daily.

It may be remarked here that, in my opinion, in all acute conditions of the genito-urinary organs it is better to avoid all medicines and drinks which increase the quantity of the urine, for it has seemed to me that it is the increased functional activity of the parts which often aggravates the patient's sufferings. It is true that there are times when a too highly concentrated or super-acid urine will act as an irritant, but in my observation patients suffer more from frequently passing a large quantity of watery (yes, alkaline) urine, the result of diuretics, than they do from the smaller quantity of normal urine. During acute stages it is wise to secure as much physiological rest as possible, and therefore I endeavor to reduce the activity of the kidneys and blad-

der by stimulating that of the skin and bowels. Upon these points I should be glad to receive your opinions.

A patient whom I examined in 1883 illustrates an error in diagnosis which might easily be made unless all the steps of an examination are carefully and patiently taken.

He was aged fifty-seven. Five years before, undue frequency of urination without any pain or vesical distress had begun and continued to increase, till within the past year he found himself urinating oftener than usual during the day and from fifteen to twenty times at night. Finally, in January, 1883, he had constant involuntary escape of urine night and day—the so-called "incontinence of urine." He was then under the care of a specialist in dermatology who had made a diagnosis of stricture of the deep urethra, and was treating him by the introduction of bougies every second or third day. When the overflow of urine began he became alarmed and sought the advice of another medical gentleman, this time a specialist in diseases of the heart and lungs, who passed a catheter and made the diagnosis of enlarged prostate and advised the patient to use the catheter every day. He was very much relieved by this, but toward the end of the year he came to me for an opinion. The frequency of urination, more marked at night, would lead one to suppose that he had some trouble with his bladder rather than with his kidneys, because in disease of the latter it is the quantity of urine which is increased, and this is intensified by the activities of the day. Moreover, he had none of the appearances of a subject with Bright's disease, and subsequent examination of the urine excluded this. Then the history of the painless involuntary escape of urine by night as well as by day was suggestive of an "overflow" from a bladder which already was filled to its utmost capacity. And what was the cause of this filling of the bladder? Of course some obstruction to the escape of the urine, and the most likely in a man of his years, with such an insidious history, would be hypertrophied prostate rather than stricture of the urethra. Still he might have either or both, and if a narrow meatus or stricture in the penile urethra could be demonstrated, sufficient cause for the imperfect and excessive action of the bladder would be present. Further examination was therefore necessary. With the urethrometer his urethra from the bulbo-membranous junction to the meatus was found clear to 36 French. The solid sound entered the deep urethra and was not deflected, but its handle had to be depressed very deeply before its point could be made to surmount some obstacle. Stricture of the urethra was thus excluded. The digital examination by the rectum followed and showed an insensitive enlargement of the prostate to double its normal size. No further attempt at examination of the prostate through the urethra was made, for the diagnosis of hypertrophied prostate, with a certain amount of atony of the bladder from over-distension, was warranted by the facts already obtained. In this case the treatment which had been instituted was not efficient. He had been somewhat relieved, but simply passing the catheter and drawing off the urine, which contained pus and mucus, was not enough to diminish the irritability of the bladder to its lowest point. He was therefore directed to wash out his bladder every day, and, if necessary, to be prepared to do it all the rest of his life. I did not see this patient again for nearly four years, but his subsequent history is interesting, as it illustrates the necessity of attention to this matter of daily washing, and also that of cleanliness of the catheters. He came to me again in June, 1886. He had got on very well; his intervals of urination had lengthened to five and six hours during the day and to three hours during the night. He had become careless about washing out his bladder, and he had also been indifferent to cleansing his catheters, rarely washing them. For

some time past he had noticed more deposit in his urine, and for several days he had been troubled with tenderness along the urethra and a free discharge from it. It was this which caused him to seek my advice. There was decided swelling and tenderness of the urethra and an abundant purulent discharge. There was no tenderness of and no change in the prostate. But he was having some increased irritability of the bladder, and the urine was ammoniacal when passed and contained pus and mucus and some blood. From the filthy condition in which I found his catheters I concluded that they were the cause of his new symptoms, and again directed the washing of the bladder and insisted upon the most scrupulous care of the catheters. In two days he was much better.

In order to keep the catheters pure and safe from germs, absolute cleanliness must be enjoined. It is not sufficient to give these patients a solution of carbolic acid, or of some other antiseptic, and trust to their keeping the instruments in it all the time. My observation has led me to direct them to wash their catheters with hot water and soap immediately, or as soon as possible, after each using, till the urinary odor is entirely removed, or, for the want of a better guide, until they are willing to put the instrument in their mouth. After that they may keep it in an antiseptic solution if they choose.

Too much stress can not be laid upon the importance of washing out the bladder, but it is an art, and the frequency with which it is done and the solutions used must be adapted to each case. When properly done and persisted in, the comfort attained by the patient is, in some cases, remarkable. One patient with hypertrophied prostate, an old gentleman of nearly eighty, who can not urinate without the catheter, has intervals of six or eight hours between the acts of urination achieved by the most careful and persistent washing with simple warm water with a little salt in it. He has been under my care for over six years. At times, from some indiscretion in diet, or from some over-fatigue, or from neglect of washing the bladder, he has had a return of frequent urination, occasionally as often as every two or three hours night and day. On these occasions I have had him washed out frequently during the day and sometimes as often as he urinated, especially if there was any increase over the usual amount of mucus in his urine. In a few hours the intervals would begin to lengthen, and in a day or two be normal again. If his urine is super-acid I give him benzoate of lithium in the Buffalo lithia water, and the effect upon his urine is a very speedy one, without any disturbance of his digestion.

In some of the text-books, especially in Sir Henry Thompson upon "Diseases of the Prostate," you will find directions for using in the bladder solutions of sulphate of zinc, acetate of lead, carbolic acid, and the like, but on the few occasions upon which I have used such substances I have had cause to regret it. The irritability of the bladder has been increased, and thick pasty coagula have been passed with much straining and distress. There may be English bladders that will tolerate such treatment, but I have never yet met with an American one that would. Fortunately, we have more effective measures and without the element of risk of injury. Weak solutions of biborate of sodium and dilutions of the boro-salicylic solution have been very use-

ful to me both in private and hospital practice, but the mode of using has always seemed to me to be of as much importance as the solution itself. That is to say, the frequency of the washing must be carefully adapted to the condition of the patient; the solution must be warm, not hot or cold; not too much allowed to flow into the bladder at a time; and further dilution must be made on the slightest evidence of irritation of the bladder. There is one "little thing" connected with the washing of the bladder which I have come to regard as of considerable importance. You will pardon my calling your attention to apparent trifles, but it seems to me that the comfort of our patients is heightened by the careful consideration of details. The patient or his body-servant should be taught to carefully siphon out the last few drops of urine, or mucus, or pus—the dregs, so to speak—from the bottom of the bladder. It is done in this way: After the last of the urine or of the washing solution has escaped from the catheter, let the patient make a final effort of straining, and at the same instant close the finger tightly over the mouth of the catheter and keep it there while the latter is withdrawn. In the eye of the instrument or in its lower inch or so will be found a column of urine and of mucus, or mucus-pus, as the case may be, which would certainly have been left behind to trouble the bladder. It is possible that you have resorted to this manœuvre yourselves, but it grew out of my own experience and occurred to me while caring for a simple but troublesome case, and which was speedily relieved by my personal attention to this detail. Another matter which you may think trifling and to which I have already referred is the use of weak solutions of chloride of sodium for washing the bladder. Others have probably used it also, and I mention it only in order to contribute my experience with it. As it has served me well for several years, I have been much interested of late to read in one of the current French or German journals a recommendation of its use for the same purpose. My own idea, in the beginning, was to find a substance sufficiently antiseptic, readily available, and which was perfectly safe to place in the hands of these patients for long-continued daily use. Hence I chose common salt. Permit me, in conclusion, to cite briefly two cases which will illustrate its usefulness, and in which the symptoms were more or less contrasting.

The first patient was aged sixty-four. For several years he has had frequent urination, and five years ago he had an attack of retention of urine, which was relieved medicinally. Since then he has had increased frequency of urination, with straining, and he habitually gets up at night five to six times to urinate. He has been treated for diabetes, "kidney complaint," etc. A certain amount of his frequent urination was, no doubt, reflex, due to an exceedingly sensitive stricture one inch from the meatus; but he had general hypertrophy of his prostate, and four drachms of residual urine. He was gently taught to pass a soft catheter once a day to draw off the residual urine, and gradually instructed in the art of washing out his bladder with the solution of common salt (℥j quart). The frequency of urination was immediately reduced to three times the first night, and the straining disappeared entirely in the course of two months; but although the urine became clearer, its residual amount persisted. Acting upon the unwise counsel of his family doctor, he has refused to have any treatment for the

stricture, which I believe has a positive effect upon the action of the bladder.

It should be remarked here that residual urine does not necessarily mean prostatic enlargement. It means some interference with the complete emptying of the bladder, and this may be functional or organic, or both. For example, I recently performed exploratory cystotomy upon a patient who had suffered for years from irritable bladder and residual urine, and who had no prostatic enlargement of any kind, acute or chronic. At the time of the operation it was found that he had a bar at the neck, with a saccululation of the *bas-fond* of the bladder. I divided the one and prolonged drainage relieved the other.

The next and last case is in strong contrast with the preceding in regard to the severity of the symptoms. The patient was aged seventy. He had had frequent and difficult urination for several years. Retention of urine four years ago, relieved by catheter. He was then taught the use of the catheter, but was not taught to wash out his bladder. He used his catheter at haphazard, and grew gradually worse. Finally, attempts at washing out his bladder were made with various substances—carbolic acid, borax and glycerin, borax alone, etc., etc.—but they only aggravated his symptoms, and gave him such pain that he became afraid to try any washing at all. When he sent for me he was urinating every half-hour, and rarely, even when at his best, going as long as two hours. In order to urinate he would rise from his bed, walk about a few seconds, and then, with great forcing and straining, emit a small quantity of urine. The latter was ammoniacal when voided, and loaded with stringy muco-pus and strongly tinged with blood, which at times escaped in small clots. He was in constant pain, subject to recurring chills, and utterly wretched and weak from loss of sleep. *Per rectum* his prostate was found to be enormously hypertrophied. Subsequent examination of the urine showed that he had also chronic diffuse nephritis. When I proposed systematic use of the catheter and washing of the bladder, he dreaded it so that I had considerable difficulty in overcoming his objections. I told him I intended to use only a solution of common salt, and would desist if it gave him the least distress. The effect was so comforting that he then permitted me to wash him out twice a day, and on the fifth day thereafter my records show that he was having from two to three hours' solid, restful sleep, without any opium or other treatment. He then left for his home, which was in another State. He continued to improve, as I learned from his letters, but his visits to me were so fugitive, and he was of such an obtuse, helpless character, that I was unable to do all for him that I am sure could have been done. For instance, his condition would lead one to suspect the presence of stone, but I was able to secure but one examination with negative results. However, he persisted in the washing, and I have a record three months and one seven months later from which it appears that his intervals of urination averaged two to three hours, that his urine had lost its odor of decomposition, and that in weight and strength he had gained greatly. The case is cited only to exhibit to you the improvement gained by simple washing with simple means.

127 EAST THIRTY-FOURTH STREET.

SEVEN CASES OF BUCCAL TUBERCULOSIS;

WITH REMARKS UPON

TUBERCULAR ULCERATION OF THE TONGUE.*

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THE subject of tuberculosis, even when restricted to the limit fixed by the title of this paper, is one of such great depth and breadth that to consider it fully would far exceed the bounds of an ordinary thesis. No such attempt will be made, therefore, upon this occasion, but attention will be called briefly to the records of seven well-marked cases lately observed by the writer, some features of which are new and, it is hoped, instructive, and to certain statistical deductions made from a survey of the literature of the disease as relating to the mouth in general, and in particular to tubercular ulceration of the tongue. The best apology for this, were any required, would rest in the fact that, although more than one hundred theses and recorded cases have of late years been published, nothing, so far as we are able to learn, has been done in the collective investigation of the disease. The urgent importance, it need hardly be said, of an early diagnosis, and the terrible rate of mortality attending the affection, render any information as to its clinical history and pathological character, and any definite knowledge as to what may be accomplished in the way of treatment, most desirable.

The question as to the possibility of the existence of true tubercle in the pharynx it is not necessary for our purposes to discuss. Whether we believe with Virchow on the one hand, or with Rokitanski on the other, there can be no question that in the disease known and universally recognized as tuberculosis there is found an ulcerated condition of certain mucous membranes which has such peculiar and well-marked characteristics that we are justified in regarding it as possessing an identity of its own, and in dealing with it as a distinct affection.

Through the kindness of Dr. John S. Billings, of the Surgeon-General's Office, Washington, a very complete bibliography of the subject has been placed at the disposal of the writer. By the aid of this, together with the original cases here presented, there have been found 114 well-authenticated cases, which as to their location are distributed as follows:

Of the tongue.....	51 cases, or 45 per cent.;
" " pharynx.....	24 " " 21 " "
" " mouth.....	22 " " 19 " "
" " velum palati.	8 " " 7 " "
" " tonsils.....	4 " " 3.5 " "
" " nasal cavity.	5 " " 4.5 " "

From this it appears that by far the most frequent seat of the disease is the tongue, nearly one half of the recorded cases having been of this variety. This being true renders it of all the above-mentioned groups the most important, and a more careful study of the fifty-one cases is at once suggested. In considering the disease as manifested in other parts of

The French Society of Ophthalmology.—In the programme of the *Société française d'ophtalmologie*, which opened in Paris on the 2d inst., we notice the announcement of a paper on "Rapid Optometry," by Dr. Bull, of New York.

* Read before the American Laryngological Association at its eighth annual congress.

the oral cavity, and in reviewing the statistics given above, together with the histories of the cases herein recorded, it will be seen that tubercular ulcers may occur upon any part of the mucous lining of the mouth. Even in the few instances here originally cited it has been found upon the tongue, the cheek, the gums, the tonsil, the velum palati, the posterior wall of the pharynx, and the roof of the mouth, while Volkmann and Hausemann have seen it upon the lip. Again, wounds and abrasions of the mouth and tongue may become infected and assume the condition of true tuberculous ulcers in patients already affected with the disease. Dr. Hunter Mackenzie calls attention to a case recorded by Fränkel, in which tubercular disease supervened in a case of specific ulcer of the lip, while Hausemann reports one in which tubercular ulceration of the mucous membrane of the mouth followed cancer of the lip. Hunter Mackenzie himself believes that tubercle and lupus of these regions may co-exist.

Turning now to the consideration of the cases in which the disease was located in the tongue, a sufficient number of them have been reported to render possible a certain amount of generalization. An attempt has been made, therefore, to analyze them, with the following results:

Of the fifty-one cases reported, there were found the records of twenty-six.

Of these, so far as stated, all but *two* were in males.

The disease was primary in nine cases, secondary in nine cases, not stated in eight cases. As to the location of the ulceration upon the tongue, it was situated anteriorly in fourteen cases, laterally in seven cases, posteriorly in one case, not described in four cases. The longest duration of a primary case found was two years and a half, and the shortest ten weeks.

The ages of the oldest and youngest patients in whom the disease occurred primarily were, respectively, seventy-one and eleven years; secondarily, sixty-three and twenty-three years.

The average age in sixteen cases was forty years.

It appears, therefore: I. That tubercular disease of the tongue, more common than any similar manifestations in other parts of the buccal cavity in the male, is in the female extremely rare.

II. That in a fair proportion of instances it occurs primarily.

III. That its most common location is in the neighborhood of the tip of the tongue.

IV. That it is sometimes found upon the side and dorsum of the tongue.

V. That posteriorly it is unique.

VI. That it may occur at almost any age, but that it is most common in middle life.

VII. That its duration, so far as may be judged from the foregoing, is short.

While secondary tubercular ulcers of the tongue may generally be diagnosticated with comparative ease, it can not be denied that in primary cases the signs and symptoms are so little distinctive as readily to mislead the observer. Indeed, in many cases in which operative measures have been resorted to, the tongue has been excised under the impres-

sion that the disease was epitheliomatous, and its true nature only recognized under the microscope.

So important is a correct understanding of the physical appearances of the tubercular ulcer that it has seemed well to quote the description of it given by Mr. Henry T. Butlin, in his admirable treatise "Diseases of the Tongue" (page 98). He says: "A completely developed tuberculous ulcer, not too broken down and sloughy, presents most of the following characters: The surface is uneven, pale, and rather flabby, granulated, or often covered with yellowish-gray viscid or coagulated mucus; the edges are sometimes sharp cut, sometimes beveled, seldom elevated, or everted, or undermined, not usually very red, but often redder than the surrounding tongue; there is very little surrounding induration; indeed, there may be none; the adjacent portions of the tongue are generally a little swollen, sometimes decidedly swollen and sodden; the outline of the ulcer has no characteristic shape, but the borders are often sinuous and the shape is not unusually oval, or ovoid, or elongated. In the immediate neighborhood of the ulcer, and perhaps extending for some distance beyond it, are sometimes observed tiny yellowish-gray points or patches, or elevations, or, in the place of these, minute ulcers, which in time increase in size. The depth of the ulcer varies much; in the earlier stages it is superficial, but as the disease advances it may eat deeply into the substance of the tongue, and, eating more deeply at one part than another, may present different depths at different parts. It is almost invariably painful in the later stages, and there is almost always salivation. In this description some resemblance may be discovered to the tuberculous ulcers of other parts of the body; in the pale and flabby granulations, the sharp-cut or beveled edges, the absence of surrounding inflammation and induration."

The surface of the ulcer is sometimes described as "caseous," although this condition is by no means constant. Mr. Butlin goes on to say that tubercular ulcers of the tongue may commence in several different ways: by the breaking of a small blood bleb or vesicle, or by the formation of a tiny nodule or a little yellow point or patch, which gives way before it attains the size of a pea, or even half that size. Often it forms as the result of some continued local irritation or slight injury.

According to Volkmann, tuberculosis of the tongue may occur either in the form of ulcers or of distinct tumors, which gradually soften in the center. The former bear certain resemblances to malignant disease, the latter to gummata. These tumors may persist for a long time, and attain considerable size.

A case in which the lesion was superficial ulceration, with hard and thickened edges and a fissure extending deeply into the substance of the tongue, as described in Case I of this paper, was reported by Stewart, in the Philadelphia "Medical News," May 29, 1886.

The minute anatomy of tubercular ulcers of the tongue does not differ materially from that of the same lesion in other parts. While the presence of the bacillus of tubercle will furnish conclusive proof as to the real nature of the disease, failure to find the bacillus can not be considered as

excluding it, as has been seen in several cases observed by the writer. This is readily explained by the exposed position of the ulcer, which allows it to be subjected to the action of matter taken as food, and thus permits of the forced removal from its surface of any loose object located upon it.

Dysphagia, although not always present at first, soon develops, and is generally toward the later stages of the disease very severe. As the strength of the patient becomes impaired, sloughing of the sore may take place, its granular surface being lost and assuming more active characters; or, without actually sloughing, it may rapidly advance, until it has laid bare the muscular fibers of the tongue. The lymphatic glands of the angle of the jaw are often enlarged. The *prognosis* is absolutely bad. In every case which has come to the writer's knowledge, and in which the ultimate result has been reported, excepting the single instance of which a history is given in this paper (Case I), death has sooner or later resulted.

Treatment.—Butlin believes in the actual removal of the tubercular ulcer—1, because of the possibility of relieving the patient from future tubercular disease by infection through the ulcer; 2, because the disease is seldom difficult to reach or to remove, and the operation is far less formidable than that for carcinoma; 3, because the ulcer is in itself exceedingly distressing, and, through the distress which it occasions, leads to debility and death.

Mr. Butlin prefers this method to the use of the actual cautery, and believes that the latter offers no advantages over excision. Among the methods proposed by other surgeons, Körte recommends extirpation of the tongue by means of the galvano-caustic *écraseur*. Fereol, Stromeyer, Weber, and Schuh, on the other hand, object to extirpation, while Trélat and Fereol recommend the actual cautery.

In studying these opinions one is impressed with the fact that, while tubercular ulcers have been found in all parts of the tongue, from its tip to its base, and while they may exist in any degree of severity, from a small, superficial erosion to a deep and extensive ulceration, no difference as to treatment is suggested by the same observer, but the means respectively advocated are described by each writer as of general application. Between the galvano-cauterization or the excision of a small area of diseased tissue and the actual extirpation of the whole organ there is certainly a wide and important difference. It would be hard to understand why such diversity of opinion should exist, excepting upon the ground that few opportunities for observing the disease have presented themselves to the various authors quoted. Accepting the theory that local tuberculous infection may, if allowed to progress unchecked, become general, there can be no doubt as to the necessity for the complete removal of the ulcer at the earliest possible date. That this should be accomplished with the least amount of irritation to the surrounding parts is also evident. In the opinion of the writer, the means to be employed, therefore, should be at once thorough and conservative. Their choice must depend upon the nature, extent, and location of the ulceration in the particular case in hand. Thus, if the disease be superficial, not very extensive, and situated within easy reach,

several resources other than the extreme measure of extirpation present themselves. Of these the use of lactic acid must be mentioned. From the experience of the writer, and from the testimony of others, the good results of this remedy are by no means constant, for while under its application some ulcers are quickly healed, others show little effect beyond the appearance of a general improvement in condition without any decided tendency toward permanent repair. On the whole, however, its action is beneficial, and in some cases at least it has been curative. In Case I extreme dysphagia was allayed by application to the ulcers throughout their full depth of cocaine, while their general condition was greatly ameliorated by applications of a mixture of iodine, carbolic acid, and glycerin, the influence of which seemed to be antiseptic, alterative, and anæsthetic.

The old formula of morphine and iodoform, so useful in ulcerative conditions of the larynx, is of less practical value in tuberculosis of the tongue, from the greater difficulty of keeping the powder in contact with the surface of the ulcer. It still retains, however, a useful place in the therapeutics of the disease.

In the treatment of superficial ulcers of the tongue the galvano-cautery promises better results than any measure yet suggested. It should be applied at a high temperature, deep cauterization should be avoided, and, finally, not too great an extent of surface should be treated at one time. Of the advantages of the galvano-cautery over the thermo-cautery little need be said.

Another plan proposed is that of excision. In the case of superficial ulcers this may be accomplished by simply scraping the surface with a sharp curette or spoon. It occasionally happens that the surface of the ulcer is complicated by fissures, which extend from the periphery more or less deeply into the substance of the tongue. The suggestion of Mr. Butlin—namely, actual excision of the affected tissue—would seem to be applicable in such conditions, particularly where the ulcer is situated somewhat anteriorly. Extirpation of the whole tongue, although advocated by good authorities, must have been meant by them to apply to cases in which the disease had produced deep and wide-spread destruction. In Case I, herein reported, the operation of extirpation seems somewhat radical, considering the limited amount of tubercular deposit present, and it is possible that a less severe procedure would have accomplished the removal of the infected area. On the other hand, it must be remembered that, to the great credit of the operator, the case is the first and only one on record in which this heretofore uniformly fatal disease has been treated with the result of establishing a complete and permanent cure.

In the management of tubercular ulcer in other parts of the buccal cavity and pharynx much greater difficulties are likely to present themselves, owing to the delicacy of the parts involved and to the greater inconvenience of reaching them. The best results from local treatment will be gained probably by first spraying the ulcer with a solution of resorcin, from one to two per cent. strong, or with a weak dilution of Dobell's solution, and then applying to it either lactic acid or, in some cases, a solution of iodine, or possibly,

best of all, powdered iodoform, or the solution of iodoform in ether. Dysphagia may be allayed and the patient enabled to obtain the requisite nourishment by the application of a solution of cocaine or of morphine to the surface of the ulcer, while, if necessary, the process of deglutition can be much simplified by the use of a small-sized feeding-tube, through which food can be injected into the stomach.* Treatment, to be effective, must be carried out with thoroughness and with great regularity, and the general nutrition of the patient maintained with care.

CASE I. Primary Tubercular Ulcer of the Tongue.—Arthur L., aged thirty-five, Ireland, laborer, married, family history good as far as known, previous history good.

Six weeks before first observation began to have pain in swallowing, located at base of tongue. This increased steadily until it became excessive. Complained of no other symptom. Remained at work for two weeks, but grew worse daily, and finally had to give up. Placed himself under medical treatment, with no improvement. Antisyphilitic treatment was followed by no good results. Aside from local trouble, is strong and well. On inspecting buccal cavity, the anterior part of tongue, the velum palati, and the pharynx are normal. Laryngoscopic examination of the base of the tongue, however, reveals the presence of two fissures with elevated edges and deep, sloughing walls. They are situated upon the right side between the circumvallate papillæ and the epiglottis, and seem to be about half an inch in depth. The larger one is one and a half by one inch in superficial extent. Palpation gives great pain and reveals induration of the edges of the lesion, not, however, well pronounced. The mucous membrane covering the right arytenoid cartilage is red and oedematous, as are the vocal bands.

In the center of the larger ulcer are many large, flabby granulations which are best detected by the finger, which also detects induration in the tissue of the tongue itself toward the left of the ulcer. Externally on the right side, under the angle of the jaw, is a small, hard lump, about the size of a chestnut. The corresponding region of the left side is normal. Slight fœtor of breath.

Dysphagia extreme and deglutition almost impossible. Pain constant and so severe as to produce insomnia and render life unbearable. The patient is anxious to submit to anything which will give promise of relief.

Applications of a four-per-cent. solution of cocaine resulted in readily and absolutely checking the pain, which would remain in abeyance for about five hours, deglutition meanwhile being easily accomplished. An application of a mixture of iodine and carbolic acid, repeated once on the third day, was followed by marked improvement. The patient's general condition, however, was deteriorating so rapidly that he was transferred to the New York Hospital, where complete excision of the tongue was immediately performed by Dr. William T. Bull.

A speedy recovery from the operation was made, and signs of general improvement at once began to manifest themselves, the patient gaining thirty-five pounds before he left the hospital. At no time before or since the operation has it been possible to detect the presence of disease of the lungs or of other internal organs.

The microscopic examination, made in the pathological laboratory of the New York Hospital, for which the writer is indebted to his friend, Dr. George L. Peabody, is as follows: "Many sections from edge of ulcer examined; all contain tubercular material, extending from an eighth to a quarter of an inch

into tissue of tongue about ulcer. No glands found affected. A salivary gland, probably the submaxillary, cut away and found to be normal, except that here and there areas of inflammation were seen in its stroma."

CASE II. Secondary Tubercular Ulcer of Tongue.—William B., aged fifty-four, United States, married, carpenter. Gave no specific history. Hard drinker. Six months before the date of this history was attacked with cough, anorexia, night-sweats, and vomiting. This continued for four months, when the cough subsided and the appetite improved. One month after the beginning of his illness the patient noticed an occasional soreness on the left side of the tongue, anteriorly. Two months later there appeared a papule in the same region. This was devoid of pain or redness. Soon after this the tongue became ulcerated along its left border for one inch, beginning at a point half an inch from its tip for a breadth of about one sixteenth of an inch. There was considerable lancinating pain. The ulcer has increased in size rapidly. When examined, the patient was much emaciated. There was an irregular ulcer more than one inch in diameter to the left of the median line anteriorly. The surface of this was honey-combed and covered with decomposing food and sloughs. The edges were prominent and hard. The pharynx and soft palate were congested. There was enlargement of the sublingual gland of the left side, but no enlargement of the glands of the neck. There was severe dysphagia.

In view of the constant pain to which the patient was subjected, and the interference of this and the dysphagia with his nutrition and general condition, it was determined to remove the affected tissue. A partial excision of the tongue was therefore performed at the New York Hospital by Dr. William T. Bull. The patient subsequently died from asthenia.

For the notes of the microscopic examination of the specimen the writer is again indebted to Dr. Peabody. "The ulcer shows at its edges masses of tubercular tissue and some miliary tubercles situated both beneath the mucous membrane and between the muscular bundles. These masses vary much in size and shape, their centers are in great part cheesy, they contain numerous giant cells, and are the structural elements and arrangement of tubercle."

CASE III. Secondary Tubercular Ulcer of the Tongue.—(For this case, of which the following is a synopsis of the history, the writer is indebted to his friend, Dr. Beverley Robinson, of New York.)

I. S. T., United States, aged forty-nine, married, coachman. Family history negative. Always enjoyed good health until three months before the date of this history, when he contracted a severe cold. Following this he had a cough, at first dry, later attended with expectoration. Rapidly lost appetite, flesh, and strength. Had no night-sweats and no hæmoptysis. Six weeks before date of history began to suffer from hoarseness and sore throat. No other symptoms. When first examined was anæmic and emaciated. Physical examination of lungs revealed phthisis, second stage, throughout upper lobes of both sides. Laryngoscopic examination showed left arytenoid swollen and pyriform, both false cords much thickened, left vocal band eroded. One week after this examination there appeared under the right side of the tongue a whitish patch, an inch by an inch and a half in extent. For a considerable distance around this the edges were reddened and indurated. The frenum lingue and adjacent parts of the floor of the mouth were also indurated. At this time cavities began to appear in the lungs. Two weeks later the patch above mentioned had developed into an irregular superficial ulcer. Death resulted in about eight months from the beginning of the disease.

CASE IV. Primary Tubercular Ulcer of the Velum Palati.—J. T., aged forty-three, Ireland, porter and night watchman.

* See "A Reference Hand-Book of the Medical Sciences," article "Dysphagia."

Family history good, so far as known. Previous history excellent. Was somewhat dissipated when a young man, but denies specific disease and gives no evidence of having had it. Has always worked very hard. Was perfectly well up to ten months ago. Then strength began to fail without any assignable cause, and cough, with slight expectoration, came on. Three months ago his throat began to be sore. This has increased steadily, particularly within the last two weeks, when marked dysphagia was developed and he began to emaciate rapidly. With all the dysphagia he has been able to swallow liquids without difficulty. When first seen about two months ago, and four weeks after the throat became affected, the patient appeared to be a poorly nourished, somewhat emaciated, but not cachectic-looking subject. Carefully conducted examinations of the chest, made by several good auscultators, failed to discover the presence of disease in the lungs. Examination of the pharynx revealed a series of ulcerations, beginning at the outer margins of the uvula on both sides and extending irregularly outward along the lower border of the velum about one inch. The ulcers were superficial, with yellowish-gray centers, rounded edges, and a very faint areola. Their general conformation, together with their absolute symmetry, suggested at once specific disease. The other characteristics of that condition, however, were not so well marked. The larynx, nasal passages, and posterior and lateral walls of the pharynx were congested, but otherwise normal. In addition, there was deep and somewhat extensive ulceration of the mucous membrane of the gum adjacent to the second bicuspid and first molar of the left upper jaw. The administration of anti-specific medicines was followed by no good results, the patient's condition, on the contrary, deteriorating under them, and his throat growing steadily worse. About one month ago the first signs of pulmonary involvement became evident. Three weeks later examination of the chest revealed prolonged expiration at right apex down to second rib, with coarse, moist râles at the left apex. Meanwhile the ulceration has advanced slowly in its superficial extent, but it has gradually involved the deeper tissues of the velum and has advanced somewhat posteriorly. Treatment by applications of iodoform has seemed to give little or no relief. Applications of lactic acid, undiluted, have been of temporary benefit. The contact of the acid with the affected surface has given almost no pain, but its general effect in improving the local condition has been unsatisfactory. Patient disappeared, so that no subsequent history has been obtainable.

CASE V. Primary Tubercular Ulcer of the Cheek.—Eddie B., aged six, United States. Father died of phthisis. Mother living and healthy. Has two other children; both enjoy good health. Patient has complained of slight malaise for not more than two weeks. Was brought to the Demilt Dispensary on account of an ulcer upon the inside of the cheek, which had refused to heal under simple remedies and which evidently gave great pain and annoyance, especially in eating.

When first seen, the patient was apparently a tolerably well-nourished child, with a complexion and coloring of unusual beauty and brilliancy, and a bright, intelligent face.

Examination of the mouth showed a narrow, excavated ulcer, which extended along the line of the lower left molars for about an inch, involving the deeper layers of the mucous membrane and having a yellow, sloughy center, and abrupt, well-defined edges. The teeth adjoining this ulcer were badly decayed and jagged. Mouth and pharynx otherwise normal, except a slight catarrh.

The decayed teeth were removed and the patient placed in the children's ward of the New York Hospital, in the service of Dr. Peabody, where, under the best conditions of hygiene and local treatment, the buccal ulcer made such slow progress

toward improvement that the case excited unusual attention. About six weeks after entering the hospital, the ulcer being still unhealed, hectic, night-sweats, and emaciation, together with the pulmonary signs of tuberculosis, were developed, and after running a short course proved fatal. The autopsy showed acute general tuberculosis.

CASE VI. Secondary Tubercular Ulcer of the Tonsils.—Patrick O'B., aged twenty-seven, Ireland, horse-car conductor. No direct history of hereditary tuberculosis. Parents not living; causes of death unknown. Brothers and sisters living and healthy. Has always led a steady and temperate life, and until within two years has enjoyed excellent health. Has never spared himself in the matter of hard work. Two years ago began to run down, the first symptom noticed being a laryngitis. Has grown steadily worse.

When first seen at the Demilt Dispensary, March 15, 1886, patient appeared a small, poorly developed, emaciated, profoundly anæmic victim of advanced phthisis. Large cavities at apices of both lungs, and coarse moist râles throughout both. Complained of extreme dysphagia, almost complete insomnia, incessant cough, night-sweats, occasional hæmoptysis, great depression, and rapid loss of strength. Laryngoscopic examination revealed extensive tubercular ulceration of the larynx and epiglottis. There was also an ulcer upon the middle of the surface of the right tonsil, about half an inch in diameter, another similar one, about half as large, upon the corresponding part of the left tonsil, and several other smaller ulcers on the roof of the mouth and on the gum adjacent to a decayed upper molar tooth. Pain in swallowing seemed to be referred chiefly to these points. Applications of iodoform gave little or no relief. Much temporary ease was gained by the use of cocaine.

April 7th.—A thorough application of pure lactic acid was made to the large ulcer on the right tonsil. Cocaine having been first applied, the effect was almost painless. Two days later reported himself as being much improved, and said that he had eaten and slept comparatively well. On inspection, the surface of the ulcer appeared cleaner, and its extent smaller. Another application of lactic acid was made, this time to both tonsillar ulcers.

12th.—Reported still greater improvement. The small ulcer on the left tonsil had disappeared, while that on the right was much reduced in size. He was given a solution of cocaine to use at home. From this the happiest results were derived in relieving the dysphagia, the insomnia, and the annoying sensation of dryness in the throat of which he had complained.

16th.—The remaining small ulcer of the right tonsil had almost entirely disappeared. The patient looked much better, and said that he ate with good appetite and slept well, and that he could swallow both solids and liquids, a thing which before had been impossible. Was greatly encouraged. This continued for about two weeks, when he began to run down very rapidly, and shortly died.

Microscopical examination of scrapings from the ulcers, made by Dr. William Stowell, microscopist to the Demilt Dispensary, showed "A small amount of fibrous structure of tonsil, with few epithelial cells. Greater part of specimen consists of fine granular matter with abundance of tubercle cells and occasional giant corpuscles. Few pus cells. None of the tubercular bacilli found by fuchsin staining."

CASE VII. Secondary Tubercular Ulcer of the Pharynx.—(Through the kindness of Dr. George M. Lefferts the writer was allowed to study and report the following case:.) Mr. I., aged thirty-eight, United States, gave a history of pulmonary phthisis dating back two years. About four months before the date of this observation an ulcer appeared upon the posterior wall of the pharynx. It has resisted treatment, and has steadily

grown worse. When examined by the writer there was upon the posterior wall of the pharynx, to the right of the median line and a little below the level of the lower margin of the velum palati, an ulcer, oval in shape, about three quarters by seven eighths of an inch in diameter, with an excavated, yellowish center, around which was a distinct, somewhat elevated areola. The mucous membrane in the vicinity of this ulcer was anæmic, but otherwise healthy. Severe ulceration of the epiglottis also existed. There was marked dysphagia.

THE PROGNOSIS OF ACUTE LOBAR PNEUMONIA.

By W. D. SCHUYLER, M. D.

(Continued from page 210.)

THE next question in regard to this condition is, What indications for treatment are afforded by a greater extent of local development, or of the local process? Inasmuch as a greater extent of consolidation, as we have seen, does not justify a worse prognosis, that condition does not, therefore, indicate a preventive treatment against its occurrence. And as the sojourn of a local process, however extensive it may be, normally is brief, and its complete removal is generally rapidly accomplished by the natural forces, no indications are developed upon other grounds. But, inasmuch as the more extensive consolidations generally occur in robust subjects, who, as a rule, recover, and the less extensive and less perfectly formed processes more generally occur in depraved subjects, in whom fatality is, as a rule, more frequent, therefore a greater extent of local process may be held as indicating a more tonic and resisting state of the patient, and a better prognosis, while a lesser extension may denote a more asthenic constitutional state, and hence indicate a worse prognosis. The therapeutic indications arising from these deductions are, therefore, for a comparatively earlier exhibition of tonics and support in connection with less extensive and especially less perfectly formed processes, and particularly if there is other evidence of debility present.

An Apex Development.—What is its prognostic significance, and what does it therapeutically indicate? I can take no exception to the teaching that the development of the pneumonic process at the apex justifies a less favorable prognosis than when it occurs at the base or in the middle section of the lungs. But, while accepting the fact, it is pertinent, as regards determining its therapeutic significance, to inquire whether such unfavorable result is due to a more destructive action of the disease when it occurs in that locality, or whether it is due to some other cause—a concurrent condition, a state of comparative physical depression, which possibly governs both the site of the development and the greater fatality.

That the greater mortality occurring in apex cases is not due to any special, a more severe character and effects of the disease or a more destructive effect locally, is evident from the fact that, as a rule, both the constitutional and local manifestations, sthenically considered, are less marked than when the local development occurs elsewhere. Therefore, as they do not occur from a more severe and dangerous character and action of the disease, the worse results in these

cases must be due to unfavorable conditions of the patient.

The inference that idiopathic local (functional and organic) and general (constitutional) conditions are respectively responsible—the former for the localization, and the latter for the attendant fatality in these cases—is justified as to the former by the fact that, as a rule, in all pulmonary affections that supervene upon debilitated states, as, for instance, chronic phthisis or emphysema, the site of the disease is most frequently at the apex. This tendency of morbid processes in the lung, that occur in debilitated states of the system, to locate at the apex, not before rationally accounted for that I am aware, is probably to be explained by a lessened power of resistance in the organs in that region, due to a comparatively less adequate nutrition which there obtains, owing to the greater natural obstacles to be tropically overcome in that region, in chronic asthenic conditions. The nutrient supply of arterial blood to the afferent pulmonary structure is derived from the bronchial arteries. The origin of these vessels—being given off from the largest portion of the aorta (the right is sometimes derived from the first aortic intercostal), where the contractile elasticity of that vessel acts less continuously and effectively upon the blood-stream to fill its branches than it does farther from the central organ and close to the heart, where the blood is rendered most turbulent by the action of that organ—predisposing to a less perfect and adequate filling, especially in anæmic conditions, than would occur in any other portion of the systemic circulation; the incompetent support they receive and the defective action and extension rendered to them in asthenic conditions, when, as a rule, the inspiratory act, and, hence, the filling of the lungs, is diminished, favoring an incompetent flow of nutrient blood to the apex structures; and, lastly, the occurrence of a diminished blood-supply to these parts on account of a greater tendency, where the vessels are imperfectly filled, of that fluid to gravitate to the lower portions of the lung, affords abundant grounds, in conjunction with an existing condition of general anæmia, to account for diminished tonic and a lessened power of resistance tropically at the apices than naturally exists in other and less elevated portions of the organs, which fact accounts for the more frequent development of morbid processes at the apex in debilitated states. This presumption being true for other diseased apex localizations, it is reasonable to assume that it also governs the site of development of a pneumonic process in that locality. Therefore a specially active localization of the disease generally occurs in asthenic subjects. Furthermore, if debility is the cause of an apex development of pneumonia, it is fair to presume that to the same cause, asthenia, is to be attributed the greater fatality which results in those cases.

Again, that a greater local asthenia of the pulmonary structure at the apex of the lung determines the site of the process in these cases, and that such localization is but a sign of constitutional debility, is supported by the occurrence, as a rule, of a slower local development and the less sthenic constitutional manifestation that these cases usually exhibit, and is further rendered probable by the fact that upon no other ground or theory yet advanced can such de-

velopment of site and occurrence of a greater fatality be accounted for. And, it may be remarked, such conclusion is consistent with the theory of a disturbed equilibrium of the dynamic forces of resistance (vascular) and pressure (circulatory force) as the essential cause and factor of an acute lobar pneumonia, which, also and only, is competent to account for the greater predisposition in general of the local process to develop at the *locus minoris resistentiæ* of the entire lungs or where the organs are most subject anatomically to the circulatory forces, at the base of the lungs, or notably at the base of the right lung.

From the foregoing we see that, while an apex development, in accordance with general teaching, justifies a worse prognosis, the essential cause of the greater fatality in these cases is the presence of general organic debility, which the localization symbolizes, and which affords the required indication for its rational and early supporting treatment.

Intensity of Fever.—A greater intensity of fever in pneumonia is generally held to indicate a less favorable prognosis. Strictly speaking, is general teaching on this point correct? That is, is it true that a higher grade of pneumonic fever, as it occurs in accordance with its typical curve and as such is compared with a lower grade of fever as it occurs, is more prognostic of a fatal result?

While it must be admitted that a higher grade of febrile action, occurring as a feature of any disease, is more exhaustive of the vital forces involved than a lower grade, and that in so far a higher febrile expression in this disease promotes unfavorable results, yet I hold that the prognostic significance of a higher febrile curve in acute lobar pneumonia is not necessarily unfavorable. A glance at its typical febrile curve will show that the pyrexia of acute pneumonia is not an important factor with regard to prognosis, for neither by its height nor by its duration does it constitute a sufficiently great or prolonged departure from the normal to constitute an element of danger. Although this curve may attain a height of 105° to 106° , or even higher, yet its mean average is under 104° , and its duration is limited on the average, counting from the initial chill, to from five to nine days. In some cases it may run an abnormal course, and continue for two or three weeks, or even longer, but usually defervescence is on or before the seventh day. Its normal limits, therefore, can not be said to embody dangerous conditions. Besides, that a higher (normal) fever does not warrant a worse prognosis, generally speaking, is to be inferred from the fact that the greater mortality from pneumonia does not occur in the more sthenic cases, in which the higher febrile curves are developed, but in the asthenic cases, in which what may be considered a high temperature—except as a pre-agonistic sign—is rarely developed.

The fact that death results more frequently in asthenic cases—not characterized by the higher temperatures—justifies my view that a high fever, if it conforms to the typical curve, is not necessarily an unfavorable prognostic sign, while the fact that a higher pyrexia is most frequently met with in sthenic, robust cases, is to be taken, on the contrary, rather as evidence of better vital and more resisting conditions on the part of the patient, and, therefore, as affording grounds justifying a more favorable prognosis.

I may remark here that when death occurs early in the course of a pneumonia quickly manifesting a high temperature of 104° to 105° , or even higher, and maintaining it to the end, which may occur in irritable and sthenic, especially acute alcoholic, cases, such result is not necessarily or generally due to the pyrexial action, the morbid temperature not reaching a sufficiently high point to cause death in itself, but to some vital functional stress and failure resulting, in either the lungs or heart—at this stage principally in the lungs. In these organs this functional stress is due to the inhibitory presence and development of the local process, and probably, in addition, to collateral congestion, or congestion and œdema in the remaining lung structure, and to the resisting action of a morbidly developed circulatory pressure exerted within them, the total of which may cause their respiratory insufficiency and a fatal apnœa. And cardiac failure in these cases may result from exhausting efforts (of the right heart) to overcome the resistance provoked by the pulmonary stress and obstruction.

As further illustrating the non-essential import of fever as an unfavorable prognostic datum, there are two facts to be taken into account: First, the entire process of acute lobar pneumonia may occur without fever. This fact has been noticed by several observers, and I have recorded a case that came under my own observation. Second, when fever occurs in acute pneumonia, it is symptomatic. The evidence of this is that it develops with the developing local process or pulmonary obstruction, is maintained while such obstruction lasts, and abates with crisis—a phenomenon that denotes obstruction has been sufficiently removed to permit of a resumption of circulation through the pneumonically obstructed area.

Upon the ground, then, that fever is not an essential phenomenon in acute pneumonia, that it is symptomatic merely, that it does not occur in its higher manifestations in the class of cases which develop the greatest fatality, and, lastly, that its higher curve when normal is not dangerous, I hold that its greater height, within the normal, does not necessarily constitute an unfavorable prognostic sign.

The indications derived from the foregoing for the treatment of the pneumonic fever are: From its *normal* curve, without regard to height, expectant; when a high fever departs from the normal curve and becomes unduly high, or is unduly prolonged, febrifuges, such as also act sedatively, are called for; and, inasmuch as death from pneumonia occurs most frequently in debilitated patients in whom the higher manifestations of fever do not occur, and, therefore, a low grade of fever may be regarded as denoting asthenia, such an expression of pyrexia and its degree should indicate a tonic treatment.

Age.—What is its prognostic significance in this disease, upon what does such significance depend, and what is the indication for treatment afforded by this condition?

Accepted teaching strongly affirms that age is a most important factor of death in pneumonia. Is this teaching essentially and specifically true? As affirmative evidence I quote the following:

Aitken (*l. c.*, p. 741) says: "Age has a decided influence on the issue; of those attacked with pneumonia be-

tween forty and fifty years of age, about one in five die, and after sixty, more than one in two; the peril is directly in proportion to the age." Niemeyer ("Text-book of Practical Medicine," vol. i, p. 183) says: "Pneumonia is an extremely dangerous disease to aged persons; . . . the mortality from this disease among old people amounts to between 60 and 70 per cent." Juergensen (von Ziemssen's "Cyclopædia," vol. v, p. 138, *et seq.*) considers the subject under three heads: (1) from "childhood to puberty," including cases up to sixteen years of age; (2) during "the age of vigor," including cases from sixteen to thirty years of age; and (3) "during the age of decline," including cases occurring in subjects of thirty and upward. Of the first he says: "During this period, if the child has hitherto been vigorous, the danger is less than at the other ages"; of the second, "pneumonia during this period also is not a dangerous affection"; of the third, "during this period pneumonia is one of the most dangerous diseases." As showing a greater mortality in the aged from pneumonia, and, furthermore, as indicating a progressively increasing frequency of death from the disease *pari passu* with advancing age, this author gives the per cent. of its mortality at Greifswald for the ages between forty and fifty as 9.5 of the cases, between fifty and sixty as 20 per cent., and between sixty and seventy as 37.5 per cent. He also gives the mortality at Stockholm for the same decades, and says: "While at the latter place the increase is less than at the former, yet in each case the series ascends." He refers also to the fact that in Paris about one half the patients with this disease beyond sixty years of age die, and says "the same is true in Basle." And Loomis, of this city ("Practical Medicine," p. 95), says: "The prognosis depends more upon age than any other single element."

According to these various authorities, then, who may be said to correctly represent general teaching upon this point, the fact is that age is a most important and positive element of prognosis; that as a patient reaches, with reference to increased age, advanced stages in life, his chances for recovery from an attack of this disease certainly and progressively diminish; and that the mortality from this condition or circumstance alone in the advancing decades of life is from 20 to 40 to 60, and even 70 per cent. or higher of the persons attacked.

This is a grave indictment from a therapeutical standpoint, as being specifically true, and as age is not remediable by treatment, it accounts to a great extent for the occurrence of a large mortality from this disease in the closing decades of life (of from 60 to 100 per cent. of the cases), whatever treatment may be adopted, and whether it is dictated by the greatest skill or by complete ignorance, or is characterized by neglect—the inference upon which such justification rests being that very aged persons can not recover.

That advanced age alone is not a justifying condition for giving up a patient with pneumonia at the outset is at once apparent to every physician of experience, as such must have witnessed recoveries from that malady even in the very aged.

Therefore, as recoveries do occur in the very aged, and,

as we shall see, in the very young also, notwithstanding the undeniable character of the evidence upon which advanced age is made to appear a most unfavorable factor in the prognosis of pneumonia, and its general acceptance, and in order that we may possibly develop such indications for treatment of the age conditions as will wholly or in part prevent the great mortality that occurs in these cases, we may well inquire whether it is specifically true that age—even advanced age—essentially and in itself, is a valid cause of death in this disease.

In my opinion, age in itself is not a cause of death in acute lobar pneumonia. On the contrary, I think it can be shown that it is not the age of the patient (which can not be treated), but some concurring, corresponding, and unfavorable condition or vital state (that is subject to treatment), that determines the unfavorable results in this class of patients. And, furthermore, I premise that when death occurs from pneumonia in a patient of extreme age, or of any age, so far as that element is concerned, it is this concurrent condition, an asthenic state or result, that directly promotes it.

That I am right, and that it is the asthenia of the individual of any age, and not the particular period of life he may have attained, that determines fatality from pneumonia in these cases, is evident from a survey of the facts and conditions which favor mortality from that affection in the several stages of life already alluded to: First, as to the results of acute lobar pneumonia in infants, and as to what are the causes of death when it occurs in this class of patients.

[*Note.*—In this inquiry we must rigorously exclude the consideration of lobular pneumonia, a pathological manifestation principally met with in very young subjects, but quite distinct from that we are considering, especially as to its ætiology, site, limitation to a lobular investment, general extension, and results (though probably not as to its essential pathology, histologically considered), that, from its diffuse development generally throughout both lungs, and from its causal relation to capillary bronchitis, measles, or whooping-cough, almost always terminates fatally.]

(a) What are its results in patients of infantile age? Upon this point Vogel ("Diseases of Children," p. 294) says: "Children over two years of age bear lobar pneumonia as well as adults." P. H. Bird (Bouchut, "Diseases of Children," p. 320), in an editorial note, says: "Of twenty children who have been admitted at the hospital clinic suffering from simple lobar pneumonia in six months, all have recovered." Wilson Fox (Reynolds's "System of Medicine," vol. ii, p. 207), concerning the effects of tender age upon the results of the disease, says: "Childhood is a doubtful cause of death." In support of which statement he refers to the results attained by von Ziemssen, who, out of two hundred and one children with pneumonia, lost only seven in the acute stage and two in the later stages, giving a mortality of 3.3 per cent. Juergensen (von Ziemssen's "Cyclopædia," vol. v, p. 138), after referring to von Ziemssen's results just quoted from Fox's reference, says: "In my experience during two years at the Kiel Polyclinic with one hundred and ten patients under ten years of age, I lost only four, and all of these died from

complications." This author also refers to the favorable results of Barthez, quoted by Grisolle, who, out of two hundred and twelve children from two to fifteen years of age, lost only two.

From this evidence, the answer to the question, What is the result of acute lobar pneumonia in the infant age-class? including patients of one year and up to puberty, when the disease is uncomplicated and the patients are otherwise generally robust, is decidedly good.

(b) What is the cause of death when it occurs in this class of cases?

Paucity of statistical facts at hand, compiled specially with regard to this point, prevents my offering extensive figures relative to it. But the evidence of Juergensen, quoted above, that the four patients he lost out of one hundred and ten at Kiel died from complications coming from that source, is of value, and, in conjunction with the following, which is relative, will answer our purpose.

While uncomplicated and generally robust patients of infantile age, as we have seen, as a rule recover, the disease in the very young and in foundlings is very fatal. This is shown by the cases of MM. Valleix and Vernois (Bouchut, London, 1855, p. 325), who, out of one hundred and twenty-eight new-born infants and *enfants trouvés*, lost one hundred and twenty-seven; also by a further statement of Juergensen (*l. c.*), who says: "Pneumonia is very prevalent in foundling institutions and in hospitals of large cities which are provided for very young children"; and says that "Grisolle frankly admits that in these large institutions pneumonia is almost necessarily fatal, at least that this is the case in Paris."

It is fair to conclude, from these very grave results and on general grounds, that the characteristic vital state of the new-born, and especially of foundlings, who contract lobar pneumonia, on account of the tender age of the former, and from the neglect, imperfect regimen, deprivation of necessary food, resulting inanition, exhaustion from crying and from lack of rest, is debility or asthenia. And it is not unreasonable also to conclude therefrom that the fatality in these cases should be attributed to the adynamic condition, a physical cause, rather than to the age specifically or to the essential action of the malady. At least, the previous evidence, denoting the very favorable results of the disease in these young subjects in uncomplicated cases, taken in connection with the fact of its great fatality in foundlings and in the very young and tender, affords the strongest grounds for deciding that the cause of death in this age-class from lobar pneumonia is not age in itself, but an attendant asthenia. And this deduction is supported by Bouchut (*l. c.*, p. 334), who, referring to Valleix's results, says: "Such frightful mortality is only observed among the *enfants trouvés*, and is to be explained by the action of the fatal hygienic conditions in which they are placed." The fact also tallies with the results of my own experience with lobar pneumonia in infants, in whom, as in adults, unless marked asthenia has existed, or been developed by some complicating condition, it has terminated in recovery.

[Note.—In fact, with regard to a similarity of pathological manifestations of acute lobar pneumonia in infants

and in adults—except that in the former the disease more generally results from a too prolonged exposure to cold, or, what is more common, to draughts of air simply, while in adults a predisposing condition is a more frequent requirement; that in infants it is not generally ushered in by a chill, as it is in adults, but by convulsions; that the local process in infants is correspondingly less extensive, forms more quickly, less frequently affords a well-marked crepitant râle, is of shorter duration, resolves more rapidly, and a well-marked crisis is not so likely to be a feature of its defervescence—I have found the disease in them generally the same as in adults.]

(To be continued.)

A CASE OF COMPLETE DETACHMENT OF THE RETINA, WITH OEDEMA AND FORMATION OF SEROUS CYSTS.

By DAVID WEBSTER, M. D.,

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I FIRST met the patient at the Hôtel de Choiseul et d'Égypte, in Paris, in the spring of 1881. He was sixty-six years of age, a resident of Massachusetts, and was traveling abroad, in accordance with the instructions of his family physician, on account of a severe and intractable chronic bronchitis. He was apparently quite feeble, and his paroxysms of coughing were of a most violent character. Mr. D. had noticed confusion of vision after a coughing spell that day, and, on testing the eyes separately, had found that it was the right eye that was at fault. In short, a large portion of the field of vision of that eye had been obliterated, and the portion that remained was filled with floating scotomata. Having learned that I had some special knowledge of diseases of the eye, Mr. D. determined to consult me. I found in addition that he had, from his earliest recollection, been extremely near-sighted. An ophthalmoscopic examination showed extensive detachment of the retina, with floating bodies in the vitreous. The rational explanation of the attack seemed to be that in coughing violently he had ruptured a chorioidal blood-vessel, and that the blood forced through this opening had not only ripped up the retina, separating it from the chorioid, but had ruptured some portion of the retina, and thus made its way into the vitreous to an extent limited only by the resistance of the fluid already occupying the vitreous chamber of the eye.

I was obliged to give the gentleman an unfavorable prognosis in so far as the restoration of vision was concerned. Indeed, it seemed to me very doubtful whether he would be able to continue his travels, and highly improbable that he would ever return to Massachusetts alive. We parted after a few days' sojourn in Paris, and I did not see him again until December 13, 1882, when he called upon me in New York. He had returned from his travels in various parts of Europe, including Italy, his general health greatly improved, but with his right eye remaining practically blind. Two weeks previously he had run against the edge of a door while groping about in the dark, and had broken his spectacle frames, and the next day he had found that he could not see with his left eye as well as before. I found his left eye myopic one half, and with $-\frac{1}{2}$ his vision was only $\frac{2}{100}$ ($\frac{1}{50}$). The next day I examined the eye through a dilated pupil, and found extensive staphyloma posticum, with floating bodies in the vitreous. I ordered the glass that seemed to give him the most comfort, gave him some advice as to the care of his eye, and referred him to Dr. Andrew H. Smith for exami-

nation of his throat and chest. Dr. Smith reported that Mr. D.'s disease was not tuberculosis, but only chronic bronchitis, with laryngitis—an opinion which fully corroborated that of his family physician.

When Mr. D. came to see me again on March 25, 1885, there was, in addition to the retinal detachment, a mature cataract in his right eye. He had noticed a further impairment of the sight of the left eye, which was also the seat of a mild conjunctivitis. I found that he had vision $\frac{6}{60}$ with his glass, $-\frac{1}{3}$, but $-\frac{1}{2\frac{1}{2}}$ gave him vision $= \frac{20}{70}$. I prescribed $-\frac{1}{2\frac{1}{2}}$ for occasional use, and gave him a wash for his conjunctival affection.

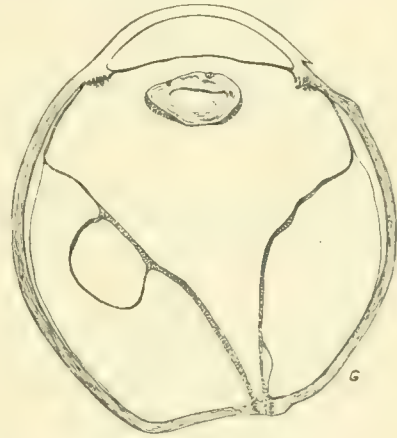
July 11, 1885.—V. = $\frac{20}{200}$ with $-\frac{1}{2\frac{1}{2}}$, raised to $\frac{20}{100}$ with $-\frac{1}{2}$.

November 10, 1886.—Six days ago Mr. D. tried his eyes very much during a whole evening, while acting as chairman of a meeting. The right eye has since been inflamed and irritable. While no mydriatic has been used, the pupil is dilated and fixed, and the tension is appreciably increased. The eye is red and watery, and there is constant spasmodic inversion of the lower eyelid. Upon consultation with Dr. C. R. Agnew, it was decided to advise enucleation, because the eye, having long been useless as an organ of vision, and having now taken on an inflammatory condition, which was probably incurable, and which could, at the best, be only temporarily relieved by treatment, it was believed that, if retained, it would shorten his days by constantly interfering with his comfort, disturbing his sleep, and destroying his appetite. Accordingly, on November 11th, assisted by my friends, Dr. C. R. Agnew and Dr. F. W. Ring, I enucleated the eyeball. Mr. D. took ether kindly, notwithstanding his bronchial affection. The eye was placed in Müller's fluid, and turned over to Dr. Ira Van Gieson, Pathologist to the Manhattan Eye and Ear Hospital, for examination.

The further history of the case will be best related in the patient's own words, extracted from a letter to me, dated December 28, 1886. He says: "I am still troubled by a slight secretion of pus in the eye-socket. The source seems to be behind the lower lid at the extreme outer angle made by the two lids, though there is no soreness nor apparent inflammation. I am beginning to think I shall have to conceal the deformity by a lens in my spectacles which is translucent but not transparent, but should like your opinion in the matter. My reasons are: 1. Before healing is complete, the parts are likely to become so much shriveled as to make the insertion of an artificial eye a somewhat violent procedure, likely to be followed by more or less irritation. 2. My nervous organization is extremely sensitive to physical discomfort, so that I always keep my artificial teeth in my pocket, except when in company. 3. I am past seventy-one years of age, with a chronic bronchial infirmity and a constitution much impaired by lavish nervous expenditure and by sickness, and I am reluctant to burden my remnant of life by the trouble and care involved in taking out and putting in an artificial eye, and keeping both the eye and its environment in a cleanly condition."

The following is Dr. Van Gieson's report of the examination of the enucleated organ: "Cornea and sclera normal. The iris in places is swollen and edematous. There is hyalin degeneration of the vessels of the iris. Ciliary processes normal. The ciliary bodies are flattened. The chorioid is very much reduced in breadth from pressure, and the walls of the vessels are pressed together. The pigmented retinal epithelium is attached to the choroid. The retina is completely detached; it is swollen, and the outlines of the retinal elements are indistinct. The topography of the layers is still evident, but the whole retina seems to have been infiltrated by fluid. The layer of rods and

cones is absent, and in its place there are numbers of larger and smaller transparent globules lying against the limitans externa. In the outer nuclear layer there are numerous small spheroidal cavities filled with fluid, and containing delicate flattened connective-tissue fibers, with wing-like anastomosing processes. These are the fibers of Müller, exposed by the disappearance of the outer nuclei. These small cysts are inclosed between the limitans externa and the external molecular layer. There are similar cavities in the inner nuclear layer, but fewer in number. The cavities in the two nuclear layers are distinct from each other, having a bridge of the outer molecular layer between them; in one or two places in the section this bridge is partially removed, so that there is an incomplete communication between the two sets of cavities. In the detached reti-



nal lamina on one side, about midway between the papilla and the ciliary body, there is a large cyst splitting up the retina, and apparently formed in the same way as the smaller ones. It is globular, and measures 5 mm. in diameter. Its wall corresponds to the limitans externa, and its attached retinal base is formed of the remaining retinal layers, excepting the inner nuclear, which has disappeared. Its contents consist of a granular fluid, a net-work of fibrin, in which are a few scattered red blood-cells, and some small spherical nuclei. In the section the anterior wall of the cyst is rendered thicker by the apposition of a layer of red blood-cells. There is a second similar cyst in the retina of the opposite side, near the papilla, measuring 1 mm. antero-posteriorly and $\frac{1}{2}$ mm. transversely. There is hyalin degeneration of the retinal vessels. Between the capsules of the lens and the lens proper, both in the anterior and the posterior regions, there is a zone of large swollen ellipsoidal and polyhedral nucleated cells, exhibiting mutual pressure facets. This zone is broader at the lateral poles, where it measures $\frac{1}{2}$ mm. These cells appear to be derived from the anterior capsular epithelium. There are also streaks of larger and smaller transparent globules distributed through the substance of the lens. These globules result from a breaking down of the lens fibers. All of the chambers of the eye are filled with a serous fluid. In places there are masses of fibrin.

Anatomical Diagnosis.—Complete detachment of the retina, with edema and formation of serous cysts. Capsular cataract. Partial degeneration of the lens. The features of interest in the eye are: The series of intermediate stages in the development of the retinal cysts, so that the largest cyst may be described as dependent upon an exaggeration of the conditions producing the smaller ones. And, secondly, the distinct demarkation between the zone of swollen capsular epithelium and the ordinary degeneration of the lens fibers."

THE

NEW YORK MEDICAL JOURNAL,

*A Weekly Review of Medicine.*Published by
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FRANK P. FOSTER, M. D.

NEW YORK, SATURDAY, MAY 14, 1887.

THE BLACK BEES OF TASMANIA AND THEIR MEDICINAL HONEY.

In a recent communication to the Paris *Académie de médecine*, which is published in the "Progrès médical" for April 16th, Dr. Thomas-Caraman, of Forges-les-Eaux, reported upon a matter which must be regarded as among the most notable of the therapeutic novelties of the day, being nothing less than the discovery of a sort of honey possessing in a remarkable degree the medicinal properties of the *Eucalyptus globulus*, or of some species of *Eucalyptus*.

It seems that, about three years ago, a distinguished French naturalist, M. Guilmeth, who was traveling in Tasmania, came suddenly upon a grove of gigantic eucalyptus-trees, from 260 to 390 feet high, and with a trunk so large at the base that it took forty of his Kanackas, joining hands, to reach around one of them. High in these lofty trees he discovered what he at first took to be enormous galls, but which he soon ascertained were the dwelling-places of swarms of small, black, wild bees of a variety before unknown to him. Dr. Thomas-Caraman proposes for this bee the provisional name of *Apis nigra mellifica*. Besides being black and smaller than the ordinary honey-bee, this wild bee has its languet rather more developed than that of the domestic bee. M. Guilmeth attempted unsuccessfully to domesticate it in Tasmania. He caused some of these immense trees to be felled, and secured the honey. The largest individual store of honey weighed as much as 11,000 pounds avoirdupois.

The honey is described as a thick, homogeneous, somewhat transparent syrupy liquid of a deep orange color; having an odor suggestive at once of its containing eucalyptus principles; very soluble in water, in milk, and in wine, but much less soluble in alcohol; and very difficult of fermentation. Its specific gravity is 1.44, and it rotates the polarized ray 22°. In round numbers, 1,000 parts contain 611 of invert sugar (mostly levulose), 2 of ash, 215 of water, and 171 of active principles, including eucalyptol, eucalyptene, terpene, cymol, and odorous, resinous, and coloring matters. Its taste is described as very pleasant. Administered to dogs, to the amount of from two ounces and a half to five ounces a day, it slows the heart's action, and this effect soon becomes so pronounced as to suggest, in Dr. Thomas-Caraman's words, a struggle between the pneumogastric nerve and the cardiac ganglia. At the same time the temperature falls about 1° C. The effects last for at least twenty-four hours, and include a slight tendency to sleep, but without any symptom of toxic depression. As the result of experiments on himself and on one of his friends, Dr. Thomas-Caraman states that, on taking a tablespoonful of the honey in

a little tepid water or milk, after a few minutes one perceives a gentle, agreeable warmth take possession of the whole person. At the end of half an hour, the elimination of the active principles by the air-passages having begun, the voice becomes clearer and the breath perfumed; the lungs feel more elastic, more supple. Having continued the use of the honey for a week, four tablespoonfuls daily, the author, who speaks of himself as respectably fleshy, found that he could go up two pairs of stairs, two steps at a time, without stopping to take breath or feeling at all blown. At the same time there was slight diuresis with an increase of urea, and the urine had a decided odor suggestive of that of the *Acacia farnesiana* (the plant from which the perfume called "new-mown hay" is made).

Besides his observations of the physiological action of the honey, the author cites certain trials of it as a medicine. These data lead him to consider it a valuable aliment, an efficient and palatable substitute for cod-liver oil; an antiscorbutic; an agent affecting the heart in a manner comparable to the action of digitalis, but free from the inconvenient properties of that drug; a febrifuge; an antiparasitic specially applicable to the destruction of the micro-organisms of tubercular and scrofulous neoplasms, the *Leptothrix vaginalis*, and oxyures; and, finally, an antilemnorrhagic, by virtue of its being more actively eliminated by the uro-genital tract than either copaiba or sandal-oil. It is destined, he thinks, to play a great part in the treatment of laryngeal, bronchial, pulmonary, cardiac, and scrofulous affections; in malarial and typhoid fevers; in whooping-cough and influenza; and in renal, vesical, and vaginal troubles.

It may be said that Dr. Thomas-Caraman holds up to our view a somewhat rose-colored picture, but it must be confessed that there is no inherent improbability in the notion that an animal organism like that of the bee may be able to elaborate the medicinal principles of the eucalyptus in greater perfection than the art of pharmacy can furnish them. Should his impressions be confirmed, however, the practical question at once comes up as to the extent to which commerce can supply us with the genuine wild honey of Tasmania, and it is much to be feared that, in case of any considerable demand, we shall witness a repetition of what took place in connection with the supply of Chian turpentine and, more recently, that of alveloz—the substitution of products more or less adulterated if not wholly factitious. It would be interesting to know to what particular species of the genus *Eucalyptus* the gigantic trees found by M. Guilmeth belong. Perhaps the active principles of the tree may yet be made available without the intervention of the *Apis nigra mellifica*.

MINOR PARAGRAPHS.

THE "CHINA MEDICAL MISSIONARY JOURNAL."

WE have received the first number of a new quarterly journal with this title, published in Shanghai, Hong Kong, Yokohama, and Singapore, and edited by J. G. Kerr, M. D., of Canton, J. K. Mackenzie, M. R. C. S., L. R. C. P., of Tientsin, E. Reifsnnyder, M. D., of Shanghai, and the Rev. L. H. Gulick,

M. D., of Shanghai. Dr. Kerr's services to science and to humanity, rendered during a long residence in China, are known and appreciated in this country, and we do not doubt that the gentlemen who are associated with him in this new undertaking will be of material assistance in maintaining the excellence shown in the first issue of the "Journal." The number consists of forty-four large octavo pages of reading matter, the last four pages being printed in the Chinese language. The matter is all interesting, but our attention has been particularly excited by an item concerning the robbery of a hospital at Hangchow, in which all the surgical instruments were taken, scarcely a scalpel being left. The account concludes as follows:

"One of the peculiarly Chinese manifestations of interest on the part of the officials of Hangchow has been their calling together the thieves of the city to consult with them regarding the best method for recovering the lost instruments. We have not been informed of the results of the conference, but, from a western point of view, it would be natural to doubt the disinterested wisdom of any counsels the thieves may have given."

SANITATION AND THE MEDICAL PROFESSION.

THE State Board of Health of Tennessee publishes in the March number of its "Bulletin" an article in which, along with other interesting and judicious observations, we find it pointedly set forth that too many persons make a great mistake in thinking that sanitary matters belong exclusively to the medical profession. Physicians are interested in them to no greater degree than their fellow-citizens, but their knowledge of general and medical science naturally puts them in the lead as administrators, and the public calls upon them to occupy the principal places in boards of health—everywhere, we may add, except in the city of New York, where an absurd law requires that the president of the board of health shall not be a member of the medical profession.

AGNOSTICISM.

IN a recent lecture on "Agnosticism"—as good a title for the purpose as any other, perhaps, since it is one that the reader is at liberty to define for himself within very elastic limits—Dr. Alexander W. Stein gives a clever and entertaining presentment of a number of the curious phenomena of animal and vegetable life, mingled with many a pointed stricture on those ardent but callow agnostics who are so uncatholic in their view of these and other natural phenomena as to plume themselves on their cultivated disbelief in the immortality of the soul, or the "principle of conscious identity," or whatever else we may choose to call it, while loyally denying the possibility of destroying a single atom of matter.

MATERNAL IMPRESSIONS.

WE lately called attention to Dr. Barker's valuable paper on this subject, published in the last volume of the "Transactions of the American Gynecological Society." We wish to add now that the profession should feel under obligation to Dr. Samuel C. Busey, of Washington, for having caused the remarks which he made in the discussion to be published in pamphlet form, so that they are likely to reach a larger circle of readers than would have been the case had they been published only in the volume. Dr. Busey, whose writing is always clear and graceful, gives a number of striking instances sustaining the belief in maternal impressions upon the fetus, and his fairness and conservative spirit are so evident that what he says must be accepted as of very great weight.

ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Fourth Division of the Health Department for the following statement of cases and deaths reported during the two weeks ending May 10, 1887:

DISEASES.	Week ending May 3.		Week ending May 10.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever.....	8	2	4	2
Scarlet fever.....	47	8	52	11
Cerebro-spinal meningitis....	6	5	8	6
Measles.....	81	4	69	8
Diphtheria.....	104	41	85	52
Small-pox.....	15	5	22	9

An International Congress of Inebriety is to be held in London on the 5th and 6th of July, under the presidency of Dr. Norman Kerr. Among the American gentlemen whose names are included in the list of vice-presidents are Dr. T. D. Crothers, Dr. N. S. Davis, Dr. J. H. Blanchard, Dr. L. D. Mason, Dr. C. H. Hughes, Dr. J. B. Mattison, Dr. Joseph Parrish, Dr. T. L. Wright, Dr. E. C. Mann, and Dr. Albert Day. Dr. Crothers is the chairman of the American committee.

The College of Physicians and Surgeons held its annual commencement exercises in Steinway Hall on Thursday evening of this week. The Hon. Stewart L. Woodford was announced to deliver the address to the graduating class.

Bequests and Donations to the New York Academy of Medicine.—At the meeting of the Academy held on the 5th of May, the treasurer for the Trustees reported the following additions to the permanent funds:

1. From Henry S. Rokenbanh, Esq., executor of the estate of Mrs. Celine B. Hosack (widow of the late Dr. Alexander E. Hosack, formerly of New York), the sum of \$70,000, upon the following conditions as expressed in the testator's will:

"*Third:* I estimate the total value of all the property which I acquired from the estate of my lamented husband as not exceeding the principal sum of seventy thousand dollars, and I do give and devise and bequeath unto the society or corporation known as 'The New York Academy of Medicine' the sum of seventy thousand dollars, payable within one year after my decease, which it is my will and desire shall be devoted or applied by the Board of Trustees of the said society or corporation to the purchase or erection of a library building or lecture-room, or some other suitable building adapted to the purposes of said society, which in memory of my dear husband, Alexander E. Hosack, shall in some appropriate manner be designated with and known by his name forever.

"If the said sum of seventy thousand dollars shall be insufficient to defray the entire expense of constructing the whole of any building to the erection of which the Board of Trustees of the said society may deem it proper to apply the money, then it shall either be allowed to accumulate at interest until the amount shall be sufficient for the purpose, or it may be used and applied to the construction of any separate part of the building or any particular room or suite of rooms or any wing or addition to any building belonging to the society and devoted to the objects for which the said society was incorporated which can be separately distinguished from the other parts of the same building so as to be dedicated and designated in some suitable manner as a monument in memory of my husband."

2. From the same source, a free bed in perpetuity in the Roosevelt Hospital, as follows:

"*Fourth:* I do give and bequeath unto my executors hereinafter named, the sum of ten thousand dollars, in trust, to apply and pay the same (or so much thereof as may be necessary) to 'The Roosevelt Hospital' in the city of New York, to purchase a bed which in memory of my husband shall be known as the Hosack bed, and which shall be occupied from time to time by such sick and needy physicians as may for

that purpose be named or designated by the president and treasurer for the time being of the New York Academy of Medicine."

3. Through the president of the Academy, Dr. A. Jacobi, the donation of \$5,000, largely due to the generosity of Mr. Jacob Meyer, of New York, upon the following conditions:

"1. The fund is to be forever known as 'The Philippine Meyer and Ernst Jacobi Library Fund,' and be so borne and described in the accounts of the New York Academy of Medicine and in any publication by the Academy enumerating the several trust-funds in its possession.

"2. The income from the fund to be applied to the purchase of books for the reference library: each book so purchased to be appropriately marked and designated so as to indicate that it is the proceed of this fund.

"3. It is also covenanted and agreed that the existence of this fund shall in no way affect the appropriation of such other moneys or funds as the Academy may find desirable for the acquisition of journals or other books."

The Association of American Medical Editors will meet in Chicago on the Monday evening preceding the meeting of the American Medical Association. The president, Dr. Shoemaker, will read an address on "Some of the Present Abuses of Medical Literature." Members who expect to be present are asked to send their names as soon as possible to Dr. William Porter, the secretary, 3137 Lucas Ave., St. Louis.

Additional Changes of Residence.—Besides the changes noted in our last issue, we have been informed of the following:

GOFFE, J. R., from 28 W. 36th St. to 326 Lexington Ave.

HEUEL, E., from 217 E. 10th St. to 352 Willis Ave.

The Maryland Academy of Sciences.—Among the officers recently elected were Dr. Christopher Johnston, president; Dr. Powhatan Clarke, vice-president; Dr. John Morris and Dr. R. T. Wilson, members of the executive committee; and Dr. R. T. Wilson, chairman of the Section in Archæology.

The Medical and Chirurgical Faculty of Maryland.—At the recent annual meeting, Dr. I. E. Atkinson was elected president; Dr. C. H. Jones and Dr. J. C. Thomas, vice-presidents; Dr. G. L. Taneyhill, recording secretary; Dr. R. T. Wilson, assistant secretary; Dr. J. T. Smith, corresponding secretary; Dr. E. E. Mackenzie, reporting secretary; Dr. W. F. A. Kemp, treasurer; and Dr. G. W. Miltenberger, Dr. J. E. Michael, Dr. P. C. Williams, Dr. J. S. Lynch, and Dr. Randolph Winslow, members of the executive committee.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from May 1, 1887, to May 7, 1887:*

FRYER, BLENCOWE E., Major and Surgeon. Ordered for examination by Army Retiring Board at San Francisco, Cal. S. O. 101, A. G. O., May 2, 1887.

STERNBERG, GEORGE M., Major and Surgeon. Assigned by the President to the special duty, under the Treasury Department, of "investigating the merits of the method practiced in Mexico and Brazil for preventing yellow fever by inoculation." Relieved from duty as attending surgeon and examiner of recruits in Baltimore, Md. S. O. 101, A. G. O., May 2, 1887.

BILLINGS, JOHN S., Major and Surgeon. Granted leave of absence for ten days, to take effect May 3, 1887. S. O. 98, A. G. O., April 28, 1887.

MIDDLETON, J. V. D., Major and Surgeon; HAPPENSETT, J. C. G., Major and Surgeon; and AINSWORTH, F. C., Captain and Assistant Surgeon. Appointed to assemble at U. S. Military

Academy, West Point, N. Y., on June 1st, to examine into the physical qualifications of the members of the graduating class and of the candidates for admission to the Academy. S. O. 102, A. G. O., May 3, 1887.

LORING, LEONARD Y., Captain and Assistant Surgeon. Sick leave of absence still further extended six months on surgeon's certificate of disability. S. O. 103, A. G. O., May 4, 1887.

BIART, VICTOR, Captain and Assistant Surgeon. Sick leave still further extended one year on surgeon's certificate of disability. S. O. 99, A. G. O., April 29, 1887.

EWING, CHAS. B., First Lieutenant and Assistant Surgeon. Ordered from Fort Leavenworth, Kan., to Fort Lewis, Col., for temporary duty. S. O. 100, A. G. O., April 30, 1887.

Marine-Hospital Service.—*Official List of Changes of Stations and Duties of Medical Officers of the United States Marine-Hospital Service for the week ending May 7, 1887:*

WYMAN, WALTER, Surgeon. Detailed as chairman, board for physical examination of candidates for appointment as cadets, Revenue-Marine Service. May 6, 1887.

MEAD, F. W., Passed Assistant Surgeon. Detailed as recorder, board for physical examination of candidates for appointment as cadets, Revenue-Marine Service. May 6, 1887.

Society Meetings for the Coming Week:

MONDAY, *May 16th*: New York Academy of Medicine (Section in Ophthalmology and Otology); New York County Medical Association; Hartford, Conn., City Medical Association; Chicago Medical Society.

TUESDAY, *May 17th*: New York Academy of Medicine (Section in Theory and Practice of Medicine); New York Obstetrical Society (private); Medical Societies of the Counties of Kings and St. Lawrence (annual), N. Y.; Ogdensburg, N. Y., Medical Association; Hampshire, Mass., District Medical Society (annual—Springfield).

WEDNESDAY, *May 18th*: Harlem Medical Association of the City of New York; Northwestern Medical and Surgical Society of New York (private); New Jersey Academy of Medicine (Newark); Philadelphia County Medical Society.

THURSDAY, *May 19th*: New York Academy of Medicine; Roman Medical Society (private); New Bedford, Mass., Society for Medical Improvement (private).

FRIDAY, *May 20th*: Chicago Gynecological Society.

SATURDAY, *May 21st*: Clinical Society of the New York Post-graduate Medical School and Hospital.

Obituaries.

E. Darwin Hudson, M. D., professor of general medicine and diseases of the chest in the New York Polyclinic, and physician to Bellevue Hospital and St. Elizabeth's Hospital, died on Monday, the 9th inst., at the age of forty-three years, of pneumonia. He was a graduate of the College of Physicians and Surgeons, of the class of 1867, a member of the Academy of Medicine, of the Medical Society of the County of New York, and of the New York Physicians' Mutual Aid Association.

Dr. Hudson was actively engaged in professional work, and apparently in robust health, up to the time of the fatal attack, which occurred only a few days before his death. That a career so creditable as his was so early cut short is an occasion of deep regret to his professional brethren and to all who knew him. As the result of his own qualities of excellence, practically without the aid of favoring circumstances, he had steadily ad-

vanced to a position in which he found himself immersed in a large and growing practice, which was getting to be in great measure a consulting practice; the incumbent of one of the most important chairs in an influential faculty, in the management of whose affairs his broad and conservative character was felt and recognized; a hospital physician with every prospect of soon becoming an eminent clinical teacher; a man whose standing in the community and in medical circles was, for one of his years, exceptionally strong.

Dr. Hudson was respected and admired not alone for his professional acquirements, but quite as much for the catholicity of his character, especially as displayed in his judgment of his fellows and in the mood in which he treated questions that from time to time proved ruffling to most minds. It was manifest to those who knew him well that his calmness and kindness under such circumstances were not due to any lack of native fire or to a repression of his natural ardor in obedience to considerations of policy, but rather to the natural growth of his own peculiarly well-balanced mental constitution. Age often brings with it this adjustment of qualities, but rarely does it happen to a man comparatively so young as the subject of this notice; and it is largely because we can not continue to profit by its occurrence in his case that the loss of Dr. Hudson will be felt to be unusually grievous.

OBITUARY NOTES.

Henry Cone Van Dolsen, M. D., a promising young physician, died suddenly, at his residence, in New York, on Sunday, the 8th inst. The deceased was a graduate of the College of Physicians and Surgeons, of the class of 1882.

Marcus B. Leonard, M. D., of East Boston, Mass., died on Friday, May 6th, at the age of sixty-seven. The deceased was born in Sugar Grove, Pa., attended lectures at the Albany Medical College in 1846, and was graduated from Harvard Medical School in 1848. After two years' residence in Worcester, Mass., he settled in East Boston, where he had since resided. He was a member of the Massachusetts Medical Society and of the Suffolk District Branch.

Letters to the Editor.

A CASE OF SUPPOSED MULTIPLE NEURITIS.

RUSHVILLE, IND., April 27, 1887.

To the Editor of the New York Medical Journal:

SIR: I desire to report the following case to your readers for diagnosis, treatment, and prognosis:

Dr. H., aged eighty three years, was a practicing physician for thirty years. He retired from practice twenty years ago. He had always enjoyed good health up to the present attack, which commenced about fifteen months ago, after he had been engaged in taxidermy about three months for amusement, in which work he made free use of arsenic in curing skins.

His attention was drawn to the fact that his knife or brush would frequently drop from his right hand while he was working, and the hand also felt numb. In a day or two after he noticed these symptoms his attention was called to red blotches on both cheeks. Then he feared the arsenic might have something to do with the trouble, and left off using it.

The fingers gradually lost their power to grasp and hold anything—so much so that he could only write by the aid of a rubber band around the hand in which he fastened his pen. In

the course of three or four weeks the loss of power passed beyond the wrist, and in as many months to the elbow, while about the same time he noticed loss of motion and numbness in the left knee, which in a few weeks extended to the foot. Then the same condition appeared in the right knee and extended to the foot, the limb first attacked gradually becoming more powerless. During this time he was able to walk about and able to walk forward almost as well as ever, but, on turning around, was apt to fall unless his mind was completely on the act of turning. This condition gradually grew worse until he had a hard fall backward, striking his head on a rock, sustaining a scalp wound, which necessitated his remaining indoors for some time. Since then he has not been able to walk out, and has gradually grown unable to walk at all, while his right arm is useless and his left arm is passing through the same process. Closely following the paralyzed condition, twitching of the superficial muscles set in and continued for some months, being worse in the calves of the legs. This has now given way to spasmodic contraction of the deeper-seated muscles, which is aggravated by anything coming in contact with the extremities of the limbs. The toes are drawn downward slightly. Sensation remains normal, the knee-jerk is absent, and the skin reflexes are exaggerated.

He has not suffered pain at any time, but complains of great soreness of the muscles, which is aggravated by contact or motion.

About two months ago I was able to produce muscular contractions to the slightest extent by the aid of galvanism from a freshly filled twenty-four-cell battery made by the Galvano-Faradic Co., as follows:

Right arm anode closing contraction with 15 cells,	
Right leg " " " " 12 "	
Left arm " " " " 8 "	
Left leg " " " " 7 "	

and, after daily treatments with galvanism for two weeks, no better results were obtained.

His bowels have been and remain regular. His appetite is good. He sleeps quietly and well. His sphincters are unaffected. His mind is as clear as ever, and he is able to and does transact all his business as well as formerly. There has been some soreness of the spine during the latter course of the disease, for which cupping, blisters, and other counter-irritants have been used extensively, with no visible good effect.

The treatment during the course of disease has been: internally with strychnine, nux vomica, and the various preparations of iron. Faradism was tried about six months ago, and, lastly, the galvanic current—all without any visible good effect.

W.

ANTI-PYRETIC MEDICATION.

April 16, 1887.

To the Editor of the New York Medical Journal:

SIR: The very interesting "Notes on the Use of Opium in Fevers," by Medical Director F. M. Gunnell, U. S. Navy ("Report of the Surgeon-General of the Navy," for 1886, page 85), remind me that I have had strikingly good results from the administration of pilocarpine by the mouth in a case of congestive chills with threatened apoplexy. The chills were checked after a second dose of an eighth of a grain, and a return to health followed. Months afterward the patient died of heart disease. Similar effects could doubtless be obtained by the use of other preparations of jaborandi, for example, the fluid extract. Dr. Gunnell states that "too much quinine is used in the treatment of malarial cases." May it not be that fashion, *sans raison*, is answerable for very much in the administration of this so-called specific? There are yet physicians—thoroughly enlightened and

active ones, too—who fail to see the rationale of antifebrile dosing with quinine; their faith lies rather in hygiene and natural forces.

Respectfully,

F. B. STEPHENSON, M. D., U. S. N.

Proceedings of Societies.

NEW YORK ACADEMY OF MEDICINE.

Meeting of April 7, 1887.

The President, Dr. A. JACOBI, in the Chair.

A Memoir of the late Dr. William H. Dudley, of Brooklyn, by Dr. A. J. C. SKENE, was read, in the absence of the author, by Dr. W. M. THALLON.

The Proper Selection of Ether or Chloroform as an Anæsthetic.—Pending the arrival of the author of the paper announced, Dr. A. G. GERSTER, a letter from Dr. H. KNAPP was read, giving the results of his experience with ether and chloroform as anæsthetics. He had used chloroform, from 1860 to 1874, in over three thousand cases. There had been no fatal result, but many unpleasant ones, and a certain number of critical cases. About once a month he had had to resort to artificial respiration and other means of resuscitation. Having seen fatal cases in Berlin and Vienna, he was in constant dread. From 1874 to the present time he had used ether in all cases, in children as well as in adults. No general complaint had been considered a contra-indication. He had administered the ether according to the so-called choking plan, yet admitting enough air at the beginning to let the patient get over the impression of asphyxia. In several hundred cases in which he had recorded the length of time required to bring about narcosis, the average was one minute and thirty-seven seconds. He had had no fatal cases, and only very few in which it had become necessary to interrupt the narcosis temporarily. The secondary effect had been no more unpleasant than that from chloroform. He regarded ether as a safer anæsthetic than chloroform, and just as manageable if not more so.

Dr. GERSTER, having arrived, proceeded to read his paper. He said that both chloroform and ether were dangerous anæsthetics. Chloroform caused very marked depression of the vaso-motor function; this depression occurred only occasionally when ether was used. The practical significance of this fact was that chloroform was the more powerful agent, and that its administration required much greater caution. But this was not sufficient ground for its unqualified condemnation. After consciousness had been restored there was no secondary danger from chloroform. On the other hand, although ether had not so often caused death on the operating-table, yet danger from its use did not cease when the patient regained consciousness; there were numerous cases of pneumonia and nephritis following its use, many of which terminated fatally. The author thought that physicians were prejudiced regarding the relative value of ether and chloroform as anæsthetics; this was especially true in New York, Boston, and Philadelphia, where ether was used almost exclusively. He proposed to point out the cases in which chloroform was contra-indicated; also those in which ether was contra-indicated, admitting that, on the whole, ether was the safer anæsthetic, and that in general preference should be given it, especially by the inexperienced. He regarded Ormsby's as the best inhaler; less ether was required with it, and recovery from its influence was much more prompt on that account.

Ether was contra-indicated in kidney disease, as Emmet had

pointed out. A case was cited in which the patient died from Bright's disease after the use of ether. Chloroform was much safer when disease of the kidneys was present. It had been employed in such cases for hours without any injurious effects. Ether was also contra-indicated in bronchitis, especially of the aged, and in pneumonia. Three hospital cases were cited in which death occurred from pneumonia following an operation requiring the prolonged administration of ether. The house physician of another hospital had given him the notes of three cases of death from pneumonia during the year 1886 after the use of ether in operations. In five cases serious bronchitis occurred after the use of ether in the German Hospital during 1886. There was a class of operations in which ether could not easily be given, such as kelotomy, those involving the peritonæum, and the removal of deep-seated tumors in the vicinity of large vessels. It had been said that ether always produced perfect anæsthesia within a few minutes, but, out of 125 cases in which it was administered at the German Hospital during 1886, in eleven satisfactory relaxation of the muscles could not be produced. In those cases chloroform was substituted and produced complete anæsthesia.

There was but one contra-indication to the use of chloroform, namely, a fatty or weak heart. Ether was also objectionable in these cases, but less so than chloroform. Patients addicted to the use of alcohol, perhaps in only moderate degree, took ether badly. During his hospital practice he had known pneumonia to follow the administration of chloroform in only two cases; both were cases of a bloody operation upon the mouth, and the pneumonia was due to blood entering the trachea. Both patients recovered. Valvular lesions of the heart were not necessarily contra-indications to the use of chloroform. In such cases there was often compensating enlargement of the heart. Fear and nervous depression contra-indicated the use of chloroform. In such cases, if it was necessary to employ chloroform, he would precede its administration by that of stimulants and a small amount of morphia.

Dr. R. F. WEIR said there was a growing feeling among us that ether was not so safe an anæsthetic as we had for some years believed. He had frequently given it to persons having signs of kidney disease, and without untoward effects, but he had come to employ additional precautions in such cases. Regarding pneumonia, it was more frequent when the spray was used; it was also more frequent since the free use of carbolized cloths over the wound. In other words, pneumonia occurring after the administration of ether, according to his observation, was due to exposure of the patient. He had seen less of this trouble since he had called the attention of the hospital attendants to that matter. Ether had been employed almost exclusively in the New York Hospital since 1850. From that time to 1870 about 7,700 operations had been performed, with three deaths from ether. From 1870 to 1886 there had been 2,289 operations, with one death from ether. During the latter period there had been 802 operations in the House of Relief, with one death from ether. While in many cases the patients took ether badly, he could not recall any in which an operation had had to be discontinued.

Dr. L. A. SAYRE said he was so thoroughly convinced of the correctness of his views regarding the relative safety and value of ether and chloroform, that he continued to use the latter in spite of the opposition which it met with in this country. He preferred chloroform to ether because it was more agreeable to the patient, it was more speedy in its effects, it did not produce spasmodic muscular contraction, and it was not followed by bad effects, such as vomiting, Bright's disease, pneumonia, etc. He strongly condemned the careless and free use of ether and chloroform largely mixed with air, as was so common. Chloro-

form and ether were powerful agents, each having caused many deaths; therefore they should be used with the same care and skill employed in the administration of any other powerful drug.

The speaker exhibited an inhaler which he had employed for many years for administering chloroform. Twenty or thirty drops of chloroform employed in this way would almost invariably produce anæsthesia with a very few inhalations, and when so small a quantity was employed, if by any possibility the heart should cease to act, a few artificial respirations would restore the patient. When the anæsthetic was given freely mixed with air, so much of it entered the system that it would be impossible to restore the patient should the heart cease to beat. There was no struggle or difficulty in bringing children under the influence of chloroform when this inhaler was employed, as they became anæsthetized while blowing into it as a plaything.

Dr. W. GILL WYLIE had not, so far as he knew, had any fatal result from ether during or after an operation until within two months, when two patients had died—one from acute Bright's disease ingrafted on a chronic process, the other apparently from suffocation within an hour after an operation for strangulated umbilical hernia. In the latter case the patient was extremely fat, and in such persons the danger of suffocation was greater. He had expressed a choice for chloroform before the operation. He would use chloroform in the lying-in room and for children. As a rule, he would give ether, especially in surgical operations, but he would give chloroform in certain cases of disease of the kidneys and of the respiratory organs. He also referred to another case of death from ether during an operation.

Dr. J. A. WYETH thought chloroform was to be preferred for almost all persons under six years of age, in childbirth, and in cases in which previous experience showed that the patient took ether badly. If nephritis was present, he would proceed carefully with ether, and if dangerous symptoms arose he would substitute chloroform. He had never seen an accident from ether; certainly not a death. He had not met with the class of cases referred to by Dr. Gerster, in which the patients could not be brought under the influence of ether.

Dr. ROBERT ABBE said that since 1873 he had seen one death from ether. It was in the practice of the late Dr. Little. He thought the two chief ill effects of ether, bronchitis and nephritis, were under our control, whereas the danger from chloroform was entirely beyond our control. The sudden effect of chloroform upon the heart was not relieved by artificial respiration; but, when there was asphyxia from ether, artificial respiration would restore. Within the past year he had seen four cases of acute nephritis which he thought were due to the use of ether, but the disease in cases like these could be controlled. Bronchitis was due oftener to exposure to drafts, etc., than to the use of ether.

Dr. P. F. MUNDÉ had formerly used chloroform many times; of late years he had employed ether almost exclusively. He had seen no immediate deaths from it. He had seen syncope occur which might have ended fatally had not vigorous measures been resorted to. Whatever anæsthetic was used, he felt more anxiety with regard to it than with regard to the operation. He thought it wrong to trust the administration of the anæsthetic to the new interne, or to any unskilled hands. He used Glover's inhaler by preference. In some cases he had failed to get the patient properly under the influence of ether, and had substituted chloroform with satisfactory results. In short operations and in obstetric practice he preferred chloroform.

Dr. R. W. AMIDON referred to the beneficial influence of atropinæ or some preparation of belladonna administered prior

to giving ether, in preventing the collection of mucus in the respiratory tract.

Dr. THALLON thought Dr. Gerster's paper was a little one-sided. He did not think the presence of albumin or of casts in the urine should be considered a contra-indication to the use of ether; nephritis should, however, make us more careful. The best instrument for administering ether was the apparatus employed by dentists in giving nitrous oxide.

Dr. GERSTER said he had only tried to give the indications for the use of chloroform and of ether. He thought those who would not admit that there were cases in which chloroform was indicated in preference to ether were themselves one-sided. He had said that, as a rule, ether was the safer anæsthetic. It was time that a paper like this should appear when there were physicians, eminent in their profession, who maintained that one having a death from the use of chloroform should be prosecuted criminally. As to statistics, they were valueless as collected; they were unfair. If those who tabulated them did so without prejudice, they would still be misleading, for chloroform, when it caused death, did so suddenly, and the case went to the coroner and thus reached the public. Ether might cause death hours or days after its administration, and the certificate report death from Bright's disease or pneumonia. He knew of five deaths from ether in one hospital, and they had not been reported, and probably never would be. Sudden death from ether might be due, at least in part, to a changed state of the secretions from the mucous membranes.

NEW YORK SURGICAL SOCIETY.

Meeting of April 27, 1887.

The President, Dr. CHARLES MCBURNEY, in the Chair.

Fracture of the Fifth Cervical Vertebra, with Recovery.

—Dr. A. G. GERSTER presented a patient who had recovered from this injury, and related the following history: E. H., aged thirteen, while bathing at the sea-shore on August 6, 1886, dived into shallow water and struck his head so violently against the bottom that he was stunned. He was taken from the water by his playmates and was carried to the neighboring hotel. The local physician found that there was paralysis of the left upper and lower extremities, and of the bladder and rectum. There was also paralysis of the right upper extremity (with the exception of the shoulder-muscles) with paresis of the corresponding leg. I saw the boy in consultation on the 8th of August, and found on examination that the spinous process of the fifth cervical vertebra was depressed and gave marked crepitation on stretching the patient's neck and then letting go of it; the spinous process of the fourth was abnormally prominent. The head could not be held up without support, and when released it fell over to one side if the boy was supported in a sitting posture. Not knowing that his neck was broken, the family had him sit up in bed, when he complained of severe pain in his head. Weight extension was applied, and the bladder was emptied by catheter. On the 10th of August he was able to pass his water naturally. By the 25th there was a marked improvement in the right side. The patient was then brought to the city and was placed under Dr. Lange's care at the German Hospital. In October he began to walk with crutches, and he had continued to improve ever since. His gait was still ataxic, while the left arm exhibited evidences of ulnar paralysis, especially the "main en griffe"; the extension of the hand on the arm was incomplete, and as soon as it was released it at once recovered its former position. The muscles of the arm and forearm were atrophied and their condition had been but slightly improved by massage and galvanism. No deformity of outline was to be

detected in the neck, the fracture being firmly consolidated, while the irregularities observed in the projection of the spinous processes had been smoothed down by the callus. A symptom frequently described by authors—*i. e.*, priapism—had not been present.

Dr. PETERS asked how the extension had been obtained.

Dr. GERSTER replied, By means of Glisson's apparatus, and also by elevating the head of the bed. In reply to a question by Dr. Bryant, he said that the patient had experienced relief within thirty-six hours after extension was applied.

Dr. ABRE asked if a prominence had been felt in the pharynx. Dr. GERSTER replied that there was such a prominence, which was quite distinct. The patient had probably recovered because there was no interference with respiration.

Dr. RUSHMORE asked if there was paralysis of sensation. The speaker replied in the negative.

Dr. BRIDDON asked if there was any displacement at present. Dr. Gerster said that none could be felt.

Case of Old Thoracic Fistula cured by Estlander's Operation.—Dr. GERSTER presented a patient with this history: J. S., aged twenty-one, a clerk, had had empyema of the left side for upward of a year. When he came under his care he had lateral curvature, a large fluctuating swelling, and a sinus in the back from which issued a profuse, foetid discharge, while he was much emaciated and suffered with hectic, sweating, etc. On August 25th, 1879, he incised the extensive burrowing abscesses of the thorax, resecting portions of the seventh and eighth ribs, in order to gain room for the introduction of a large-sized drainage-tube. There was a rapid improvement in the patient's general condition, but the cavity did not close. On the 3d of January, 1880, he excised portions of the third, fourth, fifth, sixth, and seventh ribs in the axillary line, making a vertical incision, the excised pieces increasing in length from above downward. The wound was packed with gauze, to prevent too rapid repair of the ribs, and a wide bandage was applied. On April 11, 1880, the patient was discharged cured, the cavity having healed, leaving a deeply depressed cicatrix. At present there was no lateral curvature, the ribs had entirely reformed and made normal excursions on inspiration and expiration, and there was proper expansion of the left lung.

Dr. BRIDDON asked if Estlander did not make a longitudinal incision. The speaker said that he did, but the important point was the principle of removing the ribs; it seemed better to make a single vertical incision rather than a number of horizontal ones.

Dr. BRIDDON remarked that he had once removed five ribs by a single vertical incision and had been criticised for so doing, on the ground that there was more hæmorrhage than there was when the incision was longitudinal.

Dr. GERSTER thought that the amount of hæmorrhage was not determined by the length of the incision alone. In his own case there had been but slight bleeding, since the principal vessels could readily be seen and secured before they were divided. In reply to a question by Dr. Sands, the speaker said that the piece removed from the upper rib was not over an inch and a half in length; that from the lowest rib, about two inches and a half. The thickened pleura was not removed.

Dr. SANDS asked Dr. Gerster if he had any idea as to the nature of the nerve-lesion in the case of fracture of the vertebra. The latter replied that, since sensation was not impaired, he was disposed to believe that the motor roots of the cervical nerves of the left side had been subjected to crushing or pressure by fragments, parts of the trunks supplying the left upper extremity probably being destroyed in their continuity. The transient paralysis of the bladder, rectum, and the extremities of the right side seemed to have been dependent on pressure by

bloody effusion. It was very doubtful that weight extension caused the disappearance of these paralyses; it was more probable that absorption of the effused blood was followed by improvement. However, the patient derived a great deal of comfort from the fixation afforded by the extension.

Three Cases of Ligature of the External Carotid, in Two of which both Vessels were tied Simultaneously.—Dr. J. D. BRYANT read the following paper:

I think it to be both proper and essential to recall in connection with these cases something of the early history of the operation, even at the risk of adding burdensome details to a subject that has so recently been considered by the members of this society.

The first case of which a definite record can be found was operated on by M. Gensaul at the Hôtel Dieu, September 20, 1824, while he was engaged in the removal of the parotid gland for malignant disease. There is no reason to believe that he at that time considered the ligature of this vessel as one of the steps to extirpation of the parotid gland. It appears, rather, that the vessel was tied during the course of the operation, without this step having been considered as a special preparatory measure. I think it safe to assume, in view of the relation of the parotid gland to this vessel, that the surgeon who extirpated the gland first was the one who first tied the external carotid artery. To Bécларd belongs the credit of having furnished the first reliable account of the removal of this gland, which he himself removed in 1823. M. Gensaul repeated the operation in 1826. In both of his cases a cure was effected. The surgeon who first tied the external carotid as a preparatory measure, of which a definite record can be found, was George Bushe, of the Royal College of Surgeons of Ireland. It was performed on a little patient about two years and a half old, to check a severe hæmorrhage following the removal of a pulsating nevus from the temporal region. The removal was not attempted, however, until all other recognized expedients had failed. The little patient made a rapid and satisfactory recovery, which pleased the operator so much that he expressed himself as follows: "I shall trust in the future to ligature of the external carotid in such cases, and here I may say that where the disease is not in the orbit I can not see the necessity of securing the common carotid for anastomosing aneurysm of the face and head." In connection with the remarks just quoted, I will call your attention to the history of the first of the three cases operated on by myself.

The patient was admitted into Bellevue Hospital, August 1, 1883. Age twenty-four, family and personal histories good. About six months before admission he had been struck in front of the left ear with a bottle which had been broken by the force of the blow. The wound of the scalp had healed quickly under simple dressing. A short time thereafter a pulsating tumor had appeared at the seat of the injury, which had increased in size continuously until the date of admission. On admission, a well-defined pulsating tumor was found at the seat of the injury, of about the size of a hen's egg, which had a distinct thrill and bruit. The trunk of the temporal artery, together with its anterior and posterior branches, was involved directly in the growth. The trunk of the occipital artery of the same side was dilated, and its anastomotic communications with the branches of the temporal bone were dilated also. The patient was kept under observation for a few days to study the peculiarities the growth might present, but, inasmuch as its chief feature consisted in its rapid development, it was decided to tie the external carotid artery of the same side, with the view to arrest the growth, if not to effect a cure. On August 7, 1883, the vessel was tied in the presence of many of the visiting and resident staff of the hospital. It was exposed in the usual manner for about an inch above the point of bifurcation. The lingual branch arose about half an inch above that point, and it was tied at once with an independent catgut ligature. After this, the trunk of the external carotid was tied with catgut at the

origin of the already ligatured lingual branch. The previous tying of the lingual had provided a branchless portion of the external carotid of about an inch in extent. The ascending pharyngeal branches were sought for, but were not found. Nothing unusual was noticed during the operation, except that the internal jugular vein overlapped the external carotid at the seat of ligaturing. The ligaturing of the external carotid checked the pulsation and all other aneurysmal manifestations of the growth at once; also reduced its size to about one third of the previous dimensions. The operation was done antiseptically throughout, and the wound had healed entirely at the end of ten days, when the first dressing was removed. At this time a slight returning pulsation could be detected in the tumor, which, however, could be controlled completely by pressure on the external carotid of the right side. On August 30th the pulsations had increased, and the thrill and bruit were again noticeable. On September 8th the pulsation, the thrill, and bruit were nearly as strong as before the operation, but they could be controlled readily by pressure made on the occipital and temporal branches of the external carotid of the right side. The temporal branch only of the external carotid of the left side gave any evidences of a return of the circulation. It then became a question of tying the external carotid of the right side, or of tying the temporal and occipital branches alone, or to attack the growth itself directly. The latter plan was chosen, and was carried into effect September 26th, only about seven weeks after the primary operation. I trust I may be excused if I digress somewhat at this time to describe the details of the method that was adopted for the radical cure of this case.

The head was surrounded by two strong rubber bands, beneath which compresses were placed at the points where arteries passed to supply the scalp. By this means the arterial circulation of the scalp was controlled admirably. The growth was then nearly circumscribed just outside of its limits by a U-shaped incision made through the healthy tissue of the scalp down to the bone. The stem of the flap was made about an inch and a half in width, and it extended down to the zygoma, and the center of its long axis corresponded to the course of the temporal artery. The loss of blood was not severe, since a bleeding point could be readily controlled by pressing the vessel against the underlying skull, while its open extremity was being caught. The bleeding points were closed by catgut applied directly to them when possible. If this could not be done, they were closed by the overhand continuous suture of catgut carried around and through the borders of the divided tissues. The flap and the surface from which it had been raised were kept separated with antiseptic gauze until granulation took place; then they were fastened in apposition by adhesive straps. They united quickly, and a permanent cure resulted one month after the operation.

The following interesting practical facts are presented by this case: 1. The ligaturing of the external carotid of one side had but a temporary effect on a vascular growth that involved the branches of the ligatured vessel. 2. Pressure on the branches of the opposite external carotid artery interrupted the characteristic aneurysmal manifestations that were present in the growth at its recurrence. 3. The ligaturing of all vessels that passed to the growth, except the one of the pedicle of the flap, followed by independent granulation of the surfaces and their subsequent union, resulted in a rapid and complete cure. I find eight additional cases of ligature of the external carotid for the cure of aneurysmal tumors of the head, face, and parotid gland, in two of which both vessels were tied simultaneously. The latter procedure is not reported to have been successful in either instance, owing, no doubt, to the vascular character of the growths. Traumatic aneurysm of the parotid gland and varicose aneurysm of the ear (two cases), are reported to have been cured by ligaturing the external carotid of the diseased side. It appears, however, that the last two cases received other and decided local treatment, which might have had quite as much to do with the cure as the ligaturing of the external carotid. This fact is emphasized by the recollection of the unsuccessful cases just mentioned of a practically similar nature, in which

ligature of both external carotids alone failed to effect a cure. Of a total of nine cases, but one—traumatic aneurysm of the parotid—was cured by ligature alone. These facts force the conclusion that ligaturing of the external carotid of the diseased side, and even of both external carotids, can be considered only as palliative, and can not be recommended as a means of cure for vascular growths of the head and face, except in connection with other measures. I do not think it to be a justifiable step to ligature the common carotid alone, nor in connection with ligature of the external or internal carotid for cases like the preceding, since the rate of mortality for ligature of the common carotid is 40 per cent., while that for ligature of the external carotid is 3.62 per cent. This opinion is expressed, notwithstanding the fact that the rate of cure for non-orbital anastomotic aneurysmal formations is reported by Dr. Wyeth at 28.5 per cent. from ligature of the common carotid alone, while I find it is but 11 per cent. from ligature of the external carotid. It seems to me from these facts that some errors must exist in the primary reports of these cases, since the reverse of these figures would be more consonant with the anatomical bearings of the collateral circulation of the two operators. Ligature of the common carotid should not be entertained except when from the contiguity of the morbid process the application of a ligature to the external carotid becomes impossible, or when ligature of the external carotid has failed to afford the best possible relief, a contingency to be anticipated only when the morbid growth is developed at the location of a free anastomosis of the branches of the external carotid and the intra-cranial circulation, as in intra-orbital formation especially. The second authentic ligaturing of the external carotid as a preparatory measure was practiced by John Lizars in 1830. It was done to lessen the hæmorrhage attendant on removal of the superior maxilla. Preparatory ligature of the external carotid for removal of the superior maxilla is not necessary for the safety of the patient except in such cases as when the patient is ill able to withstand the loss of blood that ordinarily attends this procedure, or bear the loss that may arise from the removal of the morbid growth that prompted the operation. I am certain, however, that ligature of both external carotids and their ascending pharyngeal branches prior to the removal of large vascular growths involving the superior maxilla and the pharynx, or retro-pharyngeal growths of a similar nature, requiring the preliminary removal of the superior maxilla, should be earnestly commended to the profession. If the growth is of a malignant nature, this plan will not only lessen the hæmorrhage attendant on its removal, but likewise delay the return by lessening the activity of the nutritive processes at its site. The third case of preparatory ligature of this vessel was performed by Dr. Valentine Mott about the year 1831 for extirpation of the parotid gland. The swelling of the soft parts contiguous to the diseased gland complicated the operation somewhat; still the patient suffered no ill effects from it, but died in less than two months thereafter from a return of the disease. The rate of mortality of ligation of the common carotid for reputed malignant disease of the parotid gland, antrum, and face (not of the orbit), is, according to conclusions of Dr. Wyeth, 44 per cent. from the operation alone, with 15 per cent. of cures resulting therefrom. I have collected nineteen instances of ligature of the external carotid for so-called malignant growths located in practically similar situations with the loss of but one patient, who died of hæmorrhage caused by sloughing of the growth. This case will be fully reported in the course of this paper. Twenty-six per cent. of these so-called malignant growths are reported as "cured" by ligature of the common carotid. This seems inconsistent in view of the nature of the disease, a fact that was appreciated by Dr. Wyeth when he col-

lated them. It is fair to assume, however, that, if ligature of the common carotid will cure malignant disease of the face, ligature of the external carotid should lead also to a similar result. If the idea is to starve a growth, then truly, from anatomical reasons alone, ligature of the external carotid is the far more rational measure, because, if the external carotid is ligatured, but comparatively little blood can reach the diseased part except by way of the opposite external carotid, provided there is no unusual anastomosis of the ligatured vessel. If the common carotid is tied for disease associated with the branches of the external carotid of the same side, then blood can reach the diseased part, not only through the opposite external carotid, but also by way of the circle of Willis and the pervious internal trunk of the ligatured vessel. With a full knowledge of these anatomical facts, and with the great difference of the death-rate of the respective operations, I fail to find an excuse even for ligaturing the common carotid for disease of the region supplied by the branches of the external carotid, except when ligature of the latter vessel is impracticable.

I will now present for your consideration the history of two cases of my own, in each of which the external carotids were tied simultaneously for malignant disease involving the inferior maxilla, floor of the mouth, and more or less of the tongue. In each of these cases reported, operations had been performed for the removal of the disease. A rapid recurrence had taken place in each instance, until the direct application of the knife seemed no longer feasible. The starvation plan appeared to be then the only one to offer any real delay to the course of the growths, combined with the greatest degree of comfort for the patients. Recalling the fact that, in the aneurysmal growth upon which I had previously operated, the collateral circulation from the opposite external carotid had re-established the circulation of the ligatured side within two months, and believing it would likewise exercise the same influence in a similar operation for malignant disease, it was determined to tie both external carotids simultaneously, which was done, in the first case, on February 2, 1885.

The incisions for ligaturing were made in the usual situation, and the enlarged lymphatic glands that were found in their course were removed. When the carotids were reached, most unusual anomalies were found. The right common carotid bifurcated beneath the posterior belly of the digastric muscle, which was divided to admit of the more easy application of the ligature. On the left side the bifurcation was located behind the hypoglossal nerve, which was drawn down, and the ligature was applied just below the posterior belly of the digastric muscle. On the right side the superior thyroid branch was thought to be seen to arise from its usual position. No branches were found above the point of bifurcation for the distance of one inch, and a catgut ligature was applied at the middle of this space. The lingual and facial branches were not seen on the right side—a fact that caused no apprehension, for I had been informed that the facial had been tied some months before, during the removal of the diseased submaxillary gland of that side. I thought, also, that the lingual might have been associated with the facial, since this arrangement exists in about 25 per cent. of dissections. On the left side the branches of the external carotid were normally arranged. The lingual was ligatured independently at its origin, and the trunk of the external carotid was ligatured just below this. No annoyance took place during the operation other than that due to the slipping off of a catgut ligature from the proximal extremity of the purposely divided facial vein that had crossed the artery in the line of the operation. The operation was done antiseptically throughout. The malignant growth diminished rapidly in size, the pain ceased, its discharge became scant, thin, and watery, and the ability to speak and to swallow improved rapidly. On the fifth day a portion of the tumor of the right side, corresponding to the former site of the submaxillary gland, sloughed out, leaving an opening an inch in diameter, bounded by sloughing tissue, at the bottom of which could be seen necrosed bone of the lower jaw. It had

been ordered that the patient be constantly watched, from a fear that hæmorrhage might occur. On the night of the 11th, nine days after the operation, the patient was discovered deluged with blood, and he died from its loss before morning, in spite of every possible effort of Dr. Pinkerton, the house surgeon, to prevent it. Even infusion of the saline solution was employed. It was found that the hæmorrhage had taken place from the site of the slough before mentioned. An abnormality of the circulation was suspected at once, and the suspicion was confirmed subsequently by a careful dissection. The facial and lingual branches of the right side arose from a common trunk at the bifurcation. The fatal hæmorrhage had been caused by sloughing of some of the starved diseased tissue into which the stump of the abnormal facial artery had passed. The vessels on the left side were not uncommon in their arrangement. The operation wounds themselves presented no appearances of an unusual character.

It is seen at once that this case presents very rare anomalies of the circulation. It is very rare indeed that the common carotid arteries do not bifurcate at or between the upper border of the thyroid cartilage and the greater cornua of the hyoid bone. I can find no record of the lingual or facial ever having arisen from a similar point as in the foregoing case. Dr. Wyeth, in his report of one hundred and twenty-one consecutive dissections of the external carotid and its branches, found but four instances in which the lingual branch was given off at a fourth of an inch above the bifurcation, and in only one of these did it arise independently of the facial branch. In one instance it arose an eighth of an inch above the bifurcation by an independent origin. The average origin of the lingual in one hundred and twenty-one cases was 0.68 of an inch above the bifurcation. In these same dissections the facial arose at an average of 0.92 of an inch above the point of bifurcation. In no instance did it arise within less than a fourth of an inch of this point; and in each instance but one, when it arose at this distance from the bifurcation, the lingual and facial had a common trunk.

I have no doubt that, if I had tied the branch at the bifurcation, which I had supposed to be the superior thyroid but which was in fact the common trunk of the facial and lingual, the patient would not have died from hæmorrhage. The result of this emphasizes some important facts: 1. The tying of the external carotids robbed the growth of so much of its vitality that—notwithstanding it was presumptively supplied in part by the lingual of the right side, and also by branches of the pervious stump of the facial of the same side—the diseased tissue sloughed, and involved thereby the stump of the facial itself. 2. That the branches at the bifurcation should be tied when it appears that neither the lingual nor the facial arise from the first inch and a half of the external carotid. 3. That the feasibility of simultaneous ligaturing of the external carotids for the starvation of malignant growths of the regions supplied by their branches is emphasized by the effects on the growth in this case.

The number of deaths from ligation of the external carotid alone that may be justly attributed to the operation itself is somewhat indefinite. Dr. Wyeth reports sixty-seven cases, with two deaths occurring after the operation; but, inasmuch as these two patients were still suffering at the time of death from the gunshot wounds for which the operation had been performed, it is certainly not proper to charge these deaths to the operation alone. I am able to add to this list sixteen others, and in but one of these—my own—did the subsequent death of any bear the least relation whatever to the operation itself. The amount of objection that may be raised to ligature of the external carotid by reason of the death just reported—a death clearly dependent on abnormalities of the circulation not before described—is a matter that I will leave to others than myself to express. Hæmorrhage at the seat of the operation has never as yet proved

fatal, and it has, as a rule, been controlled easily with simple means, such as pressure, styptics, etc. In a number of instances hæmorrhage has taken place at the seat of the disease, or of the injury for the relief of which the vessel was tied, and has required ligaturing of the common or internal carotid of the same side to control it. But in no instance can I find that the opposite external carotid has been ligatured with the same view.

The second operation was performed in Bellevue Hospital, May 10, 1885:

It pursued substantially, in all important respects, a similar course to the first, except that no hæmorrhage or sloughing occurred. The patient was discharged from the hospital in one month much improved, with instructions to report at intervals of a week. He reported at the hospital as requested for the next two months. During this time the growth showed but little tendency to increase in size. The pain and difficulty in swallowing did not return. However, he had developed in the mean time a profound cancerous cachexia, attended with emaciation and loss of strength. No evidences of internal cancerous involvement were discovered. Finally he disappeared from view suddenly, and was not again heard from by myself, even though his recorded address was visited and a thorough inquiry was made to ascertain his whereabouts.

The main objections that are raised against ligaturing the external carotid are the following: 1. The difficulty of the operation. 2. The danger of secondary hæmorrhage at the seat of the ligature. It is no doubt true that ligature of the external carotid is not so easily accomplished as that of the common trunk, but this is no reason why it should not be practiced in preference to the latter, when the comparative results of the two are considered. The linear guides of the two vessels are equally simple. The primary incisions of both are alike uncomplicated, provided the region of the external carotid is not invaded by disease. The deep guides of the external are as plain and unvarying as can be wished. The digastric muscle and the hypoglossal nerve are constant in their relations to this vessel. The lingual vein, the facial vein and its connections, are obstacles to ligaturing of the external carotid; but with care they can be displaced, or they may be divided between two ligatures and turned aside. The internal jugular vein sometimes encroaches alike on both vessels. The external carotid may be mistaken for the common, or for the internal carotid. The points of origin, size, and direction of the branches of the external should enable the distinction between it and the common trunk to be easily made. The difference in the origin, course, and depth of the two vessels, to say nothing of their differences as to branches, should discriminate between the internal and the external carotids. Finally, if a doubt exists after the ligature is passed, raise the vessel gently from its bed by means of the ligature, and study the effects of the ligature pressure on the branches of the external carotid, and on the trunk of the internal carotid. Care should be taken to not pass the ligature around both vessels at the bifurcation. This is an error to which the relations and appearances of the vessels in this situation add but little that is reassuring. However, to state the liability of the error should be to signal the danger with sufficient acuteness to prevent its occurrence. It is proper to add in this connection that if ligature of the external carotid is associated with removal of the parotid gland, it should be ligatured as near to the gland as circumstances will permit. In conclusion, I respectfully submit the following propositions:

1. Ligature of the external carotid artery, together with independent ligature of the branches arising from the first inch of its course, is a safe and commendable operation.

2. When the facial and lingual arteries do not arise singly, or by a common trunk from the first inch of the course of the

external carotid, the branches arising at the point of bifurcation of the common carotid should be tied.

3. Simultaneous ligature of both external carotids is a rational preparatory measure for operations involving the parts supplied by their branches, when dangerous hæmorrhage is feared. If the pharynx is involved, the ascending pharyngeal branches should be ligatured also.

4. Simultaneous ligature is advisable to diminish the rapidity of the development of extensive malignant growths when they are nourished by the branches of the external carotids.

5. Ligature of one or both of the external carotids for the cure of aneurysmal formations of the branches of the same is not feasible as an independent curative measure.

6. Ligature of the common carotid should not be done for the cure or for the arrest of morbid conditions involving the external carotid or its branches, except as a final resort.

Dr. SANDS remarked that he had listened with interest to the paper just read, but that he could not agree with some of the conclusions arrived at by the author. It was doubtless well to reiterate the fact that, on the score of both safety and efficiency, ligature of the external carotid artery should often be performed in preference to that of the common trunk. But the principle advanced of resorting to ligature of the external carotid as a preliminary step to the excision of tumors had long been regarded as unsound. The formal ligature of the external carotid, although quite practicable, was not an easy operation, and ought not to be performed unnecessarily. Experience had proved that large tumors of the face, and especially those situated in the parotid region, could be successfully removed without adopting the precaution referred to. Moreover, it had been shown that the preliminary ligature of the principal trunk did not always have the desired effect of preventing hæmorrhage, which was maintained by the anastomotic branches. The speaker also dissented from the proposal made by the author of the paper to tie the external carotid with the view of preventing or retarding the progress of a malignant growth. The anastomotic channels were so numerous and free that little or no benefit could be expected from such an operation, and he believed that the uselessness of this practice had been fully demonstrated.

Dr. WEIR agreed with Dr. Sands in his last criticism. Practically, he thought that it must very rarely happen that the surgeon was obliged to tie the external carotid before excising the jaw. He had never thought of doing this in cases of maxillary tumor, because it was possible to ligate vessels as they were exposed, or the facial artery might be compressed by means of a clamp introduced into the mouth. The gush of blood that followed the first incision seemed very large at first, but the hæmorrhage was soon checked.

Dr. SRIMSON testified to the fact that in one of the cases reported by the reader there had been a rapid diminution in the size of the growth, and also in the amount of discharge, when the lingual artery had not been tied, although the tumor had been within the mouth. Hence the diminution of a growth did not seem to be dependent on the diminution of the blood supply.

Dr. BRYANT said that he was aware that ligation of the artery for the arrest of morbid growths was not always successful. There were many cases on record in which the hæmorrhage attending excision of the jaw had been diminished by preliminary ligation of the external carotid. In his own case the disease had rapidly recurred, and the use of the knife did not seem to be justifiable. After ligation of the arteries, whether less blood was supplied to it or not, the vascular morbid growth had become anæmic, sloughing had occurred on the right side, and the patient had recovered the ability to swallow

and articulate. One tumor had been kept under observation for two months, during which time it had not increased in size. There was no reason, he added, why, if we could prevent blood from going to a part by tying the artery, we could not delay the growth of a tumor by diverting the blood from it.

Dr. SANDS called attention to the fact that there was no true analogy between the operation of tying an artery for the cure of an aneurysm and the same procedure as practiced for the arrest of a malignant growth. In the former case the object aimed at was to prevent, or retard, the current of blood in the aneurysmal sac, and thereby to accomplish by coagulation a complete and permanent cure. But the tying of an artery in the case of a growing tumor could at best be regarded as a palliative measure, and its value in this respect was certainly problematical. We should not confound cause with effect. The growth of a tumor was not determined to any extent by its supply of blood. On the contrary, the supply of the latter was generally equal to the demand, the vessels enlarging to keep pace with the rate of growth. When the anastomosis was free, ligation of the main vessel might have very little influence in diminishing the vascularity of the parts to which its branches were distributed. He had once noticed, after tying the common carotid, that pulsation could be felt six hours later in the temporal artery on the side of the operation. He referred to a case cited by Erichsen in which both common carotids and one vertebral artery had been gradually obliterated from disease and operation combined, yet the nutrition of the brain was maintained by the remaining vertebral. Opinions expressed in regard to the retardation of a growth caused by the ligation of an artery were usually so vague as hardly to be within the limits of scientific inquiry. The utility of the practice was evidently not demonstrated in the case of Dr. Bryant's patients, one of whom had died from hæmorrhage after the operation, while the other had continued to be unrelieved.

Dr. STIMSON desired to place on record the fact that he had tied the external carotid several years before, in order to arrest the growth of epithelioma of the mouth. The patient had lived for several weeks after the operation, but there had been no evidence that any benefit had resulted from it.

Case of Parovarian Cyst that developed Extra-peritoneally.—Dr. GERSTER exhibited a specimen and related the following facts concerning the case: The patient from whom it had been removed was a young married woman of twenty-one, who became pregnant about four months after marriage, and had an abortion. Examination at that time revealed a sessile tumor occupying the right iliac fossa. The patient was seen by a gynecologist, who advised waiting until a pedicle should form. The speaker examined the lady in March, and found that the cyst in question was of about the size of a child's head and filled the right iliac fossa; it was immovable, and seemed to be generally adherent. On the 6th of April he performed excision of the tumor. On dividing the tissues in the median line down to the usual situation of the peritonæum, that membrane could not be found, but the cyst was exposed and tapped, a clear, yellowish fluid being withdrawn. The sac was then enucleated with the fingers, closer adhesions being successively ligated and divided, until the pedicle was reached deep within the pelvis, near the right cornu of the normal uterus. The cyst was of the parovarian variety, and had grown outward between the layers of the broad ligament until it reached the parietal peritonæum, which it had dissected up from the iliac fossa, following the course of an extra-peritoneal abscess. A piece of peritonæum about one third of a square foot in area was exposed. Two drainage-tubes were introduced, and the wound was closed with plate-sutures. On the day following the operation the patient, who had reacted well, suddenly developed tympanites, while

her pulse became very rapid and her respiration rose to forty; in fact, she appeared to be in a condition of shock similar to that observed after severe blows upon the abdomen. The tympanites was spontaneously relieved on the fourth day, her pulse improved under stimulation by enemata of brandy and hot water, and she subsequently made a good recovery, her temperature falling from 101.7° to normal. Bloody urine and some uterine flow were observed for a few days. The patient was out of bed on the thirteenth day. The interesting feature in the case was the sudden development on the second day of symptoms of shock, although there certainly could not have been what is commonly called shock at such a late period; neither could peritonitis have appeared and disappeared so rapidly. There were no evidences of septic trouble, no vomiting or abdominal tenderness, but the main disturbance seemed to be in the circulation. The speaker suggested as a probable explanation the occurrence of a localized coagulation necrosis in the widely detached peritonæum, leading to hyperæmia of the contiguous serous covering of the intestine, which resulted in paralysis of the gut with consequent tympanites. There might have been an attempt at the formation of adhesions, because when the patient's bowels were moved on the fifth day by a saline cathartic she said that "something seemed to give way."

Dr. SANDS asked if the symptoms might not have been due in part to the pressure of the bandage, which became tightened in consequence of the tympanites.

Dr. GERSTER said that the dressings were quite loose, and that, moreover, there was no change after they had been removed.

Dr. WEIR asked if all the sutures held.

Dr. GERSTER replied in the affirmative. Four of them were removed on the fifth day, together with the drainage-tubes.

Dr. WEIR thought that some of the sutures might have given way. He had noticed that silver-wire sutures occasionally gave way soon after the operation, perhaps in consequence of change in the metal.

Dr. BRIDDON could not believe that necrosis of the peritonæum could have occurred and have been so quickly arrested.

Dr. GERSTER explained that the existence of this condition seemed quite probable in view of the fact that such a large piece of peritonæum had been detached. Dead tissue within the abdominal cavity might be absorbed, provided it remained aseptic, as was frequently noticed after the removal of pieces of omentum. The nerves of the peritonæum, which were closely related to those of the solar plexus, might be so affected by these aseptic necrotic changes that serious symptoms might be produced. In reply to a question by Dr. Briddon, the speaker said that this nerve-irritation would have accounted for the symptoms presented in the case under discussion.

Dr. STIMSON could hardly see how such a transient necrotic process could exist.

Dr. BRIDDON thought that the fluid removed from the cyst presented an appearance different from that usually observed in parovarian cysts.

NEW YORK CLINICAL SOCIETY.

Meeting of March 25, 1887.

(Concluded from page 529.)

On the Diagnosis of Hypertrophied Prostate and the Treatment of its Effects.—Dr. BANGS read a paper with this title. [See page 533.]

Dr. J. W. WRIGHT had often met with cases which had been injudiciously treated with sounds. It would seem that the general practitioner often failed to recognize the fact that there were enlargements of the prostate through which an ordinary

catheter could not pass. The catheter must have a much larger curve than the usual one. The following little device he had often found useful: the soft catheter, bent into proper curve, was passed with the stylet in it; when it had entered as far as it would go, the stylet was withdrawn for a short distance; the point of the catheter was in this way brought up and made to enter the bladder. He agreed with the reader of the paper that a weak solution of common salt answered best for washing out the bladder in a large majority of cases. He had long abandoned the use of lead, zinc, and other astringent solutions.

Dr. J. H. EMERSON would differ with the reader of the paper as to the advisability of giving diluents and alkalines in urinary affections. He considered them of benefit as rendering a super-acid and irritating urine innocuous, and thus making it more tolerable to the bladder. He would like to ask what form of catheter Dr. Bangs advised his patients to use.

Dr. BANGS, in reply, stated that he had used various kinds of catheters, but was inclined to prefer Jacques's soft silk catheters. He had found, however, that patients soon learned to select their own catheters.

The PRESIDENT considered the alkaline treatment beneficial in cases of stone or suspected stone, and in the lithæmic state. But, when the urine was normal, he agreed with the former speakers that it was better not to administer alkalines and diluents.

Enormous Scrotal Hernia.—The PRESIDENT showed a patient, aged fifty years, with an immense scrotal hernia, forming a mass which reached almost to the knees, and measuring twelve inches long and twelve inches across. The patient had been able to reduce the hernia until a year ago. The penis was seen retracted at the upper and left side of the mass, and the testicles were felt in front of it. Though most of the intestines must have passed into the tumor, yet the abdomen was not much retracted. He had kept the patient on his back for a few days, and intended doing so for a few days longer before attempting any operative interference. The reduction would require to be gradual, as there was considerable danger either from shock or sudden pressure upon the blood-vessels of the abdominal viscera in too rapid and abrupt reduction.

Dr. GIBNEY had seen several hernias of that size, which the affected individuals carried about in a form of hammock. He did not remember ever having seen any of such dimensions that were reducible.

Dr. WRIGHT remarked that these cases presented great difficulties in reduction, and that he had known of several instances of deaths occurring during the attempt. The dangers arose not so much from shock and sudden pressure upon the abdominal blood-vessels as from the adhesions the mass was likely to form. These would have to be torn through, and might give rise to serious and fatal hæmorrhage.

Some Peculiar Epileptic Cases.—Dr. M. A. STARR related the following cases:

CASE I.—A gentleman in middle life, of rather nervous disposition and mentally an active man, was attacked at the age of forty-two with *grand mal*. During the three following years he had several general convulsions, each of which was followed by an attack of acute mania lasting for about three hours. The patient then passed into a deep sleep, from which he awoke without any memory of what had occurred. Such maniacal attacks were not very uncommon, and occasionally it was the case that the attack of mania occurred in place of a convulsion, instead of succeeding it. During the past year an interesting feature had developed in the case. While the patient was talking, reading, walking, or at his professional work, he would suddenly cease what he was about, and his face would assume a broad grin for about ten seconds; then he would look about in an absent-minded way, and immediately resume his occupation. At such times there was no apparent loss of conscious-

ness. He never staggered, if standing, nor let anything drop which he was holding, and had no recollection of anything unusual having occurred. These attacks seemed to be of the nature of *petit mal*. The severe attacks had been brought under control by the bromides, but the minor attacks remained unaffected by treatment.

CASE II.—A young man of fair intelligence and good physique was seized with a convulsion five years after an injury to his head. Since that time he had had numerous attacks of *grand mal*. For six months in 1884 these were arrested by the bromides. At the expiration of these six months, on January 11, 1885, without any evidence of having had a convulsion, and while on an errand for his employer, the first part of which he faithfully carried out, he was in a different quarter of the city from where he had been sent, and was arrested for using abusive language and for an attempt at assault. It was soon learned that he was out of his head, and he was sent to a hospital, where, after an hour's sleep, he awoke without any recollection of his strange conduct.

The case would have to be classified among cases of double consciousness. The sequence and connection of the acts showed three states of consciousness following one another: First, the normal state; second, the abnormal state; third, the normal state. In the second (abnormal) state the patient remembered what had taken place in the first state, but in the third state he had no memory of what had happened in the second state, while he had a recollection of events occurring in the first state.

CASE III.—A small messenger boy gave the following history, which had all the appearance of being genuine: Though born and brought up in the city, and knowing intimately every street and quarter of it, on two occasions he had become quite confused while on errands to deliver messages, and it had seemed to him as if he were in a strange city, and he did not know in which direction to turn. There was no history of loss of consciousness or of convulsions. It must be supposed that on each of these occasions the boy had had a peculiar attack of *petit mal*.

CASE IV.—A teacher of mathematics of considerable eminence was subject to a peculiar phenomenon which annoyed him greatly. On several occasions, which had recently been increasing in frequency, he had found his attention arrested, no matter what he was doing, by a strange and unfamiliar set of ideas which suddenly came up to his mind. He was obliged to think of them at once, and to keep his attention upon them as long as it took him to walk two hundred feet, when they would as suddenly fade out of his consciousness, leaving no memory of their existence. There was no loss of consciousness. It appeared to the patient that it was always the same idea that occurred, though he could not remember its exact nature. By taking a few whiffs of nitrite of amyl he could avert an impending attack. The attack would indicate a powerful involuntary cerebral action of such intensity as to command attention, and so completely unrelated to the normal train of thought as to leave behind it no associations in memory by means of which it could be reached by consciousness.

These cases were brought together because they had the common feature of a peculiar state of consciousness during an attack that might be called *petit mal*. If the whole epileptic phenomena could be regarded as evidence of sudden involuntary nervous discharges from the cortex, these cases might be looked upon as examples of discharge from the highest cerebral centers. As to the treatment of these affections, it was stated that they required the usual anti-epileptic remedies, but that they seemed to be less readily and promptly affected by the use of the bromides than the more ordinary forms.

Dr. GIBNEY asked for what length of time it would be possible for an epileptic, subject to the phenomena described, to stray away from home, and be unable to find his way back.

Dr. STARR replied that such conditions had been known to last as long as eleven days. In double consciousness there was always a history of epilepsy.

Stab Wound of the Kidney.—Dr. FRANK HARTLEY presented a patient, and related the following history:

S. E., aged twenty-five, was stabbed on September 13th, at 1.30 A. M., in the right side, with a large sailor's knife. Three hours later he was admitted into Bellevue Hospital. He was then suffering from severe shock, the pulse was rapid and feeble, and the surface was cold. He was conscious and suffering a great deal of pain in the right side. There was evidence of previous intoxication. On removing the dressing, which was found soaked with blood, a wound an inch and a half long was disclosed on the right side, between the ninth and tenth ribs, midway between the mammary and axillary lines, from which blood flowed continuously. The wound and surrounding parts were immediately disinfected by the house surgeon, Dr. Johnston, with bichloride solution (1-1,000).

At 4 A. M., the patient having somewhat improved, he was anesthetized, and the wound was enlarged sufficiently to admit the hand, by an incision carried downward and slightly forward. The ascending and part of the transverse colon could now be seen. The hand was passed through the wound and entered the peritoneal cavity, where it distinctly felt the liver, the gall-bladder, and the transverse and ascending colon, all uninjured. On continued examination with the hand, a cut was discovered in the right kidney which was about two inches and a half long, running from its outer to its inner border, and passing completely through its substance. Three fingers were passed into this wound, and the calices were distinctly felt along the inner border of the kidney; one of the calices appeared to be completely severed. On account of the profuse hemorrhage, the severe shock, and the opening into the peritoneal cavity, it was thought advisable not to perform nephrotomy, which would have required much time, have increased the already existing shock, and doubtless have favored a fatal termination. It was therefore considered more prudent to control the hemorrhage, provide a free exit for the subsequent discharge of urine, and shut off the peritoneal cavity from infection. Accordingly, the wound was carefully washed out with a warm boro-salicylic solution, two drainage-tubes were inserted at the upper and lower angles of the wound, a third drainage-tube was passed directly into the kidney to its inner border, and all were fastened to the skin with catgut sutures. The patient was then placed upon his side and the wound again thoroughly cleansed with the same solution. The peritoneal cavity was closed off from the retro-peritoneal cavity as completely as possible by packing iodoform gauze into the wound and allowing the ends of the gauze to hang outside. When it was thought certain that this was accomplished, the wound itself was packed in the same way down to the kidney, and was partially closed with catgut suture. A dressing of iodoform and bichloride was applied, and the patient placed on his right side to insure perfect drainage. Hot-water bottles were applied and a small quantity of whisky was administered.

On the 13th, at 9 A. M., the patient had recovered to a certain extent from the shock. The skin felt warm, the pulse was 100, the temperature 100.4° F., and the respiration 24. He was conscious and was vomiting a great deal. The urine passed was bloody, and, microscopically, showed blood corpuscles and blood casts, which were evidently from the ureters. Rectal enemata containing milk, pepsin, whisky, and opium were given. The dressing was renewed at noon, as it was soaked with bloody serum.

On the 14th he had passed a fairly comfortable night, and his general condition was much improved. He retained milk by the stomach, but complained of pain in the epigastric region, which was increased by pressure. Temperature, A. M., 102.2°; P. M., 102.6°. Pulse, 120. Respiration, 20.

On the 15th the temperature was: A. M., 102°; P. M., 101.8°. Pulse, 120. Respiration, 20. The dressing was changed. The wound looked healthy, but there was some redness of the skin about it; no discharge of pus.

On the 16th and 17th the temperature was not above 101°. The pulse was 118, the respiration 20. Urea was found in the discharge from the wound. The dressing was removed. The urine was acid and free from blood. Its specific gravity was 1.026, and it contained no albumin.

From the 18th to the 28th the dressing was renewed daily. The presence of an ammoniacal odor was noted.

On March 8th it was noted that the temperature had been normal since February 17th, and the pulse was good. The dressing had been renewed every other day. The two tubes were removed from the wound, also the gauze.

On the 15th the wound was entirely healed, except a sinus leading to the kidney, through which a small amount of urine escaped. He was discharged from the hospital, and asked to return twice weekly.

The case showed how much could be expected from conservative treatment in cases of wounds of the abdominal viscera. It was reported as an evidence of the fact that in all cases we ought to be guided in our choice of the method of treatment by the condition of the patient at the time of the injury, the amount of hemorrhage, and the chance of septic peritonitis. If the resulting sinns persisted, and the patient was willing, the kidney could be removed with a much better chance of success than it could have been done on the night of the injury. [The patient was seen by Dr. Hartley on the 6th of April, and the fistula had then entirely closed.]

Dr. Cox said that the case reminded him of one in which a pistol-ball had entered the abdomen at about the same site. As the ball could not be detected on slight probing, it was deemed prudent to desist from any further attempt at finding it. But a counter-opening was made in the back, to admit of free drainage. The wounded person made a good recovery.

AMERICAN LARYNGOLOGICAL ASSOCIATION.

(Continued from page 530.)

Seven Cases of Buccal Tuberculosis, with Remarks upon Tubercular Ulceration of the Tongue.—A paper on this subject was read by Dr. D. B. DELAVAN. [See page 536.]

Dr. E. L. SHURLEY: I regard the paper just read as a valuable contribution to the subject. Primary tuberculosis attacking the palatine arches is frequently not recognized, and it may be mistaken for syphilis. I do not know how a diagnosis can be made from the ordinary appearances, and I do not feel at all sure that the bacillus can be regarded as an absolute indication that the case is one of tuberculosis. I will briefly refer to a case: A man, who was a smoker, presented himself with tuberculous ulcers of the mouth, on the cheek, and tongue. The bacillus was demonstrated to be present. The patient recovered and is well to-day. There was no evidence of a pulmonary lesion. In a case referred to me by a colleague, that of a woman suffering with stomatitis materna, I found the *Bacillus tuberculosis*. The condition of the woman was favorable with the exception of the tubercle; she subsequently recovered, and has become the mother of children since. It was not a case of buccal tuberculosis.

I believe that the tongue should not be excised, but that other means should be used to destroy the parts affected. The difficulty is in distinguishing these cases from ordinary stomatitis, which may take on a very malignant appearance as a result of irritation, but from which the patient will recover.

Dr. J. SOLIS-COHEN: I have never seen a case of primary tuberculosis of the tongue, or indeed of the mouth, so far as I know. In one case under my care the operation of removal of a portion of the tongue was undertaken, not for the relief of tuberculosis, but because it was supposed to be a case of epithelioma. I recall, too, a case, referred to me some years ago by Dr. Glasgow, in which I removed a tuberculous part of the tongue with the galvano-cautery. Until very recently I have depended greatly upon one sign in making a differential diagnosis of buccal tuberculosis, and that is intense pain on deglutition. Lately I have seen a case from the outset, in the person

of a medical student with tuberculosis of the lungs and larynx, in whom I found an ulcer of the mouth, with elevated edges and surface covered with pus, resembling a tuberculous ulcer in its general aspect. The detritus scraped from the ulcer was examined by Dr. Griffiths and found to contain no tubercular bacilli. In this case the absence of pain was a marked feature. In another case I found sugar in the urine, and concluded that the ulceration was present in a case of diabetic phthisis and not in a case of tuberculous phthisis. In this case all treatment, including that by lactic-acid applications, was unavailing, and the ulceration steadily progressed. The patient is still living, but is not far from his end.

Dr. J. O. ROE: I have not seen a case of primary tuberculosis of the tongue, but I have had two cases of primary tuberculosis of the pharynx. One occurred in the person of a lady, thirty-five years of age, who had had trouble with her throat for about six months before I saw her, and had suffered a great deal. She was relieved for a time by counter-irritation and anodynes, but the pain on deglutition returned. I examined her throat, and found pale cicatricial tissue at the base of the tongue, passing down upon the epiglottis, and upward from this into the pharynx on both sides. The patient afterward died. The larynx was found entirely free from ulcers in this case, which is rather exceptional. The second case was that of a gentleman, about forty-five years of age, who had true tuberculous ulceration affecting the pillars of the fauces. He did not have tubercular ulceration of the larynx at that time; but there was infiltration of the arytenoid cartilages, with some difficulty in breathing. Strong applications could not be borne. I applied the iodide of amyl to the throat with very good result; the patient improved steadily, and is now well, weighing two hundred and twenty-five pounds.

Dr. G. W. MAJOR: At a recent meeting of a medical society in Montreal, a case of tubercular disease of the tongue was shown, and I was asked to examine the larynx, where I found marked ulceration. The patient was much relieved by local applications.

Miscellany.

A Correction.—Dr. F. B. Stephenson, whose article on "Arterio-capillary Sclerosis" appeared in our issue for November 20, 1886, informs us that the expression "bifurcation of the abdominal aorta," contained in the article, was an error, and that it should have been *ramifications of the abdominal aorta*.

The "Medical and Surgical Reporter" and the "Quarterly Compendium of Medical Science."—Dr. Daniel G. Brinton, of Philadelphia, who has for a number of years been the editor and publisher of these periodicals, announces that he severed his connection with them on the 1st of May. He adds that he felt obliged to take this step by the fact that the owners of the journals were opposed to certain changes in the "Reporter" which he considered necessary improvements justly due to its subscribers and advertisers. He intimates that, early in the autumn, he will probably announce his connection with another journal.

The Health of Michigan.—According to the returns made to the State Board of Health during the four weeks ending April 30th, diphtheria was reported from twenty-five places, scarlet fever from thirty-nine, typhoid fever from eight, and measles from thirty-six. Except measles, there was a decided decrease of the number of places at which these diseases were prevalent, and measles was reported from only one more place than during the preceding month.

The Health of Boston.—During the week ending Saturday, May 7th, the following numbers of cases and deaths from infectious diseases were

reported to the Board of Health: Diphtheria, 18 cases and 7 deaths; scarlet fever, 24 cases and 2 deaths; typhoid fever, 10 cases and 5 deaths; measles, 74 cases and 1 death. There were also 34 deaths from consumption, 24 from pneumonia, 1 from whooping-cough, 12 from heart disease, 14 from bronchitis, and 7 from marasmus. The total number of deaths was 193, against 183 in the corresponding week last year.

Government Health Reports.—By direction of the Secretary of the Treasury, Dr. John B. Hamilton, Surgeon-General of the Marine-Hospital Service, has issued the following abstract of sanitary reports received during the week ending May 5th:

England and Wales.—The deaths registered in twenty-eight great towns of England and Wales during the week ending April 16th corresponded to an annual rate of 20.9 in a thousand of the aggregate population, which is estimated at 9,245,099. The lowest rate was recorded in Brighton, viz., 10.6, and the highest in Huddersfield, viz., 35.3 in a thousand. One death from small-pox were registered in Blackburn.

London.—One thousand five hundred and fifty-eight deaths were registered during the week ending April 16th, including 1 from small-pox, 81 from measles, 11 from scarlet fever, 21 from diphtheria, 53 from whooping-cough, 7 from enteric fever, and 4 from diarrhoea and dysentery. There were 363 deaths from diseases of the respiratory organs. Different forms of violence caused 72 deaths. The deaths from all causes corresponded to an annual rate of 19.3 in a thousand. In greater London, 1,932 deaths were registered, corresponding to an annual rate of 18.6 in a thousand of the population. In the outer ring, 34 deaths from measles and 13 from diphtheria were registered.

Ireland.—The average annual death rate represented by the deaths registered during the week ending April 16th, in the sixteen principal town districts of Ireland, was 28.9 in a thousand of the population. The lowest rate was recorded in Kilkenny, viz., 12.7, and the highest in Lisburn, viz., 33.8 in a thousand.

Dublin.—Two hundred and thirty-one deaths were registered during the week ending April 16th, including 7 from measles, 4 from scarlet fever, 2 from typhus fever, 4 from whooping-cough, 2 from enteric fever, and 1 from diarrhoea. Diseases of the respiratory organs caused 45 deaths. In thirty-seven instances the causes of death were uncertified. The deaths from all causes corresponded to an annual rate of 34.1 in a thousand.

Scotland.—The death rate in eight principal towns during the week ending April 16th was 23.7 in a thousand of the aggregate population, which is estimated at 1,299,000. The lowest mortality was recorded in Perth, viz., 13, and the highest in Aberdeen, viz., 33.7 in a thousand. The aggregate number of deaths registered from all causes was 593, including 28 from measles, 10 from scarlet fever, 4 from diphtheria, 36 from whooping-cough, and 7 from diarrhoea.

Germany.—The deaths registered in fifty-two cities of Germany, having an aggregate population of 6,763,907, during the week ending April 24, corresponded to an annual rate of 25.1 in a thousand. The lowest rate was recorded in Wiesbaden, viz., 11.8, and the highest in Augsburg, viz., 44.8 in a thousand.

Catania.—Eight cases of cholera and 3 deaths from that disease were registered during the week ending March 26th. The consul states that "the wells of the city (with few exceptions) have been closed by official order. Water has been brought to the city from the slopes of Etna in closed conduits. As soon as this water came into use the cholera began to disappear. During the past four days no cases or deaths have been reported. It is hoped that the malady has terminated. Application has been made to the government to have quarantine removed."

Pesth.—The following items from the "Hamburger Nachrichten" and "North German Allgemeine Zeitung" have been received from the United States consul at Hamburg:

"In consequence of the suspicious death which yesterday occurred at Pesth, bacteriological examinations have been made, which have shown that the person in question really did die of Asiatic cholera. Yesterday a fresh case is said to have been discovered."

"CONSTANTINOPLE, March 20th.—In consequence of cases of cholera at Pesth, a quarantine of five days has been ordered for products com-

ing from the Danube and the Black Sea from the mouth of the Soolina to Boorghas."

Kingston, Jamaica.—One hundred and thirty-five deaths were registered during the month of March, 1887, including 20 from small-pox.

Havana.—Ten deaths from yellow fever and 1 from small-pox were registered during the two weeks ending April 23d.

San Juan, Porto Rico.—The United States consul, under date of March 10th, states that "the governor-general of this island has decreed and declared suspicious vessels arriving from the United States of North America and those from all the Windward Islands, remaining subject to the quarantine regulations. The quarantine will be divided—in *rigor* and of *observation*. The first will have to be passed in the Lazaretto of 'Ila de Cabras,' exacting the discharge of cargo and landing of passengers, only excepting such of the crew as are necessary for the care of the vessel. Respecting that 'of the quarantine of *observation*,' the quarantine will be carried into effect at the port of this capital, 'Ponce' and 'Mayaguez,' and will be of seventy-two hours, consisting (the sanitary measures) in non-communication and ventilation, fumigation not being required; the discharge of cargo and landing of passengers only allowed when so ordered by the medical board. As the 'decree' in reference to the locality for undergoing quarantine is very stringent, and one, moreover, that would cause great delay and inconvenience, also expense, I have this day petitioned the acting governor-general to use his best endeavors to bring about an amelioration of the same."

Gibraltar.—One hundred and twelve cases of measles were registered during the week ending April 10th.

MORTALITY TABLE, FOREIGN CITIES.

CITIES.	Week ending—	Estimated population.	Total deaths from all causes.	DEATHS FROM—							
				Cholera.	Yellow fever.	Small-pox.	Typhus fever.	Epidemic fever.	Scarlet fever.	Diphtheria.	
Calcutta	March 19.	433,219	292	46							
Acapulco	April 17	5,500	4	1							
Paris	April 16	2,260,045	1,267		15		36	1	33		
Havre	April 16	112,074	58		1						
Bordeaux	April 16	240,582	123				3				
Reims	April 16	97,903	53					3			
Genoa	April 16	179,374	127		5		2		1		
Palermo	April 16	250,000	110				3	9	2		
Barmen	April 9.	108,000	44			3			1		
Mayence	April 2.	65,701	36			1			1		
Leipzig	April 16.	170,000	70							4	
Munich	April 9.	269,000	156				1	1	6		
Amsterdam	April 9.	378,000	169					2	5		
Copenhagen	April 5.	280,000	122				1	1	3		
Glasgow	April 16.	545,678	275					3	3		
Belfast	April 9.	324,422	104				1	1	2		
Pernambuco	April 5.	111,000	50			2					
Toronto	April 23	121,000	32				3		4		

THERAPEUTICAL NOTES.

The Treatment of Habitual Constipation in Children.—At a recent meeting of the Harveian Society, of London (the proceedings of which are reported in the "Lancet"), Dr. Day read a paper on this subject. Most cases, he said, were due to a sluggish state of the muscular coat of the intestine, to diminished secretion from the mucous membrane or the liver, or to improper feeding. Bilious and plethoric children required a daily evacuation, or their health would suffer, while the neurotic might without inconvenience have none for days together. Prolonged constipation was apt to lead to disease of the cæcum, chronic inflammation and thickening of the intestinal walls, dilatation, and occasionally perforation. In the treatment, it was important to get the child to make a voluntary effort every morning. Enemata were of value when the colon was torpid and the rectum blocked. Strychnine and belladonna were recommended to impart tone to the bowels, relieve spasm, and lessen flatulence. In some cases nitric acid was of value, also, in cases depending on a deficient secretion of bile, an occasional mercurial purgative. If, however, the latter were repeated too often, it was apt to cause lassitude, pallor of the face, softness of the muscles, and irritability of temper, and its use was dangerous in scrofulous and rickety children. In children of a full habit, salines were sometimes useful. Change of air, massage, and attention to the diet were of importance.

Benzoïn in the Treatment of Whooping-cough.—Michael ("Arch. f. Kinderheilk."; "Ctrbl. f. klin. Med.") has analyzed several hundred cases of whooping-cough, and concludes: 1. That it is a reflex neurosis of the nose, distinguished from other nasal neuroses by the fact that the irritability of the nasal mucous membrane is awakened only by the specific poison of whooping-cough. 2. In a large percentage of cases it is possible to mitigate and shorten the course of the disease by insufflations into the nose, the most efficient medicament for the purpose being powdered benzoïn. 3. The fact that the treatment is absolutely fruitless in about twenty-five per cent. of the cases seems partly owing to adenoid vegetations in the neighborhood. 4. Relapses readily occur after wetting the feet or an unfavorable change in the weather, also after discontinuing the treatment in cases that have yielded rapidly. 5. A prognosis can be based with great probability on the effect of the first two or three insufflations.

Antipyrine in the Treatment of Migraine.—Ungar, of Bonn ("Ztschr. f. Therap."; "Rev. gén. de clin. et de thérap."), has been led to use antipyrine in migraine on account of the analogy between its effects and those of sodium salicylate. According to his experience and that of several of his colleagues, it seems to act more certainly and more rapidly than any other remedies thus far employed, especially if given at the onset of the attack. Even at the height of the paroxysm it diminishes its intensity in almost all cases. Its occasional failure the author has not been able to explain. It is rarely necessary to give more than fifteen grains.

The Solubility and Alkaloidal Strength of Preparations of Quinine.—According to Boymond ("Bull. gén. de thérap."), various preparations may be rated as follows:

	Percentage of alkaloid.	No. of parts of water required to dissolve one part of the drug.
Hydrate	85.72	1670.00
Acetate	84.37	Slightly soluble.
Basic hydrochloride	81.71	21.40
Basic lactate	78.26	10.29
Basic hydrobromide	76.60	45.02
Basic valerianate	76.06	33.70
Basic sulphate	74.31	581.00
Neutral sulphovinate	71.20	3.30
Arsenate	69.38	Slightly soluble.
Basic salicylate	68.79	863.00
Citrate	67.08	826.00
Neutral hydrobromide	60.67	6.33
Neutral sulphate (bi-sulphate)	59.12	8.81
Ferrohydrocyanide	56.25	Slightly soluble.
Acid hydriodide	55.95	" "
Tannate	22.60	800.00
Citrate of iron and quinine	Variable.	Variable.
Crude (brown) quinine	"	"

Glycerin Lemonade.—The "Revue générale de clinique et de thérapeutique" attributes the following formula to Semmola:

Pure glycerin	150 parts;
Citric acid	1 part;
Water	300 parts.

About one ounce of this solution is to be taken, in a glass of water, every hour. Thus administered, even in large quantities, glycerin does not cause gastro-intestinal disturbance.

An Injection for Gonorrhœa.—The "Union médicale" attributes the following formula to Barré:

Tannic acid	3 parts;
Solution of subacetate of lead	6 "
Tincture of catechu	12 "
Sydenham's laudanum*	3 "
Rose water	100 "
Distilled water	300 "

To be used night and morning, each injection being retained for three minutes.

* Made by macerating 64 parts of opium, 32 of saffron, 4 of cinnamon, and 4 of cloves in 500 of Malaga wine for fifteen days at a gentle heat, expressing, and filtering.

Original Communications.

ON THE ULTIMATE RESULTS OF THE
MECHANICAL TREATMENT OF HIP-JOINT
DISEASE.

*An Analysis of Fifty-one Cases occurring in the Service of the
New York Orthopædic Dispensary and Hospital.**

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THE attention of the medical profession of late years has been largely directed to the operative treatment of hip-joint disease, and the results obtained by excision of the head of the femur have been quite freely discussed. The more conservative method of mechanical treatment has not, during this period, received the attention it deserves, and it is the object of this paper to present for the consideration of the profession certain facts which have been developed by a thorough and painstaking analysis of the results which have been obtained by the treatment pursued in the New York Orthopædic Dispensary and Hospital.

The cases upon which the following report is made are drawn from the dispensary class only; private cases and those from hospital or other sources, as well as those in which excisions have been performed, being eliminated from the list, the principal idea of the writers being to arrive at the *ultimate result* of the strictly mechanical treatment of the disease, and to present an analysis only of those in which the patients were the recipients of dispensary treatment.

Those who are familiar with the difficulties attending the medical or surgical control of an ordinary dispensary patient will at once appreciate the great difficulty of securing efficient home co-operation among the tenement-house class during the prolonged treatment of a typically chronic disease. And this is especially true when the treatment covers years, and when the successful issue of a case depends upon the intelligent use of an apparatus which requires constant attention. It is, however, under these circumstances that the treatment of the cases about to be reported was conducted, and some allowance as to the time consumed, etc., should be made. That the results are better in private practice, and sooner attained, no one, I think, will deny. It affords the senior writer of this paper great pleasure to record the fact, however, that the results reported were obtained under all the difficulties attending a dispensary practice among the poor, and he wishes, in this connection, to extend his thanks to the trustees of the institution for their generous co-operation and sympathy.

Indeed, it is among the objects of this paper to demonstrate that it is not only possible, but comparatively easy, to treat such a serious condition as hip-joint disease successfully, and even satisfactorily, with proper dispensary faci-

ties. The latter include, of course, a well-equipped shop and a corps of mechanics to make, and to repair or alter, under the direction of a trained orthopædic surgeon, the necessary appliances, and the co-operation of one or more out-door visiting surgeons. Without these aids, we feel assured the results obtained would not have been so satisfactory as those we have to report. Another object of this paper is to show that it is the exceptional case, that of the homeless child or the child with utterly indifferent or very poor parents, which requires *prolonged* hospital care in hip-joint disease. What the senior writer has frequently called "home treatment" enters largely into orthopædic dispensary work, and this means that an intelligent parent or an interested relative can, under proper instruction, carry out at home, in the great majority of cases, the directions of the surgeon, with occasional or periodical professional supervision.

There are, however, many poor children whose surroundings make hospital care necessary, as has been proved many times in our experience. But a well-equipped orthopædic dispensary, if properly conducted, can do the work of several large hospitals at a far less cost.

In the spring of 1886 the senior author of this paper requested Dr. Robert W. Lovett, of Boston, then an assistant surgeon of the institution, to personally investigate and to carefully record the *ultimate results* obtained by the conservative mechanical treatment of hip-joint disease practiced in the New York Orthopædic Dispensary and Hospital.

In order to arrive at positive and *ultimate* results, the following bases of investigation were formulated:

I. No case was to be considered which had not been under the care of the institution from the time of its entry to its final discharge.

II. No case was to be considered which had not been formally entered as "discharged cured" after a final examination.

III. No case was to be considered which had not been "discharged cured" at least four years prior to the investigation.

IV. No cases were to be considered except those which presented unmistakable signs of the disease at the time of the first examination.

V. None were to be considered which had not been at least two years under treatment.

VI. None were to be considered which were not seen or examined after the investigation was commenced.*

VII. All cases coming within these exclusive conditions were to be classified and reported.

While these exclusive conditions eliminate very many interesting and valuable cases which might have been legitimately added to the list, the writers of this paper believed that the facts brought out under the conditions named would have a positive value, and subject the methods pursued to more than an ordinary test. A much more brilliant, but perhaps not so scientifically accurate, statement might be made

* In two instances the final record was made in the dispensary just before this investigation was commenced.

* Read before the New York Academy of Medicine, May 5, 1887.

if the analysis covered *all* of the many other cases of hip-joint disease in which the patients had been discharged as cured, or if the time had been made six months instead of four years. It seems to the writers that the above-mentioned conditions must satisfy even the most exacting critic.

In order to further demonstrate the exclusive conditions under which this report is made and to arrive at approximate conclusions as to the percentage of deaths, we may state that for five of the years included in the seven from which the cases here reported are drawn—in other words, from 1877 to 1882—778 patients with hip-joint disease were treated. During these five years, 168, or 21.59 per cent., were discharged cured, and 50, or 6.4 per cent., died from conditions associated with or depending upon the chronic hip-joint lesion. The causes of death are as follows: Tubercular meningitis, 20; amyloid kidney, 5; phthisis, 3; exhaustion, 3; tubercular peritonitis, septicæmia, and convulsions, each 1; unknown, 16. These statistics regarding death are approximately correct, as can be vouched for by the assistant surgeons who have prepared the reports of the institution.* Deaths from the ordinary diseases of childhood are not included, and, though some of the unknown sixteen were doubtless due to some intercurrent acute lesion, they have all been included among those dependent upon the joint lesion.

It may be stated that many, if not all, of the patients treated in the dispensary are *experimentally* discharged as cured before they are finally entered as *actually* cured. To explain: A patient answering to the tests we apply would be permitted to go without his apparatus as a matter of experiment for a few weeks, weekly observations being made in the mean time. In some instances symptoms would reappear during this preliminary trial after an indefinite period. The apparatus would then be reapplied, and experimentally removed again some months afterward, and this operation would be repeated until the final test of time proved that the recovery was permanent. The four years' limitation was introduced to cover the doubt that might arise regarding the permanency of the result, and all included in this report have been discharged as *actually* cured. The length of

time some of the patients have been under treatment can be accounted for if these facts are duly considered.

The general plan of treatment may be briefly described.

In each case reported, a long Taylor traction-splint was applied soon after the first examination, and the parents or some friends of the patient were instructed in the use of the apparatus. The patient, unless recumbency was necessary to overcome a malposition of the limb, or unless the symptoms were so acute as to demand rest (in which case the patient was visited at home by the out-door visiting surgeon), was allowed almost unlimited exercise in the open air. He was instructed to call at the dispensary every week or two for observation and a readjustment of the apparatus, etc. If the patient's condition required recumbency for a month or more, and his home care was inadequate, he was placed in one of the wards of the institution, but was removed and placed in the dispensary service again as soon as walking was practicable.

The aims of treatment may be briefly summarized:

1. To overcome by mechanical means any acquired deformity that existed before treatment was commenced.
2. To protect the diseased joint from traumatism.
3. To permit the patient to have almost unrestricted out-door exercise, and
4. To maintain that position of the limb which would reduce deformity to the minimum if ankylosis occurred.

In short, the results here recorded were obtained by simple conservative measures, the protection afforded the diseased articulation by the apparatus being the principal feature of treatment. In no case was any operative measure employed, except the occasional opening of an abscess, with in some cases full antiseptic precautions; in others by simple incision and ordinary dressing. But abscesses were not interfered with, as a rule, unless there were positive indications for the employment of the knife. And, as a matter of experience, abscesses connected with a suppurating hip joint did no better under antiseptic measures than those opened by simple incision, and neither did so well as those which were allowed to open spontaneously. "Cold abscesses" were allowed to take their own course, unless they were in a location which interfered with the use of joint protection. Little or no medication was employed.

But these patients were as carefully watched as the exigencies of dispensary practice would allow. If they failed to report to the dispensary as regularly as directed, they were written to and requested to call, or in many instances they were visited by some one of the assistant medical staff. Indeed, although these patients were wholly from the poorer classes, many of them living in the ordinary tenement-houses, and had in very many instances very bad attention at home, they were cared for under the judicious management of the trustees of the institution by a very earnest and thorough corps of assistant surgeons.

And to these assistant surgeons much credit is due. When it is said that among them may be mentioned Dr. Samuel Ketch, Dr. John F. Ridlon, Dr. T. L. Stedman, Dr. Henry W. Berg, Dr. E. D. Simpson, Dr. Leroy W. Hubbard, and the late Dr. Simeon A. Foster, of this city, Dr. A. Sydney Roberts, of Philadelphia, and Dr. George B.

* Dr. Samuel Ketch, one of the senior assistant surgeons of the Dispensary, who, with the others mentioned, has had much to do with the preparation of the reports of the institution, furnishes the authors of the paper with the following information: In addition to the 168 discharged cured and the 64 who died (50 deaths only being due to the hip lesion) during the five years specified, 261 were "discharged relieved," 49 were "discharged for neglect," and 6 were "discharged as incurable." The 261 "discharged relieved" include all who were personally known by some member of the staff to be in a fair way to recover, the patients having, on account of change of residence, removal from the city, or some other cause, passed from under observation. The 49 "discharged for neglect" represent those who, after repeated trials, had failed to follow instructions. The 6 "discharged as incurable" comprise a small class for whom the opportunities of a favorable result were not possible in dispensary practice, and who could not be admitted into the hospital. They were not discharged on account of the pathological conditions present, for many apparently desperate cases have been carried to a successful issue by mechanical means alone. It was largely a question of deformity, not of disease, which gave rise to this classification.

Packard, of Hartford, the character of the work performed needs no further comment.

As affecting the question of result, it may be stated that the long splint, without any joint at the knee, was used from the beginning to the end of mechanical treatment. In private practice, an intermediate splint allowing either hip or knee-joint motion, or both, is almost always used during the period of vulnerability of the joint, after the active symptoms have subsided. This intermediate splint is expensive, and for that reason not available in dispensary practice. It is altogether probable that better results, as regards both ultimate position and motion, would have been recorded in many cases had this intermediate apparatus been employed.

Before giving the results of the investigation, it may be well to say that it was first proposed that a detailed statement of each case should be made in this paper before giving an analysis. But the length of an essay presenting this amount of detail would be such that it would be impossible to read it in one evening. Hence it is that our conclusions only are recorded, but only after a patient and very exhaustive examination.

Of the patients with hip-joint disease who were under the care of the institution, and who were discharged as cured from 1875 to 1882, there were found among the number which were available under the exclusive conditions of this investigation 51 which could be traced. Many had disappeared, and prolonged and diligent search failed to find them. In the years that had elapsed they had moved to other places, leaving no trail by which they could be followed. A considerable number were inaccessible.

Of the 51 patients traced, 4 had died—2 of meningitis, probably tubercular, 1 four months, the other six years after discharge, and 2 of pneumonia, seven and ten years respectively after discharge, having been in robust health up to the time of their last illness. Six had relapses. They had been under treatment $2\frac{1}{2}$, 4, 4, 4, 5, and 7 years respectively. In 1 case the apparatus was removed without the knowledge of the surgeon, but in the 5 others treatment was discontinued only after the joint symptoms had ceased for some months, and the patient could hop, run, and perform other active movements with the affected limb. One of these (the one whose splint was removed at home) remained well two years; 2 were well three years, 2 four years, and 1 five years before relapse occurred. In 1 case relapse occurred from a severe fall from a cart, but in the other cases no cause could be ascertained. As to the progress of these 6 patients with relapse, 1 had excision of the hip performed at one of the hospitals, and was still in bed after the lapse of one year, 2 are still wearing traction-splints and are nearly well a second time, 1 is on crutches and is slowly improving, and the remaining 2 have been cured a second time by the traction apparatus. The remaining 41 patients were seen at their homes and were carefully examined, with the exception of 2, who were reported to be in excellent health, and walking well at the end of four and six years, respectively. The remaining 39 were carefully examined and measured. These 39 patients had been discharged as cured during the period mentioned

(from 1875 to 1882), and had been under treatment as follows:

TABLE I.

Showing length of time under treatment.

2 years.....	4 cases.	6 years.....	1 case.
$2\frac{1}{2}$ years.....	4 "	$6\frac{1}{2}$ years.....	1 "
3 years.....	9 "	7 years.....	1 "
$3\frac{1}{2}$ years.....	6 "	8 years.....	1 "
4 years.....	8 "	Total.....	39 cases.
$4\frac{1}{2}$ years.....	2 "		
5 years.....	2 "		

When these 39 patients presented for their first examination, the disease had been in progress, as stated by the parents or friends accompanying the patient, as follows:

TABLE II.

Showing length of time disease had existed prior to the commencement of treatment.

Length of time.	Cases.	Length of time.	Cases.
Less than 6 months.....	8†	7 years.....	1
Six months to 1 year*.....	18‡	9 years.....	1
2 years.....	3	For an indefinite time.....	2
3 years.....	5	Total.....	39
6 years.....	1		

It can readily be appreciated, from studying the foregoing tables, that the cases reported are unselected. They represent all phases and conditions of hip-joint disease such as are likely to present in every-day dispensary work.

Of the 39, 27 had one or more abscesses at some stage of the disease, and 12 had none. But the latter were by no means the less marked cases or the ones followed by the best results.

Although, in the foot-notes above, an attempt has been made to express in degree the results obtained in certain cases, the difficulty of conveying a definite idea as to results in this manner leads us to state definitely, in tabular form, when possible, the actual results obtained.

First, we will consider the difference in the length of the lower extremities.

The difference in the length of the legs, measured from the anterior superior spine of the ilium to the inner malleolus, was, when any difference existed, from half an inch to two inches and a half, with two exceptions. One patient, with dislocation of the head of the femur, had six inches shortening, and one (without abscess) had three inches. Two had absolutely no shortening. The amount of shortening did not seem to depend upon the presence or absence of abscess. The case with six inches shortening and dislocation ran its entire course without evidences of suppuration, while, on the other hand, the patients in whom there was absolutely no shortening each had abscesses. One of these children with no shortening had six distinct sinuses,

* Of those applying with a history covering less than one year, 19 gave a definite time. Two weeks, 2 cases; 4 weeks, 1; 8 weeks, 2; 4 months, 2; 5 months, 1; 6 months, 5; 7 months, 2; 8 months, 2; 9 months, 1; 10 months, 1.

† Of the 8 cases where disease had existed less than 6 months, the ultimate result was as follows: Perfect, 2; excellent, 2; good, 1; fair, 1; poor, 1; indifferent, 1.

‡ Of the 18 cases where disease had lasted from 6 months to one year, the ultimate results were: Excellent, 1; good, 4; fair, 11; poor, 2.

the other two. It will be seen from a study of the following table, however, that the cases where abscess was present show more shortening than the others :

TABLE III.

Showing the relation of the presence or absence of abscess to shortening of the limb.

Shortening, in inches.	Cases with abscess.	Cases without abscess.
0.....	2	..
$\frac{1}{2}$	1	1
1.....	5	5
$1\frac{1}{2}$	4	3
2.....	8	1
$2\frac{1}{2}$	5	..
3.....	..	1
6.....	..	1
Total.....	25	12

The influence of age upon the ultimate amount of shortening is worthy of study.

In reaching conclusions on the point, the cases were divided into two classes :

1. Those in which the disease ran its course, and was cured before the age of ten was reached ; and
2. Those in which the disease began at, or continued beyond, the age of ten years.

Table No. IV. has been prepared to show the effect of early and late disease.

TABLE IV.

Cases cured before 10.	Cases cured after 10.	Shortening in inches.
2.....	..	0
1.....	1	$\frac{1}{2}$
6.....	4	1
5.....	2	$1\frac{1}{2}$
3.....	6	2
—.....	5	$2\frac{1}{2}$
1.....	..	3
—.....	1	6

Eighteen cases cured before ten years represent an aggregate of twenty-five inches of shortening, while nineteen cured after ten represent thirty-eight inches of shortening.

In studying the general effect of shortening, it was found that it existed principally in the femur, though the tibia shared in it to a lesser extent also. The shortening of the thigh was ordinarily about two thirds of the whole, but sometimes it was less, and in one case of two inches and a half shortening it was wholly in the femur. In two cases, where there was a considerable shortening of both femur and tibia, the fibula seemed much less affected than the other bones. When there is much shortening of the leg, the foot of the affected side is also smaller than the other.

The difference in the length of the legs almost always increases slightly after the disease is cured. At the time of discharge from the dispensary, careful measurements were made and recorded in twenty cases. At that time the shortening varied from half an inch to an inch and a half, and in only four cases was it as much as two inches. Several years afterward these cases showed, almost without exception, an increase in the amount of shortening. In five cases it was an inch or less, and the rest showed from one and a half to two and a half inches difference. The legs

had grown meantime five, ten, or even fifteen inches, so that the shortening was not in any case excessive. It also seems that the shortening does not increase indefinitely, for, in the cases where eight or ten years had elapsed between the two measurements, there was no greater shortening than when three, four, or six years had elapsed.

The difference in the circumference of the thighs, measured at the middle, was from one to three inches. In one case it was four inches, but the majority were between one and two inches. No constant increase or decrease took place as the years went by, some cases showing more atrophy than five years before, and some showing just the same comparative difference. The wasting, however, did not disappear, and in no case, even when the restoration of the joint was perfect, was the difference in the circumference of the two thighs less than one inch. Nor did the amount of atrophy at the time bear in the history of the disease any constant relation to the amount of shortening. It would appear that there may be a maximum of muscular atrophy with a minimum of bone shortening, and *vice versa*.

The atrophy of the muscles of the calf behaved in much the same way, except that it grew less in the course of years much oftener than the thigh atrophy did. It ranged from an inch to an inch and a half, and was ordinarily one half or one third as much as the atrophy of the thigh. In a word, it is apparent that the nutrition of the bones and muscles of the entire limb receives in hip-joint disease a shock from which it never entirely recovers.

No treatment was used to develop these atrophied muscles. The use of electricity, massage, etc., would probably have resulted in much better muscular development, as has often been the case in private practice.

Nineteen cases were found with practically ankylosed joints, six with slight motion in flexion, seven with motion in flexion of from 10° to 45°, and a certain amount of motion in other directions ; three with motion to a right angle in flexion, and good rotation and abduction, and three were found with *perfectly free motion in every direction*.

It is very interesting to see from the subjoined table that the presence or absence of abscess seems to have but little influence upon the amount of motion after final recovery from the disease.

TABLE V.

Showing the influence of the presence or absence of abscess upon joint-motion.

Condition of joint as regards motion.	One or more abscesses.	No abscess.	Total.
	Cases.	Cases.	Cases.
No motion in joint.....	12	4	16
Slight motion.....	4	2	6
10° to 45° of motion.....	5	2	7
90° of motion.....	3	..	3
Perfectly free motion.....	2	1	3

Examination proved that the amount of motion grows less as time goes by. At the time of discharge several of these patients had a certain recorded degree of motion of the affected articulation. This motion had entirely disappeared a few years later, and in this table these cases figure as cases of ankylosis. Two patients in whom 90° of flexion

was possible six years ago, had only 30° when examined in 1886. In no case was it noted that joint motion had increased since the final discharge and record. It almost invariably grew less.

An important practical point, as regards the use of the limb and locomotion in cases where ankylosis takes place, is the position in which ankylosis occurs. In 15 of the cases where there was little or no motion at the articulation there was no flexion of the thigh. The limp in these cases was trivial. In other cases the thigh was flexed at an angle of 120° to 135° with the horizontal plane of the body. This was not a serious impediment to locomotion when a flexible dorso-lumbar spine and a sound hip joint on the opposite side existed, but in one case there was caries of the lumbar spine, and in this case there was very difficult locomotion. Flexion to 135° with a normal spine does not produce either difficult locomotion or a bad gait, and in no case examined did the permanent flexion exceed this angle.

Permanent *adduction* is a more important matter. Of 24 cases it was very slight or absent in 13, in 8 it equaled 10° to 15° , and in 3 cases it was about 30° . In two cases there was slight abduction of the thigh, and in one of these there was a condition of superextension of the knee. But even in this condition the patient walked well. In cases where abduction was present in the earlier history of the disease, adduction was found in the late history; and adduction is likely to occur after the removal of the splint, and to increase up to a certain point. But, as shown above, adduction to 30° occurred in only three cases, and in only one of these was it troublesome. In this case the slight flexion, with adduction to 30° , a real shortening of one inch and a half became, for the practical purpose of locomotion, a shortening of four inches.

It is desirable to maintain the parallelism of the limbs if possible. If the patient can place the limb squarely under the pelvis, locomotion is comparatively easy, even if flexion is present, and in cases where it is possible a protective, intermediate, perineal support with joints at the hip, knee, and ankle should be worn to prevent the adduction which is very apt to occur after the removal of the unjointed traction apparatus.

When the hip joint is stiff the dorso-lumbar spine and the unaffected hip joint have to do the work ordinarily performed by the two normal hip joints. After prolonged walks or over-exertion in locomotion it was common for those examined to complain of backache. But this was only temporary, and disappeared after rest.

One or two were subject to slight attacks of pain in the hip in damp weather, but there was no sign of disease, and a relapse was not anticipated. Their health seemed perfect. Pain and weakness of the ankle on the affected side was common, and non-deforming club-foot or an inability to flex the foot beyond a right angle was present in twenty cases and absent in thirteen. The rest were not noted. It was, of course, most apt to be present when real or practical shortening made it necessary to reach down with the toes at every step. One patient was in a condition of acquired talipes equinus.

A very careful examination was made as to the presence

of lateral curvature of the spine in nearly every case. There were some forty individuals examined, all of whom had some difference in the length of their lower extremities. The difference varied, as above noted, from half an inch to six inches. They had, nearly all of them, this difference when they entered upon puberty. The conditions are those that we have been taught to believe are most potent in the production of true lateral curvature. Habitual malposition of the spine in standing, walking, or even in sitting was present in many cases. And yet in only one case of the whole forty was there anything that approached true lateral curvature. One girl, aged fourteen, had a slight but distinct lateral curve in the dorsal region, and a still smaller curve in the lumbar region. There was slight rotation of the vertebræ, as shown by the position of the ribs, when extreme anterior flexion of the spine was executed. The lateral curve was almost wholly obliterated when the patient was placed on her face and the pelvis was straightened, but the rotation persisted in a slight degree. There was no lateral rigidity of the spine. She had two inches true shortening of the left leg, which was practically three inches in the standing position on account of 15° adduction and slight flexion. There was in this case an incidental curve of the spine due to the tilted pelvis, but in many respects the curvature lacked the characteristics of true rotary scoliosis.

It appears from our investigations that the amount of shortening of the leg is not dependent on the presence or absence of abscess, that it is less in children who are cured before ten years, and that it apparently increases after that age is passed. It also appears that shortening increases slightly after the joint disease is arrested, which seems to prove that the affected limb did not grow so fast as its mate.

Muscular atrophy is always present in hip-joint disease. It persists after the disease is arrested and the apparatus is removed, and it may often improve after treatment is stopped, but never wholly disappears.

The amount of motion in the joint when the disease is arrested and the apparatus is removed is very apt to diminish somewhat in the course of years; but recovery with perfect motion is not impossible, or indeed unlikely. The presence or absence of abscess has no apparent effect on the amount of motion obtained.

Ankylosis being the result most likely to occur, it is important to study the ultimate position of the limb, so that, if ankylosis occurs, the most useful position will result.

Adduction, rather than flexion, is the ultimate position to be avoided, and adduction is apt to occur after the joint seems to be free from inflammation and the apparatus is removed.

Non-deforming club-foot, or even a considerable degree of acquired talipes equinus, may occur when there is much shortening of the leg with flexion of the thigh.

True lateral curvature with rotation occurs very exceptionally, if at all, as the result of even great inequality in the length of the lower extremities, only one case being found in the series, and that not a true rotation curve.

A comparison of the results here reported with the published results of excision of the head of the femur leads

the authors of this paper to the conclusion that the conservative methods of treatment here described promise much better ultimate results than excision of the joint, aside from the greater mortality attending the operation.

We may briefly summarize the results of our investigations as follows: Of 51 patients discharged as cured over four years ago, 4 have died, 6 have had relapse, and 41 have apparently been cured of the disease. Of the 4 who died, 2 only had presumably tubercular disease, the other 2 dying of an acute lesion. Of the 6 who had relapse, 2 are now under active treatment with a prospect of a speedy cure, and 2 have been cured a second time. One has been in bed a year after excision of the joint, the other is on crutches. Of the 41 who recovered there is not a single individual who is incapacitated from doing a full day's work at his or her trade or occupation. Only one, a boy who had suffered from both Pott's disease and hip-joint disease, used a cane, and none used crutches. There are, among those who recovered, printers, glaziers, machinists, errand-boys, shop-girls, dress-makers, and many children attending the public schools—all at their work and none with evidences of active tubercular disease or any serious incapacity arising from the condition for which they were treated years before.

THE MANAGEMENT OF FÆCAL RETENTION UNCONNECTED WITH ORGANIC DISEASE.*

By GEORGE DALTON HAYS, M. D.

THE record of extraordinarily prolonged fæcal retention is a long one, and includes cases ranging from a few weeks to many months.† It is not unusual for a patient to affirm that he has a daily stool, and yet to find, on careful examination, that the bowels are but very imperfectly emptied. This is the "fæcal stagnation with overflow" of Cruveilhier.‡ One of the worst cases it has been my fortune to attend was in the person of a lady convalescent with pneumonia, in whom my nurse continued to report that this function was normally performed. I had eventually to spend some hours in mechanically removing large masses from the rectum.

Fæcal retention may take place in any portion of the large intestine; the masses may completely occlude the tube,* or may lie in pouches over which fæcal matter may pass without obstacle. The largest accumulations are usually found in the sigmoid flexure and the cæcum.‖ Bristowe^Δ mentions cases where the circumference of the colon measured twelve inches, and Johnston[◇] cases where it measured thirty.

The worst cases usually occur in old people, but there is reason to believe that a loaded colon is more frequently

incidental to the ordinary city life than is commonly supposed. Moreover, Gay* has recorded a very severe case in a boy of seven, and Peacock† a fatal one in a man of twenty-eight. The writer has met with numerous severe cases in children, and several in adults below middle age, the female sex largely preponderating. In one case, that of a young man of twenty, seen in Lyons, France, an extremely large quantity of semi-fluid tarry matter was retained by the bowel, until the removal of a ball of hardened clayey fæces, which completely filled the rectal pouch. This is the "ball-valve obstruction of the rectum by scybalous masses" of Sir James Simpson. When fæcal masses become impacted in the rectum we may remove these either with the finger or with the scoop. The sphincter is usually in a state of spasmodic contraction and very painful, and hence the use of an anæsthetic is advisable. Under its influence the sphincter may be dilated to its full extent, or, as Allingham‡ recommends, forcibly dilated, after which we can get at the interior of the rectum without difficulty. In all cases a stream of hot water should be thrown against the hardened masses until they disintegrate. If the scoop is employed it should be used through a speculum, which will also serve to keep the anus from closing spasmodically. After the removal of the masses it is well to introduce a suppository of extracts of belladonna and hyoscyamus, and, if the task has been a prolonged one, a small quantity of morphine may be added. Afterward a dose of castor-oil should be given, and the bowels further regulated by methods of which we will speak hereafter. If the impaction is higher up we must have recourse to other means. It is not infrequent in such cases to begin with some cathartic. In an article entitled "Constipation in Childhood," § Dr. Cheadle says: "Where constipation has long existed the indications are to clear out the intestine by a brisk purge, like calomel and jalap." I am convinced that this is extremely bad advice. Even the mildest laxatives are harmful at this stage. In my experience they have invariably caused severe griping, the result of the forcible propulsion of the hardened matter against the intestinal coats. Before using other means, we should first resort to intestinal irrigation, the apparatus required for which is as follows: || A reservoir for the fluid to be used, a long piece of flexible rubber tubing, and a rectal tube or bougie. These requirements are filled by attaching a quart-size fountain-syringe to tubes of variable diameters, according to the nature of the case. The tube is to be coated with vaseline and gently introduced as high up as possible.^Δ The reservoir, previously filled with the fluid to be injected, is to be placed at an elevation which will cause the proper hydrostatic pressure. The liquid is

* Gay, "Sacculated Colon," "Tr. of the Path. Soc. of Lond.," vol. v, p. 174.

† Peacock, *ibid.*, vol. xxiii, pp. 104-106. On post-mortem, the body was found perfectly healthy, except the enormously dilated colon. In both this case and the one before mentioned, enemata were the only means that gave relief.

‡ "Dis. of the Rectum," Philadelphia, 1883.

* "Lancet," Dec. 4, 1886.

|| Hegar, Korup, and others have invented special forms of this apparatus.

^Δ Six to twenty-four inches or more.

* Read before the Section in Materia Medica and Therapeutics of the New York Academy of Medicine, March 25, 1887.

† Three years is the period mentioned by J. Chalmers in the "Med. Gazette," London, 1843, vol. xxi, p. 20.

‡ "Path. gén.," vol. ii, p. 868.

* Peacock, "Tr. of the Path. Soc. of Lond.," vol. xxiii, pp. 104-106.

‖ Bristowe, "Diseases of the Intestine and Peritonæum."

^Δ *Op. cit.*

◇ Pepper, "Syst. of Med."

to be as near the temperature of the body as possible. When the clasp which compresses the tube is released, the liquid does not usually begin to flow until two or three forcible compressions of the tube have been made to expel the air. To have this more within control, I interpose between the syringe and rectal tubes a bulb such as is found on a Davidson syringe. This not only serves to start the flow of the liquid, but enables one to apply extra force to the stream, if the end of the tube should become clogged with mucus or solid fæces. The patient is to be placed on his hands and knees to favor gravitation away from the rectum. This bowel in a state of health is empty. However true that some of O'Beirne's "Views"* were fanciful, this one seems to have stood the test of time. One of the points thought to weigh against this conclusion is that the finger not infrequently encounters fæcal matter in gynecological examinations *per rectum*. In order to obtain some exact information on this point, the writer addressed a letter of inquiry to a number of eminent gynecologists. A careful analysis of the answers received would seem to indicate that some fæcal matter is found in the rectum at these times. Emmet, who examines in this way every patient who consults him for the first time, replies, the rectum is usually found "with women to contain fæcal matter." Thomas says, "not full of fæcal matter, but containing a small amount." Others state that the rectum is usually found empty by them, but modify this further on by saying that they never examine a patient in this way unless they feel through the vaginal walls that such is the case. We must bear in mind, however, that the gynecologist does not deal with healthy people, and that women of the present day are avowedly constipated. Hilton Fagge† seems to express the opinion of the greatest authorities‡ when he says: "I believe that in health the rectum is generally empty, and that when a fæcal mass, even of small size, has once entered this part of the bowel it ought at once to excite sensations which should bring about its expulsion. In persons who are habitually constipated the rectum loses its natural sensitiveness."

It is not necessary, in accounting for this condition of the rectum, to assume the presence of a third (Nélaton's) sphincter, or of Houston's valves, or of any other appendage. The cause is to be sought in the position and shape of the sigmoid flexure, which eminently fit it as a receptacle for fæcal matter; in the relatively great thickness of the muscular wall of the rectum; and in the considerable constriction sometimes spoken of as the sphincter of O'Beirne, which exists at the upper extremity of this latter bowel.[#] When from intestinal derangements, whether of a temporary or chronic nature, the fæces are more or less liquefied, the

desire to empty the bowel is imperative and frequently beyond the control of the sphincter, whose use appears to be the delaying of the discharge to a convenient moment. It is for these reasons that the patient is to be placed in the position named. By favoring gravitation away from the rectum we are enabled to introduce a quantity of fluid at once surprising and by other means unattainable. As much as seven or eight pints may be thrown up in the manner described without causing any particular discomfort. Of course, the more completely the colon is filled with fæcal matter, the less liquid it is capable of receiving in this way. But this is the point which I desire to make, that by following the plan indicated it is always possible, where no disease of the bowel exists, to bring the liquid introduced into contact with the hardened fæces, no matter how high up they may be situated. The more exactly all the conditions named have been fulfilled, the larger may be the enema introduced and the longer retained; and as the object sought is to soften these masses, and not, primarily, to cause increased peristalsis, it is well to give our attention to every detail. It is, above all, important to have the temperature of the liquid as near 100° F. as possible, to have it flow very gradually,* and with just sufficient force; and to have the tube passed some twelve or eighteen inches or more above the anus. The French irrigatory apparatus and the ordinary Davidson or other bulb syringes are altogether unsuitable for the purpose named. A quantity of the fluid will soon be discharged, bringing away with it more or less fæcal matter; some portion of the enema will, however, be retained, the amount varying with the condition of the colon. The patient is then to be left at rest for several hours, and hot-water bags are to be applied over the abdomen. An ounce or two of castor-oil may be administered, gentle kneading made over the site of the colon, and just before the time the oil is expected to operate another enema is to be given in the manner already indicated. "After this the deluge!" In this way I have removed, with but very slight inconvenience to the patient, large quantities of fæcal materials, which had been accumulating over many months. I have seen the methods usually employed give the patient great agony, set up severe inflammation, and render further efforts in this direction dangerous. Paroxysmal pains of a violent character precede the efforts at stool, and are rapidly followed by symptoms of intestinal obstruction, which may terminate fatally.† Where the fæcal matters are deposited on gall-stones, some pain will necessarily follow their passage.

Isnard, Cantani, and Kerkringuish have maintained that water may be made to pass the ileo-cæcal valve. A host of other observers assert that this is impossible. Certainly no fluid‡ can be injected past this point in the cadaver when the valve is normal.

* "New Views of the Process of Defecation," Dr. James O'Beirne, Dublin, 1833.

† "Prin. and Practice of Med.," London, 1886.

‡ Foster, "Physiology," London, 1880, pp. 302-304; Yeo, "Physiology," Philadelphia, 1884, p. 120; Flint, Jr., "Physiology of Man," New York, 1875, vol. ii, p. 406; Flint, "Pract. of Med.," Philadelphia, 1881, p. 533.

[#] Bushe, who was O'Beirne's first great critic, denied the existence of this constriction.—"Dis. of the Rectum and Anus," New York, 1837.

* Dr. Jewell says "the fluid should flow with considerable force until it makes its way past the upper sphincter, which is at the lower part of the sigmoid flexure."—"Overfilling and Dilat. of the Colon," "Med. Age," Oct. 11, 1886. This resistance is best overcome by the use of the long tube.—G. D. H.

† Bristowe, *op. cit.* Johnston, *op. cit.*

‡ Galen, Sennert, Pare, Bartholin, Colson, De Graff.

As, however, the formation of fæcal matter begins at the valve, and as the small intestine very rarely becomes the seat of fæcal deposit,* the question is not a very important one as regards our present subject.

For the treatment of constipation in its milder forms, or to prevent the recurrence of these large fæcal masses, we have numerous means at our control. We may classify them as hygienic, mechanical, and medicinal.

Among the hygienic the first place should be assigned to diet. Constipation is most frequently dependent upon stomachal or intestinal indigestion, and, if this can be cured, we shall most frequently find ourselves far advanced in the relief of the constipation. No system of diet can be tabulated suitable for the exigencies of every individual case; the aim is to secure perfect digestion and absorption and natural peristalsis.

Bischoff and Voit have shown that the evacuations depend to some extent upon the character of the food, vegetable diet producing abundant and animal diet scanty stools. Articles which have a laxative power, however, seem to lose it from continued use. Moreover, excess of vegetable food constipates by mechanically filling up the bowel with matters difficult of removal.†

Ingestion of too small a quantity of water is a cause of constipation. I have been able to relieve a number of patients by ordering some non-laxative mineral-water, such as Apollinaris. Drinking-water is no doubt equally serviceable, but the other is pleasanter, and, according to my experience, much more likely to be persisted in. Coffee, with milk, at breakfast is an excellent regulator of this function in many. Its effects, however, are most marked in those to whom its use is not habitual. In some people milk answers the same purpose. Graham-bread has long been lauded as more nutritious and less constipating than the loaf made from white flour.

The writer has elsewhere ‡ pointed out the fallacy of the former opinion, and the latter is a very doubtful one and still *sub judice*. Its laxative tendency is supposed to depend upon the mechanical action of its refuse matter in exciting peristalsis. Foods chosen for this purpose are only temporarily efficacious and not infrequently dangerous. The seeds of fruit and the husks of seeds are very apt to produce acute or chronic constipation.*

Exercise in the open air is of great value in keeping the bowels regular. Marshall Hall || and Habershon ^ both laid stress on its importance in this particular. Horseback riding, tennis, rowing, and, perhaps, walking, ¶ are of service. Where these are unattainable, great good will follow the

* Bristowe (*op. cit.*) mentions cases where the small intestines were filled with semi-fluid, olive-green contents. Aitken ("Science and Pract. Med.," London, 1880, p. 893) states that the small intestine may form fæcal matter.

† Habershon reports cases of constipation from the habitual use of coarse brown bread. "Diseases of the Aliment. Canal," London, 1857.

‡ "Artific. Alimentation," "N. Y. Med. Jour.," January 29, 1887.

* Numerous cases are mentioned by Howship, "Diseases of the Lower Intestine and Anus," London, 1821, and by King Chambers, "Digestion and its Derangements," New York, 1856.

|| "Disord. of the Digest. Organs," Keene, 1823. ^ *Op. cit.*

¶ Henoeh thinks walking of very little value in this affection.

judicious use of the pulley apparatus known as the "chest weight." Motions which tend to arch the abdomen forward are those which develop the muscles of these parts. I can speak confidently of the utility of this apparatus from experience of its use in my own person. It is of especial service to girls and young women. The weight should never be sufficiently heavy, nor the exercise sufficiently prolonged, to cause fatigue. It is the little brisk exercise that does so much service. Very violent exercise, accompanied by profuse perspiration, favors constipation by increasing the dryness of the stools. Habit plays a great part. Regular hours for meals and for defecation largely favor normal peristalsis. The bowels should be solicited every day at the same hour. If they fail to move one day, they should be solicited at the same hour on the next day, and even on the third day, before resorting to medicine. This is, above all things, important in young children, in whom habit is so great a factor.

Interference with habit is often the beginning of much future disorder. I have at present under my care a lady whose trouble began on entering boarding-school. Her teachers here were principally men, and a sense of false modesty prevented her leaving the room at the hour when she had always been accustomed to satisfy her natural desire. Many of the other young ladies in the school were afflicted in the same way.

Climate is a factor. Differing degrees of humidity of the atmosphere have close relationship to constipation and diarrhœa.

Of the mechanical measures the most important is the clyster. This useful agent has been employed from time immemorial,* the ancients ascribing its origin to the stork, which, as Galen relates, "once upon a time, having pains in its belly, took up sea-water in its bill, and squirted it into the rectum." In acute constipation, occurring in adults or children, the best method of emptying the bowels is by a warm-water enema, introduced through a tube passed high up. In chronic constipation one of the best means of restoring normal peristalsis is the injection of a small quantity of cold water into the rectum, or of a larger quantity passed high up through the tube. The use of the ordinary short pipe for large enemas is very irrational, because the fluid immoderately distends the rectum, the frequent repetition of which may lead to torpor of its coats. It is said that the prolonged use of clysters causes muscular enfeeblement, and that it is dangerous "to distend a bowel already weakened by distension." There is no doubt that enemata, given in the ordinary way, soon become ineffectual, and eventually increase the torpor of the bowels. But I am convinced by the most painstaking investigations, carried on through a period of years, that the dangers said to beset the use of this remedy arise from a misconception of its proper application. I was highly gratified by coming across the following views of Dr. Winternitz, expressed in a late work: † "Low-tempered fluids injected in very small quan-

* Aetius treats of clysters very fully. He prefaces his account of them with a list of the evils arising from constipation. "Works of Paulus Ægineta," London, 1844.

† Ziemssen's "Handbook of Gen. Therapeutics," New York, 1886.

ties into the lowest part of the bowel, or infused gradually into the upper portion by means of a long tube, do not easily lose their efficacy, and will prove useful after years of constant use." In regard to the second objection, it has been shown* that dilatation of the intestine is usually accompanied by hypertrophy of its muscular coat. Röhrig has proved that water injected into the intestine temporarily increases the flow of bile, and this means more active peristalsis.

Passing on to other mechanical measures, we may mention soap or gluten suppositories as a common and useful means of exciting a natural habit in infants and young children.

There is an axiom of Hippocrates that anorexia, heartburn, vertigo, and a bitter taste in the mouth, in a person free from fever, indicate the want of "purging upward." These are the symptoms which are usually denominated by the popular word "bilious," and which the older writers supposed to be due to "the accumulation of bile of an unnatural character, and possessed of some unusual irritating elements."† According to J. Wickham Legg,‡ there is no evidence to prove that this affection is accompanied by any increase or decrease, or *any* change whatever in the secretion of bile. However this may be, the symptoms yield as soon as a discharge of bile and of the contents of the intestine has occurred. This is often impeded by the great irritability of the stomach, and hence, unless vomiting has already taken place, ipecac may be given until emesis occurs. This is the "purging upward" of Hippocrates; but by stomach *lavage* we accomplish the same object to-day in a much more satisfactory manner. Not only in these cases, however, but in all forms of constipation, I am accustomed to wash out the stomach. In the modern method of stomach siphoning we have a remedy eminently practical and satisfactory; and I have yet to see a case that can not in some measure be benefited by it.

Cholagogues are useful in these "bilious" attacks, not because they stimulate the liver, as has been supposed, but on account of their power to cause a discharge of bile from the body by their action upon the intestines.*

Electricity is an important agent in restoring tone to the walls of the bowels and abdomen, but, to be of any permanent service, its use must be persisted in for weeks. An insulated electrode may be introduced into the rectum, while a large sponge electrode is passed over the abdomen. The interrupted current is to be employed. Very powerful currents can be borne in the rectum without discomfort. As Niemeyer says,|| the proposal to place one electrode in the mouth and the other in the anus must be regarded as very naïve. Beard and Rockwell^Δ mention a number of cases in which the faradaic current proved curative, and

Watson* others with the galvanic current. I consider electricity a valuable adjunct, but have never felt safe in relying upon its aid exclusively. Massage will serve the place of exercise in feeble persons. Dr. Graham,† and more recently Dr. George Beine,‡ have reported cures attributed to this means alone. The Swedish-movement cure is also accredited with successful results in this direction.* Cold douches or compresses to the abdomen are other useful measures, as are also cold sitz baths.|| An abdominal support is of value in the aged, and in multiparæ with lax abdominal walls.

Certain drugs are used in the treatment of accidental and habitual constipation. Purgatives are usually classified into laxatives, cathartics, and drastics. Another classification^Δ is into those which increase intestinal secretion, those which act upon the central nervous system, and those which act by local irritation (mechanically). A word as to the philosophy of their employment.

The experiment known as Thiry's fistula had led physiologists to conclude that all purgatives acted by increasing peristaltic movements until the more accurate researches of Moreau showed that they cause also a decided secretion of fluid from the intestinal walls. Hess,◇ of Munich, has recently done some confirmatory work in the same direction. In accidental constipation we have a long list of valuable agents. The most frequently used are the salines, especially in the form of mineral waters. Of these, Hunyadi, Friedrichshall, Pullna, Congress, Hathorn, Vichy, Kissengen, and Carlsbad are the most valuable, and most commonly employed in the United States. These waters are usually well borne by the stomach, act rapidly and painlessly, and leave no after-effects. It has been found that the sipping of fluids not only increases the secretion of bile, but raises the pressure under which the secretion takes place. The experiments of Heidenhain proved that the pressure under which the bile is excreted is very small, and therefore very little obstruction to its flow into the duodenum is sufficient to keep it from entering the intestine. Hence sipping is the manner in which these waters should be used, and probably accounts for the fact, discovered by Rutherford, that Carlsbad water taken in numerous sips, for an hour or more, as at the springs, is so efficacious in hepatic disorders; while a solution of sodium sulphate, its main constituent, as ordinarily used, has very slight action on the liver. Castor-oil is a mild and very excellent laxative. It operates in from four to six hours. It may be disguised in strong coffee, in hot milk flavored with cinnamon, or in the froth of ale or porter.

If a cholagogue action is desired, we may select any of the following drugs: aloin, rhubarb, podophyllin, the mer-

* Bristowe, "Pract. of Medicine," London, 1876, p. 714.

† George Gregory, M.D., "Theory and Pract. of Physic," Amer. edit., New York, 1830.

‡ "The Bile, Jaundice, and Bilious Diseases," London, 1880, p. 661.

* Murchison, "Dis. of the Liver," New York, 1885. Brunton, *op. cit.*

|| "Practical Med.," New York, 1871.

Δ "Med. and Surg. Uses of Electricity," New York, 1871.

* "Pract. of Physic," Sir Thomas Watson, M.D., London, 1871.

† "Treat. on Massage," New York, 1881.

‡ "Jour. de med. de Paris," Jan. 2, 1887.

* "Treat. of Constip. by the Swedish Mov. Cure," Dr. Benjamin Lee, "Med. and Surg. Reporter."

|| 15-25° C (60-75° F.).

Δ All classifications are avowedly artificial, since there are no sharp lines of demarkation.

◇ "Deut. Archiv für klinische Medicin," Band xl, Heft 1.

curials, euonymin, and iridin. I have found the following particularly serviceable:

R Aloin..... gr. $\frac{3}{4}$;
 Mass. hydrarg..... gr. vj;
 Extract. hyoscyami (Squibb)..... gr. ix.

M. Ft. cap. no. iii. One at night as required. The action of this pill is gentle but very satisfactory. I give one at night, and order it to be repeated at the end of forty-eight hours if the group of symptoms denominated "bilious" has not completely disappeared. I have never known it to produce griping, except where the colon is overloaded, and in such cases it should be preceded by an enema, as has been already indicated. Another combination is as follows:

R Aloin..... gr. $\frac{3}{4}$;
 Pulv. aromat..... gr. ix;
 Ext. hyoscyam. (Squibb)..... gr. vj.

M. Ft. cap. no. iii. Sig.: One at night. These are prescribed for delicate patients, especially women, where repetition of the remedy may be necessary from time to time, and where it is not advisable to administer a mercurial. Rhubarb is a valuable remedy in unloading the bowels, especially in infants, to whom it is best administered in the form of the compound powder or the aromatic syrup. For adults where a mild action is desired, the compound pill of the pharmacopœia proves serviceable. Podophyllin, so strongly praised by Brunton and Ringer, and vaunted as the regulator *par excellence* of stools by Constantin Paul, has proved both an unreliable and unsatisfactory drug in my hands, and I have completely discarded its use. One great authority, Dujardin-Beaumetz, is dissatisfied with it, for he says*: "Podophyllin determines severe bodily pains, and I have been obliged to abandon it for this reason."

Phosphate of sodium and chloride of ammonium are also employed as cholagogues. The former is a useful agent where the constipation is associated with intestinal catarrh. It may be administered in ten-grain doses to children, and drachm doses to adults.

In habitual constipation the use of drugs is to be avoided if possible. Very few of them have more than a temporary value; they frequently perpetuate the evil for the cure of which they are employed, and they create in the individual a tendency to render wholly an act of volition a function designed by nature to lie principally without the will.

Of the drugs used to restore lost tone to the intestinal walls, strychnine stands at the head. It is often serviceable, but should only be employed as an adjuvant to a proper dietary and a better hygiene. It may be advantageously combined with aloin and belladonna, an excellent remedy being a pill containing the following:

R Aloin..... gr. $\frac{1}{4}$;
 Strychn. sulph..... gr. $\frac{1}{80}$;
 Ext. bellad..... gr. $\frac{1}{4}$;
 Pulv. ipecac..... gr. $\frac{1}{16}$.

Sig.: One at night.

This pill possesses the advantage of producing stools of a natural consistence, and of being harmless if long con-

tinued. If it acts too freely, the dose should be decreased. Nothing approaching a purgative effect should be permitted. Eventually its use should be intermitted for longer and longer periods, and at last omitted. A favorite prescription of Allingham* consists of a pill containing one grain each of aloes and quinine, and one quarter of a grain each of sulphate of iron and extract of nux vomica. The iron salt is a valuable addition. Aloes in small doses is one of the best remedies for atonic subjects. It has numerous official combinations in the pill form. Of these the most noted are the pill of aloes and mastic, and the pill of aloes and myrrh. Either of these may be employed where the strychnine in the foregoing formula is contra-indicated. As aloes requires from ten to twelve hours to act, it is frequently employed as a "dinner" pill. In this case, as in others, the active principle (aloin) is more reliable than the crude drug. Aloes is contra-indicated in the constipation of plethora, and in irritable states of the alimentary canal.

Belladonna was advised by Trousseau to increase peristalsis and to prevent griping. If it does not possess all the curative value he alleged for it in this affection, it is nevertheless a useful agent.

Ipecac is classed by Brunton† as a powerful hepatic stimulant. Ringer‡ states that it possesses some purgative action, which it exerts by increasing the production of mucus. One grain may be given each morning before breakfast, he says, to relieve constipation depending on great torpor of the intestine. The same treatment will relieve the associated dyspepsia.

Physostigma is another drug of use in intestinal torpor. In cases of constipation connected with irritable states of the spinal cord, I am in the habit of prescribing the following:

R Extract. physostig..... gr. $\frac{1}{2}$;
 Extract. bellad..... gr. ij;
 Extract. ergot..... gr. xij.

M. Ft. pil. no. vi. Sig.: One at night.

I have found these very useful in some cases, and have known them to fail in others.

Arsenic, in small doses, is of service in constipation dependent upon catarrhal states of the stomach and intestine. It should be administered in the form of Fowler's solution, one or two drops, three times a day, largely diluted, and persevered in.

Cascara sagrada (*Rhamnus purshiana*) is a valuable remedy. It acts like *Rhamnus catharticus* and *Rhamnus frangula* in increasing the intestinal secretions and in stimulating peristalsis, but it is less drastic and more active than these. It may be exhibited in ten- to fifteen-minim doses of the fluid extract, combined with aromatics, after each meal, or in two- to five-grain doses of the extract. Its use in this way is not attended with unpleasant after-effects, nor does it cause griping. It is indicated in obstinate and prolonged constipation accompanied by sympathetic derangement of the digestive tract. Many such cases in women, where the colon had been allowed to distend from neglect and in-

* "Disease of the Rectum," Philadelphia, 1883.

† "Pharmacol., Therapeut., and Mat. Med."

‡ "Hand-book of Therapeutics," N. Y., 1886, p. 421.

* "Dis. of the Stom. and Intes.," Amer. edit.

attention, have been recorded as successfully treated with this drug; and I can add to this favorable testimony flattering results in several cases under my own care. After it has been employed for a while, it is found possible to gradually diminish the dose. In the "bilious" attacks to which reference has been made the following mixture often proves serviceable:

R Sodii phosphat..... $\frac{3}{4}$ ss.;
 Aquæ bull..... $\frac{3}{4}$ jss.;
 Ext. cascarr. sagrad. fl..... $\frac{5}{8}$ ss.;
 Elixir aurantii..... q. s., ft. $\frac{3}{4}$ iv.

M. Ft. sol. Sig.: One ounce at bedtime.

Sulphur is a mild laxative, producing semi-liquid stools. It is adapted to childhood, and is most pleasantly administered in the form of the compound licorice-powder.

Senna, manna, and calcined magnesia are other remedies in use for the constipation of children, especially by the laity. The latter is sometimes the nucleus for intestinal concretions. Especially in childhood should the greatest discrimination be employed in the selection of remedies for the constipated habit. Infants and children may usually be cured of this affection without the use of drugs. A careful and persistent investigation of the diet and of the stools will generally enable us to discover the source of the derangement.

Starr* recommends a confection of tamarind, senna, and tartaric acid, flavored with oils of anise and lemon.

Extract of malt is of service in teaspoonful doses, three times daily, administered in milk, and will sometimes prove curative. Occasionally its taste proves objectionable, but by a little persistence this may be overcome. Cod-liver oil in doses varying from ten to sixty drops, according to the age of the child, may also be employed. It is advantageous to alternate these at periods of a few weeks. It is often necessary to administer a number of drugs before we find the one most suitable to the case in hand, or to use them by turns, as the susceptibility to a particular one becomes lost by continued use. If the drug chosen possesses curative powers (and only such should be employed in habitual constipation), and if its administration is supplemented by proper hygienic measures, the dose may be gradually reduced, trusting to the bowel to act more and more, without artificial encouragement. We must judge of the value of the agent employed by its mode of operation. If, as says Sir Andrew Clark,† it succeeds in producing in a natural manner one moderate formed stool daily, it may, if necessary, be continued indefinitely without fear of injurious effects.

One word, incidentally, on the subject of hypodermic purgation. Various substances have been vaunted by different observers as being efficacious when introduced in this way. The most noted is sulphate of magnesium, which Luton‡ stated, from experiments on himself and on his patients, provoked diarrhœic stool, when administered in injections of ten centigrammes. It has not proved

equally successful in the hands of others. I have lately been making some experiments upon my own person with colocynthin, the glucoside of colocynth. I have employed it hypodermically in one-third-grain doses, dissolved in water, and combined with one grain of cocaine. Without this latter the injection is painful. In the course of three or four hours it has produced several diarrhœic stools. My experiments have not been sufficiently numerous, as yet, to enable me to draw any wide conclusions. The value, in some conditions of the body, of a drug which will produce prompt and thorough catharsis when introduced hypodermically, is evident.

Constipation is a common accompaniment of pregnancy. For its relief, the first indication is to correct all errors of diet, and to have articles of a laxative nature form a due share of the food taken. If medicinal interference is required, care should be taken to choose those remedies which are mild and unirritating. Some aperient mineral water may answer, or some confection, as of senna or sulphur. Enemata of soap and water are very useful, and are especially indicated in the latter months, when more violent remedies might bring on a miscarriage. Constipation following difficult labor is sometimes very prolonged,* and is best treated with enemata.

Women who have previously been regular often develop constipation at the menopause. In the case of a patient whom I am now treating, the reflex symptoms developed by fæcal accumulations were sufficient to excite the suspicion of uterine trouble. An eminent gynæcologist could discover, however, no womb trouble of any kind, while massage, electricity, a proper dietary, and the occasional use of the aloes, strychnine, and belladonna pill have greatly modified her condition. Tilt† mentions numerous cases of this kind.

To sum up: In acute constipation the best remedies are clysters, salines, and castor-oil; in those forms denominated "bilious," lavage, emetics and abstinence, and the use of cholagogues. Impaction of the colon results from causes of a chronic nature, but is apt to develop acute symptoms. Our chief reliance here rests upon intestinal irrigation. This should be employed in the manner indicated. In chronic constipation a thorough trial of all the hygienic and mechanical aids should precede the use of drugs, and, where recourse to the latter has eventually to be made, such aids are always to supplement all other forms of treatment. Medicines having a curative tendency should always be chosen in preference to those which merely relieve the symptoms. Enemata are also of great value here. Aloes, rhubarb, belladonna, strychnine, cascara, ipecac, physostigmine, ergot, and the occasional use of the salines, are the most efficient remedies of this class. Various combinations and alternations of these produce effects not otherwise attainable, but it is essential to bear in mind that our remedies should be directed to the cause and not to its effect. In constipation of a chronic nature large fæcal accumulations may occur at any time, and no exami-

* "Diseases of the Digest. Org. in Children," Philadelphia, 1886.

† Lond. "Lancet," Jan. 1, 1887.

‡ "On the Purgative Effects of Subcutaneous Injections of Sulphate of Magnesium." "Bull. de la soc. méd. de Reims," 1873.

* See case of M. Martin, "Comptes rendus," p. 32.

† "Change of Life in Women," Philadelphia, 1883.

nation of a patient is complete which does not include a careful exploration of the colon through the abdominal walls.

When constipation has been diagnosticated as the cause of the group of symptoms for which our aid has been sought, it is frequently very difficult, especially in the case of young women, to sufficiently interest the patients in their own cure. They are apt to view the attention to these details as in some measure humiliating. To such we can only quote the words of Maclaren: "Mind and body should be viewed as the two well-fitting halves of a perfect whole, designed in true accord mutually to sustain and support each other, and each worthy of our unwearied care and unstinted attention."

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OBSERVATIONS ON DIPHTHERIA; ITS COMPLICATIONS AND TREATMENT.*

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It is not my province to enter into any discussion here as regards the ætiology or pathology of diphtheria, nor is it my purpose to review the various methods of treatment. I shall confine myself to presenting, in as concise a form as possible, my personal observations and experience in reference to the disease, and to dwelling at some length upon the treatment in relation to its immediate complications.

To be brief, its ætiology is at present stated to be a germ exceedingly contagious and generally virulent in character, especially in its epidemic form; that in by far the larger number of cases this contagion, capable of reproducing the disease, is carried from one to another by some factor and in some form or other, while in others it has been reported as occurring spontaneously and in completely isolated places. Unfavorable sanitary conditions are no doubt strong factors in the ætiology of the disease. It is a fact that any undue exposure to colds, followed by coryza and its concomitants, in which the nasal and faucial tracts are in a condition of irritability and epithelial abrasion, renders one more susceptible of attack.

The occurrence of sudden epidemics or endemics, and even sporadic cases, can perhaps be explained by the contagion or germs remaining latent for a considerable period; then, favored by a peculiar and as yet unexplained atmospheric condition, a suitable nidus presents itself and the contagion is rapidly developed, spreading more or less with equal rapidity. It is undeniable that diphtheria is more fatal in proportion to the number of persons attacked than any disease prevailing ordinarily; thus it behooves us to give it our most earnest attention.

Whether diphtheria is primarily a local or constitutional disease is still a question to be decided by further research; at the same time we should not be led astray from the fact

that the prevailing opinion at the present day is to the effect that it is primarily a local disease, betraying specific local manifestations and rapidly involving the general system. In opposition, however, to this view of the primary local origin of diphtheria is that of Flint and J. L. Smith, who regard it as a constitutional disease—in fact, an essential fever at its very commencement, the local affection being its anatomical characteristic, a simple manifestation of a blood disease. My own view of the matter, however, coincides with that of those holding the disease to be primarily of local origin. In some cases constitutional symptoms of the disease are met with which precede the local manifestations, and are frequently out of proportion to each other, while in others, and these more numerous by far, the local disease process is the earliest sign of the disease. In many instances we have met with grave cases of the disease in an advanced stage of local manifestation where the exudation was extensive, in which the general symptoms were so slight that no serious illness was suspected. Its invasion is frequently insidious, no ground for suspicion arising, the symptoms apparently attracting no attention until the local disease has made considerable progress; especially is this so in nasal diphtheria. Prodromes may be more or less marked; in many cases they are, as previously stated, apparently absent and attention attracted only after the membrane has already formed, and one finds himself face to face with the fact that the disease is well advanced. Other cases are of such mild character as to cause doubt of any requirement for direct treatment; it is in these apparently mild cases that one is very apt to err. The larger number of cases of diphtheria, however, are ushered in by signs of acute inflammation, with more or less pain or difficulty in swallowing; membrane forms rapidly on the tonsils, extending with great rapidity to the fauces, frequently to the larynx and nostrils. Occasionally the larynx is primarily affected, with or without extension upward; the same may be said of the nasal form of the disease. In suspected cases, when of a primary nasal or laryngeal form, the rhinoscope or laryngoscope will be found of material advantage in arriving at a satisfactory diagnosis.

In epidemics or endemics of diphtheria, where the tonsils and fauces are merely inflamed, one may anticipate its being diphtheria, but no positive diagnosis can be made until the appearance of the exudate either in punctated lenticular spots or a more marked form. It is very frequently the case that the beginning exudation is more marked on one side than on the other. In mild types of the disease there is a greater liability to its extension into the larynx, because of its supposed innocuousness and the consequent freedom and exposure of the patient. Where the disease is protracted or a relapse occurs, the nasal passages will frequently be found to be the seat of the disease, even though there is a slight or no indication of the affection in the throat.

In the form of diphtheria called *catarrhal*, where the disease seems to be aborted in its first stage, no lymph exudate or false membrane making its appearance at all, one can not assert positively that the disease is diphtheritic in character even when one's attention is aroused by the prox-

* Read by title before the Medical Society of the State of New York at its eighty-first annual meeting.

imity of undoubted cases of the disease; though it is well to anticipate it under the latter circumstances, there is little sense in causing needless alarm, as is frequently the case. An ordinary catarrhal pharyngitis or amygdalitis may be confounded with or mistaken for this somewhat rare form of the disease, and *vice versa*; the occurrence of the characteristic paralyses later on no doubt verifies the diagnosis of catarrhal diphtheria. Mild abortive attacks of nasal diphtheria are no doubt occasionally placed in this category of the catarrhal form.

Again, no doubt, a number of cases of amygdalitis—where the initial symptoms appear as rapidly as in diphtheria, with the formation of small grayish-white spots on the tonsils, but sufficiently numerous to make it appear as if some have coalesced to form a rather distinct membrane—have been hastily and carelessly glanced at and as rapidly diagnosed as diphtheritic amygdalitis, and, the natural tendency being toward recovery in all cases, have been reported as recoveries from diphtheria. A mistake in diagnosis of this kind is pardonable compared with that of mistaking a true diphtheritic amygdalitis, light in character, with no extension of the membrane into the fauces, which occasionally is the case in simple though severe amygdalitis.

Nevertheless, this similarity of mild cases of tonsillar diphtheria and severe amygdalitis is evident and very puzzling at times, and one may easily mistake one for the other if not careful. Complications may or may not occur later on, as in the catarrhal form of the disease, to verify the previous diagnosis.

There is an additional danger to be guarded against in the mild forms of diphtheria, so apparently innocent in character, in that they may offer a contagion very severe in character to persons having been in immediate, or even mediate, contact with the patient.

It may truly be said that enlargement of the glands about the neck is in just proportion to the extent and severity of the local disease. This statement is confirmed by Dr. Winters, in a recent paper, in the following words: "Swelling of the cervical lymphatics is not a necessary attendant on diphtheria, and does not depend upon the character of the affection, but rather upon the amount of disease in adjacent structures." Dr. Jacobi, in a recent paper upon "Follicular Amygdalitis," has also expressed a similar view.

When the diphtheritic exudate occurs primarily in, or extends to, the nares, the lymphatics being there abundant, glandular enlargements are developed and septic trouble or toxæmia occurs, due to rapid absorption of the poison; when occurring upon the tonsils only, it is apparently innocent in character because of the slight lymphatic connection of the latter.

Severe as the local affection often is, and dangerous and difficult as it may be to treat, yet the constitutional symptoms form a large and important part of the morbid manifestations generally, which demand our strict attention. They have this peculiarity, that not only do they manifest their presence generally at the outset of the disease, often indeed with such severity as to destroy life before the local manifestations have had time to fully develop, but also tend

to show themselves at later periods, when the local disorder has passed away, when in many respects the patient might otherwise be considered to have recovered, and when serious results were no longer dreaded.

The influence which the diphtheritic poison exerts upon the constitutional powers is essentially of a depressing character, in both the earlier and the later stages of the disease. That this depressing influence, which appears to be chiefly upon the nervous system, continues beyond the period of the acute stage is manifested in the sudden and apparently causeless sinking and death which has frequently supervened in the course of what appeared to be rapid convalescence; that it is also active at a still later period is shown by the occurrence of various forms of paralyses, and that these paralyses are due to the presence in the system of a peculiar morbid poison, its special affinity being for the nervous system, is evident by the general vital depression and subsequent more or less complete suspension of the functions of particular nerves or systems of nerves.

The greatest danger in diphtheria lies in the fact of the absorption of the poison into the system, producing a condition of toxæmia, frequently followed by a fatal result.

This toxæmia is generally very insidious in character, and is frequently passed by, or at least the general treatment is relaxed, because of the disappearance of the greater part of the local disease process, until too late to recuperate the failing powers, and the insidious poison acts directly upon the heart, gradual asthenia resulting.

The frequency of deaths from diphtheria, in cases apparently light in character, is perhaps due to failure to grasp the situation, in that these so-called light cases are passed by without giving that strict attention necessary in all cases of this dreaded disease; in other words, overconfidence rather than negligence is frequently the true cause of the patient's death. Then, again, cases will be met with quite often of a type necessarily fatal under any plan of treatment, even with the most careful attention.

Primary laryngeal diphtheria at times simulates very much that allied disease, which from a clinical standpoint is, by several prominent writers, stated to be a like disease—membranous laryngitis or true croup, no real differential diagnosis, in their opinion, existing between them. It is even stated that the paralytic sequelæ of diphtheria have also been met with, though rarely, after membranous laryngitis.

Taking it from a pathological standpoint, the separate existence of these diseases seems evident, the reverse, however, being the case clinically. Flint states that pseudo-membranous laryngitis as a complication of diphtheria is not an infrequent occurrence; nor is the fact of such complication inconsistent with the belief that they are distinct diseases.

Secondary diphtheria, characteristic mainly of and not an uncommon complication of scarlatina, is quite often met with; it is characterized by the same phenomena as in the primary form of the disease, and offers perhaps greater difficulties in its treatment, especially because of the weakened condition of the patient from the preceding disease.

To quote from an article on diphtheria in a Western medical journal, that "the severity and mortality of the

disease can be readily controlled if detected and treated sufficiently early, and the disease could, therefore, be regarded as one of the most trivial of throat affections, with here and there a grave exception," seems to me rather an extreme statement of the case—one that, I regret to say, has not as yet been borne out by even the improved and numerous later additions to its method of treatment.

The "here and there grave exceptions" have certainly proved more numerous than the trivial ones, as can readily be made out by statistics.

There is a principle in medicine which teaches that any existing general influence may make itself felt more on some parts than on others, the selected parts appearing peculiar in their distribution and character, the mode of action of this general influence being thus considered a specific one. This applies equally well to the regional paralysis of diphtheria. Local or partial paralysis, showing itself in various forms, has frequently been observed as one of the characteristic sequelæ of diphtheria; the muscles of deglutition and articulation are most frequently affected and generally before its occurrence elsewhere, quite in keeping with the fact that these muscles are in direct contact with and thus related to the local poison; it is denoted by dysphagia, nasal sound of the voice, and some thickening in speech, as also regurgitation of liquids through the nostrils.

This paralysis is either the result of the local affection early involving the soft palate, or attributed to anæmic and other deteriorations of the blood—in fact, a toxæmia affecting especially the nervous system, showing itself at times at the end of the fourth to the sixth or seventh week. It is not infrequently the case that where the local affection is least pronounced one will find paralysis occurring. In this connection, therefore, it does not necessarily follow, as stated by Senator, that "all paralyzes must proceed directly from the palate and the posterior wall of the pharynx or fauces, and not from the diphtheritic toxæmia." Were this the case, a close relation should exist between the character and extent of the local primary affection and the rapidity of the secondary affection or paralysis. Diphtheritic toxæmia and subsequent paralysis, occurring weeks after the disease and its local manifestations have disappeared and the patient has been pronounced well, can not be explained in this manner.

Where paralysis is detected in the extremities, it is from the beginning more general than it appears to be; the paralysis in the upper extremities, though at times equally developed as in the lower, escapes detection for the time being, because of the greater stress of work put upon the muscles of the lower extremities when the patient is in the erect posture. Paralysis is, in my opinion, thus manifested earlier in the lower extremities, seeming to progress upward. The paralysis generally occurs gradually, with a sensation of pricking or numbness in the region of the affected muscles; occasionally the paralysis is very rapid in its progress. The affected muscles or sets of muscles occasionally undergo atrophy, even to a marked degree.

Why paralysis of one set or several sets of muscles, especially of the lower extremities, should occur independently while other sets of muscles escape, is yet to be explained

correctly. Paralysis of the ocular muscles is said to be of rather frequent occurrence; I have as yet failed to meet with such a complication.

In many fatal cases of paralysis complicating diphtheria but a short time intervenes between the appearance of the paralytic symptoms and death; in one case in which I was called in consultation, where the muscles of both the lower extremities as well as those of the pharynx and larynx were affected, the child died four days after the appearance of the paralysis, death being due, no doubt, to rapidly supervening cardiac paralysis.

The importance of renal complications, as indicated by albuminuria, is no doubt due to early involvement of the general system, perhaps directly due to the diphtheritic poison entering into the blood. I can not, however, agree with those who assert somewhat positively that albuminuria is generally if not always met with in diphtheria, and that the percentage of albumin in the urine is in direct ratio to the severity of the disease. In several cases of diphtheria occurring in my own practice, where the urine was examined for albumin, in only one was albumin distinctly detected. I am of the opinion that albuminuria as a complication of diphtheria is not of such frequent occurrence as supposed, for the following reason: Where the disease does not extend beyond the tonsils and the adjacent portion of the pharynx, being tonsillar in character, albuminuria will rarely be found to exist. On the contrary, where the posterior nares are implicated, with more or less marked cervical adenitis, showing absorption of the poison through the lymphatics, albuminuria more frequently exists. When the disease is specially of a very acute character, with marked pyrexia, albuminuria will even more frequently be met with.

In secondary diphtheria, that complicating scarlatina, albuminuria is met with more frequently and to a greater extent than in the primary form of the disease. Otagia and otitis media are frequent though not serious complications; although at times protracted, they, as a rule, yield to appropriate treatment.

Before entering upon the subject of the treatment of diphtheria, let me give in short detail the history of an interesting and remarkable case of diphtheritic toxæmia, with complicating paralysis, ulcerative dysentery, and otitis media, marked by protracted convalescence:

A boy, aged nine years, of strong and healthy constitution and very intelligent, was attacked with scarlatina of a severe character, and five days later diphtheritic complications arose; an irritating discharge exuded from the nostrils, with some pain and difficulty in swallowing. Examination revealed marked inflammation about the fauces and naso-pharynx, with small, grayish-white lenticular spots, partly coalesced, upon the tonsils. A rise in temperature was coincident with this. These spots rapidly coalesced, forming membranous patches, and having in the mean time extended to the soft palate, pharynx, and nasal passages, partly occluding the latter; cough quite frequent, expectorating a transparent viscid mucus which constantly collected; tongue quite dry also, due to faucial respiration; the glands about the neck became very much enlarged and very painful, followed by deafness and, later on, a discharge from both ears. By appropriate treatment the diphtheritic membrane in the course of eight days disappeared from the fauces

and naso-pharynx, the voice becoming less nasal in tone, evidently showing no sign of implication of the larynx. I was congratulating myself, therefore, that the child was rapidly recovering, and would not contract the more dreaded form of laryngeal diphtheria. I had calculated without mine host, as, on the third day after its disappearance from the fauces, symptoms of laryngitis supervened, and, upon laryngoscopic examination, a slight exudation was detected upon the larynx. This insidious reappearance of the disease was followed several days later by some paralysis of the muscles of phonation and deglutition. To this was added a paralysis of the muscles of the soft palate, which caused liquids when swallowed to be partly regurgitated through the nostrils. There was at that time no especial pain in swallowing, still he refused to take any liquid food or medicine unless given through a tube, because of its regurgitation through the nostrils. Articulation was also imperfect.

The third day following its reappearance I was called in haste, because of great distress in breathing. Familiar at the time with intubation of the larynx, but having had no personal experience with it, I went prepared for the immediate performance of tracheotomy. The symptoms upon my arrival not warranting its immediate performance, I decided to await further developments; an emetic, however, was administered, which afforded some relief. Having had but recently some trypsin sent me, and being anxious to test its efficacy as a solvent of diphtheritic membrane, I determined to give it a trial. It certainly acted wonderfully well, pieces of membrane being loosened and brought up with the brush, as well as coughed up. The dyspnoea gradually decreased, and the need for surgical interference was averted, showing the wisdom of not being hasty in such interference. A dysentery, the evacuations consisting mostly of small shreds of membrane and mucus tinged with blood, was now inaugurated, which was very protracted and weakening to the patient, ordinary astringents seeming to have but little effect upon it. The discharges becoming more frequent and the patient becoming rapidly emaciated, some means other than by the mouth had to be resorted to to check them. The bowels were irrigated first with a cleansing and antiseptic solution of boric acid, followed by a clyster containing especially nitrate of silver, repeated after each second or third discharge, depending upon the frequency of the discharges daily. To add to the severity of the case, aside from the patient's resistance to the taking of nourishment by the mouth, nausea and vomiting made their appearance in a somewhat obstinate form, precluding the further administration of nourishment by the mouth. Enemata had to be resorted to, which were but now and then retained. A gradual decline was apparent, and a fatal issue regarded as almost inevitable. Seemingly at the last moment, the vomiting ceased, and another effort or two to force down very small quantities of milk and whisky through a tube happily met with success, and from that moment a change for the better was inaugurated. The dysenteric discharges being checked and the enemata retained, his condition gradually but steadily improved. Although emaciation was extreme and convalescence prolonged and tedious, his appetite was something extraordinary, even to ravenousness. The highest temperature reached in the course of the disease was 102° F., although in that of the scarlatina preceding the temperature rose to 104° . Some anæsthesia of the fingers and palms of the hands, as also of the soles of the feet, was present in the later stage of the disease, but gradually disappeared. A slight thickening in speech remained for several weeks after he was up and about. The urine was at no time albuminous during the existence of the diphtheria, and but slightly so toward the close of the scarlatina.

There is no doubt that in the dysenteric discharges we had

to deal with a gradual destructive ulcerative process, which the diphtheritic poison seemed to impart, at the same time being but another channel for eliminating from the blood the effete and poisonous material with which it was surcharged. This case, for its severity and protractedness, the critical condition of the patient, the number of complications arising, and preceded by a severe attack of scarlatina, illustrates in a striking manner the fact that recovery may take place under proper treatment combined with assiduous nursing, and without the need of surgical interference.

The indications for treatment are mainly to restore to health the tissues bearing the local manifestations of the disease, but at the same time increasing the functional activity of the emunctories. A true regard for the general condition of the patient is also to be observed. The appropriateness and efficiency of drugs involve also the question of correct administration, in that they should produce in an efficient manner the therapeutical result desired. In the treatment of the disease the thought should not alone be with the patient affected, but should have reference to guarding against contamination or spreading the contagion to others; the greatest circumspection should therefore be exercised. Prophylactic or sanitary measures are therefore a prominent feature of almost equal importance to the local and constitutional treatment. Isolation must be strictly enforced, and all unnecessary articles of clothing, furniture, and the like, should be removed from the room; the sputa of the patient should also be disinfected. It has but recently been stated, in a prominent medical journal, that "the inefficiency and harmfulness of all local treatment which looks to the removal of the diphtheritic membrane from without is apparent when we consider that such therapeutic energy is expended upon the product of the disease instead of upon the disease process"; furthermore, that it is "just as irrational as to expect that the removal in this manner of the inflammatory product which is constantly welling up out of inflamed veins is curative." This reasoning by analogy no doubt is due to its being looked upon as a disease primarily constitutional in character; nevertheless, it seems to warrant the following question: Is it irrational to use local measures to soften and detach the rapidly accumulating fibrinous membrane, especially where it clogs the larynx and, for that matter, the respiratory tract in general? Believing, as I do, the disease to be of local origin, I contend that the rationality of the procedure is beyond question, as borne out by daily experience; added to this is the fact of a notable reduction in temperature following the application of such effective local measures.

Again, the writer quoted, standing almost alone in his convictions, takes exception, in this enlightened age, to the tonic-stimulant treatment of diphtheria, "feeling justified in stating that it is in a large measure injurious, and responsible for many fatal cases occurring." How he can reconcile his convictions with the every-day fact before us of the more or less rapid failure of the vital powers in a large number of cases of diphtheria is beyond my comprehension.

A great deal of time and space might be devoted to the consideration of many remedies lauded in the treatment of diphtheria, but I shall confine myself only to those which I deem, as shown by experience, to be of practical value

and based upon rational therapeutics. Much depends upon ascertaining with precision the nature of the case, the state of the vital powers, and the disposition to certain complications. The employment of measures which depress the system is contra-indicated, and should be seriously deprecated. According to J. L. Smith, "early and repeated local treatment of the inflammation does not prevent the occurrence of symptoms of septicæmia in all cases of a severe type." This I have found to be a fact, as in the case above recorded, which happily, however, as stated, terminated in recovery. The constitutional treatment should therefore, from the very first, be continued uninterruptedly, as also for some time after the local disease process has apparently disappeared, to guard, if possible, against any complicating paralytic later on.

The enforcement of absolute rest in bed from the very beginning of the affection until convalescence is fully established is a great factor in aborting the disease and hastening the recovery of the patient. Where the disease appears insidiously mild in character, treatment is generally less active, the poison being eliminated slowly, and consequent complications and relapses are more frequent; nor can one always be guided by the temperature as to whether the disease will subsequently be of a mild or virulent character, the temperature being at times but slightly raised when the disease takes on a most virulent form. Adynamia, or a disposition to cardiac syncope, may be regarded as characteristic of the disease itself, and the physician should always keep this fact in mind. Except in those of a scrofulous or syphilitic character, the free use of preparations of mercury, such as calomel and corrosive sublimate, but recently recommended, is of doubtful utility, and, to a great extent, dangerous even in sthenic cases, not alone as regards the danger of salivation, but chiefly because of the depression and debility produced; that calomel, however, given in minute doses, and repeated sufficiently often to act as a derivative and eliminant by its peristaltic action, is of undoubted utility, I freely admit.

In the early stages of the disease a cleansing and disinfecting mixture containing carbolic acid or thymol, chlorate of potassium, and glycerin, will be found of excellent service previous to the application of more direct and stronger local measures; the addition of lime-water to this mixture increases its cleansing effect, its action as a solvent of the fibrinous membrane being very slight. When a marked fœtor of the breath exists, arising from a decomposition of the exudate, especially apparent when the latter is profuse, a mild solution of chlorinated soda may be used either as a spray, with a brush, or as a gargle. Heat applied in various ways is a very useful and one of our most reliable agents in diminishing the hyperæmia and subsequent exudation, and thus the tendency to the extension of the disease process. The beneficial influence of steam inhalations or spray is explained by the fact that, as they come in immediate contact with the mucous passages, the exudation is softened, a condition increasing and favoring the chances for its easy removal. A solution of trypsin, recently prepared and slightly warmed to increase its activity, acts in a similar manner, with the additional fact of dissolving a por-

tion of the fibrinous exudate; this can readily be seen by brushing the surface freely, or spraying it, every fifteen or twenty minutes, when portions of the membrane can be removed very readily by means of a brush or probang. Trypsin, by its rapid solvent action, and added to that its antiseptic properties, greatly checks decomposition of the membrane when applied freely from the very commencement of the appearance of the exudate; the probability of subsequent toxæmia may be said therefore to be greatly lessened.

In the course of my use of trypsin my attention was drawn to the fact of a notable reduction of the temperature when the pyrexia was marked, no doubt due to its softening and solvent power upon the diphtheritic membrane and the removal of it in great part; my attention was drawn to this fact by the observations of Finkler and Rossbach, as also Jacobi, in the use of papayotin in diphtheria. The evidence of its utility and successful application in the cases occurring in the course of my practice is sufficient to warrant its having a more extended trial, and I have but to congratulate myself on the results obtained. When it is properly and constantly used, intubation of the larynx or tracheotomy in laryngeal diphtheria will much less frequently be indicated or resorted to.

It is very possible and plausible that infection may be carried beyond the glottis by a too free use of solutions, especially by means of the brush, as has been suggested; I am not aware, however, of this having ever been proved to be the case. I am, however, well aware and not unmindful of the fact that no true estimate can be formed of the value of any particular method of treatment where its practice has been confined to a limited number of cases. In my dispensary practice a twenty-per-cent. solution of Monsel's solution of subsulphate of iron was applied with a brush directly to the false membrane, but I have certainly failed to meet with the success attained by the use of trypsin. This may, perhaps, be accounted for in great measure by a failure in carrying out strict directions—a failure accounted for, no doubt, through negligence or ignorance mostly, among the poorer classes generally.

Where the accumulation of mucus is great and expectoration difficult, especially in laryngeal diphtheria occurring mostly in young children, an occasional emetic may be resorted to with advantage.

In many cases of the disease there is no direct process of repair, ulceration after detachment of the membrane not being present; in others, ulceration is slight and more or less superficial, with rapid restoration of tissue; still other cases are met with where the reparative process is very protracted, as in a case of mine where a relapse occurred, some twelve days elapsing before restoration of tissue to the normal. When convalescence is protracted and more or less marked ulceration exists, the application of a mild solution of nitrate of silver (gr. x to ʒ j) greatly hastens the healing process. I have tried it in three such cases, obtaining good results in each.

The subject of intubation of the larynx, of so recent date, is one of great interest and demands some attention here. From the experience of those to whose credit its successful introduction is due, one can not but be favorably impressed

with this novel procedure as a substitute for tracheotomy; there can be no doubt that this procedure is far superior to tracheotomy and fraught with little danger in comparison. The results in diphtheria have been somewhat better than those of tracheotomy, but even here the question arises whether a large number of the patients might not have recovered without its performance. That intubation of the larynx, as indeed all new procedures, will no doubt hereafter, as heretofore, be performed rather frequently, is evident, especially as it is apparently so simple in its performance, and with little if any danger attached to it. In diphtheria it will no doubt be resorted to early and often, and when perhaps but little indication is offered for its performance; the apparent unreliability of statistics, in so far as regards successful results, can perhaps never be more clearly demonstrated than in intubation of the larynx in diphtheria, performed early, perhaps unnecessarily. Be this as it may, intubation of the larynx is most certainly a marked advance over tracheotomy in the treatment of laryngeal obstruction, and great credit is due to Dr. O'Dwyer for his ingenuity and perseverance in successfully achieving results in this direction.

Though apparently doing no harm, the elation founded upon its successful results may throw one off his guard and less attention be given to the more immediate treatment of the disease from its very outset, having reference to the riddance of the membrane and subsequent absorption of its toxic properties, thus greatly complicating the disease. The method of introduction and extraction of these laryngeal tubes is no doubt at present familiar to all, and needs no description upon my part except to state that, to be in the main successful, the tubes should be of sufficient length and proportionate to the age of the patient, which is an important feature. Intubation is no doubt destined to be employed more generally than tracheotomy, especially in cases in which the obstruction is limited to the larynx and trachea. I find it stated that there is no bar to the performance of tracheotomy subsequent to intubation, where the latter fails to afford permanent relief to the dyspnoea and its causation; this is evidently true, but I fail to see the necessity for the performance of tracheotomy for the relief of a complication in which intubation, if properly performed, affords no relief.

Intubation of the larynx, as also tracheotomy, is indicated only where the mechanical obstruction in the larynx or trachea is so great as to interfere markedly with respiration, and to avoid the distressing scene of death by asphyxia. Prominent authorities, such as Flint and Gross, state also that tracheotomy in diphtheria is justifiable because affording relief to the sufferings of the patient and contributing to euthanasia. It is especially in cases where the symptoms of exhaustion are more prominent than those of suffocation that intubation of the larynx rises above tracheotomy. While far from condemning tracheotomy, I can not agree with those who defend its early performance on the ground that it is not then and in itself a serious operation; it is always, in diphtheria especially, a dangerous one.

Otalgia and otitis media are frequent though not serious complications, and, as a rule, readily yield to appropriate

treatment; where the discharge from the ear is quite profuse, syringing with warm water and insufflation of boric acid will be all that is necessary.

To prevent the depressing effects of the poison generated by the growth of the diphtheritic process, stimulants, as also tincture of the chloride of iron and chlorate of potassium, are early indicated.

The injudicious administration of the tincture of the chloride of iron, which frequently acts as an irritant in the later stages of the disease, especially when given upon an empty stomach and without reference to the indications furnished by the individual case, no doubt works injury to the patient. As a substitute for the latter, therefore, I have found the pomated tincture of iron to agree very well, as it is non-irritating in character.

In reference to the beneficial effects from the internal administration of chlorate of potassium, it is probably due to its decomposition in the system with the liberation and introduction of free oxygen into the blood; this, at least, is the view taken by clinicians generally at the present day.

Free stimulation, judiciously employed, is certainly rational, counteracting the insidious and prostrating poison and sustaining the vital powers; rapid and fatal cardiac failure occurs quite unexpectedly and suddenly at times, even during convalescence; it should be guarded against as much as possible by free and judicious stimulation.

In severe cases of diphtheria there is little if any danger of over-stimulation, the danger being rather in insufficient stimulation, as it is indeed surprising how much can be borne by the system without any ill effects. It may perhaps be said that alcohol is a heat depressant; but then it should be remembered, according to recent authorities and in the light of recent research, that, aside from its stimulant action, alcohol is also entitled to be reckoned as a food, being almost wholly consumed within the organism, thus prolonging life.

Digitalis and carbonate of ammonium, given in combination with either whisky or brandy in asthenic cases of the disease, will be found of great service. Stimulants can, especially in children, be given better in milk, slightly sweetened if desired. Champagne I have found to agree very well where the stronger alcoholics were not retained, either because of a peculiar idiosyncrasy or an irritability of the stomach, with accompanying nausea or vomiting. That attention should be paid to the condition of the skin and kidneys as well as the bowels is evident, as it is through these channels mainly that the *materies morbi* is eliminated. Diaphoretics, sedatives, and diuretics, aside from mild purgatives, are especially indicated in the earlier stages of the disease; in addition, where the increase of temperature is marked, tepid spongings will be found very serviceable.

Proper nourishment will be found most serviceable when given in small quantities at a time and frequently repeated; where the patient refuses to take milk or has an aversion to it, I have found ice-cream to agree very well. Beef-tea, when made from the ordinary beef extracts in the market, has very little nutritive power, being merely stimulating in character; one preparation, however, called the "Lemb-

Rosenthal" extract of meat or meat solution, has given very good results in my hands.

And here I would say a word in reference to and in favor of rectal alimentation as well as rectal irrigation. Where the stomach fails to perform its proper functions or does so with great difficulty and imperfectly—the main indications—recourse may be had to alimentation or medication *per rectum*. The importance of nourishing patients by the rectum and the absorptive powers the latter possesses has not been generally recognized, and insufficient attention has been given to its many advantages. It is unnecessary to give in detail or review the many advantages this method possesses of administering nourishment and non-irritating medicines; suffice it to say that they are so great that its practice should be more strongly advocated and more frequently resorted to; the introduction should be gentle and slow, at the close of which the nates should be held together rather firmly for several minutes to guard against immediate escape of the enema. Where accumulation of feces is supposed to exist, the rectum should be freed of such, and occasionally cleansed by irrigation with warm water previous to administering the nourishment.

As to rectal irrigation, or rather irrigation of the lower intestines, its application in profuse diarrhœal or dysenteric discharges has a marked soothing effect upon the lower intestinal tract; the tenesmus accompanying dysenteric discharges is relieved almost immediately. In accumulated or impacted feces the solid ingesta are softened and rapidly removed; inertia of the bowel is also overcome, thus promoting and increasing peristaltic action. The bowels should be irrigated with water medicated or not, either warm or tepid, the temperature varying in degree to meet whatever indications present themselves; the hips should be raised by placing a pillow underneath to allow the fluid to be better retained; rubber cloth should be placed between the buttocks and pillow to avoid wetting the bedding.

A NASAL CUTTING-FORCEPS AND BLOODLESS NASAL OPERATING.

By A. B. FARNHAM, M. D.,
MILWAUKEE, WIS.

THE instrument shown below has been of service to the writer, and is presented in the thought that it may help others.*

One great need in nasal work is that the operator should see what he is doing, and, other things being equal, that is the best instrument which least obstructs the vision.

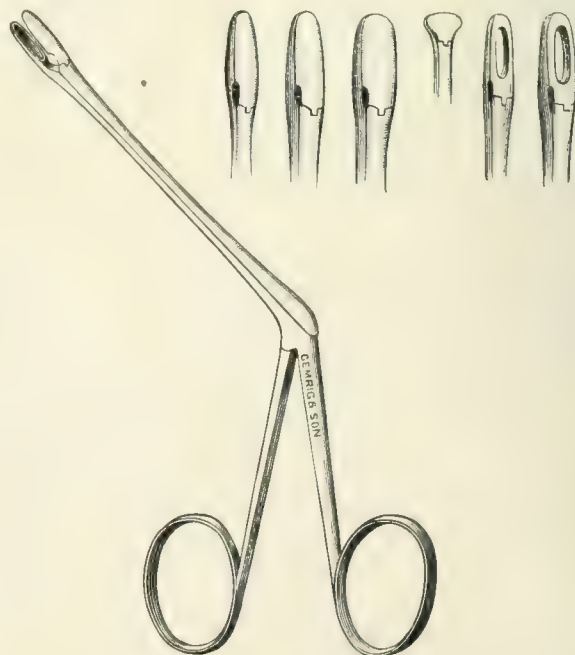
A set of special burrs made for the dental engine gave me vision, but a trained assistant was needed and the work had to be finished by other aids, and the personal equation remained unsatisfied till I had these instruments made. Have been using them nearly a year, and, in addition to giving perfect vision, they enable one to operate with great rapidity. Have attempted no operations against time, but can and have repeatedly removed within a minute the ordinary ridge on the septum of an inch or an inch and a half

in length. Over the saw it has the advantage of causing far less shock, of injuring in the operation no other tissues than the ones attacked, of going around a corner and finishing at once what may require a second or third operation, and, on the other hand, the disadvantage of not being able to take off a growth of broad base. But then they were never designed for this work. For them I have used and still use the burr, or the saws, of Dr. Harrison Allen, and since their publication those of Dr. Francke Bosworth.

Over Dr. Jarvis's set of instruments they have the advantage of giving better vision, and are of easier introduction and removal. They do not catch, and are preferable for trimming after the use of the burr. The smaller ones are so delicate that one can reach any portion of the septum, however high, and sufficiently strong to remove any growth suitable for the instrument with greater accuracy and rapidity than by means of burrs. A very great practical point is that with these smaller ones one can probe as well as crush. A competent experience of two years with burrs made for me of special length and fineness led me to discard them in favor of these instruments. Again, one can control their action better than that of the burr. With the burr, too, one can not probe.

They are useful for removing portions of the turbinates. The one with the broader end was designed for work upon the middle turbinates. After destroying the overlying tissues, one nips off just the desired portion.

Twice within three days I have found them useful in removing a portion of the cartilage for stenosis at the orifice. Pulling the tissues well down that the cut might be made through the mucous membrane under cocaine, and then cutting down with the galvano-cautery knife, I have removed what cartilage was deemed necessary, the blades of the forceps acting very well as spuds as well. Both operations were bloodless.



Most of the operations within the nasal cavity should be bloodless. Many women and children are shocked at the

* A gnawing forceps is not represented.

sight of blood, and no one really enjoys bleeding, and, besides obstructing the view, hæmorrhage renders our work more tedious and less exact. Cocaine enables us to do almost everything without ether, and therefore makes more demands in other directions than were formerly made. Let the surgeon save himself, too, all he can. The more he works at ease the less the nervous output.

By treating the growth on the septum, or portion of turbinated tissue, to be removed first with chromic or other acid and then with the galvano-cautery as an additional precaution, most of the ordinary work can be done without hæmorrhage. If not practicable to treat all the surface, touch the presenting portions, and better vision is gained, even if there is slight hæmorrhage.

While presenting a nasal instrument, I would yet again* protest against removing all abnormalities on the septum. Very many of them are harmless and should be let alone, and others need not be removed wholly but only in part. The abnormalities have often so modified the adjacent structures that no good can come from surgical interference, but positive harm by making the passages too patent. We have had enough of anatomical surgery.

KELOTOMY, COMBINED WITH RADICAL OPERATION, FOR STRANGULATION IN A CHILD SEVEN MONTHS OLD. *CURE.*

By WILLIAM WOTKYNs SEYMOUR,
A. B., YALE; M. D., HARVARD,
TROY, N. Y.

JANUARY 24, 1887, Tommie D., aged seven months, was brought to my office by his mother, who stated that from birth he had had a scrotal hernia of the right side, and that heretofore she had always been able to reduce it. This morning, however, she left the child in the care of a sister, and he cried a great deal. On her return from work, after several hours she found the child feverish and crying constantly. Examination by her revealed the right side of the scrotum distended to the size of a medium pear, tense and painful. Her own efforts being ineffectual, she brought him immediately to me. I gave chloroform, but was unable to effect reduction by taxis. Finding that I could not reduce it, I, a half-hour later, when my office hours were over, gave the child chloroform, and, after brief and ineffectual taxis, did kelotomy. Even after opening the sac and incising the ring the gut could not be reduced, and it was necessary to break down some adhesions immediately behind the ring. The gut, previously dark-purple in color, became almost normal, and was easily reduced. I slit up the whole length of the sac, and, after stitching up the pillars of the ring with strong juniper catgut, ligatured the neck of the sac and dusted iodoform into the wound. The wound I closed with a deep continuous suture of juniper catgut. Over this I dusted iodoform liberally, and applied a pad of absorbent cotton and a spica. Ether and bichloride solutions were used to clean the skin and irrigate the wound. There was absolutely no fever at any time after the operation; the bowels moved the next day naturally; the bandage and dressings, having become soiled, were changed the fourth day, and union was perfect. To-day the cicatrix is firm, and there is not the slightest evidence of recurrence.

* See "N. Y. Med. Journal," July 7, 1886.

THE NEW YORK MEDICAL JOURNAL, *A Weekly Review of Medicine.*

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FRANK P. FOSTER, M. D.

NEW YORK, SATURDAY, MAY 21, 1887.

THE NEW YORK ORTHOPÆDIC DISPENSARY AND HOSPITAL.

THE article with which this issue of the journal opens seems to us of interest not only as tending to throw a clear light on the ultimate amount of good done by the mechanical treatment of hip-joint disease when judiciously and assiduously applied, but also as illustrating most forcibly the extent to which intelligent discrimination can make moderate funds go in alleviating the condition of patients with that disease among the poor. It is comparatively an easy matter for a hospital surgeon to keep an institution's beds filled with patients whose cases show points of interest for his own study or that are advantageous as texts for clinical teaching, or afford unusual promise of brilliant results from treatment. It is easy to do this, and not very difficult to satisfy one's conscience if other applicants are told that the house is full, or that their cases are not suitable for treatment in it, and are left to do the best they can under the circumstances. If the medical officers of the New York Orthopædic Dispensary and Hospital had seen fit to pursue this course, they would probably not have incurred unfavorable comment, for the temptation to do so is a very natural one. Practice in the wards is so much more easily attended to and so much more satisfactory in its results than practice in an out-patient department that the tendency of hospital men to ignore the latter is not strange; it is simply a manifestation of ordinary human nature. It is therefore all the more to the credit of the medical staff of the institution in question that they have taken the enormous amount of additional trouble that must have been involved in the treatment of patients at their own homes on the scale required to furnish the data embodied by Dr. Shaffer and Dr. Lovett in their article.

That, of the forty-one persons who recovered under this form of treatment, not one now shows evidence of active tubercular disease, or is incapacitated from doing a full day's work at his or her occupation, whether that of a printer, a glazier, a machinist, an errand-boy, a shop-girl, a dressmaker, or a public-school pupil, shows most pointedly the wisdom with which the institution has been managed and the faithfulness with which the medical officers have sought to give these poor persons the full benefit of its resources. Although so much has been accomplished in the dispensary department, and to that extent the money necessarily devoted to the in-door service husbanded, the fact should not be lost sight of that, in orthopædies, even an out-patient service is expensive. Suitable apparatus is costly; for the most part, it will not do to make it in large lots, trusting to any system of variety in shape or gradation in size, but almost every piece should be made to conform to the peculiarities of some individual patient. This

involves work done to order by skilled artisans, extensive resources in the way of tools and machinery, a considerable stock of raw material, and close surgical supervision—all of which must make no little drain upon the pecuniary resources of the institution, besides taxing the sagacity of its managers. The fact that the New York Orthopædic Dispensary and Hospital has been able to carry out its beneficent purposes so completely and at the same time so economically as is shown by Dr. Shaffer and Dr. Lovett will, we trust, commend it still more to the attention of those who bestow a portion of their means upon our charitable institutions. That we have chosen to speak of this aspect of the subject does not argue that we have overlooked the scientific value of our contributors' article. From that point of view it needs no commendation; it speaks for itself.

MINOR PARAGRAPHS.

DIPHTHERIA AND SANITATION IN MICHIGAN.

At the recent meeting of the Michigan State Medical Society, the State Board of Health presented an additional and striking illustration of the energy and intelligence with which it deals with matters pertaining to the public health. This was the secretary's demonstration, made most perspicuous by a tabular statement and a graphic chart, of the extent to which isolation and disinfection reduced the number of cases of diphtheria, and the number of deaths from the disease, in the various outbreaks reported by local health officers during the year 1886. In one hundred and two outbreaks in which there was a neglect of isolation or of disinfection, or of both, the average number of cases to the outbreak was a little over 16, and the average number of deaths 3.23; while, in one hundred and sixteen outbreaks in which both isolation and disinfection were enforced, the average number of cases was 2.86, and that of deaths 0.66. In other words, these simple precautions reduced the number of cases occurring during the year by 1,545, and the number of deaths by 298. It is much to the board's credit that it has been able to secure so general a practice of isolation and disinfection.

WHOOPIING-COUGH IN THE CAT.

MR. O. BOWEN, a Liverpool surgeon, says in a recent issue of the "British Medical Journal" that for a few weeks he has had under his care a little boy suffering from an unusually severe attack of whooping-cough, and that the boy's mother informs him that for as much as a fortnight the family cat has had five or six distinct fits of coughing daily, similar in every respect to the boy's and ending in an expectoration of frothy mucus. The cat is said to be tolerably bright and active between the paroxysms, although she is not so lively as formerly, and has fallen away considerably in condition.

CALCINED OYSTER-SHELLS AS A REMEDY FOR CANCER.

In a recent number of the "Lancet," Dr. Peter Hood, of London, refers to a communication of his published in the same journal nearly twenty years ago, on the value of calcium carbonate in the form of calcined oyster-shells as a means of arresting the growth of cancerous tumors. In a case which he then reported, that of a lady nearly eighty years old, the growth sloughed away and left a healthy surface after a course of the remedy, as much as would lie on a shilling being taken once or

twice a day in a little warm water or tea. He now reports another case of scirrhus of the breast, in the wife of a physician, in which the treatment was followed by an arrest of the growth and a cessation of the pain, the improvement having now lasted for years, and no recrudescence having thus far occurred. He urges that the remedy can do no harm, and that the *prima facie* evidence in its favor is stronger than that on which, at Dr. Clay's recommendation, the profession lately displayed an extraordinary eagerness to try Chian turpentine. He would restrict the trials to well-marked cases of scirrhus, and insists that no benefit should be looked for in less than three months.

THE MILK SUPPLY OF BOSTON.

THE members of the Section in Clinical Medicine, Pathology, and Hygiene of the Suffolk District Medical Society recently took commendable action in passing certain resolutions regarding the supply of milk to the city of Boston. It appears by the preambles that a large part of the daily supply is from six to twenty-four hours old when it reaches the city, and that, owing to the inconvenient time at which the milk trains arrive and to the system of delivery in small service cans, the milk is detained twenty-four hours longer in the milkmen's barns and sheds. In the opinion of the members, this delay not only affords dishonest dealers opportunities to tamper with the milk, but often exposes it to insanitary influences, besides which its mere additional age is detrimental to the public health. The members therefore pledge themselves, and cause it to be stated in the newspapers, to exercise every proper influence to secure for themselves and the community milk that has not been subjected to this unnecessary delay.

ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Fourth Division of the Health Department for the following statement of cases and deaths reported during the two weeks ending May 17, 1887:

DISEASES	Week ending May 10.		Week ending May 17.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever.....	4	2	8	1
Scarlet fever.....	52	11	77	9
Cerebro-spinal meningitis....	8	6	2	2
Measles.....	69	8	102	8
Diphtheria.....	85	52	128	49
Small-pox.....	22	9	19	5

The Lawrence, Mass., City Hospital.—The medical staff chosen by the directors at their recent annual meeting was as follows: Dr. David Dana, president; Dr. O. T. Howe, secretary; Dr. David Dana, Dr. Cyrus N. Chamberlain, and Dr. George W. Sargent, consulting board; Dr. S. W. Abbott, Dr. Charles G. Carleton, Dr. Susan E. Crocker, Dr. John G. McAllister, Dr. O. T. Howe, Dr. C. C. Talbot, and Dr. Henry M. Chase, visiting board.

The late Dr. E. Darwin Hudson.—At a meeting of the faculty of the New York Polyclinic, held Thursday, May 12th, the following action was taken regarding the death of Professor Hudson:

"The announcement of the sudden death of Professor Erasmus Darwin Hudson came upon us with such crushing effect that we have not yet had time to recover from the blow which overwhelmed us.

"Just entering upon a period of mature middle life, when the student passes from experiment and crucible to philosophic thought and ripe judgment, he was well equipped to reap a rich harvest of new scientific knowledge to add to the general stock, but which is now lost to us forever.

"His honorable positions of visiting physician to Bellevue Hospital, chairman of the Section in Theory and Practice of Medicine of the New York Academy of Medicine, and professor of general medicine and diseases of the chest in the New York Polyclinic, afforded him rare opportunities, and gave his wide following of admiring disciples the means of becoming acquainted with and availing themselves of the rich store of practical knowledge which he had always so ready at hand. Thus deeply impressed, be it therefore

"*Resolved*, That the faculty of the New York Polyclinic are sensible that they have lost in Professor Hudson an able coadjutor, and a popular, gifted, and learned member; and that the graduate pupils in attendance from all parts of the country have lost an eloquent and skillful teacher, and all of us a genial friend."

Naval Intelligence.—*Official List of Changes in the Medical Corps of the United States Navy for the two weeks ending May 14, 1887:*

SHAFFER, JOSEPH, Assistant Surgeon. Detached from the Minnesota, and ordered to the Ossipee.

SIMON, W. J., Surgeon. Ordered to the U. S. Steamer Boston.

HENRY, C. P., Assistant Surgeon. Detached from U. S. Naval Hospital, Philadelphia, and ordered to the Boston.

MEANS, VICTOR C. B., Assistant Surgeon. Detached from the U. S. Naval Hospital, Mare Island, and ordered to the U. S. Naval Hospital, New York.

SIMONS, MANLEY H., Passed Assistant Surgeon. Detached from the U. S. Naval Academy and ordered to the Constellation.

DIEHL, OLIVER, Passed Assistant Surgeon. Detached from the U. S. Naval Hospital, New York, and ordered to the U. S. Naval Hospital, Philadelphia.

GRAYATH, C. U., Surgeon. Detached from the U. S. Steamer Michigan.

LUMSDEN, G. P., Passed Assistant Surgeon. Ordered to the U. S. Steamer Michigan.

ASHBRIDGE, RICHARD, Passed Assistant Surgeon. Detached from the U. S. Naval Academy and ordered to the Practice Ship Constellation.

STREET, THOMAS A., Passed Assistant Surgeon. Promoted to Surgeon.

Marine-Hospital Service.—*Official List of Changes of Stations and Duties of Medical Officers of the United States Marine-Hospital Service for the week ending May 14, 1887:*

FESSENDEN, C. S. D., Surgeon. Detailed as chairman of board for physical examination of cadets, Revenue-Marine Service. May 13, 1887.

STONER, G. W., Surgeon. To proceed to Delaware Breakwater as inspector, and to New York and Philadelphia, to inspect unserviceable property. May 12, 1887.

IRWIN, FAIRFAX, Passed Assistant Surgeon. Detailed as recorder of board for physical examination of cadets, Revenue-Marine Service. May 13, 1887.

FATTIC, J. B., Assistant Surgeon. Relieved from duty at Baltimore, M. D. Ordered to Marine Hospital, St. Louis, Mo. May 13, 1887.

Society Meetings for the Coming Week:

MONDAY, *May 22d*: Medical Society of the County of New York; Boston Society for Medical Improvement; Lawrence, Mass., Medical Club (private); Cambridge, Mass., Society for Medical Improvement.

TUESDAY, *May 24th*: New York State Medical Association, Fifth District Branch (annual—Brooklyn); New York Academy of Medicine (Section in Laryngology and Rhinology); New York Dermatological Society (private); Buffalo Obstetrical Society (private).

WEDNESDAY, *May 25th*: New York Surgical Society; New York Pathological Society; American Microscopical Society

of the City of New York; Auburn, N. Y., City Medical Association; Medical Societies of the Counties of Albany and Monroe (annual—Rochester), N. Y.; Berkshire, Mass., District Medical Society (Pittsfield); Philadelphia County Medical Society.

THURSDAY, *May 26th*: American Laryngological Association (first day—New York); New York Academy of Medicine (Section in Obstetrics and Diseases of Women and Children); New York Orthopaedic Society; Cumberland, Me., County Medical Society (Portland); Pathological Society of Philadelphia.

FRIDAY, *May 27th*: American Laryngological Association (second day); Yorkville Medical Association (private); New York Society of German Physicians; New York Clinical Society (private); Philadelphia Clinical Society; Philadelphia Laryngological Society.

SATURDAY, *May 28th*: American Laryngological Association (third day); New York Medical and Surgical Society (private).

OBITUARY NOTES.

Wilson Fox, M. D., of London, a remarkably astute physician, died on the 3d inst., as we learn from the "Lancet," after a few days' illness with an acute cardiac attack occurring probably as the result of a chronic rheumatic affection of the pericardium and the endocardium, with implication of both the aortic and the mitral valves. Our contemporary speaks of Dr. Fox as having "combined in a degree rare in any calling moral elevation and moral courage, spiritual ardor and self-devotion."

Professor Gosselin, of Paris, as we learn from our Paris exchanges, died on the 30th of April, in the seventy-second year of his age. As a practical surgeon and as a contributor to surgical literature, M. Gosselin occupied a high station in the Paris faculty, of which he had been a member since 1858.

Professor Vulpian, of Paris.—The death of Professor Vulpian is announced in press dispatches as having taken place on Wednesday of this week, in the sixty-first year of his age.

Letters to the Editor.

ATROPINE AND APOMORPHINE IN OPIUM POISONING.

LA CROSSE, WIS., *May 8, 1887.*

To the Editor of the New York Medical Journal:

SIR: A few months ago I was called to see a young woman who had taken poison. I could not learn what poison had been taken, so I had to go prepared for any emergency. I found the patient, a woman twenty-four or twenty-five years old, eight months pregnant. She had swallowed, apparently, three or four drachms of laudanum, with suicidal intent, and had resisted all efforts to save her. When I arrived she was in a semi-comatose condition. I saw at once that it would be useless to try the stomach-pump, but, having my case of hypodermic pellets with me, I easily persuaded her to swallow a little water in which I had dissolved an eightieth of a grain of atropine. Waiting a few minutes until the coma was more decided, I readily inserted a hypodermic containing a sixth of a grain of apomorphine into her arm. In less than four minutes the stomach was emptied with a gulp. She rapidly recovered her consciousness, opening her eyes and looking at me very reproachfully. I now had no trouble in persuading her to swallow a cup of strong coffee which I had ordered to be made as soon as

I came. The coffee was instantly rejected by the stomach. Another cup, taken fifteen minutes afterward, was retained about five minutes, and then thrown up. The third cup, containing one one-hundred-and-fiftieth of a grain of atropine, was retained. In three hours from the time I arrived she was sitting up, wide awake and out of danger. Her attempt at suicide had one good effect: it brought about kinder treatment from her family. In four or five weeks I delivered her of a strong, healthy male child, and she has had no suicidal tendency since.

ALEXANDER F. SAMUELS, M.D.

PERMANGANATE OF POTASSIUM IN CHRONIC MALARIAL AFFECTIONS.

VIRGIN ISLANDS, BRITISH WEST INDIES, *March 2, 1887.*

To the Editor of the New York Medical Journal:

SIR: Last year I was appointed acting medical officer in the Island of Dominica, B. W. I., and in my official report for one month I forwarded the names and residences of a hundred and forty-two persons whom I had attended, among them seventy-five with malarial fevers. I do not propose to bore your readers with details of type, etc. All the cases were finely orthodox in behavior, which leads me to remark that, in all my tropical and other experience, I have never seen the hybrid "typho-malarial fever." It is time—quite so—that that caudal appendage should be dropped. I doubt its existence as faithfully as some doubt that we ever dropped ours. Most of the inhabitants of the district where I practiced lived in thatched huts, badly ventilated, with the natural soil for the floor. As the country abounds in rivers, and rain is constant, they were very damp. The food eaten consists of carbohydrates and boiled fish—a diet which, with their surroundings, certainly renders them unfit to resist disease. I was consulted by women with fever and amenorrhœa or dysmenorrhœa due to exposure, and malarial anemia or toxæmia. It was to them that I first administered permanganate of potassium, and it cured them not only of their uterine symptoms, but of their malarial fever also. I afterward gave it to men and children, and with very interesting and successful results. The usual dose was from half a grain to a grain, in water, three times a day. In private practice I give five grains of pepsin after the dose, to prevent the nausea, which is the only drawback to the use of the drug. Since my appointment as medical officer of the Virgin Islands I have been using the same treatment here with good results. I have not heard or read of its having been used before for malarial fevers. As to the *modus operandi* of the permanganate I will say but little, and that what I know—namely, that, as a germicide, it is one of the best, and one that is harmless even in strong solutions.

I. VROZ, M.D.

THE TOPOGRAPHICAL ANATOMY OF THE BLADDER AND URETHRA.

To the Editor of the New York Medical Journal:

SIR: Do you not think that physicians would carry their privilege of disagreeing rather far were they to contradict each other as to the number and shape of a perfectly formed man's fingers and toes? I have never asked any physician exactly these questions, but I have requested a number of physicians to sketch and describe the bladder and urethra of such a man: and I am amazed to find that the sketches and descriptions vary materially. Can you, may I ask, refer me to any full-sized, accurate section of a man's bladder and urethra? Or, if it is true that the urethras of different men in normal condition vary, except in size, will you kindly refer me to as many sections as there are varieties? Do you believe that any such section is or could be published whose accuracy would be generally ad-

mitted by physicians? A section which commands such an indorsement is the one I seek. Thus far I have not been able to find any full-sized complete section at all.

A LAYMAN.

* * Our correspondent's first question calls for a division. We think that physicians would be carrying their privilege of disagreeing "rather far" if they were to contradict each other as to the number of the fingers and toes, but not if they were to give different descriptions of their shape, for the latter shows infinite variety, as any artist accustomed to paint from life can testify. The same is true of the bladder and urethra. It would be difficult to find two subjects in which they were quite alike. The shape and relations of the bladder vary with its degree of distension, with the emptiness or fullness of the intestines, with the tonic or relaxation of the abdominal and perineal muscles, etc. Allowing for these variations (which obtain to a lesser extent in the case of the urethra), and taking into account the fact that pictorial representations of these parts are taken from corpses, in which topographical anatomy is almost always distorted, we think that the figures given in the text-books are sufficiently accurate for all practical purposes, and as much in agreement as could be expected. The views given in Gray's and in Quain's works on anatomy, for example—those being the text-books most in use in this country—are substantially the same, only in one of them the median line of the body is at right angles to the printed lines, and in the other it is not. It is not to be wondered at that our correspondent's medical friends have not furnished him with satisfactory drawings; most medical men are not good draughtsmen, however good their knowledge of anatomy may be. For purposes of comparison, we would suggest to our correspondent to ask a number of botanists, for example, to draw from memory a common plant for him. We think he will find some discrepancies in the drawings, although the object is infinitely simpler than anything in the topography of the abdominal and pelvic organs.

Proceedings of Societies.

NEW YORK ACADEMY OF MEDICINE.

Meeting of April 21, 1887.

The President, Dr. A. JACOBI, in the Chair.

The Practical Value of our Present Methods of treating the Upper Air-passages.—A discussion of this subject, referred from the Section in Laryngology, was opened with a paper by Dr. F. H. BOSWORTH. The early days of laryngology, he said, had been days of instrument invention, and so rapidly had appliances and ingenious devices for treating disease accumulated that the impression had grown that disease was treated by machinery. When we knew little about the treatment of diseases of the upper air-passages our machinery was very extensive; but as our knowledge increased the machinery disappeared, and now that we finally obtained striking success, all the machinery necessary might be carried in one's overcoat pockets. The speaker then briefly mentioned the special methods of topical applications in the treatment of diseases of the larynx, of the lower pharynx, of the vault of the pharynx, and of the nasal passages. As no one would pretend to cure tumors, syphilis, tuberculosis, or paralysis affecting these parts by such applications, he passed them by. No case of so-called chronic laryngitis had ever been cured by topical applications, whether made by brush, sponge, or spray. Chronic laryngitis

was merely symptomatic of, and secondary to, disease of the nasal cavities, and would be relieved by treatment of the latter condition. Regarding chronic pharyngitis, he had tried to make plain the fact that the lower pharynx was in no sense a part of the air-tract; it was rarely involved in inflammatory processes of the air-passages, and astringents, however applied, did not cure. He also maintained that there was no such disease as naso-pharyngeal catarrh in the sense of a catarrhal inflammation of the vault of the pharynx. No local application by brush, sponge, or probang to the vault of the pharynx ever cured, or even mitigated, the severity of this so-called naso-pharyngeal catarrh. The conditions in the vault of the pharynx, consisting in a structural change, clearly indicated surgical measures. Regarding nasal catarrh, so called, it was not a supersecretion, to be cured by the local application of astringents. The whole list of astringents found in the Pharmacopœia had been tried in vain. In a recent paper he had taken the ground that nasal catarrh consisted in a morbid condition of the mucous membrane which interfered with the great respiratory function of the nasal passages, namely, exosmosis of serum. Douches and sprays would not cure this condition. They had their uses; but, if we depended alone upon local applications, no matter what special astringents, or stimulants, or alteratives were used, no matter how elaborate our air-pumps and thickly plated our air-receivers, no matter how expensive and complicated our machinery, we should fail absolutely in giving that amount of relief which our patients were entitled to receive—namely, complete and radical cure. The nasal douche was useful for cleansing and palliative purposes, as was also the spray. As good a spray as any was a single-bulb hand atomizer. The treatment of catarrhal affections of the upper air-tract consisted in the treatment of the nasal passages, and involved the restoration of these passages to a normal condition by removal of obstructing bone, cartilage, hypertrophied membrane, or other morbid formations. The effect of the cauterization was not the destruction of tissue when used in hypertrophic rhinitis, for this condition consisted only of chronic dilatation or hyperæmia of the blood-vessels with increased nutrition. A caustic applied on the mucous membrane reduced the amount of blood-supply, arrested hyperæmia, and thus restored healthy action. It acted in this way: a solution of cocaine was first applied to render the membrane anæmic; a mild caustic was then employed, which coagulated and destroyed only the superficial tissue, creating a closely adherent slough which acted like a film of collodion. This being the case, he thought chronic acid was superior to the galvano-cautery; it was more convenient, less cumbersome, and less costly, and could be applied delicately and at the place desired. The value of laryngoscopes had been overestimated. A head mirror, two inches and a half in diameter, with a good light, would be found to render as much aid as a more expensive apparatus.

Dr. A. H. SMITH read a brief paper, in which certain statistics were referred to, showing that in 1,350 cases of disease of the upper air-passages an operation was considered necessary in only 27 per cent. Thus it would be seen that in over 70 per cent. of the cases other than surgical methods had been called for. He referred to the benefit to be derived from anodynes and disinfectants, particularly weak solutions of carbolic acid. But there were certain conditions inherent in some cases which limited the action of curative measures, and the failure to cure was not chargeable to faulty methods or want of skill. These limitations were not illustrated alone in diseases of the upper air-passages; there were also cases of chronic uterine catarrh, etc., which resisted every effort. A tissue change had taken place, and restoration to the normal condition involved a restoration of normal vital function, and this could not be effected by the meas-

ures thus far employed. He had long since ceased to expect, as he had ceased to promise, complete and permanent cures.

Dr. WILLIAM H. THOMSON read a paper in which he stated his opinion that the treatment of chronic diseases of the upper air-passages should be directed chiefly by two principles: 1. A recognition of cutaneous nerve associations in the causation and perpetuation of inflammation. 2. Local disinfection. Organs which were in symmetrical pairs were so closely associated in vaso-motor relations that the same effect, so far as their circulation was concerned, was produced in both by an impression made on only one member of the pair. There was a close relation between the sensory nerves of the skin and the vaso-motor apparatus of the viscera immediately beneath. There were also special relations between the vaso-motor functions of one part of the body and the nerves of sensation in a particular distant part of the body. Wet feet, for instance, might check the menstrual flow. This relation existed between the feet and the larynx, and between the nerves at the nape of the neck and the circulation in the nose. Unfortunately, we had few vaso-motor tonics. In colds it would be of benefit to apply cold water to the nape of the neck on rising, but keeping the hair dry; and to apply cold salt water to the throat. The neck and shoulders should be washed in cold water, dried, and then rubbed with sweet oil. Drafts of air were more harmful than a walk in the cold air. Exposure of a portion of the surface of the body, especially at night, should be avoided. As to special covering, a thin woolen undergarment should be worn, and over that a perforated buckskin shirt. Buckskin drawers, perforated, might also be worn. He knew of no special clothing so beneficial as this. Chest protectors, etc., which covered only a part of the surface, were worse than useless.

It was hard to resist the belief, from the evidence already given, that inflammation as such was always the result of infection. A practical deduction was, that, as the onset of disease could be prevented only by excluding germs, so all chronic mucous inflammations could be got rid of only by driving out such germs after they had obtained access to the tissues. Two methods were to be adopted: 1. To strengthen the vitality of the parts. 2. To apply disinfectants directly to them. The greatest advance, he thought, would be made in the discovery of disinfectants and how best to use them.

Dr. H. H. CURTIS had deduced the following conclusions from the observation of a thousand cases of disease of the upper air-passages; in all cases of nasal stenosis from deflection of the septum, etc., there was subacute or chronic inflammation of the lining membrane of those passages, this inflammation extending also down to the pharynx and here giving rise to glandular hypertrophy. This affection of the posterior wall was due to mouth-breathing, and disappeared on opening the nasal cavities. Any treatment directed to this glandular hypertrophy without treatment of the nasal passages would be inefficient. Disease of the ethmoid cells was generally due to hypertrophy of the middle turbinated body and consequent retention of the ethmoidal secretions. The treatment consisted in the application of chromic acid in order to reduce the obstruction, and allow free access of air and outlet for the secretions. He employed this escharotic to the exclusion of others, and he would be unwilling to exchange it for all the sponges, sprays, etc. Its use was followed not only by clearing up of the nasal passages, but, in consequence of this, by disappearance of the granulations referred to, of laryngitis, pharyngitis, and huskiness of the voice. It should be used carefully, but he had seen no bad results from it. The sooner the profession ceased to apply strong astringent solutions and nitrate of silver to the upper air-passages, and gave proper attention to restoring the respiratory functions of the nasal passages, the sooner would laryngology be placed on a

higher plane, and relief given to countless thousands suffering from so-called post-nasal catarrh.

Dr. W. C. JARVIS thought the spray was undoubtedly of great utility when properly employed. Pound pressure, he said, meant nothing; but the dimensions of the pneumatic tube and the pound pressure being given, we had everything. Cocaine would act more efficiently, and a less amount would be required, when used by the spray than by any other method. Another remedy to be used from the spray was rhigolene, and it was often to be preferred to cocaine, especially where the latter failed to produce anesthesia. He could not do without the spray for cleansing purposes. The coarse spray possessed nearly all the advantages of the douche. Powders were best applied fine by the compressed-air spray. Iodoform was best tolerated. Chromic acid and nitric acid both had their uses. But chromic acid was a treacherous drug. Doubtless it was of benefit in some cases, but it should not be used for the relief of hypertrophy of the lining membrane. It was a specific in its action on papillomatous tissue. Regarding the comparative value of surgical and other methods, he thought the decision had been pretty well settled in favor of the former. Where weeks and months were required to cure by local applications, relief and cure came from a single sitting when the snare, saw, or canterly was used. The apparently increased discharge in nasal catarrh was due to accumulation by obstruction, not to supersecretion.

Meeting of May 5, 1887.

A Memorial of the late Dr. H. P. Farnham, once vice-president of the academy, was read by Dr. P. A. MORROW.

The Ultimate Results of the Mechanical Treatment of Hip-joint Disease.—Dr. NEWTON M. SHAFFER read a paper on this subject, written jointly by himself and Dr. ROBERT W. LOVETT, of Boston. [See page 561.]

Dr. LOVETT said, after the reading of the paper, that he thought the most important fact observed by him in examining the fifty-one patients was the amount of adduction present in most of them. A good many of them had a certain amount of bone shortening and considerable flexion without serious inconvenience resulting, but when they began to have adduction the gait became ungainly, they complained of pain in the back, and the practical shortening was a good deal in excess of the real bone shortening.

Dr. RIDLON thought the authors had clearly shown that, at a dispensary, with the necessary apparatus and surgeons to visit patients from time to time at their homes, cases of hip-joint disease among the poor, who were compelled to seek the aid of the dispensary, could be carried to a successful issue. He did not believe that all cases were of tubercular origin; some were due to syphilis, others to traumatism. It would be an advantage, he thought, if general therapeutic measures could be adopted in addition to mechanical treatment. When the patient's condition became worse in spite of mechanical treatment, he would resort to surgery.

Dr. KETCH said that, while the vast majority of cases of hip-joint disease were recognized at the New York Orthopædic Hospital and Dispensary as of tubercular origin, this was not considered the exclusive cause, nor were general therapeutic measures neglected. He thought we had in the mechanical treatment of hip-joint disease the most satisfactory method of combating it, not only with regard to the ultimate result, but also with regard to the relief from suffering during the treatment.

Dr. L. A. SAYRE thought that, whatever might be the predisposing cause of hip-joint disease, whether tuberculosis or syphilis, there was usually a traumatic exciting cause. In the vast majority of cases mechanical and hygienic treatment would

effect a cure, but there were neglected cases, and a few which were not neglected, in which amyloid degeneration of the kidneys and liver was taking place, making excision of the necrosed bone necessary. His results with regard to motion in the hip joint had been much better than those related by the authors. But, as Dr. Ketch had said, the ultimate result of the mechanical method was not alone superior, but the relief from pain and the ability of the patient to go about, taking healthful exercise, during the treatment was of the utmost importance, contributing in large part to the cure.

Dr. V. P. GIBNEY would speak in commendation of the statistics given in the paper. They were of great practical importance. Two important facts had been brought out which were contrary to the views generally expressed by the orthopædic surgeon in reply to patients' inquiries. He believed surgeons usually told their patients that the amount of motion in the hip joint would increase after the cure, but these statistics showed that it diminished. Again, it was customary to say that the affected limb would develop in size with time, but these statistics showed that, however strong the limb might become, the atrophy never disappeared. The speaker had become a convert to the mechanical mode of treating hip-joint disease. To enable the patient to run about, and grow strong and healthy in general constitution, was certainly a great desideratum.

Dr. JUDSON appreciated especially the remarks on the vexatious adduction from which these patients suffered. The question of the cause of deformity was a very wide one, but we might assume, at any rate, that the patient would take the most convenient posture in standing and walking, which was to rest as short a time as possible on the lame member. The limb was thrown around, adducted, and shortened in order to make it clear the ground. This repetition of adduction was encouraged by the small plate on which the patient walked. He thought abduction might be encouraged to some extent by making the foot-piece large.

Dr. TAYLOR thought a patient wearing an apparatus for hip-joint disease rested the foot upon the ground as little as possible because of dislike to put his weight upon the perineal strap. He did not think the gait would be improved by adopting Dr. Judson's suggestion. He referred to an apparatus for overcoming adduction which he meant to describe more fully in the future.

Dr. L. H. SAYRE thought operative interference should be resorted to only after the patients had had the best mechanical, hygienic, and therapeutic measures, and still grew worse. In certain cases of marked distortion he would perform tenotomy and retain the limb in place by apparatus.

Dr. SHAFFER expressed the belief that in many instances a supposed syphilitic joint disease was in reality a tubercular disease influenced by a syphilitic heredity. He thought that syphilitic joint disease, *per se*, was very rare in childhood, and that the great majority of cases were tubercular. Further, it was his opinion that bichloride of mercury, persistently administered for a long time, was about as efficient in the tubercular as in the so-called syphilitic form of the disease, and this remedy had proved very efficient in his private practice. It acted more quickly in some cases than in others, and in some exceptional cases, where there was a syphilitic hereditary history, it was wise to use iodide of potassium with the mercury. He regretted that the opportunity for administering internal remedies was not afforded by the dispensary (they were used in the hospital), but the mechanical treatment was necessarily very expensive, and the dispensary could not afford to supply drugs as well as apparatus. He further stated that he believed that excision of the joint should be resorted to in exceptional cases only. And he was

thoroughly convinced that, if efficient mechanical treatment, aided by proper internal medication and *fresh air*, could be afforded the patient, better ultimate results would be obtained and many more lives saved than if excision was practiced—even in the cases ordinarily deemed most fit for the operation. Finally, he wished again to call attention to the fact that the cases reported were dispensary cases only.

NEW YORK ACADEMY OF MEDICINE.

SECTION IN MATERIA MEDICA AND THERAPEUTICS.

Meeting of March 25, 1887.

Dr. ANDREW H. SMITH, Chairman.

Dr. GEORGE DALTON HAYS, Secretary.

The Management of Fæcal Retention.—Dr. GEORGE DALTON HAYS read a paper on this subject. [See p. 566.]

Dr. JACOBI thought that enemata were the best means of treating the constipation of the new-born. They were also the best in young children, and their use should be persisted in in obstinate cases. Certain cases of constipation in infants were due to starchy food, others to a lack of sugar, and still others to a starvation diet. Each of these conditions should be met. Some cases were due to the use of certain drugs, such as bismuth. In all cases the cause should be sought for and, as the author of the paper had indicated, should be removed before recourse was had to drugs.

Dr. E. DARWIN HUDSON said that constipation was still the *bête noire* of the general practitioner. He cited cases in hysterical women where constipation had been the cause of a long train of symptoms. He believed that powerful cathartics were often indispensable. A case had come under his observation in which the patient had been induced to use some so-called "health suppositories." On examination, they had been found to contain atropine.

Dr. PAGE called attention to the fact that the diagnosis of large fæcal accumulations was very often difficult, and cited a case occurring in the Woman's Hospital, diagnosed as one of tumor, in which eventually twenty-five pounds of fæcal matter were removed, with a disappearance of the symptoms.

Dr. CURRIER remarked that constipation was one of the greatest difficulties in the practice of the gynecologist, and probably oftentimes the cause of septic inflammation after operations. His mode of treatment was to combine the use of enemata with that of mild cathartics.

Dr. LEO said that many cases of death in the aged were due to fæcal impaction that had not been recognized during life.

Dr. PETERS recommended caustic potash instead of ox-gall for enemata, also a pill containing two grains each of extract of aloes and extract of jalap. The combination did not gripe.

Dr. DANA spoke of the close relationship between hypochondriasis and constipation. He had but little faith in the value of strychnine or belladonna in the treatment of constipation.

The CHAIRMAN said that he could not agree with Treve that constipation was of little moment; on the contrary, he believed that many evils followed in its wake.

NEW YORK NEUROLOGICAL SOCIETY.

Meeting of May 3, 1887.

The President, Dr. CHARLES L. DANA, in the Chair;

Dr. GEORGE W. JACOBY, Secretary.

Nomenclature in Psychiatry.—Dr. R. L. PARSONS's paper on this subject, read at the previous meeting, was discussed by

Dr. Kellogg, Dr. Birdsall, Dr. Sachs, the President, and the author of the paper.

A Sarcoma Developed partly within the Skull.—Dr. S. N. LEO read the history of a case of tumor of the head which, in the course of an operation for its removal, was found to extend within the skull, and gave the impression of involving the dura mater at the situation of the great longitudinal sinus and of dipping deep into the substance of the brain. On account of these facts, and because the patient was already in bad condition from loss of blood, only the external portion of the growth was removed. The patient lived more than a month after the operation. An autopsy was not allowed. Her condition had been made serious by heart disease.

Dr. L. WEBER regretted that the title of the paper on the cards of announcement had been "Report of a Case of Cerebral Tumor successfully removed." He also regretted that there had not been a post-mortem examination.

Notes on the Cause and Treatment of Functional Insomnia.—Dr. B. SACHS read a paper on this subject. Under the term he included cases of insomnia pure and simple, occurring in persons of the neurasthenic habit. He preferred to say neurasthenic rather than hysterical, for in his experience actual insomnia was less frequent in truly hysterical patients than in those suffering from cerebral or spinal neurasthenia. A number of typical cases were cited. The author thought that in the majority of such cases there was good evidence of disturbances in the cerebral circulation. As it had been found in animals that an increased activity of the cerebral circulation was accompanied by a deficient circulation in the peripheral parts, so in many cases of chronic insomnia cold extremities, pallor of the skin, and a scanty uterine flow pointed to deficient peripheral circulation, and in many of these cases there was weakness of the heart, with a weak pulse. Special attention was called to the simultaneous occurrence of insomnia and headache, and to the fact that as a rule the headache was of the paralytic migraine type.

The treatment of migraine and that of insomnia were similar in many respects. The author wished particularly to insist on the point that continued hypnotic medication was worse than useless. The good results obtained by him had been due to close attention to matters of general regimen; to the treatment of anæmia; and to the strengthening of the force of the heart's action by cold douches, by the regulation of exercise, and by the methodical performance of definite forms of active physical exercise, such as riding, rowing, and mountain climbing. Hypnotics were of use only at the outset of treatment; among these the reader mentioned chloral and bromides, to be given at night, or bromides alone, amorphous hyoscyamine, urethane, and paraldehyde. Their use should be discontinued as soon as a slight improvement was noticeable, and from that time onward general treatment was to be pushed vigorously.

Dr. FISHER thought that a very common cause of insomnia was anæmia, and he had seen considerable success in its treatment with cod-liver oil, cream, and other articles intended to improve nutrition. In some of the cases ordinary hypnotics had been administered without any avail. The patients might have the appearance of being well nourished while they were really anæmic. The mineral tonics were indicated, as a rule.

Dr. GEORGE W. JACOBY thought the paper was an exceedingly important one, especially in that it called attention to the fact that many patients with insomnia could be cured without the use of any medicines whatever. He agreed with the author that it was necessary to discriminate as to the cause of the wakefulness. He thought that in the majority of cases the cause would be found to lie in the circulation—not always in anæmia, but frequently hyperæmia. The cause being done

away with, the sleeplessness would be overcome, but that which would cure anæmia in one case would not cure it in another. Active and passive exercise, particularly active exercise, were of benefit. For patients who could not go out, the muscle-beater was very useful. While he had not much faith in static electricity in the treatment of insomnia, he cited one case in particular in which a physician, who had applied it to one of his patients for another purpose, himself became sleepy under its influence. Perhaps the production of ozone by the instrument was the cause of this sleepiness, for it was well known that when we went into an atmosphere of ozone we were likely to become sleepy.

Dr. V. P. GIBNEY had noticed that static electricity tended to produce sleep. It was one of the few things that it had been found good for at the hospital with which he had formerly been connected.)

Dr. W. R. BIRDSALL thought, with the author, that we must adopt hygienic rather than purely medicinal measures for the cure of insomnia, but we were occasionally forced, as the author had said, to resort to some drug for temporary effect. For this purpose he had produced benefit without injurious effects—such as sometimes came from the use of the bromides, hydrate of chloral, etc.—with a drug first recommended to him by Dr. Seguin, namely, conium. This, given in large doses, fifteen or twenty drops, or more, of the fluid extract, had in his hands been beneficial. He had continued its use two or three months without deleterious results.

Dr. G. M. HAMMOND thought that fully eighty per cent. of all his patients were similar to those described in the paper—persons suffering from insomnia, mental anxiety, etc. In the large majority of the cases he thought insomnia was due to hyperæmia of more or less limited areas of the brain. When the patients did sleep they had unpleasant dreams. They were also frequently sufferers from dyspepsia, constipation, spots before the eyes, noises in the ears, sometimes hallucinations connected with various senses, and coldness of the extremities. It was rare for such patients to go away without being cured, but, if they subjected themselves again to the same causes, the condition returned. He used bromides, and stuck to them right through the disease. He gave only ten or fifteen grains three times a day, and also gave fluid extract of ergot. He applied static electricity and dry cups to the back of the neck, and regulated the sleeping hours.

Dr. LESZYNSKY had been rather surprised, in view of a recent discussion before the society, to hear the author speak of the use of hyoscyamine as a hypnotic. It was a mistake to rely upon large doses of bromides given at night. There was an objection to their use in the case of ladies, because of the bad odor which they gave the breath. He had not been able to discover any peculiarity in the circulation of the retina in these cases.

Dr. WEBER said that since he had adopted the treatment recommended by Dr. W. A. Hammond, and just described by Dr. G. M. Hammond, he had obtained the best results in suitable cases for this mode of treatment. But in other cases the bromides might cause excitement instead of aiding sleep. When there was gastro-intestinal disorder he added to the treatment the use of calomel with benefit.

Dr. LESZYNSKY referred to a remark by Dr. Birdsall concerning the use of a sinapism, or other cutaneous irritant, and said that Dr. W. H. Thomson had called attention some years ago to the beneficial effects of Cayenne pepper and like irritants to the surface of the body.

The PRESIDENT had found the warm bath a very valuable measure in many cases; in mild cases of insomnia the cold douche down the back and massage had proved useful. Hence

had discovered that ozone had hypnotic influence. Lupulin had been of benefit in the insomnia of old people; and lavender in some cases in which the stimulus of alcohol or warm food had failed.

Dr. SACHS objected to the use of the bromides, particularly in small doses, more than to anything else in the treatment of the class of cases under discussion, namely, those of insomnia in neurasthenic subjects. It was likely to do more harm than good. The testimony at the discussion referred to by Dr. Leszynsky had not been against amorphous hyoscyamine, but against the crystalline form.

An Apparatus for the Relief of Writer's Cramp was shown by the PRESIDENT. It was called the "kaligraph" by its inventor, the late Mr. Charles Thurber. It consisted of an iron framework to which was attached a series of levers so arranged that, by making large characters at one angle, the characters were reproduced in ordinary size at the opposite angle. It was, in fact, a kind of reversed pantagraph. Writer's cramp instruments were based on the principle of resting the groups of muscles most used and throwing the work upon other groups. The kaligraph fulfilled these indications better than any other instrument with which he was familiar. The objections to it were that it was cumbersome and expensive. The speaker showed cuts of all the various forms of instruments for writer's cramp (ten in all) which he had been able to collect. The kaligraph had been in practical use for thirty years, but it was very little known. It had enabled its inventor, who suffered extremely from the cramp, to write with comfort. He was informed that Mr. Charles Dickens had possessed and used one.

Dr. JACOBY thought this instrument was only palliative, while Nusbaum's was also curative, and could be carried about by the patient. It compelled the writer to use the abductors.

The PRESIDENT replied that an instrument calling into play another group of muscles of the hand would cause those to be affected after a time.

Dr. Birdsall thought writer's cramp was due to cerebral fatigue rather than to muscular fatigue, and that instruments for overcoming it could be of only limited benefit.

Book Notices.

The National Dispensatory: Containing the Natural History, Chemistry, Pharmacy, Actions, and Uses of Medicines, including those recognized in the Pharmacopœias of the United States, Great Britain, and Germany, with Numerous References to the French Codex. By ALFRED STILLÉ, M. D., LL. D., Professor Emeritus of the Theory and Practice of Medicine and of Clinical Medicine in the University of Pennsylvania, and JOHN M. MAISCH, Phar. D., Professor of Materia Medica and Botany in the Philadelphia College of Pharmacy. Fourth edition, revised and improved. With Three Hundred and Eleven Illustrations. Philadelphia: Henry C. Lea's Son & Co., 1886. Pp. xvi-1781.

We think it a matter for congratulation that the profession of medicine and that of pharmacy have shown such appreciation of this great work as to call for four editions within the comparatively brief period of eight years. The matters with which it deals are of so practical a nature that neither the physician nor the pharmacist can do without the latest textbooks on them, especially those that are so accurate and com-

prehensive as this one. The book is in every way creditable both to the authors and to the publishers.

GENERAL LITERARY NOTES.

AMONG recent foreign publications we note the following:

F. ALCAN, Paris.—C. Féré, "Sensation et mouvement." (2fr. 50.)

J. B. BAILLIÈRE & FILS, Paris.—E. Duval, "De l'intervention des médecines dans les applications hydrothérapiques."—O. Jennings, "Sur un nouveau mode de traitement de la morphinomane." (1fr. 50.)

A. COCCOZ, Paris.—Dubuc, "De l'utilité . . . de la cocaine dans l'opération de la lithotritie." (9fr. 75.)

A. DELAHAYE & E. LECROSNIER, Paris.—H. de Fresnay, "Études d'obstétrique pratique." (3fr.)

FISCHER, Berlin.—A. Gottstein, "Die Verwerthung der Bacteriologie in d. klin. Diagnostik." (2M. 4.)—O. Liebreich u. A. Langaard, "Compendium der Arzneiverordnung. Medicinisches Recept-Taschenbuch." 2d ed. (5M.)

E. GROSSER, Berlin.—S. Sticker, "Magensonde u. Magenpumpe." (1M.)

J. SPRINGER, Berlin.—E. Dieterich, "Neues pharmaceutisches Manual." (7M.)

BOOKS AND PAMPHLETS RECEIVED.

Evacuant Medication (Cathartics and Emetics). By Henry M. Field, M. D., Professor of Therapeutics, Dartmouth Medical College, etc. Philadelphia: P. Blakiston, Son, & Co., 1887. Pp. vi-13 to 288. [Price, \$1.75.]

The Scientific Rationale of Electro-therapy. A Revised Paper on the Therapeutic Applications of Electricity. By C. H. Hughes, M. D., etc. St. Louis. [Reprinted from the "Alienist and Neurologist."]

The Recent Advances in Abdominal Surgery. By Henry O. Marcy, A. M., M. D. Boston. [Reprinted from the "Medical Register."]

Die allgemeine Pathologie oder die Lehre von den Ursachen und dem Wesen der Krankheitsprocesse. Von Dr. Edwin Klebs, Professor der allgemeinen Pathologie und der path. Anatomie an der Universität Zürich. Erster Theil. Die Krankheitsursachen. Allgemeine pathologische Aetiologie. Mit 66 theilweise farbigen Abbildungen im Texte und 8 Farbensafeln. Jena: Gustav Fischer, 1887. Pp. xiv-6 to 514.

Earth as a Topical Application in Surgery. Being a Full Exposition of its Uses in all the Cases requiring Topical Applications admitted in the Men's and Women's Surgical Wards of the Pennsylvania Hospital during a Period of Six Months in 1869. By Addinell Hewson, M. D. Second Edition. With Four Photo-relief Illustrations. Philadelphia: The Medical Register Co., 1887. Pp. xx-25 to 309.

Feeding Patients against the Appetite. By Ephraim Cutter, M. D., M. M. S., etc. [Reprinted from the "Medical Register."]

Mental Epilepsy. By L. W. Baker, M. D., Superintendent Family Home for Nervous Diseases, Baldwinsville, Mass. [Reprinted from the "Medico-Legal Journal."]

Report of the Committee on Disinfectants. Presented at the Fourteenth Annual Meeting of the American Public Health Association, held at Toronto, Canada, October 5-8, 1886. [Reprinted from vol. xii of the "Transactions of the American Public Health Association."]

Transactions of the Rhode Island Medical Society. Vol. iii. Part iv, 1886.

Thomsen's Disease (Myotonia Congenita). By Dr. Geo. W. Jacoby, Physician to the Class of Nervous Diseases of the German Dispensary of the City of New York. [Reprinted from the "Journal of Nervous and Mental Disease."]

A New Explanation of the Renal Troubles, Eclampsia, and other Pathological Phenomena of Pregnancy and Labor. By A. F. A. King, M. D., Professor of Obstetrics in the Medical Department of Columbian University, Washington, D. C. [Reprinted from the "American Journal of Obstetrics and Diseases of Women and Children."]

Dose and Price Labels of all the Drugs and Preparations of the United States Pharmacopœia of 1880, together with many Unofficial Articles that are frequently called for as Medicines or used in the Arts. For the use of Pharmacists, Physicians, and Students. Second edition, rewritten and thoroughly revised and enlarged, with an Appendix con-

taining a Description of many of the New Remedies lately introduced. By C. L. Lochman, Translator of the First and Second Editions of the German Pharmacopœia, etc. Philadelphia: Dunlap and Clarke, 1887. Pp. 201.

Report of One Hundred Joint Resections Treated at Professor Saxtorph's Department in Frederick's Hospital, Copenhagen. Statistics collected by S. Meyer. Translated from the Danish by Robert T. Morris, M. D., of New York. [Reprinted from the "New England Medical Monthly."]

The Veterinary Service of the United States Army. By R. W. Shufeldt, M. D., etc., Captain, Medical Department, U. S. Army. [Reprinted from the "Journal of Comparative Medicine and Surgery."]

Certain Causes of Sterility in the Female and their Treatment. By Egbert H. Grandin, M. D., of New York. [Reprinted from the "Nashville Medical News."]

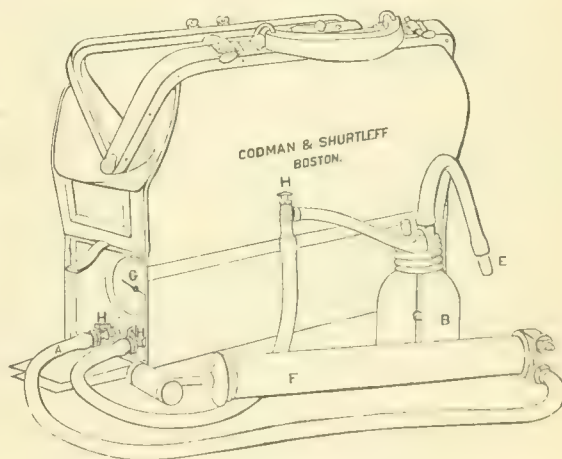
Oration delivered before the Alumni Association of the Medico-surgical College of Philadelphia on the Evening of Thursday, April 7, 1887. By Dudley S. Reynolds, A. M., M. D., Louisville, Ky. [Reprinted from the "Medical Register."]

A Review of Twenty-two Cottage Cases occurring in the Woman's Hospital in the Service of Dr. T. Gaillard Thomas. By A. H. Buckmaster, M. D. Gynecologist to the Hospital for Mental and Nervous Diseases, etc. [Reprinted from the "American Journal of the Medical Sciences."]

New Inventions, etc.

A LARYNGOLOGICAL HAND-BAG.

At a recent meeting of the Massachusetts Medical Society, Suffolk District, Section for Clinical Medicine, Pathology, and Hygiene ("Boston Medical and Surgical Journal," May 5, 1887), Dr. T. A. DeBlois exhibited a new form of physician's hand-bag, which he had recently had made.



It consists of an ordinary leather bag, of medium size, but is about one third deeper than the ordinary bags. At one end of the bag is an opening near the bottom, which can be closed by a flap which buckles tightly. This opening displays the end of an air-condenser, with two cocks and a pressure-gauge. In the bag can be carried a small pump, by which the air can be forced into the condenser. In the space of two minutes Dr. DeBlois was able to obtain a pressure of thirty-five pounds to the inch without great exertion. The apparatus is then ready for use as a spray for the throat, the use of the Evans's inhaler or for any other purpose to which this treatment is applicable. The bag is sufficiently capacious to accommodate all the articles usually required. The weight is not materially increased by the addition of the condenser, and the whole apparatus is not too heavy to be easily taken in the hand when walking. It is manufactured by Messrs. Codman & Shurtleff.

Miscellany.

Cotting's Operation for Ingrowing Toe-nail.—In a letter to Dr. B. E. Cotting, of Boston ("Boston Med. and Surg. Jour.," May 5, 1887), Dr. R. F. Weir, of New York, says that he has done the operation as described in Dr. Cotting's last remarks "some seven times with uniform success." "In over a dozen other cases," he adds, "success varied with the amount sliced off."

The New York State Medical Association.—The Fifth District Branch will hold its third annual meeting on Tuesday, the 24th inst., at Remsen Hall, Brooklyn, beginning at 11 A.M. The announcement mentions the following papers: "The Therapeutic Effects of Ammonium Salicylate, with Cases," by Dr. J. D. Sullivan; "The History of an Interesting Case of Accident from a Fall," by Dr. M. T. Pultz; "Trephining in Gunshot Injuries of the Skull," by Dr. F. S. Dennis; and "The Abortive Treatment in Acute Diseases," by Dr. R. C. Van Wyck.

Medicine in the Eighteenth Century.—The following advertisement appeared in the "Independent Chronicle and the Universal Advertiser" for January 27 to January 30, 1800:

Tempestas resedit.

Dr. F. Cadete informs the Public that he intends to stay in Town, till next April during which time he will continue his Practice only as a Physician.

He expects to give general satisfaction to his future Patients, as he has given to a great number in this place, in the most obstinate Complaints: because the foundation of his Theory and Practice being established on the soundest and surest Principles, he thinks he cannot fail where there is any possibility to effect the cure.

Inquire at MR. EBENEZER WATT'S, *Wing's-Lane*.

BOSTON, Dec. 19, 1799.

The Health of Boston.—The following numbers of cases and deaths from infectious diseases were reported to the Board of Health during the week ending Saturday, May 14th: Diphtheria, 15 cases and 3 deaths; scarlet fever, 14 cases and 1 death; typhoid fever, 16 cases and 2 deaths; measles, 126 cases and 4 deaths. There were also 36 deaths from consumption, 15 from pneumonia, 1 from whooping-cough, 7 from heart disease, 17 from bronchitis, and 6 from marasmus. The total number of deaths was 172, against 163 in the corresponding week last year. Measles is very prevalent in Boston, but the reported death-rate from the disease is only about three per cent.

The New York Neurological Society.—At a meeting held on the 3d inst., officers for the ensuing year were elected as follows: President, Dr. C. L. Dana; vice-presidents, Dr. W. R. Birdsall and Dr. M. A. Starr; recording secretary, Dr. G. W. Jacoby; corresponding secretary, Dr. W. M. Leszynsky; treasurer, Dr. E. C. Harwood; councillors, Dr. E. D. Fisher, Dr. B. Sachs, Dr. L. Weber, Dr. E. C. Seguin, and Dr. G. M. Hammond.

The "Medical and Surgical Reporter," of Philadelphia, is now edited and published by Dr. N. A. Randolph and Dr. C. W. Dulles.

The Norfolk, Mass., District Medical Society.—At the annual meeting, held on Tuesday, the 10th inst., the election of officers for the ensuing year resulted as follows: President, Dr. W. P. Bolles; vice-president, Dr. G. D. Townshend; secretary and librarian, Dr. S. A. Potter; treasurer, Dr. E. G. Morse; commissioner of trials, Dr. J. Stedman; nominating councillor, Dr. O. F. Rogers. A paper on the "Third Stage of Labor" was read by Dr. E. G. Morse, and "A Case of Probable Intussusception with Recovery" was reported by Dr. E. F. Dunbar.

The New York Pathological Society will hereafter hold its meetings, beginning Wednesday evening, May 25th, at the New York Polytechnic, 214 and 216 East Thirty-fourth Street.

The American Laryngological Association will hold its ninth annual congress in the Hall of the New York Academy of Medicine, on

Thursday, Friday, and Saturday, the 26th, 27th, and 28th inst. The programme includes the following papers: "Intubation of the Larynx," by Dr. E. Fletcher Ingals, of Chicago; "Description of a Modified Laryngectomy," by Dr. J. Solis-Cohen, of Philadelphia; "A New Method of Intubation of the Larynx," by Dr. Charles E. Sajous, of Philadelphia; "The Pathological Nasal Reflex: an Historical Study," by Dr. John N. Mackenzie, of Baltimore; "Hay-Fever: Analysis of Cases treated by the Author, together with Results of Treatment," by Dr. John O. Roe, of Rochester; "On the Treatment of Atrophic Rhinitis by Applications of the Galvanic Current," by Dr. D. Bryson Delavan, of New York; "Myalgia of the Pharynx and Larynx," by Dr. S. H. Chapman, of New Haven; "Sensory Affections of the Throat" (discussion to be opened by Dr. Frederick I. Knight, of Boston); "Further Researches upon the Function of the Recurrent Laryngeal Nerve," etc., by Dr. Frank Donaldson, Jr., of Baltimore; "The Anatomy and Physiology of the Recurrent Laryngeal Nerve," etc., by Dr. Franklin H. Hooper, of Boston; "On Certain Measures for the Relief of Congestive Headaches," and "A Case of Leucoplakia Buccalis, Recovery," by Dr. W. C. Glasgow, of St. Louis; "The Treatment of Laryngitis in Professionals who are unable to Rest," by Dr. J. Solis-Cohen, of Philadelphia; "Glandular and Connective-tissue Hypertrophies of the Lateral Walls of the Pharynx," by Dr. Clarence C. Rice, of New York; "The Galvano-cautery in the Treatment of Hypertrophied Tonsils," by Dr. Charles H. Knight, of New York; "Note on a Frequent Cause of Nasal Hæmorrhage," by Dr. Beverley Robinson, of New York; "The Constitutional Causes of Sore Throat," by Dr. S. W. Langmaid, of Boston; "Affections of the Crico-arytenoid Articulation," by Dr. George W. Major, of Montreal; "Cancer of the Larynx," by Dr. Hosmer A. Johnson, of Chicago; "A Case of Recurring Laryngitis Hæmorrhagica," by Dr. C. E. Bean, of St. Paul; "A Case of Stenosis of the Larynx treated by Divulsion and Systematic Dilatation," by Dr. Morris J. Asch, of New York; "On the Ætiology of Deflections of the Nasal Septum," by Dr. D. Bryson Delavan, of New York; "A Comparative Study of Some of the Methods of Treatment best adapted to the Relief of Occlusion of the Posterior Nares," by Dr. Alexander W. MacCoy, of Philadelphia; "Plaster-of-Paris Dressing for Fractures of the Nose," by Dr. J. W. Robertson, of Detroit; "Recurrent Naso-pharyngeal Tumor—Cure by Electrolysis—Exhibition of the Patient," by Dr. Rufus P. Lincoln, of New York; "Congenital Occlusion of the Nasal Passages, and its Successful Treatment by means of a Novel Surgical Procedure, with a Practical Demonstration of the Operation" (author's name not mentioned). On Thursday evening, by invitation of Dr. George M. Lefferts, the members will visit the Casino and take supper at Delmonico's. The annual dinner will be given at Delmonico's on Friday evening.

The Association of American Physicians will hold its second annual meeting at the Army Medical Museum building, Washington, on Thursday and Friday, June 2d and 3d. The programme includes the following: "Remarks by the President," Dr. S. Weir Mitchell, of Philadelphia; "Cirrhosis of the Liver in Children," by Dr. R. Palmer Howard, of Montreal; "Obstructive Safety-valve Action in the Heart and Direct Functional Murmurs," by Dr. John Guiteras, of Charleston; "Pneumatic Differentiation," by Dr. Hosmer A. Johnson, of Chicago; "Discussion on Antipyretic Treatment" (on reports by Dr. Horatio C. Wood, of Philadelphia, and Dr. G. Baumgarten, of St. Louis); "Cases of Sewer-gas Poisoning," by Dr. Henry Hun, of Albany; "A Case of Aneurysm of the Abdominal Aorta," by Dr. James T. Dana, of Portland, Me.; "Hæmorrhagic Infarction" (discussion on reports by Dr. W. H. Welch, of Baltimore, and Dr. William Osler, of Philadelphia); "Bergeon's Method of Treating Phthisis" ("Clinical Notes," by Dr. E. T. Bruen, of Philadelphia—"Clinical Notes," by Dr. Frederick C. Shattuck, of Boston—discussion by Dr. William Pepper, of Philadelphia, Dr. J. C. Wilson, and others); "Atrophy of Gastric Tubules, its Relation to Pernicious Anæmia," by Dr. F. P. Kinnicutt, of New York; "Observations on the Employment of Antipyrine and Thalline in the Treatment of Typhoid Fever," by Dr. Francis Minot, of Boston; "An Inquiry into the Frequency with which Lead may be found in the Urine, and on the Symptomatology of Chronic Lead Poisoning," by Dr. James J. Putnam, of Boston; "Forms of Typhoid Fever simulating Remittent Malarial Fever," by Dr. I. E. Atkinson, of Baltimore.

Original Communications.

THE INDICATION FOR QUININE IN PNEUMONIA.

By MARY PUTNAM JACOBI, M. D.

MR. MILL closes a review of the poems of Alfred de Musset with the remark, "How much life is required to produce a little poetry!" Similarly, I think, no one can sift clinical records without feeling inclined to exclaim, "What an enormous amount of data are required to justify a few positive conclusions!" On this account, fresh observations are always in order, and this is my excuse for presenting the partial conclusions which may be deduced from a hundred dispensary cases of pneumonia treated by quinine.

It would seem, at first, as if 100 cases would suffice for many and quite positive conclusions. But the uncertainty of dispensary practice is so great that, out of this 100, only 33 cases were followed to complete termination. In 20 others the record continues until after marked defervescence had occurred, making a fairly satisfactory total of 53. In 20 other cases the record stops during the continuation of fever or of marked physical signs, while in 28 cases the patients were only brought to the dispensary on a single occasion. The age of the patients varied from three weeks to eight years, much the larger number being about two years and a half old.

From the incompleteness of so many of the histories, it is useless to attempt positive conclusions in regard to the mortality statistics. Out of the whole number, seven are known to have died, so that the mortality can not be less than seven per cent., while it may be greater. But, on the other hand, the conditions were so generally unfavorable that it is impossible from these data to estimate the chances of death from the disease under quinine treatment, when all the details of management should be under the physician's control. Of course, all the cases brought to the dispensary were, by that fact, submitted to a degree of exposure which would be carefully avoided in either hospital or private practice. The general hygiene of the house was usually bad, the nursing unskillful and often inattentive, and a tendency to caseation and tuberculization existed very frequently, either constitutional or as a result of measles. One of the seven deaths occurred in a pneumonia following diphtheria; in another case it was consecutive to scarlet fever. Setting aside the mortality statistics as entirely inadequate for any useful purpose, the data may be utilized in the inquiry how far the fever or the physical signs of pneumonia are demonstrably influenced by quinine.

The physical signs especially investigated were the combination of extremely harsh or of bronchial breathing with dullness on percussion. In a few cases tympanitic percussion sound existed over areas where the auscultatory sounds would have led the observer to expect dullness. This paradoxical phenomenon is best explained by the German theory, which ascribes it to some such infiltration of the walls of the air-cells as may prevent them from vibrating under per-

cussion. The column of air then vibrates alone—gives rise to homogeneous vibrations, as shown by experiments with the sensitive gas-flame—and such homogeneous vibrations have a tympanitic resonance. Similarly, percussion over the stomach normally occasions a tympanitic sound, because the walls are too flaccid to vibrate. But if the stomach be first overdistended, or, conversely, if healthy lungs be removed from the body, and percussed in their relatively collapsed condition, the note becomes duller in the first case, tympanitic in the second. Upon inflating the lungs, however, and repeating the percussion, the tympanitic note is found to have disappeared.

This experiment is mentioned by both Weil and Gerhardt in their treatises on percussion and auscultation. I have repeated the experiment, and obtained exactly the results stated. I have made somewhat of a digression to mention these facts, because I have found them omitted by many English and American authors.

Clinically, tympanitic percussion sound with consolidation often coincides with caseous degeneration of the lung, and the theory would therefore be sustained by the peculiar infiltration of the alveolar walls known to characterize Buhl's desquamative pneumonia.

To return to the clinical analysis. Seventeen of the cases examined had blowing respiration in some portion of the lung, usually in the upper scapular region, and among these 16 had fever. Forty-eight cases exhibited tubular breathing, and among these only 2 were without fever at the time treatment was begun.

To nearly all these cases quinine was administered in about the same way. Five grains were given at night, and the same amount in the morning, each in two doses at an hour's interval. In babies under eight months old, two grains and a half were given night and morning, similarly divided. In one or two cases requiring special mention, to children over two years old, larger doses were given. Out of the 16 cases of the first class, with harsh and blowing respiration, usually, of course, accompanied by râles, and other signs, physical and rational, that I need not here particularly describe, the blowing respiration disappeared—

After 2 days in 3 cases;

" 3 " " 2 "

" 4 " " 6 "

" 5 " " 1 case;

" 6 " " 1 "

" 7 " " 1 "

" 14 " " 1 "

In the apyretic case with blowing respiration this had disappeared after two days' medication.

In the second class, where tubular breathing indicated more intense congestion, or even consolidation of the lung, this was relieved, as shown by the disappearance of the sign—

After 2 days in 3 cases;

" 3 " " 3 "

" 3 " " 3 "

" 6 " " 1 case;

" 7 " " 5 cases;

After 11 days in 1 case;
" 14 " " 1 "
" 17 " " 1 "
" 18 " " 3 cases;
" 3 weeks " 1 case.

Two cases, without fever, lost their tubular breathing in one and ten weeks respectively.

Twenty-four cases were not observed to complete termination, the patients ceasing attendance. In 10 of these the fever had almost disappeared, and the patients were greatly improved when lost sight of; there was every reason to believe that they completely recovered. But in these, when last seen, the tubular breathing was persisting—

After 2 days in 3 cases;
" 6 " " 1 case;
" 7 " " 2 cases;
" 9 " " 1 case;
" 12 " " 1 "
" 18 " " 1 "
" 6 weeks " 1 "

Among the patients lost sight of while the fever was still high, and the morbid process progressing, the tubular breathing was persisting—

After 2 days in 6 cases;
" 3 " " 1 case;
" 4 " " 1 "
" 5 " " 1 "
" 7 " " 2 cases;
" 10 " " 1 case;
" 11 " " 1 "
" 12 " " 1 "

The tables of cases in which the patient was under observation until the physical signs had been effectively modified show that this modification occurred at varying intervals during the first week from beginning of treatment in 29 cases, and in from eleven to eighteen days in only 7 cases; finally after three weeks in 1 case. On this account, the persistence of tubular breathing during from two to seven days in 17 cases, which were not watched to their termination, proves nothing against the final recovery of the patients. Such recovery was almost certain, moreover, in 6 of these 17 cases, because, notwithstanding the persistence of tubular breathing, marked defervescence had occurred, and the patient was evidently entering upon convalescence. The possible occurrence of fresh attacks, or of extension of the morbid process to other parts of the lungs, would prove nothing against the favorable modification of the first set of symptoms by the treatment.

In 10 cases tubular breathing developed while the patient was receiving quinine. The treatment had been instituted when the occurrence of hurried and harsh respiration, together with fever, had pointed to a commencing broncho-pneumonia in scattered or in deep-lying foci. The appearance of the tubular breathing after two or three days of quinine medication indicates that in these cases the extension of the morbid process, or the agglomeration of the pneumonic foci, was not averted by the treatment. In 4 of the cases the lungs cleared up on the fourth, seventh, tenth, and fourteenth day, respectively. In 6 the patients were

lost sight of on the second, fourth, fifth, and seventh day, and the tubular breathing persisted. To sum up such results as were obtainable from the data, we may say that quinine was given in 59 cases which could be watched to the beginning of convalescence or to death. Seven cases proved fatal, either during the height of the acute attack or by the supervention of acute tubercularization.

In 29 cases blowing or tubular breathing disappeared in from two to seven days, in 7 cases in from eleven to eighteen days, in 1 case after three weeks, thus making a total of 37 cases.

Finally, in 10 cases, though defervescence was established, the tubular breathing was persisting in from two days to six weeks; thus in about one fourth as many cases as those in which it disappeared. But these 10 cases represented convalescence, and may be added to the 37 cases in which the physical signs disappeared with the fever. In addition to the pyretic cases, quinine was given in 5 apyretic cases of chronic consolidation of the lung, and in one of congestion from mitral insufficiency.

As these cases bear particularly upon the view of quinine to be advocated in this paper, a summary of each will be given.

CASE XXXVIII.—Two and a half years; broncho-pneumonia fourteen days after measles; first seen May 10th; harsh and laborious respiration at right apex; t. 100.5°. R Vin. seneg. and am. carb.

May 12th.—No improvement. R Potass. chlor., sod. bicarb., syr. ipecac., inf. prun. virg.

15th.—Abundant râles upper half right lung; respiration very harsh; expiration blowing at apex. R Poultice. Quinine, gr. v, night and morning, in two doses at an hour's interval.

19th.—Vomited after quinine; râles diminished; expiration still blowing; t. 100°. R Quin., gr. ij, every two hours.

22d.—Much improvement in general appearance; no fever, no râles, no vomiting; expiration, however, tubular at apex. Continue quinine, but in five grains, night and morning, as on 15th.

The treatment was continued with progressive improvement until on June 9th the tubular breathing was found to have disappeared. The quinine was then suspended. R Syr. tolu.

June 16th.—Return of cough; tubular breathing found at left apex. Resumed quinine; continued until—

30th.—When tubular breathing entirely gone. Quinine suspended.

CASE LIV.—Child two years; first seen December 4th; pneumonia lasting since measles in September; dullness and increased vocal resonance at both apices; whiffs of tubular breathing; t. 99.5°; glands of groin enlarged. R Ol. morrhuae and calcii phosphatis.

January 29th.—Child reported as having entirely recovered. Then acute attack, ushered in by convulsion; t. 102.5°; R. 48; harsh respiration over both lungs without râles. R Quin., gr. v, morning and night, in two doses each time.

31st.—T. 99°; R. 36. Continue quinine.

February 5th.—Respiration harsh and blowing at both apices. Continue quinine, also ol. morrhuae and calcii phos.

19th.—Respiration nearly normal. R Quin., gr. iijss., night and morning. Tinct. capsici externally.

March 12th.—Recovery complete.

CASE VII.—Chronic pneumonia or peribronchitis; boy aged

ten. On August 31st tubular breathing at right apex; no fever. R Quinine, gr. v, night and morning.

September 23d.—Only occasional whiffs of tubular breathing in right supra-spinous space. Continue quinine.

October 12th.—Respiration only tubular on forced breathing.

CASE XXXVI.—Aged two and a half years; cough for four months; slight tubular breathing at apex of right lung; t. 100°; on October 25th, quin., gr. v, night and morning in divided doses.

27th.—No tubular breathing; respiration harsh; t. 98.5°; apparent improvement.

CASE LVI.—Child aged three months; cough for five weeks; bronchial breathing with dullness at right apex. On February 5th, quinine, gr. ij, night and morning.

February 12th.—Tubular breathing at right apex. Continue quinine, also ol. morrhuae and calcis chlor.

19th.—Cough lessened. Continue.

23d.—Tubular breathing gone; replaced by harsh respirations, with subcrepitant râles.

CASE VI.—Boy aged nine months; rheumatic mitral insufficiency without hypertrophy; much dyspnoea and cough. Presumed hyperæmia of bronchial mucosa. Digitalis for three days without obvious effect. Then quinine, gr. v, night and morning. Three days later child much improved; no cough; cheeks and lips red instead of bluish.

In 32 cases the fever was observed to entirely disappear, or to fall to 101°, under the quinine medication. This defervescence occurred—

On the 2d day in 8 cases;

" " 3d " " 3 "

" " 4th " " 3 "

" " 5th " " 5 "

" " 6th " " 2 "

" " 7th " " 4 "

" " 8th " " 2 "

" " 10th " " 1 case;

" " 11th " " 1 "

" " 12th " " 1 "

" " 13th " " 1 "

" " 19th " " 1 "

32 cases.

Thus in 25 cases defervescence occurred within seven days after beginning the quinine; in seven cases it was later. In 14 of the 32 cases the physical signs persisted though the temperature fell, 12 of these cases having tubular breathing.

In the remaining 18 cases the physical signs disappeared, or were greatly modified, coincidently with the fall of the temperature.

In 19 cases more or less fever, sometimes as much as 105°, was found on the last visit of the child, which occurred—

After 2 days in 7 cases;

" 3 " " 1 case;

" 4 " " 2 cases;

" 5 " " 2 "

" 7 " " 1 case;

" 9 " " 1 "

" 10 " " 2 cases;

" 12 " " 3 cases.

In 4 of these 20 cases the physical signs had greatly improved, although the fever persisted. In the remaining 16 the physical signs also remained unchanged. Comparison of this table of 19 apparently unfavorable cases with the table of 32 cases in which defervescence was positively observed somewhat diminishes the unfavorable aspect of the incomplete cases. For a delay of defervescence as far as the seventh day, observed in 13 of the latter class, is not at all exceptional in cases of perfect ultimate recovery, for it occurred in 25 out of the 32 undoubtedly successful cases. The remaining 7 of these, moreover, delayed defervescence as long as, or longer than, the remaining 6 of the second division.

The temperatures existing at the time the quinine treatment was begun varied from 103° to 105°. Within this range the height of the temperature did not seem to modify its resistance to medication. On the other hand, an increased amount of quinine did not seem to exercise any greater influence over the fever than the ten grains a day habitually given.

Thus, in one case early in the series a child of six months received, in divided doses, ten grains of quinine in the evening and five in the morning. This was well tolerated, and, on reporting two days later, the child seemed much better, the respiration was easy, and the temperature 100°. Tubular breathing was heard bilaterally at the root of the lungs, and the percussion resonance was diminished over both lungs. The quinine was reduced to five grains night and morning. Two days later the temperature rose to 105°, the tubular breathing had disappeared, but the child was vomiting and the amount of urine diminished. Quinine was given by rectal injection, and again to the amount of fifteen grains in twenty-four hours. It was nearly all rejected, but on the two following days ten grains was administered in two doses by the mouth after two days; the temperature was still at 103°, the respiration 60, and the pulse 140. The mother then ceased attendance and medication for a week, rather wisely as it proved, for at the end of that time the baby was in full convalescence, the temperature 101°, the respiratory signs almost normal.

The foregoing case is, I think, of value, purely as a physiological experiment, in showing the resistance of pneumonic fever to doses of quinine which might be considered overwhelming for a child of six months of age. Another case, not included in the foregoing list, exhibits the same resistance of febrile temperature to larger doses of quinine under somewhat different circumstances.

A boy of four years entered the infirmary with a history of pneumonia following measles, and of four weeks' duration. Over the upper fourth of the right lung and nearly the whole of the left the respiration was extremely harsh in both times, with the expiration prolonged but not tubular. Moderate flatness on percussion existed over the upper fourth of both lungs, but over the middle third of the left was a markedly tympanic resonance, prolonged into the axillary space. Notwithstanding this situation, which seemed favorable to the theory of tympanic resonance from the stomach, I regarded the sign as probably indicative of commencing caseous infiltration. The child at first received five grains of quinine night and morning, and this was continued several days as an experiment, and to ascertain if the signs of pulmonary congestion would be modified by larger doses of quinine. Twenty grains of the drug

were administered in twenty-four hours, in divided doses every six hours. During the second twenty-four hours of this medication, which was apparently well tolerated, the temperature rose to 102.5°, and continued to rise every evening after the larger doses of quinine were stopped.

The hectic thus developed was attributable to the tuberculization of the lung that became soon manifest; but it was clear that the fever was not even symptomatically checked by the quinine.

In a third case, a baby four months old, with signs of broncho-pneumonia at the apex of both lungs and a temperature of 102.5°, received a grain of quinine every two hours. Much of this was vomited. Three days later the temperature was still at 102°, and the physical signs unchanged. The use of quinine was interrupted for two days, then resumed as before, together with camphor and brandy. The temperature was then 103°. Two days later this temperature was unchanged, though the quinine had been retained. The tubular breathing, with râles, had extended to the middle of the right lung. Three days later the temperature was 106°. The left apex and the upper half of the right lung solidified.

At this point the child was lost sight of. Whether, as was only too probable, it died could not be ascertained; but it is certain that the large doses of quinine entirely failed to prevent either the rise of temperature or the extension of the morbid process in the lungs. Between the extreme and special cases just mentioned, and which in this series are the only ones recorded as those in which more than ten grains of quinine were given daily, and the mass of the cases in which precisely this amount was given, lies a considerable range of possibilities for varying methods of medication. Into these, of course, the reasoning of this paper can not enter. But, from the data given, the positive conclusion can be drawn that, in the pneumonia of children between six months and four years of age, a daily dose of ten grains of quinine does not act as an antipyretic *per se*, does not reduce temperature directly and apart from the morbid process, but only in so far as it modifies this.

It is true that in fourteen out of thirty-two cases defervescence occurred while signs of consolidation still persisted in the lungs. But it is well established that such signs do not contradict the arrest of the morbid process, but merely indicate the continued presence of the exudation which this has already caused. In croupous pneumonia the exudation signs may persist long into well-established convalescence. In catarrhal pneumonia, and especially in children, the exudation can not persist without risk of caseation; but this is a new process, and its dangers need not be immediately taken into account in the management of acute inflammation. Defervescence, therefore, except when brought on purely symptomatically—as by cold, or large doses of antipyretics—always indicates at least a temporary arrest of the morbid process, while the disappearance of many signs of congestion, which in children so often simulate those of exudation, indicates no convalescence so long as the temperature remains elevated. A forced defervescence in broncho-pneumonia, apart from an arrest of the morbid process, would be of little advantage to the patient, unless in the relatively few cases where a great excess of temperature

threatens or causes convulsions. There is certainly no danger in children, in non-infectious pneumonia, of cardiac degeneration from either heat or other cause. The pneumonias after diphtheria or scarlatina may often owe their fatal termination to infectious myocarditis, with thrombosis; but against this danger antipyretics would be powerless. Apart from the possibility of an infecting agent in the blood, the fever in pneumonia seems most plausibly explained by paresis of the heat-regulating centers of the medulla, the consequence of an excess of excitations conveyed to the medulla from the lungs in the centripetal fibers of the vagus. According to the experiments of Rosenbach* in normal respiration, the distension of the lung in complete inspiration irritates the pulmonary fibers of the vagus; the irritation is conveyed along these fibers to the medulla, and inhibits the excitation of the inspiratory center, which, determined by the presence of carbonic acid in the blood has been the cause of the inspiratory expansion of the thorax. The irritations thus generated in the lung convert the otherwise permanent excitation of the inspiratory center into a rhythmical excitation by means of periodical interruptions. When the inspiratory center is inhibited, the inspiratory movement is arrested, the thorax passes into the passive state of expiration, and remains there until the increasing vensity of the blood again excites the inspiratory center.

When the pulmonary tissue is inflamed, the fibers of the vagus suffer an abnormal irritation; the medullary center is therefore more frequently inhibited; the respiratory movements are shorter and far more frequent than in health. A sudden acceleration of respiration, with a rise of temperature, may often suffice to indicate inflammation of the lung tissue, or the transition from bronchitis to pneumonia, even in the entire absence of physical signs.

The centripetal nervous irritations which suffice to inhibit the respiratory center and the heat-regulating centers of the medulla can hardly fail to affect its vaso-motor center as well. It seems, indeed, highly probable that the vaso-motor fibers of the pulmonary blood-vessels, whose independent existence has not been demonstrated, run in the paths of the vagus. But the immediate effect of irritating the vaso-motor center is the contraction of blood-vessels. The dilatation of pulmonary blood-vessels in pneumonia can only be referred to the vaso-motor system under two circumstances. First, when the pulmonary congestion is generalized and primary, dependent on some overpowering influence primarily exercised on the vaso-motor center and apart from local pulmonary disease. Such congestions are seen in malarial and other infections. In the second case, the long-continued irritation of the vaso-motor center, when the periphery of the vagus has been severely irritated by inflammation of lung tissue, may result in secondary paresis of the medullary center, and hence in the terminal congestions of fatal cases of pneumonia.

It is worth noting that two out of the three immediate consequences of vagus irritation in pneumonia are conservative in their tendency. The increased frequency of respira-

* "Studien über den Nervus Vagus," Berlin, 1877.

tion tends to compensate the restriction in area of respiratory tissue, and this has frequently been pointed out. Irritation of the vaso-motor center tends to antagonize the tendency to abnormal dilatation of blood-vessels caused by the unknown irritament of the inflammation.

It has not yet been demonstrated that the fever which results from inhibition of the heat-regulating centers is also conservative, and only dangerous when in excess, but the other facts render this *a priori* probable. Diminution in the area of respiratory tissue threatens ultimately a diminution of the oxidations upon which the vital heat depends. The rise of bodily temperature caused by deficient elimination of heat—the probable cause of the fever in at least catarrhal pneumonia—seems to indicate a blind effort on the part of the organism to husband its heat resources, and thus to avert the collapse which is threatened by the disease.

The theoretical estimate of the action of quinine, or of any medication, in pneumonia must be based on the manner in which it can be shown to affect these vagus irritations, or else the pulmonary lesions which occasion them.

The most usual accounts of the lesions of broncho-pneumonia given by English and American writers emphasize the existence of bronchitis, and then describe the peribronchial alveoli as in a state of catarrhal inflammation, characterized by a proliferation and desquamation of epithelial cells. Delafield,* however, describes hepatized lobules—not granular, as in croupous pneumonia—yet standing out above the surrounding tissue, and filled with epithelium, leucocytes, and fibrin. This fibrinous exudation, according to Charcot and Grancher—the French writers who have most recently investigated the subject—is particularly characteristic of the peribronchial alveoli at the center of the lobule. Thus, as Cadet de Gassicourt remarks, we may no longer establish a distinction between croupous and catarrhal pneumonia, according to the presence or absence of fibrin in the exudation.† This central zone of hepatization, the peribronchial nodule, is surrounded by a zone of splenization. This is caused by a congestion of the alveolar walls, or even by a beginning of infiltration of these walls by embryonic cells, and by a mass of voluminous epithelial cells with a few leucocytes in the interior of the cells. This zone may be entirely absent, or it may greatly predominate. "It plays an important rôle in the clinic, for it belongs at once to hyperæmia and to hepatization; it is mobile like the one, and fixed like the other, and may sometimes extend with great rapidity."‡

The localization of the most severely injured tissue in broncho-pneumonia, in the immediate vicinity of the inflamed bronchus, would seem to confirm the old doctrine that the irritament, instead of being diffused, as in croupous pneumonia, is brought to the air-cells by the bronchi, or generated among the products of the inflammation of their mucosa. The condition of the outer zone of the lobule indicates a more diluted action of the same irritament, one of whose effects is the formation of leucocytes—*i. e.*, of pus;

the other, the paralysis of the capillaries. The way is clearly open for the future demonstration of some form of bacteria which shall have been cultivated in the mucus of the inflamed bronchial tubes, and secreted the poison that could produce these characteristic effects. Such a bacterium, the pneumococcus of Friedländer, is known to have been accepted by many authorities as the efficient cause of croupous pneumonia, though Sternberg considers it identical with a micrococcus existing in the saliva. I am not aware that any discovery analogous to Friedländer's has been made for broncho-pneumonia; we must therefore continue to speak of an unknown irritament as the cause of the vascular and other lesions of the disease.

In our ignorance of the precise nature of the irritament, or of the manner in which it determines the pulmonary lesions of the disease, our therapeutic action must be indirect. It must aim at maintaining or at restoring the circulation on the periphery of the inflamed lobules, or of an aggregation of them. This aim is partly accomplished by the systematic application of moist heat, and the use of such remedies as seem to modify the bronchitis, and there is much reason to believe that, for direct action upon the congested pulmonary blood-vessels, quinine is the best drug at present known.

(To be concluded.)

ANTIPYRINE AND ACETANILIDE

(ANTIFEBRINE)

IN HEADACHE AND EPILEPSY.

By ALLAN McLANE HAMILTON, M. D.

In January last Ungar related his experience with antipyrine in the treatment of hemicrania, and in March Dr. C. B. Lyman, who had been induced to try the remedy after the publication of Ungar's success, administered it in several cases of neuralgia of the cervical, facial, and supra-orbital or mixed varieties, with more or less benefit. The first of these observers experimented with it as a successor to the salicylates, which have proved to be of great value in his hands in several varieties of headache, and he witnessed no evil results from doses of even twenty-three grains. Lyman used an initial dose of fifteen grains, repeated two or three times if necessary, and relieved the paroxysms, but did not prevent their recurrence. In March last I began a trial of this drug, and afterward its successor, antifebrine, in a variety of headaches, in insomnia, and in epilepsy. Some of these cases had been treated with more or less success with the salicylate of sodium, and the usual remedies, and the cases of epilepsy were under modified bromide or other treatment. The cases of headache selected were those of migraine of the angeio-spastic and angeio-paretic varieties, as well as ordinary facial or sub-occipital neuralgias; and the cases of epilepsy which were chosen were those of the symptomatic form complicated with objective and subjective indication of cerebral disease, as well the simpler forms which seemed to be dependent upon continued states of cerebral ischæmia, cerebral instability, etc.

In angeio-spastic migraine with evidences of cutaneous

* "Studies in Path. Anat.," vol. i, p. 67.

† "Maladies de l'enfance," vol. i, p. 153, Paris, 1880.

‡ Cadet de Gassicourt, *l. c.*, p. 152.

anæmia, dilated pupils, and coldness, the headache commencing in the morning, I found both antipyrine and antifebrine would quickly abort the paroxysms after the first dose.

Miss T. had taken salicylate of sodium in doses of gr. xxx. repeated once or twice, with variable relief. *Cannabis indica* and the chloride of ammonium failed to do good. Her headaches were connected with sexual irritation and excitement. She was very anæmic and hysterical. One powder of fifteen grains of antipyrine relieved the pain in less than an hour. The repetition of a daily dose in the morning completely suspended the headaches for a period of two weeks during which the patient was under observation. She was put upon a course of iron, which she took meanwhile.

Mrs. H., a large, flabby, anæmic woman, who tired easily and was melancholic, was relieved by the salicylate, but by neither antipyrine nor antifebrine. Her headaches were chiefly suboccipital.

Mrs. R. suffered from vague headaches, a sense of vertical pressure, and general anæmia, which were largely due to frequent uterine hæmorrhages. After the catamenia and during the first half of the month she had attacks of angio-spastic migraine. Five grains of antifebrine produced tinnitus, but relieved the headache. This patient subsequently obtained slight relief from *Cannabis indica*.

Miss C. had for years suffered from congestive headaches, flushings, nausea, and frequent vomiting. Neither antipyrine nor antifebrine did her the least good.

Mrs. W., from a malarial part of Long Island, had supra-orbital neuralgia, was feeble, and tired easily. Her attacks had occurred almost daily for some time, and had partially yielded to quinine and arsenic. The continued use of antifebrine in five- and ten-grain doses gave her almost magical relief, and a succession of two or three doses repeated hourly would break up the most severe attacks.

Mrs. M., a young married woman, had suffered for many years from profound general anæmia, and presented the history of headache and losses of consciousness of an epileptoid character. These latter became regular and were chiefly matutinal. The bromides seemed to suppress them for a time, though when the dose was increased it aggravated the condition. Under the use of the albuminate of iron the patient's general condition improved, yet she had attacks of headache and epileptoid paroxysms nearly every week. Antifebrine, given in from five- to eight-grain doses thrice daily, has been followed by entire cessation of both headaches and fits.

J. C., fourteen years old, had been treated with a bromide mixture for some months. His attacks were reduced from one every third or fourth day to one in a month. After two attacks, which occurred from some hygienic lache, he was placed upon the use of antifebrine in four-grain doses thrice daily. His attacks were immediately increased and he had several close together. After two weeks' use the use of the drug was discontinued. In this case there were pupillary inequality and hemi-epilepsy, undoubtedly due to a cortical lesion.

George M., sixteen years, the subject of irregular epilepsy, with mental perversion, having periods of vacuity which lasted for days, and a succession of attacks which almost led up to a status epilepticus, under the bromide treatment had sometimes several attacks daily. He was given antifebrine in doses of five grains thrice daily, which were afterward increased to ten. His attacks were if anything aggravated. The medicine was prescribed April 19th. No attacks occurred until the next afternoon, when "he had the hardest" his father ever saw him in, lasting three quarters of an hour. He had seven fits the next

day, one lasting an hour. He was slightly better the next day (April 22d), having but two, in one of which he became almost asphyxiated. I considered that he had had almost enough antifebrine, and on April 25th he was given the syrup of the bromide of nickel, since which time his attacks have entirely subsided, and he has not had one to this date (May 16, 1887).

Annie H., sixteen years old, had epilepsy with hysterical features, which had been relieved somewhat by bromides in combination with digitalis, and ovarian cauterization. Her attacks were greatly aggravated by antifebrine and antipyrine. The latter, in ten-grain doses, produced faintness, lividity of the lips, great muscular lassitude, and a decided increase in the number of attacks.

In four other cases of epilepsy in which either antipyrine or antifebrine was used there was some improvement in three of the cases, in each of which there was post-epileptic headache; and aggravation of the disease in the fourth, the patient's paroxysms being symptomatic of coarse cerebral disease. In one case of pure hystero-epilepsy the beneficial action of the remedies was absent.

I have also used both drugs in cases of habitual insomnia in doses varying from three to eight grains of the antifebrine, and ten to twenty of the antipyrine, without appreciable result, though in a case of maniacal excitement, due to nervous exhaustion and connected with moderate rise of temperature (102° F.), fifteen grains of antipyrine repeated twice produced refreshing sleep and a subsidence of excitement. There can be no doubt, however, that, in wakefulness due to general disease, especially with high temperature (and I have seen such), the value of both these drugs as hypnotics is very great.

I have at present other patients under treatment, and will subsequently report progress. It would seem as if both remedies were of value in headaches or cerebral states attended by anæmia, or in the excitement due to cell malnutrition and exhaustion; and, though antipyrine seems to be the more serviceable remedy, it possesses drawbacks which do not belong to antifebrine. It would appear as if the remedies were valueless or even harmful in cases of organic or symptomatic epilepsy, but worthy of a trial in the light cases attended by rather general cerebral vascular spasm and not much muscular movement. In several cases of *petit mal* the good effect of continued doses of antipyrine and antifebrine is manifest, for the losses of consciousness are far less frequent than when the patients were under other treatment. So far as tolerance goes, I have given to one patient forty-five grains of antipyrine in two hours without ill effects.

A CASE OF FRACTURE AND DISLOCATION OF THE ASTRAGALUS.*

By LEWIS A. STIMSON, M. D.

A MAN about twenty-eight years of age, in a fit of drunken delirium, jumped from a third-story window, and was brought to Bellevue Hospital, April 27th. I saw him the next morning,

* Read before the New York Surgical Society, May 11, 1887.

about eighteen hours after the accident. There was a large bruise below the right patella, a row of abrasions along the left shin, and a small bruise below the left patella. The left foot and the lower half of the leg were swollen and discolored, the foot was at right angles to the leg, and was capable of some flexion and extension without deviation. A marked prominence was present at the inner side of the ankle, over which the skin was tightly drawn and was livid; it was at first supposed to be the internal malleolus, and the foot seemed to be carried bodily to the outer side, but on palpation the prominence was found to be behind and a little below the malleolus, and to have a curved border running backward and outward. Below this border could be felt a broad surface, that was curved backward and inward, and was flattened in a direction downward and inward; in front there was an abrupt depression. The scaphoid was in its normal location with regard to the malleolus, and no depression could be felt behind it in the situation of the head of the astragalus, although the swelling was such that the examination was not deemed very trustworthy. The peroneal tendons were displaced forward, so as to lie upon the outer surface of the external malleolus. The relations of the fifth metatarsal, cuboid, and calcaneum appeared to be normal. The dorsalis pedis artery was beating, but the posterior tibial could not be felt. The diagnosis of fracture of the neck of the astragalus, with dislocation backward and inward rotation of the body, was made, and an attempt was made to reduce under ether, by flexing the knee and making downward traction upon the foot, and pressure outward and forward upon the projection behind the internal malleolus. This failing, an incision three inches long was at once made backward and downward from a point in front of the malleolus, its center corresponding to the most prominent part of the projection. The upper articular surface and the outer edge of the astragalus presented in the wound, and the body of the bone was found lying below and behind the malleolus, its broken neck being directed forward and inward, its upper articular surface looking inward and downward, its posterior border close to the tendo Achillis, and its inferior surface just behind and below the posterior border of the end of the tibia. A transverse fracture had taken place at the junction of the body and neck, and the body had been completely dislocated backward and inward, with rotation inward of about 120° about its antero-posterior axis, and of about 45° inward about its vertical axis. The tendons of the tibialis posticus and the flexor longus digitorum were torn from their sheaths and crossed the inner surface of the malleolus above the astragalus. The posterior tibial artery was pressed backward, and was separated from the tibia by the interposed posterior portion of the body of the astragalus. Exploration of the joint showed that the head of the astragalus was in place, and there was no injury to the tibia or fibula. The lower tibio-fibular joint was not injured. The fracture ran from the anterior border of the trochlea downward into the groove occupied by the interosseous ligament. The body was easily removed, as all its ligaments and connections had been ruptured, except a part of those attached to its posterior border. The wound and joint were thoroughly cleansed, the incision was loosely closed with two silk-worm gut sutures, a drainage-tube being inserted, the foot and lower part of the leg were enveloped in iodoform and bichloride gauze, and a plaster-of-Paris bandage was applied over all. On the following day the patient's alcoholic symptoms were much less marked, and his condition was good. On the third day a fenestra was cut and the tube was removed; the wound was dry, the swelling had diminished, and everything looked favorable, but three days later he developed pneumonia, and died on the ninth day after the accident.

To this record of the case I beg leave to add a brief mention of the few similar cases that have been reported. They are those of Denonvilliers, Lejeune, Pichorel, MacCormac, Le Gros Clark, and Cheever. In the first two the dislocation was directly backward, in the others backward and inward, as in the present case. Of Denonvilliers's case I have only the brief notes given by Malgaigne, viz., the body of the astragalus crossed the calcaneum at right angles, and its trochlea appeared through the skin below and behind the internal malleolus; he removed it, but the patient died. Of Lejeune's and Pichorel's cases the quotations by Delorme ("Diet. de méd. et de chir. prat.," vol. xxvii, p. 643) and Poinot (Transl. of Hamilton's "Fractures and Dislocations") are even more brief; of the former it is only said that the dislocation was compound, of the latter that after two unsuccessful attempts at reduction, including division of the tendo Achillis, suppuration ensued and the limb was amputated. MacCormac's patient ("Trans. of the Path. Soc. of London," 1875, vol. xxvi, p. 174) was injured by the fall of a platform; the character of the injury was not recognized, and, after rest in bed for some weeks, he was able to walk well and to continue his occupation as a bricklayer. Two years later MacCormac removed the leg because of disease at the knee, and made a careful dissection of it. The foot was stiff, and was at a right angle with the leg without deviation. The astragalus had been broken at the neck, and the body had been so displaced and rotated that it lay behind and a little to the inner side of the tibia, its trochlear surface looking inward and backward, its posterior border being in contact with the tendo Achillis, and its broken surface looking downward and forward. The internal malleolus had been broken and had reunited, and the astragalus was connected with it by bony union. The tendons of the tibialis posticus and flexor longus digitorum were displaced inward and forward, lying on the inner surface of the malleolus; that of the flexor longus pollicis was separated from the tibia by the body of the astragalus, and lay upon the trochlear surface of the latter. No mention is made of flexion of the great toe, such as existed in Cheever's case, and in two others in which the unbroken astragalus was displaced backward and inward but one of the accompanying figures shows the terminal phalanx flexed. MacCormac reports also a case treated in 1863 by Le Gros Clark, which he himself had an opportunity to examine twelve years later; he found the body of the astragalus in a position identical with that of his own case, and supposed that there had also probably been fracture of the neck. The patient had full use of the limb, walking without lameness.

Cheever's patient ("Boston Med. and Surg. Jour.," vol. xciii, 1875, p. 237), a man thirty-two years old, was injured by a fall of about twelve feet. There was a very marked, partly rounded, partly sharp projection of bone between the inner malleolus and the heel, and a depression beneath the outer malleolus. The tendo Achillis was tense and was shortened over the abnormal prominence of bone, which lay between the inner ankle and the heel. The heel was drawn up and the mobility of the ankle joint was greatly diminished. The last joint of the great toe was

strongly and immovably flexed at a right angle. After failing to reduce by traction under ether, he divided the tendo Achillis, then the tendons of the tibiales anticus and posticus, then that of the flexor communis digitorum, and finally the tendon of the flexor longus pollicis at the toe, but the dislocation still remained irreducible. The skin sloughed over the astragalus, but did not expose it, and the ulcer soon healed; in seven weeks the patient could freely move the foot, and in five months could walk with a cane. The divided tendons appeared to have united firmly.

The histories do not make clear the mode of production of the fracture and dislocation, but it seems probable that they occur while the foot is in dorsal flexion and by the agency of external violence, acting in the direction of the long axis of the leg along the sloping articular surface of the calcaneum, and forcing the tibia and calcaneum closer together, so that the posterior part of the astragalus is squeezed out from between them.

In my case, the bruises upon the front of the knees and legs indicate that the patient struck upon his feet with the ankles in dorsal flexion.

THE NASAL TREPHINE AND ITS ADVANTAGES. WITH A CONSIDERATION OF BATTERIES AND ELECTRICAL APPARATUS USED IN NASAL SURGERY.

WITH PRACTICAL DEMONSTRATIONS.*

BY H. HOLBROOK CURTIS, M. D.

THE subject of nasal surgery has of late received so much attention, both in current medical literature and in the papers read before this section, that it would be a presumption on my part to offer anything which I could strictly claim as original; but the application of a very ingenious device to nasal work forms the subject of a few remarks which I propose to make to-night. I wish first to speak of deviations of the septum, which some writers consider due either to unequal growth of the skull and bones of the face, or to unequal development of the cerebral hemispheres. Ziem considers that deviation is chiefly due to falls on the nose in first attempting to walk, blows with the fist, and accidental fractures; while Welcker considers the position of the infant in sleep to be a reasonable explanation of the deformity.

Ziem has, however, proved that every obstruction of the nostril exerts an important effect on cranial development. In a young animal, one of whose nostrils was completely closed for a long time, was observed a deviation of the inter-maxillary bone and of the sagittal suture to the closed side, lesser length of the nasal bone, of the frontal bone, and of the horizontal plate of the palate bone, less steep elevations of the alveolar processes, less distance between the bony auditory capsule and the alveolar process, also between the zygomatic arch and supra-orbital border, likewise diminished size and asymmetrical position of the vascular and nerve canals on the closed side of the nose. The distance

of the orbits from the median line was unequal, which, as has been observed in man, leads to asthenopia, astigmatism, and strabismus.

Lastly, certain spinal curvatures seem also to be due to nasal obstruction. It therefore seems reasonable to suppose that a deviated septum may be the cause and not the result of unequal skull development.

The province of this paper does not include an inquiry into the cause of deviation of the septum; suffice it that it exists. Morell Mackenzie reports that in 2,152 skulls 1,657 were found with deviation of the septum, viz., 76.9 per cent.; while of 538 symmetrical septa only 22.6 per cent. were of European skulls, nearly one half of these being found in Italian crania. As these investigations only refer to deviation of the bony septa, they are of little value, as in a majority of cases which demand operative interference the correction of the deformity and consequent relief of stenosis lie in excision of the cartilaginous projection or deviation, a much more frequent cause of stenosis than the true bony deflection.

The question of asymmetry of the nasal septum has been thoroughly studied since the time of Quernmalz, 1750, by Morgagni, Haller, Hildebrandt, and Velpeau. To Chassaignac, in 1851, is attributed the first suggestion as to operative interference. His suggestions were improved and further developed by Blandin, Adams, Jurasz, Theile, and others, who advocated their respective methods; but not until within the past ten years has any operation which can be considered as thoroughly practical and satisfactory been advanced which would in every case allow of a proper correction of the deformity. Dr. Goodwillie, of this city, in a paper read before the American Medical Association in July, 1880, entitled "The Surgical Treatment of Naso-pharyngeal Catarrh," first clearly defined his position as to the relationship existing between catarrh and stenosis due to deviation of the septum; though in a paper entitled "Extirpation of the Bones of the Nose and Mouth by the Aid of the Surgical Engine," published in July, 1879, in the "Medical Record," of this city, he had somewhat anticipated his conclusions.

To Dr. Goodwillie's ingenuity are we chiefly indebted for the application of the surgical engine to nasal work, and also for perfecting the so-called revolving knives which are well known to us under his name. The operation of transfixing and removing cartilaginous deviations was suggested by Dr. W. C. Jarvis, who used his snare for the purpose. To whom the introduction of the nasal saw belongs is at present in dispute, though to Dr. Bosworth generally redounds the credit of popularizing its use, and crediting it with its well-deserved efficiency.

While I do not wish to depreciate in any way the very valuable instruments at present employed, I beg to add another modification to existing methods.

In a very general use of the nasal saw during the past two years, I have met with so many cases in which its employment was not practicable that I have been experimenting as to a quicker and better means of removing nasal obstructions. I have adopted a combination of the saw and Goodwillie's revolving knives and drills, and I think have pro-

* Read before the Section in Laryngology of the New York Academy of Medicine, March 23, 1887.

duced an instrument which, certainly in my hands, works in a most thoroughly satisfactory manner. The idea was suggested to me by Dr. W. W. Walker, a surgeon dentist of this city, who uses a somewhat similar instrument in implanting artificial teeth in the alveolar process. The particular advantages which I maintain for the nasal trephine are: 1. Greater celerity in work than is possible by any other method. 2. That the tissues beyond the deviation are not lacerated. 3. That a perfectly clean bore is made and the operator is not annoyed by hæmorrhage. 4. When the position of the posterior face of a deviated septum is invisible, it is possible to make an exploratory channel. 5. That a considerable portion of the nervous shock of a sawing operation is done away with. 6. That bone may be removed with much less motive power and with greater accuracy than by other existing methods.

To better illustrate my method, I submit the instrument, and also wish to call attention to a very convenient electro-motor and battery which I employ to supply motive power.

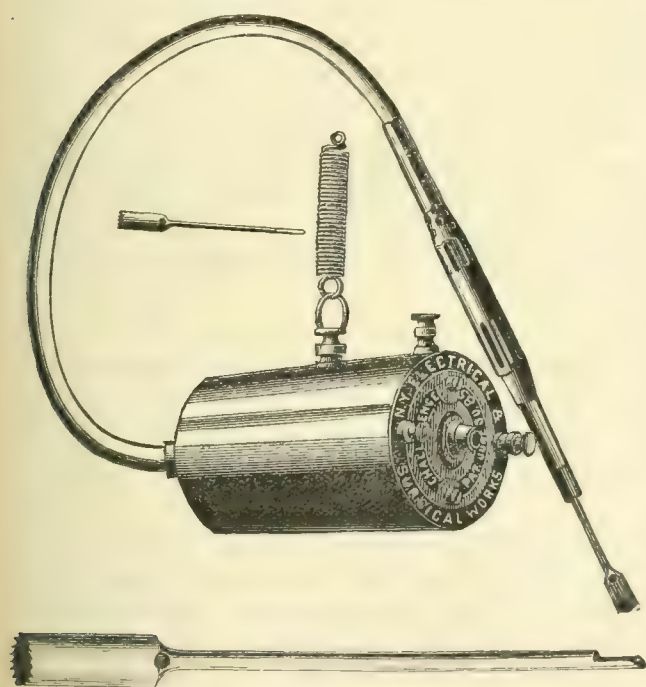


FIG. 1.

I have taken the electro-motor known as the "Challenge" and caused it to be incased in a nickel-plated cylindrical box to prevent entrance of dust and for the purpose of hiding the actual machinery. To the motor are attached the flexible cable and chuck, such as are employed on the surgical engine, in which the trephines are inserted. For greater convenience, I have been employing in my operating-room a constant galvanic battery known as the "Volta-pavia," made on the principle of a Leclanché cell, having a porous cup, zinc and carbon elements, and two fluids. Six cells of this battery give about twenty amperes of current with an electro-motive force of twelve volts. For general office-work the battery does not require filling oftener than every six weeks, and permits daily use of the motor, thermocauteries, and a small lamp. By employing a battery

of this description, all plunging of plates is done away with, and also the annoyance of mixing new solutions. When one is constantly using the cautery points and motor this is a matter of great convenience. I show also the Gibson storage-cell, which is a superior attachment, where constant use is being made of the current. This cell must be fed from gravity batteries, which may be placed in the yard or cellar. The storage-battery, so called, will undoubtedly come into general use when the expense of the plant is diminished. I have also before me on the table Schweig's, Piffard's, Stammer's, and the C. & C. batteries—all excellent machines for office use. The most convenient arrangement for using the motor is to have the machine suspended from the ceiling by the insulated wires from the battery, immediately behind the operating chair, and contact to be made by a button under the foot of the operator. After use, the motor may be swung aside and hung on a hook in the wall.

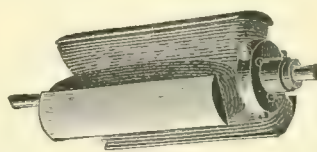


FIG. 2.

The armature, consisting of three segments, is so placed within the field that, on closing the circuit, there is a constant revolution of the axis established always in one direction. There is no dead center possible in this motor, which will start immediately and attain a speed of over fifteen hundred revolutions a minute. The motor stops working almost immediately on breaking the circuit.

Before speaking further of the motor and its arrangement, I will cite a case or two to explain the method of operating:

CASE I.—Mr. B., aged forty, suffered from so-called post-nasal catarrh for many years. There was found total occlusion of right nostril from a vertical acute deflection of the septal cartilage, involving a slight portion of the vomer in the posterior face. The deflection was so marked that the nose showed a prominence above the ala of the right nostril, causing disfigurement. On March 6th the patient was operated on, two perforations being made one above the other, removing the ridge of the deflection, and permitting some entrance of air to the right nostril. Considerable hæmorrhage ensued, which was controlled in a few minutes. On March 15th, the relief having been very great from the preliminary operation, the patient returned and allowed three perforations to be made, an operation lasting less than one minute, and giving a free nasal channel. The process of healing closed a slight fenestration and gave a most excellent result.

The special points of interest in this operation were as follows: The patient was extremely nervous and debilitated, and I feared too great a shock from a continuous operation with the saw, as I should have had to encounter a bony plate on the posterior face of the deflection, which often requires some time to excise, and disagreeable hæmorrhage is apt to occur. In taking out a cylindrical section at each sitting, a procedure lasting but about four seconds, the horror of an operation is mitigated. I have in two cases been obliged to discontinue a sawing operation by

reason of the patient having fainted, not on account of actual pain, but from the continued noise of the saw and the associations connected with its employment. The operation with the trephine is absolutely painless when cocaine is applied to the mucous membrane, and none of that maceration of the tissues results which takes place when the revolving knives are used; nor is there any danger of sudden deflection from the point of original contact, a thing which frequently occurs with the knives when brought to bear on the bony ridge of a deviation.

CASE II.—Miss L., of Brooklyn, aged twenty-two. Chronic post-nasal catarrh, with Eustachian catarrh, deafness, and very disagreeable tinnitus aurium.

Condition of nares as follows: Nearly complete stenosis on both sides due to sharp horizontal deflection of septum into right nasal cavity, occluding the inferior meatus, and true hypertrophy of left inferior turbinated body, the changed erectile tissue of which anteriorly was not contracted by cocaine nor by application of chromic acid (hence true hypertrophy). The patient was a confirmed mouth-breather. Assisted by Dr. Vincent Bowditch, of Boston, I attached a $\frac{1}{8}$ -inch trephine to the electro-motor and took off the anterior prominence of the ridge of the septal deformity, the bone extending half an inch where the meatus was pervious. Quickly introducing a plug of absorbent cotton, as there was no great hæmorrhage but simply an oozing, I entered the left nostril and removed that portion of the inferior border of the turbinated body which occluded the meatus. From this there was no loss of blood, and the core which remained in the trephine had the macroscopic appearance of cartilage. The patient in ten days' time presented herself with both inferior meatus thoroughly open, and with a comparative freedom from her catarrhal symptoms. At present there is a slight abatement of the tinnitus. The entire time consumed in both procedures was less than thirty seconds.

In case it is desirable to remove the lower border of the turbinated bodies, the trephine is particularly adapted to the work. That true hypertrophy will often resist chromic acid, the monochloroacetic and nitric acids, makes a surgical method a necessity, and in cases in which the uneven ridge of the hardened turbinate bodies makes it difficult to use the saw except in consecutive cuts the trephine will do the work by one application. In but three or four cases have I encountered a true hypertrophy of the turbinated bodies; in these the elastic-tissue elements were in great excess, at the expense of the vascular, all erectile power being lost. In my opinion, it would be very much better to employ the expression erectile tumors to designate those tumefactions that we commonly see on the anterior portions of the turbinated bones, which disappear upon application of cocaine, and are readily overcome by one or two applications of chromic acid; for in these the swelling seems to be due to a weakened condition of the walls of the blood-vessels, allowing permanent dilatation, and not to any proliferation or hypertrophy. In applying chromic acid for the restitution of the caliber of the meatus, we are simply bandaging the weakened and enlarged erectile structure by producing a cicatricial envelope to prevent undue distension of the glomerulus nasi, or erectile plexus. That the turbinated bodies have a normal erectile function was the almost unanimous opinion of this section expressed at the

last meeting, but the word hypertrophy used to express an altered condition of this function without hyperplastic development is, in my opinion, a misnomer.

The employment of the galvano-cautery to reduce erectile tumors is advocated by some specialists. Dr. Schweig, whose battery I have here to-night, is accustomed to destroy the erectile protuberance by plunging a galvano-cautery point deep into the tumefied turbinated bodies, considering that the destruction of a portion of the vascular plexus will produce a more permanent result than the destruction or modification of the external mucous membrane. I have not been able to obtain the results by that method which I expected to theoretically, and have limited the employment of the galvano-cautery points to the destruction of tonsils and the eradication of glandular hypertrophies. The use of the cautery point on the granulations or glandular enlargements studding the post-pharyngeal wall in so-called glandular pharyngitis, or clergyman's sore-throat, I consider unnecessary, for, from the study of very many cases, I have found that disappearance of all these angry-looking red glandular islands studding the posterior wall of the pharynx takes place almost immediately on relieving the always attendant nasal stenosis.

I have simply outlined the subject for discussion by these notes that I see our chairman has seen fit to style a paper, but which I intended simply as a skeleton for future development. I trust that the members present will find the batteries, motors, and storage-cells of sufficient interest to repay them for attention to my preliminary remarks.

A DESCRIPTION OF THE METHOD OF CONDUCTING A NORMAL CASE OF LABOR IN THE FRAUENKLINIK OF MUNICH,

UNDER THE MANAGEMENT OF PROFESSOR WINCKEL.

By LEONARD S. RAU, M.D.,

LATE HOUSE SURGEON, NINETY-NINTH STREET RECEPTION HOSPITAL.

PREGNANT women to a limited number (14) are admitted in the institution in any month of pregnancy, for the purpose of giving students opportunity to examine them in these different months.

Women in labor are admitted at any hour of the day or night, and on admission they have the choice of paying fifty cents a day and being taken to an upper part of the building, where they are examined and taken care of by a limited number, or else the women are treated free, and then they are placed in a room known as the clinical division, where they are liable to be brought before the medical class at the will of the professor. In fact, any birth which may be in progress during the clinical hour is brought before the class and lectured upon.

My history will treat of the non-paying patients, as I had them under my personal care for a time, and therefore can state facts as they appeared before me.

Immediately on admission the parturient is put to bed; the rectum and bladder are emptied. The bed upon which she is placed consists of a straw mattress covered with a rubber sheet; then several sheets folded together are placed

under the nates. The room contains four beds, as also stationary wash-stands, on which are soap, nail-brushes, and bottles of bichloride-of-mercury solution (2 to 1,000). Furthermore, the room contains a table, where pelvimeters, circles, tape-measures, scales, thermometers, stethoscopes, reagents for examining urine, test-tubes, etc., are to be found.

For two succeeding days one of the volunteer assistants has "jour" (is constantly on duty), as is also a midwife. The latter notifies the volunteer on duty, after attending to the preliminaries above mentioned and also having made an examination herself, to see if the woman is really in labor. The volunteer is expected to come to the maternity ward at once. He must subject his hands to the most thorough disinfection, and then, without drying them, proceed to examine the patient and discover how far labor has advanced and what the presenting part is. After he has made a complete examination, he asks the midwife to call two students (who, while waiting for births, reside in the hospital). One student is known as the *Staats Examinant*, that is about to pass his examinations. The other is known as the *Praktikant*—that is, one still pursuing his studies. They, after going through a rigid disinfection, also examine the parturient. Should the labor be found to be abnormal and operative interference be required, then the volunteer assistant notifies one of the salaried assistants, who in turn notifies the *chef*, and the latter either performs the operation himself or else allows the volunteer on duty to do so.

I shall, however, as stated in the heading of the article, confine myself exclusively to the management of a strictly normal labor.

The *Staats Examinant* has to take notes of the entire case, as he has to hand a written history to the professor within twenty-four hours after the birth is completed, and he has to make daily visits to the puerpera and is daily examined (as to her condition) by the professor at the bedside. This lasts for seven days, that being the length of time the woman is retained after delivery.

The volunteer assistant is expected to fill out a printed journal, of which the following are the most important data:

Name. Age. Occupation. No. of previous labors. Date and hour of admission. No. of the birth. Parturient's personal appearance (whether blonde or brunette, etc.). Whether she has any sickness at present. Time of last menstruation. Day of conception. Time when she first felt fetal movements. Next the parturient's family history is inquired into as regards parents' and relatives' health. Her own condition in childhood, particularly as regards rickets, scrofula, scarlet fever, etc. When she menstruated for the first time, whether menstruations have always been regular, their duration, etc. Whether former deliveries were normal or otherwise. Her state of health during this pregnancy. Next the different stages of labor are noted under the following heads:

Hour when the labor-pains first set in: Length of first stage (from time of first pains to fullest dilatation of os externum).

Hour when membranes ruptured.

Hour when os externum is fully dilated: Length of second stage (till the child is born).

Hour when placenta is expelled: Length of third stage (till placenta comes away).

The following notes are also taken: Full description of condition of breasts. Next, shape of abdomen, position and appearance of umbilicus, condition of abdominal walls, appearance of linea alba and of striæ. Position of the child's back, extremities, and head, as felt through the abdominal walls. Appearance of external genitalia, condition of vagina, position and amount of dilatation of os externum, spoken of in comparison with German silver pieces. Whether membranes have ruptured; if not, estimate of amount of amniotic fluid. Next, what is the presenting part which can be felt *per vaginam*.

The measurements of the abdomen and pelvis are next taken: Size of abdomen (circumference); height of umbilicus from top of symphysis; height of fundus uteri from same point; circumference of pelvis. Then with pelvimeter the distance between the anterior superior spines; distance between the crests of the ilium, conjugata externa (from groove below the last lumbar vertebra to the upper border of the symphysis), and, lastly, from posterior superior spine of one side to anterior superior spine of the opposite side. If the pelvis is contracted, then the conjugata diagonalis is also measured.

Next, notes in regard to auscultation, as follows: 1. Heart-sounds (of child), where heard with greatest intensity; their frequency. 2. Sounds from umbilical cord. 3. Whether fetal movements can be heard, seen, or felt. 4. Uterine sounds. 5. Any other sounds which can be distinguished.

Next, the result of the examination of the urine is noted, also parturient's temperature *per rectum*, pulse, and respirations. Every one to two hours, as occasion demands, an examination of the parturient is made. The hour is noted, then the position of the presenting part, where the fontanelles are situated if felt, as also the membranes, rapidity of heart-sounds, position and size of os externum, and other facts which may have occurred during the interval.

When the child's head appears in the vulva, the parturient is requested to lie on the side where the posterior fontanelle was felt (L. O. A., left side, etc.), and the *Examinant*, after again thoroughly disinfecting his hands, rests the palm of one hand on the perineum, always so as to keep the frenulum in view, and with the other hand passed between the woman's thighs he presses against the head during a pain, retarding it thus somewhat in its progress.

The time at which the greatest diameter of the head passes through the vulva is noted; next the time when the head is born, and then toward which thigh of the mother the child's face is turned, and which shoulder lies behind the symphysis. As soon as the head is born, he examines to see if the cord is wound around the child's neck, and then, with one hand still on the perineum, he supports the child with the other hand during the rest of the delivery.

After delivery, the child is left to lie on the bed till all pulsation in the cord has ceased. Then the cord is tied about seven centimetres from the umbilicus, another ligature is placed one centimetre above this, and with a pair of scissors the cord is cut. Another ligature is then tied on the

cord just in front of the vulva, in order to observe whether the placenta is making any progress. The child is then taken and bathed, then its length measured, and it is weighed, and, after being dressed, the measurements of the head are taken: First, bi-parietal; second, bi-temporal; third, fronto-occipital; fourth, mento-occipital; fifth, sub-occipito-bregmatic; and, lastly, with tape-measure, the circumference of the child's head.

Immediately after bathing the child the midwife places a bed-pan under the mother, to catch all the blood lost, and also the placenta. If the placenta is not expelled within *two hours*, it is extracted after Crede's method.

The placenta is then weighed, its length and breadth are measured, its consistence is noted, also its thickness, whether complete, whether any cysts, hæmorrhages, or other abnormalities can be found. Also note is made whether the placenta is expelled with the foetal or the uterine side presenting. The amount of blood lost is then weighed. Next the length of the cord is measured, its thickness, where inserted. Then the membranes are examined as to being complete, their thickness, where the seat of rupture, or whether any abnormalities can be seen. Next, notes are taken of any observable points in regard to the child (*caput succedaneum*, etc.); also it is noted whether the cord was twisted about any portion of the child; and, lastly, the names of those who examined the parturient are added to the journal, and then it is complete and laid away for reference and statistics. The woman, after all is over, receives a warm vaginal injection of a solution of bichloride of mercury (1 to 1,000), and each child has a solution of nitrate of silver (2 per cent.) injected into its eyes.

Certainly, in the manner above described, a systematic journal of every birth is obtained, and any points can be readily referred to. Furthermore, it gives the students a chance to witness normal cases of labor, to examine women in the different stages of labor, and thus make themselves practically familiar with what three fifths of our students have to learn exclusively from text-books, never having had charge of, and even often never having witnessed, a case of labor up to the time of graduation. Just such was the case with the writer, and he well remembers his fright and nervousness when one night, shortly after graduating, and when on duty as ambulance surgeon, he was called to one of our city prisons at 2 A.M. to deliver a woman in the second stage of labor, with the child's head so low down that he had no time to take her to the hospital, but had to treat the case as best he could without any assistance, or any one experienced in these matters to give him advice and direct him.

If this article can in any manner aid in showing the necessity of utilizing the material for students of medicine in our colleges, so that they, like those here, can witness a number of births, and before graduating have charge of, and write a journal of, three or four cases, then will its object be more than accomplished.

In conclusion, let me express my sincerest thanks to Professor F. Winckel, through whose kindness I have been able to note these facts, and with whose permission this article has been written.

Correspondence.

LETTER FROM PARIS.

Professor Budin's Obstetrical Service at La Charité.

PARIS, May 2, 1887.

PROFESSOR BUDIN has quite a model obstetrical service at *La Charité*, where he carries out his rigid antiseptic principles. First of all, there is an entire separation of his wards from the rest of the hospital, and the other patients are not permitted to enter the obstetrical division, which is a complete system within itself. There are indeed three isolated portions to it. The first one is a large lying-in ward of twenty beds, where the patients and their infants pass from nine to fifteen days after the confinement. The bedsteads are of iron, without curtains or drapery of any kind. The windows are of ground glass, also without curtains, there being a sort of blind or shade outside. The furniture is plain; there are screens before the doors, and most of the rest of the fittings can be taken apart for cleaning purposes. The night table, for instance, at each bed is of iron, and its four sides can be taken off and cleaned. The supplies to this part go direct from a kitchen, inclosed within it and separate from all the others; there are also special baths and water-closets.

Next to this division comes a large room called the "*salle d'accouchement*," where the women are delivered. Here there are, as a rule, three beds in separate inclosures, with every modern appliance at hand, including three of Professor Tarnier's *couveuses*, or hatching-boxes, for infants born before term. The beds here are covered with an impermeable paper, placed under the sheets, and it is taken away after each confinement and burned. Next to this room is the second system, which consists of a series of three isolating chambers, for patients who may present any trouble that may be a source of danger to the other lying-in women. At the present time there are only some cases of abscess of the breast. Here also there is a separate kitchen, together with water-closets, etc. There is likewise a separate set of attendants, so that there may be no communication with the other parts. The third system is a set of rooms above the others, consisting of rooms for the "*sages-femmes*," with others for the wet-nurses who are constantly in attendance to supply milk for the infants raised in the *couveuses*, and for those whose mothers have none, or not enough. The kitchen, dining-room, etc., are separate also.

Before describing the working of this service, permit me to take a few remarks from Dr. Budin's last work, called "*Obstétrique et gynécologie*," where he makes a report to the Minister of Public Instruction, on the study of midwifery in Europe. Almost everywhere in Europe, he says, medical students are compelled, before presenting themselves for examination, to personally conduct some labor cases. The smallest numbers are two in Hungary, four in Germany, from four to thirty in Great Britain, and ten in Holland (two of which must be difficult cases). In some cities, like Dresden, Berne, and others, students may live in the hospital. In many there is a room where they may wait day or night for a labor to come on. In Sweden they are compelled to stay six weeks at least in a maternity hospital. In London, Dr. Budin says, some years ago it was thought that poor women had better be confined at their own houses rather than in the finest maternity wards, and the service was organized so that medical students were sent to attend them. The student could call a house surgeon if he met with any difficulty. But at present in London, as elsewhere in Eu-

rope, most of the eminent obstetricians are against this system, which, they say, sends the student to a bedside where he is much disconcerted, and where he is very likely to learn nothing at all. The writer has a vivid memory of the time when he was favored with his first out-door case by a New York professor, so he will say nothing of the usual American system. With the present antiseptic and isolating system, it would certainly be best to build more maternities, as they are doing in London, and suppress the useless method alluded to, which, with all the excellent theoretical lessons at the schools, will never teach medical men practical midwifery. Clinical instruction is the only method.

But what can be said of the instruction of English and American midwives? It is rather curious that the most complete instruction in obstetrics for women is given at St. Petersburg and Moscow. In autocratic Russia the best maternities are to be found, where in two years women get a complete practical education in all the branches of obstetrics. Here in France the *sages-femmes*, or midwives, form a very large class of educated women, who are divided into a first and a second class. Members of either of these classes must be over eighteen years of age, and not over thirty-five, when they enter the schools. They are compelled to present certificates of morality and of their parents or husbands having consented to their entering the profession, also that they are vaccinated. They then pass an examination in the "three R's," as well as in geography, after which they enter the maternity or follow the *Olinique d'accouchements* for two years, where they are taught the theory and practice of midwifery, vaccination, nursing, bleeding, and bandaging, also the elements of botany, pharmacy, and natural history. After two years they pass two *public* examinations before a jury of three professors. The diploma charge is only five dollars to those of the second class, and nearly twenty to those of the first class. At the maternity they are lodged and boarded at a fixed rate of \$200 a year, with a small charge for washing. Those who do not reside at the maternity are compelled to attend confinements for forty-five days and nights during each year of study. The effect of this is to give Paris a large corps of intelligent women who are of great aid to the doctors. They are compelled to call in a physician in case of application of the forceps or any instrumental aid, but they can perform version. They are certainly a great boon for the poor classes, who can not afford to pay a doctor. Their fees vary from \$5 to \$15 for a confinement. American women are always talking of finding an outlet for their surplus sisters, and certainly the honorable exercise of the profession of *sage-femme* is needed to supply your doctors with intelligent aid, and they should not be beneath the practice of such a profession, but should raise it above the present low level of midwives as seen in many of our cities. But do women ever care to occupy themselves with women's troubles? Certainly the lady physicians of Europe do not.

But, to return to Dr. Budin's service: It consists of an in-door and an out-door department, both under the great city governing body called *L'Assistance publique*. The in-door part I have already described. It is conducted by the professor himself, who makes a visit to each patient three times a week, and may be called upon in difficult cases at any moment. Next to him is the resident interne, M. Lœgry, who directs the service of two resident *sages-femmes*. Besides these, M. Budin has lately allowed the students of the medical school to undertake the care of confinements in his service (the only one in Paris where this is permitted). They follow him in his visit, and then in turn take charge of a case, being sent for to their houses just as one would call a doctor. They are assisted by one of the midwives, and they can call the interne or even the professor if he is needed. They then write out a complete report of the case, which

they read to the doctor on his next visiting day. The parturient women are received at any moment, and are at once given a bath, followed by a vaginal injection of a 1-to-2,000 solution of corrosive sublimate, the disinfectant now in use in the service. These injections are repeated three times a day afterward, and a compress of borated cotton wet with the liquid is kept constantly on the vulva. At the daily consultation the interne receives all the women he can, taking care to select those in whose cases there may be any difficulty, such as malformation of the pelvis, etc. The others are each given a quart bottle of the antiseptic liquid in use, and are sent to the out-door service, which is conducted by certain *sages-femmes* who are attached to the service of the city hospitals, and who are permitted to receive at their houses a certain number of pregnant women. They are compelled to give each patient they accept a separate room and bed, and receive from the administration what is equal to \$15 for the nine days' treatment. The doctor in charge of the district has to pay them each at least one visit. M. Pinard lately gave the results of these two systems at his hospital (the Lariboisière) in several thousand cases, and he had found that there was a progressive augmentation of septicæmia in the out-door service, and a diminution in the in-door, or hospital service. No one is allowed to touch a pregnant woman in the service without having first washed and disinfected his hands. Borated vaseline is used for the finger, or carbolyzed vaseline (1 to 100).

Besides a temperature-chart, a record is kept of the daily weight of the infants, the rise and fall being marked in the same way, and compared with the weight at birth. One of the points insisted upon by Dr. Budin is to allow the infant to remain two to three minutes, *until the cord has ceased to beat*, before tying it. It is believed that some eighty grammes of blood are saved to the baby in this way. There is then but one ligature applied, the placental end being left open, unless in case of twins. It has been said that this system of waiting caused jaundice in the infants, and experiments were made at the maternity to test this. In one ward this form of expectation was used, and in another the cord was cut at once, but the results prove that the waiting plan is the best. Those who follow the obstetrical services here are astonished to see the great perfection that abdominal palpation has been brought to. Abdominal palpation has been known since ancient times, but only lately has it reached such importance in obstetrics, which is now just as considerable as auscultation or the vaginal touch itself. M. Pinard, *professeur agrégé* at the school of medicine here, is at present bringing out a second edition of his work, called "*Traité du palper abdominal au point de vue obstétrical*." It may be that this laying on of hands is not agreeable to some patients, but, when they know that a bad presentation can be made a good one by external manipulation, and both child and mother saved, they will accept it.

The Effects of Hot-air Baths on Assimilation.—In a paper by Dr. Garin, of St. Petersburg, on the effects of hot air baths on healthy subjects, and on those suffering from kidney disease, it is stated, as the result of his researches, that the sudorific action of hot air produces an increase in the quantity of the nitrogenous elements of food assimilated. In healthy subjects it was found that after a course of hot-air baths lasting for five days the nitrogen assimilated was greater than before the baths, though less than during their continuance. This, however, did not appear to be always the case with patients suffering from nephritis. Again, the ratio of the urinary nitrogen to the nitrogen assimilated—that is to say, the nitrogenous metabolism—was decidedly increased both during and after the baths, the subsequent effect being more marked in the case of nephritic patients than in that of persons in good health, though not in either case so great as the effect observed while the baths were in progress.—*Lancet*.

THE

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PERNICIOUS ANÆMIA AND ATROPHY OF THE MUCOUS
MEMBRANE OF THE STOMACH.

PERNICIOUS anæmia stands prominent among the opprobria of medical knowledge, on account of the obscurity of its pathology and the futility of its treatment. So long ago as the year 1860, the late Professor Flint drew attention to the connection between it and atrophy of the gastric glands. Although the majority of observers will probably agree with a recent writer who stated that the existence of gastric atrophy as a primary and independent disease had not been established, the observations of such accurate and faithful clinicians as Fenwick, Quinke, Nothnagel, and Osler deserve the most careful attention, and ought not to be overlooked. The case reported by the last named observer and Dr. Henry last year, in the "American Journal of the Medical Sciences," goes far, we think, toward establishing the existence of primary atrophy of the gastric tubules. The diagnosis of pernicious anæmia can not be questioned. The history, the symptoms, the microscopical appearances of the blood, and the course of the disease were typical of that affection. The post-mortem examination was conducted with remarkable care and attention to minutiae, and the only noteworthy abnormal condition found was atrophy of the mucous membrane of the stomach. The lesion was evident to the naked eye in the thin, cuticular appearance, and was abundantly confirmed by the microscopical examination, which showed that the peptic glands had been destroyed through the greater portion of the organ. Distributed over the surface there were numerous small elevations or islets representing mucous membrane in a less advanced state of degeneration. Toward the pylorus, where the atrophy was less extreme, the various stages of the process could be traced, consisting essentially of a small-celled infiltration between the tubules, such as occurs in slow interstitial inflammation. At one part of the lesser curvature there was a radiating cicatrix, no doubt the result of an ulcer from which the patient had suffered some nine years before. He had been addicted to the excessive use of alcohol, and the authors concluded that the lesion was due to that habit.

Fenwick lays stress upon the close resemblance between the clinical picture of atrophy of the mucous membrane of the stomach and that of idiopathic anæmia. While he is unwilling to say that in all instances the atrophy produces idiopathic anæmia, he reports four cases in which, he thinks, the relationship between the two was that of cause and effect. Unfortunately, the description of the morbid anatomy in some of the cases is not so full as might be desired, so that some doubt is left as to the nature of the lesion. In none of Fenwick's cases

could the changes in the stomach be attributed to alcoholism. In Quinke's case there were gastric disturbances for three years prior to the fatal termination. The post-mortem examination revealed atrophy of the mucous membrane of the stomach, with destruction of the gastric glands to such an extent that only a few remained. The patient's habits are not stated definitely, but he is said to have been strong and healthy until the fatal illness set in.

Reasoning by analogy, we might suppose that sclerosis of the vessels of the mucous membrane would be capable of producing atrophy of the gastric tubules, but of this change in the small vessels of the stomach little is accurately known as yet. An attempt has been made to connect certain forms of gastritis with syphilitic endarteritis of the stomach, but the grounds for such a conclusion are not undeniably proof against criticism. Although it can not be reasonably doubted, we think, that some cases of pernicious anæmia have a primary atrophy of the gastric tubules for their starting-point, there are many obscure points regarding the pathology of the latter that demand further research. We are glad to notice, therefore, that Dr. Kinicutt has chosen this subject as the theme on which he is to read a paper before the Association of American Physicians at its meeting in Washington next week.

MINOR PARAGRAPHS.

INTUBATION OF THE LARYNX.

DR. O'DWYER's operation of intubation of the larynx is to be the topic for discussion at the next meeting of the Academy of Medicine, and, as the president remarked when he made the announcement, "it is to be hoped that as complete statistics of the operation as possible will be obtained, particularly for the benefit of the profession in Europe, where the procedure has not been much resorted to." It may be added, judging from the few references to the operation that we have seen in our European exchanges, that it seems not only to have been little employed in Europe, but also to have been generally misunderstood. Many appear to have confounded it with M. Bouchut's procedure, from which it differs materially. It has been treated very reasonably in our own country—*i. e.*, with freedom from unfavorable prejudice against it on the one hand, and without that great bane of all novelties, undue enthusiasm, on the other. This fortunate course has undoubtedly been largely brought about by Dr. O'Dwyer's remarkably conscientious and modest statements on all occasions of his writing or speaking of the operation, together with his great care to perfect it before making it public.

THE NEW YORK ACADEMY OF MEDICINE.

AN appropriate and graceful action was taken by the Academy at its last meeting in adding the name of Mrs. Celine B. Hosack to its list of benefactors. It will be remembered that in our last issue we recorded the fact that the Academy had received from Mrs. Hosack's executor the handsome bequest of \$70,000, being the amount that she had acquired from the estate of her husband, the late Dr. Alexander E. Hosack, in conformity to whose wishes the bequest was made.

The president's suggestion, made recently, that the Academy should take measures to secure and preserve the autograph writings of well-known members of the profession seems cal-

culated to serve an excellent purpose, and we are glad to see that it has already been acted upon to some extent. At the same meeting it was announced that the Academy had received certain manuscripts prepared by the late Dr. Fountain, of Davenport, Iowa, who several years ago lost his life by poisoning with chlorate of potassium, as the result of his enthusiastic endeavors to prove the harmlessness of that drug in large doses. Our memory of the matter is to the effect that the fatal dose in Dr. Fountain's case was half an ounce.

CASE-REPORTING SCHEMES AS GUIDES TO DIAGNOSTIC INVESTIGATION.

THE need of some system in the interrogation and physical examination of patients is so obvious that nobody questions it. Every practitioner adopts one or another, often one of his own devising, which he modifies from time to time as his growing experience leads him to think advisable. The utility of something more elaborate for the inexperienced is attested by the fact that such schemes are published every now and then. One of the most recent has been prepared by Dr. W. H. Allchin, of the Westminster Hospital, London. It is very comprehensive and somewhat voluminous. The author remarks, indeed, that it must seem extremely formal, but he proceeds to argue quite convincingly against the objection that a detailed and artificially precise scheme is a disadvantage on account of its failing to take account of the numerous exceptions which the student requires help in dealing with. He admits that the objection would be valid if the student were to become a slave to the scheme, instead of recognizing it as but a means of obtaining the information he desires. Without some guide, he justly remarks, every case becomes an exception, so that the student may lose his way in a labyrinth of isolated cases, and lapse into a vague and loose habit of thought and expression. Although there may be those whose previous training or natural disposition unfits them to do good work in accordance with a formal scheme prepared for them, and who may yet succeed in a path of their own choosing, their cases are exceptional, and it is better to furnish the majority with a plan as complete and precise as possible, each person who uses it being at liberty to modify it subsequently as his further experience may suggest.

NON-MEDICAL SANITARY OFFICIALS.

WE have often remarked upon the anomalous legal requirement which makes it necessary that the president of the Board of Health of the city of New York shall not be a medical practitioner, and upon the fact that in many other similar bodies non-medical men are made to constitute a controlling element. We entirely agree, therefore, with the sentiments on this matter expressed by Dr. Horatio R. Storer, of Newport, at the last meeting of the Rhode Island Medical Society. Dr. Storer reminded his hearers that in Providence, as in Newport, the control of sanitary matters was still largely in the hands of non-medical officials, who, however excellent they might be as citizens, were unfit for so strictly medical a trust. In so far as the propensity of legislators to make the medical members of sanitary boards unequal in authority to their non-medical colleagues has any other motive than that of keeping, for themselves or their allies, the control of a little patronage, we presume it is founded on the notion that medical men are not apt to be fitted for executive work; but this idea ought to have been dispelled by the country's experience during the late civil war, when the military hospitals were administered by the army surgeons, not only from a professional point of view, but in every important detail of their management. It may well be doubted if any pub-

lic trust of equal magnitude and presenting like difficulties was ever more creditably discharged.

THE NEW COMMISSIONER OF PUBLIC CHARITIES AND CORRECTION.

IN view of the tendency to subordinate the medical to the lay members of sanitary bodies, it is satisfactory to learn of Dr. Simmons's appointment as a member of the board of Commissioners of Public Charities and Correction. The institutions under the board's care, from having been but a few years ago little else than almshouses and houses of penal detention, have, at least as regards several of them, attained to a high rank among our hospitals; consequently, their affairs are in great measure medical. Even had they remained as they were thirty years ago, their sanitation would long since have called for the participation of medical men in their management. When the change is taken into account, when we consider that the hospitals under the board's control have risen to the first importance, not only as places of refuge for the sick and injured, but as sources of instruction for medical students and for nurses, it seems strange that the propriety of allowing the medical profession some representation in the governing body has not until now been recognized.

PARALYTIC VERTIGO.

AT a late meeting of the Paris *Académie de médecine*, Dr. Haltenhoff, of Geneva, gave the histories of several former and recent cases of a neurosis termed paralytic vertigo (*vertige paralytique*) observed in agricultural laborers and shepherds in the neighborhood of Geneva. From a summary published in the "*Gazette hebdomadaire de médecine et de chirurgie*," it appears that the affection is characterized by attacks of paralysis of the muscles of the back of the neck and those of the limbs, a sensation of vertigo, pains radiating from the nucha, and blepharoptosis, without any organic sign of disease. It is seen only in persons who live in hot, ill-ventilated out-houses, and ceases when they are better housed and allowed to rest; so that it is suggested that it may be due to a special miasm, engendered by their insanitary surroundings.

BERGEON'S TREATMENT OF PHTHISIS WITH GASEOUS ENEMATA.

WE have received a number of communications asking for information in regard to this novel method of treating consumption. The theory of the treatment, together with general directions for a ready method of carrying it out and a statement of the encouraging results that had been observed in Paris, was given in our Paris correspondent's letter dated December 1, 1886, and published in our issue for December 18th, on page 688. For the information of those to whom that number of the Journal is not accessible, we will say that the theoretical basis of the treatment is as follows: Carbon dioxide (carbonic-acid gas) is well borne in the alimentary canal, from which it is gradually absorbed, to be eliminated by the lungs. Mixed with certain other gaseous or volatile substances, it carries them along with it to the lungs, where they are enabled to exert their medicinal action directly upon the pulmonary tissue. Hydrogen sulphide (sulphureted hydrogen) is supposed to act with special energy in destroying the tubercle bacillus; hence it has been largely used, mixed with carbon dioxide, but other medicaments in considerable variety have been resorted to also.

In our issue for March 19th, on page 324, we gave a summary of Dr. J. H. Bennett's observations in Paris, which were

quite favorable to the method as at least a palliative; and in the number for March 26th, on page 362, we published some interesting remarks on the subject made at a meeting of the Philadelphia County Medical Society, by Dr. J. Solis-Cohen and Dr. William Osler. It was soon evident that the matter was beginning to meet with attentive consideration in this country, and our instrument-makers began to announce that they were ready to furnish the necessary apparatus. As will be seen by our advertising pages, in particular the firms of Codman & Shurtleff, of Boston, and James W. Queen & Co., of Philadelphia, are prepared to supply the apparatus, together with directions for its use. In another part of this issue of the Journal we give an extract from an interesting pamphlet on the subject, published by the last-named firm. The subject is announced as one of the topics to be discussed at the meeting of the Association of American Physicians, to be held in Washington next week, and, on the whole, professional opinion concerning its merits seems in a fair way to become settled before long.

THE POLICEMAN AND THE PILL.

It is curious to note the vicissitudes of a yarn in its progress over the world—how in one way and then in another it gets modified, sometimes beyond recognition. An amusing example is furnished in a recent number of a Paris medical journal, in which an incident that we recounted some months ago as having happened in Paris is related as having occurred in London. It was that of the abusive remark "You act on me like a pill" (*vous me faites l'effet d'une pilule*), addressed by an infuriated woman to a policeman, for which she was taken before a magistrate, who decided that, inasmuch as there were many kinds of pills, including some that had an agreeable effect, there was really no proof that she had not actually intended to compliment the officer, since she had omitted to specify the particular sort of pill she had in mind; and therefore dismissed the complaint. Our Paris contemporary reproduces the story with entire accuracy, except that, quoting from a journal called "Technics," it lays the scene in London instead of in Paris.

JERUSALEM FROM A MEDICAL POINT OF VIEW.

The "Lancet" states that the sanitary condition of the city of Jerusalem is deplorable, and that the work of the medical staff of the English Hospital for Jews is not only that of treating disease, but also that of directing the people's minds to the paramount importance of cleanliness and sanitation. Malarial fever heads the list of diseases for which treatment is sought, but many of the applicants who come from Persia, Armenia, Circassia, Tunis, and other countries are found to be suffering with affections of the eyes. These persons say that they prefer to come to an English hospital, and it is highly to the credit of the London Jews' Society that its hospital at Jerusalem, which has now been in operation for more than forty years, furnishes gratuitous aid to all who apply, without regard to the nature of the cases. It is said that there are now about 25,000 Jews in Jerusalem. The hospital has twenty-six beds. There are other like institutions in the city, established by the charitable of different nationalities.

THE RECUPERATIVE POWER OF CHILDREN.

The wonderful energy of the infantile constitution in recovering from serious traumatic injuries is so often exemplified as to be taken quite as a matter of course, and to be counted on in the prognosis. The manifestation of this self-restorative power in cases of grave disease is commonly not so tangible, and doubt-

less frequently fails to make a like impression on the observer, so that striking instances are worthy of note. An interesting case in point is given by Dr. W. Pasteur, in a recent issue of the "Lancet"—one, too, that possesses an additional feature of interest from the fact that the child was suffering from a rare affection, paralysis of the diaphragm. The patient was five years old, and the paralysis, which involved not only the diaphragm, but all four of the limbs, together with great enfeeblement of the muscles of the neck and trunk, was of diphtheritic origin. The superior costal type of the breathing and the complete absence of epigastric protrusion during inspiration, coupled with such protrusion during but not before attempts to cough, were so marked as to make the diagnosis of diaphragmatic paralysis certain. As the author remarks, the recovery furnishes a striking example of the extraordinary recuperative power possessed by children, and of the paramount importance of leaving nothing undone in the way of treatment on the plea that a case is hopeless.

PUBLIC CRITICISM OF PRIVATE AFFAIRS.

A FRENCH newspaper having stated that Dr. Bernard, of Thiancourt, had just performed a surgical operation, and that in consequence the patient had died, the doctor brought an action for libel, alleging that the newspaper had implied that the death was attributable to the operation. The tribunal before which the case first came took the ground that the matter was of public interest, and authorized the newspaper to substantiate its allegation. An appellate court, however, overruled this decision, declined to allow the defendant to plead, declared the allegation to be groundless, and imposed damages to the amount of 10,000 francs, holding that the injurious statement related to a matter of an essentially private nature, and quite outside the proper field of public criticism or newspaper comment. We quite agree with the "British Medical Journal," in which we find the account of the case, that this decision is most wholesome, and we should like to see it viewed as a precedent in this country, where the newspapers are far too free with their comments on the affairs of private life.

PUBLIC PSYCHOLOGICAL EXHIBITIONS.

How far the custody of public morals may probably be held to come within the scope of a board of health's work is a matter of doubt. There can be little doubt, however, it seems to us, of the wisdom of the action which has lately been taken, according to the "Union médicale," by the sanitary council of one of the Swiss cantons, whereby public exhibitions of hypnotism, animal magnetism, or somnambulism are prohibited. Even purely scientific experiments in these matters, it is said, are not to be allowed without the previous consent of the council. It is undeniable that a degrading element is apt to creep in when perverted psychical action, whether real or pretended, is exhibited before a miscellaneous audience. Besides that, the performances excite attempts at imitation, and ignorant and irresponsible persons are led to try their supposed powers on those whose state of health, mental or emotional if not bodily, may be seriously affected by such tampering.

THE SENSATIONS OF THE DYING.

It is doubtless the case that in many instances—and perhaps they are the majority—dying persons lapse gradually into an unconsciousness that ends their bodily pain and saves them from the anguish of the final parting with those they leave behind. It is not uncommon, however, for clearness of comprehension to persist to the last, and perhaps it is still more

common for some of the special senses to preserve their activity. We think it was Ernst Wagner who, in his "General Pathology," dwelt particularly on the preservation of the sense of hearing in many cases long after the apparent occurrence of unconsciousness, and who tenderly cautioned his readers that this possibility should be borne in mind. The following touching account of the late Dr. Wilson Fox's last moments, when his friend Dr. J. Russell Reynolds was at his bedside, is given in the "Lancet's" obituary: "On the next morning, when obviously and consciously dying, and after his eyes had been fixed for a few minutes on the angle of the room, and as some gray streaks of dawn were entering it, he said suddenly—'There is a great light, a great glare of light. . . . I feel so strange . . . a glare of light. What is it, Reynolds?' The reply was—'It is the peace of God.' He grasped his friend's hand firmly and said, 'God bless you.'"

THE VIENNA GENERAL HOSPITAL.

ABOUT a fortnight ago rumors began to take the form of press dispatches alleging the discovery of grave abuses among the employees of the famous *Allgemeines Krankenhaus* of Vienna. These statements have lately taken more definite shape, and relate chiefly to accusations of extortions of money from the patients by the nurses and of neglect or ill-treatment in the cases of patients who were unable or unwilling to meet the demands made upon them. The hospital, as is well known, is an institution of which the Viennese are particularly proud, and one that has taken a conspicuous part in the advance of medical knowledge for many years past. For these reasons, in addition to considerations of humanity, it is earnestly to be hoped that the official investigation which has been set on foot will either prove the falsity of the imputations or else speedily do away with any further cause of complaint.

VICARIOUS PHILANTHROPY.

It appears that a number of British peers, members of Parliament, bishops, authors, and other grand personages have allowed their names to be used in a circular setting forth a scheme to provide treatment by specialists for persons who can neither avail themselves of existing charities nor, for financial reasons, secure private attendance by eminent specialists—said treatment to be furnished at a central establishment during a certain number of hours daily "at a fixed fee of five shillings." Commenting on this fresh demand upon the generosity of the medical profession, a correspondent of the "British Medical Journal" aptly remarks: "When the Lord Chancellor, the Solicitor, and Attorney-General can be induced to give their legal advice to the poorer members of our profession at a reduced but fixed fee of 'five shillings,' it may be time for our brethren to consider the propriety of assisting the 'Association for the Treatment of Special Diseases.'"

ITEMS, ETC.

The Health of New York City.—During the four weeks ending Tuesday, May 24th, there were reported to the Sanitary Bureau of the Fourth Division of the Health Department 30 cases of typhoid fever and 8 deaths; 238 cases of scarlet fever and 37 deaths; 21 cases of cerebro-spinal meningitis and 18 deaths; 301 cases of measles and 32 deaths; 427 cases of diphtheria and 204 deaths; 81 cases of small-pox and 22 deaths; and 1 case of typhus.

The Case of the Crown Prince of Germany.—It appears by the press dispatches that Dr. Morell Mackenzie, of London,

has removed from one of the Prince's vocal bands, by way of the mouth, a small growth which Professor Virchow pronounces to be benign.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Fourth Division of the Health Department for the following statement of cases and deaths reported during the two weeks ending May 24, 1887:

DISEASES.	Week ending May 17		Week ending May 24.	
	Cases.	Deaths.	Cases.	Deaths.
Typhus.....	..	..	1	0
Typhoid fever.....	8	1	10	3
Scarlet fever.....	77	9	62	9
Cerebro-spinal meningitis....	2	2	5	5
Measles.....	102	8	49	12
Diphtheria.....	128	49	110	62
Small-pox.....	19	5	25	3

The Oregon State Medical Society will hold its fourteenth annual meeting in Portland, on Tuesday, Wednesday, and Thursday, June 14th, 15th, and 16th.

Beri-beri in Dutch India, according to the "Union médicale," is to be investigated by a commission sent out from Holland, with Dr. Pekelharing at its head. A laboratory has already been opened at Atech.

The Anatomical Society of Great Britain and Ireland to be devoted to the study of human and comparative anatomy, including embryology, was lately founded in London, at a meeting of which Professor Humphry was the chairman. The same gentleman was subsequently elected president.

The British Medical Association will hold its fifty-fifth annual meeting in Dublin, on the 2d, 3d, 4th, and 5th of August.

Changes of Address.—Since our last notices were published we have been informed of the following:

BLEYTHING, G. D., from 135 E. 78th St. to 1908 Madison Ave.

ROBINSON, A. R., from 356 W. 42d St. to 248 W. 42d St.

TUTTLE, G. M., from 49 E. 30th St. to 48 W. 38th St.

BARKAN, L. (Brooklyn), summer address (June 7th to Sept. 30th), Lower Saranac Lake, the Adirondacks, N. Y.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from May 8, 1887, to May 21, 1887:*

ALEXANDER, C. T., Lieutenant-Colonel and Surgeon. Granted leave of absence for four months, with permission to go beyond sea, to take effect May 23, 1887. S. O. 105, A. G. O., May 7, 1887.

HARVEY, P. F., Captain and Assistant Surgeon. Granted leave of absence for four months, with permission to go beyond sea, to take effect June 10, 1887. S. O. 105, A. G. O., May 7, 1887.

BIART, VICTOR, Captain and Assistant Surgeon. Ordered for examination by Army Retiring Board at Fort Leavenworth, Kansas. S. O. 107, A. G. O., May 10, 1887.

ELBEKE, F. W., Captain and Assistant Surgeon. Ordered for examination by Army Retiring Board at Washington, D. C. S. O. 109, A. G. O., May 12, 1887.

TAYLOR, MORSE K., Major and Surgeon. Retired from active service, May 14, 1887. S. O. 111, A. G. O., May 14, 1887.

WHITE, R. H. Promoted to be surgeon, with the rank of major, to take effect from May 14, 1887.

HALL, JOHN D., Captain and Assistant Surgeon. Granted leave

of absence for one month, with permission to apply for one month's extension. S. O. 74, Department of the Columbia, May 11, 1887.

SUTER, WILLIAM N. Appointed assistant surgeon, U. S. Army, with the rank of first lieutenant, to rank as such from May 16, 1887.

Naval Intelligence.—*Official List of Changes in the Medical Corps of the United States Navy for the week ending May 21, 1887:*

CURTIS, L. W., Passed Assistant Surgeon. Ordered to the U. S. Steamer Quinnebaug.

BAKER, J. W., Passed Assistant Surgeon. Ordered to the U. S. Naval Hospital, Chelsea, Mass.

PRICE, A. F., Surgeon. Ordered to board duty, Annapolis, Md.

GRAVATT, C. U., Surgeon. Detachment from the U. S. Steamer Michigan revoked.

LUMSDEN, G. P., Passed Assistant Surgeon. Ordered to the U. S. Steamer Michigan revoked.

SIEGFRIED, C. A., Surgeon. Ordered to the U. S. Steamer Quinnebaug.

PERSONS, R. C., Surgeon. Detached from the U. S. Steamer Saratoga.

FARWELL, W. G., Surgeon. Ordered to the U. S. Steamer Saratoga.

DIXON, W. S., Surgeon. Ordered to special duty, Baltimore, Md.

ROGERS, B. F., Surgeon. Ordered to the Marine Rendezvous, New York.

WELLS, HOWARD, Passed Assistant Surgeon. Ordered to the U. S. Steamer Jamestown.

WISE, J. C., Surgeon. Detached from the U. S. Steamer Jamestown.

HARVEY, H. H., Surgeon. Ordered to the U. S. Steamer Iroquois.

WAGGENER, J. R., Surgeon. Detached from the U. S. Steamer Iroquois.

WHITE, S. STEWART, of Frederick, Md. Commissioned an assistant surgeon in the U. S. Navy, May 19th.

Society Meetings for the Coming Week:

TUESDAY, *May 31st*: American Climatological Association (first day—Baltimore); Medical Societies of the Counties of Queens (annual—Mineola) and Rockland (annual), N. Y.; Boston Society of Medical Sciences (private).

WEDNESDAY, *June 1st*: Pennsylvania State Medical Society (Williamsport); New Hampshire State Medical Society (Concord); American Climatological Association (second day); Harlem Medical Association of the City of New York; Medical Societies of the Counties of Cattaraugus (annual—Salamanca) and Richmond (Stapleton), N. Y.; Penobscot, Me., County Medical Society (Bangor); Bridgeport, Conn., Medical Association; Medical Society of Orleans County, Vt. (annual).

THURSDAY, *June 2d*: Association of American Physicians (first day—Washington); New York Academy of Medicine; Society of Physicians of the Village of Canandaigua, N. Y.; Boston Medico-psychological Association; Obstetrical Society of Philadelphia; United States Naval Medical Society (Washington).

FRIDAY, *June 3d*: Association of American Physicians (second day).

SATURDAY, *June 4th*: Clinical Society of the New York Post-graduate Medical School and Hospital; Manhattan Medical and Surgical Society (private); Miller's River, Mass., Medical Society.

OBITUARY NOTES.

Thomas F. Rochester, M. D., of Buffalo, died on Tuesday, the 24th inst., in the sixty-fourth year of his age. The deceased was born in Rochester, N. Y., and educated at Geneva College, from which he was graduated in 1845, and took his degree in medicine from the University of Pennsylvania in 1848. After a term of service at Bellevue Hospital and a sojourn in Europe, in 1851 he settled in New York, where he remained until 1853, in which year he removed to Buffalo and was appointed to the chair of the principles and practice of medicine and clinical medicine in the University of Buffalo, which position he held at the time of his death. For many years he was consulting physician to the Buffalo General Hospital. He was a member of the New York Pathological Society; the Medical Society of the County of Erie, of which he was president in 1864; the Buffalo Medical Association, of which he was president in 1860, and of the New York State Medical Association. His death is said to have been due to Bright's disease.

Proceedings of Societies.

AMERICAN ASSOCIATION OF GENITO-URINARY SURGEONS.

First Annual Meeting, held at Lakewood, N. J., May 17 and 18, 1887.

Dr. E. L. KEYES, of New York, temporary chairman, called the meeting to order.

Officers for the Ensuing Year were elected as follows: President, Dr. Edward L. Keyes, of New York; vice-president, Dr. George Chismore, of San Francisco; secretary and treasurer, Dr. Robert W. Taylor, of New York. It was voted to limit the number of members to fifty.

The President's Address.—The president, in a brief address of welcome, first alluded to the circumstances which had led to the formation of the association. Then, speaking of its objects, he said he need not enter into the question of specialism as distinguished from general medicine and surgery. That distinction was being made by the circumstances of the times. Concentration of labor certainly yielded more perfect results than its general distribution. There was a field ready, and those who wished might enter in and work. A man's membership in this association did not imply that he confined himself to its peculiar lines of study, but it furnished to him an arena in which he might develop his ideas and display the work he had done under the keen criticism of minds familiar with the subject and capable of still further refining by their discussion the quality of his work and enhancing its value. A picture of the triumphant march of surgery during the last decade was then drawn. With so much accomplished and such a portion of the mine worked out, the timid spirit might inquire what more was to be done. It was for the members of the association to take a part in answering that question so that they might be able at the call of the Great Master to return to him with interest that talent with which He had seen fit to endow them.

The Comparative Frequency of the Chancroid.—In a paper on this subject, Dr. F. B. GREENOUGH, of Boston, referred to the marked individuality that was given to the chancroid by the text-books, in spite of which the great difference in the statistics by different observers would show that they must have used different systems of classification. Throughout this divergence of statistics, however, two facts appeared: 1. That this

lesion had diminished in its relative frequency to the true chancre with the exception of two periods in Paris—*i. e.*, during the war and siege (1870-'71), and before and during the exposition, after 1875. 2. That it occurred more frequently in hospital than in private practice. In 1837-'38 Bassereau gave the ratio of the chancroid to the true chancre as high as 30 to 1. Records for ten years—from 1840 to 1850—at the Hôpital du midi gave 4 to 1. Fournier's private cases gave 1 to 3. In the later tables the ratio of frequency in the Paris hospitals had diminished, with the two exceptions mentioned, and Mauriac's ratio for 1880 was $1\frac{1}{2}$ to 1. The author's records for thirteen years and nine months of his service at the Boston Dispensary—*i. e.*, from July 1, 1873, to March 31, 1887—gave a total of 1,593 cases, of which 391 were chancroids, 219 true chancres, 931 doubtful, and 52 herpes progenitalis, making the chancroid stand in proportion to other lesions in the ratio of $\frac{1}{4}$, or 1 to 3. These records were unsatisfactory, inasmuch as they showed merely the diagnosis made at the time of the patient's first visit. His private case-books showed that, of the last 100 cases seen, 10 were chancroids, 63 true chancres, 13 doubtful, and 14 herpes progenitalis—a ratio of 1 to 10. Although much smaller numerically, these were much more reliable, as the diagnosis was made after having the patients under continued observation. Both sets of statistics showed a diminution in the frequency of the chancroid. This he thought in part was due to a change in type of the disease, a similar change in the severity of the cutaneous manifestations in syphilis having been noticed by him, although he considered that syphilitic affections of the nervous centers, especially in the earlier stages of the disease, were much commoner now than formerly. Herpes progenitalis, not having been recognized by the earlier syphilographers, had undoubtedly often been taken for chancroid, as had probably also a not uncommon inflammation of a sebaceous follicle on the shaft of the penis; and the treatment of either of these lesions by destructive cauterization, which had formerly been the general practice, would make a very good imitation of a chancroid. The fact that the chancroid had just been recognized and described as a local venereal sore, distinct from the true chancre, would make it an object of interest and eagerly sought for by the writers of that time. He thought that at present a virulent bubo was not more frequently seen in connection with a chancroid than with a true chancre, which he considered somewhat due to the fact that this lesion was not so frequently imitated by caustics; and he also ascribed the greater rarity of the chancroid to the fact that it was no longer manufactured by cauterizing every venereal sore that was not a typical true chancre.

In the discussion the opinion was generally expressed that chancroid occurred less frequently in proportion to chancre now than formerly. Dr. OTIS and Dr. KEYES maintained that cauterization of a chancroid was beneficial when done early, say before the tenth day.

Suprapubic Cystotomy.—The PRESIDENT read a paper in which he advocated this operation for vesical tumors, for certain foreign bodies, in cases of very large stone, and in some very exceptional instances for purposes of exploration—and in patients of any age. He condemned the general adoption of the method as a usual one for the removal of stone, and especially objected to its use in children; on these points he gave some statistics. He had done the operation for a large fibropapilloma, for a flat villous growth, and for a large calculus. He detailed his practice in dealing with hæmorrhage, said that he believed in vesical suture, and described his method. He showed a new double-curved retractor, and described his method of effecting perineal drainage by puncture, probe, and catheter, without making the large incision usually considered necessary for this purpose.

Hysterectomy for Pyelitis with Obstruction.—Dr. A. T. CABOT, of Boston, first referred to a case of pyelitis due to obstruction from pressure of a fibroid of the uterus in which no operation was performed. The autopsy verified the diagnosis. He then gave a history of the case in which he had operated—one in which the symptoms of obstruction to the ureters came on late in the history of the fibroid. The tumor was low in the pelvis, and of about the size of a child's head. A second tumor, of about the size of an orange, occupied the region of the umbilicus, and was removed at the first operation, as it appeared by suppuration to be giving rise to septic symptoms. It was connected with one ovary. While micturition became less frequent, subsequently pus appeared in the urine, and, other symptoms pointing to pyelitis from pressure of the fibroid within the pelvis being present, an operation for the removal of the tumor was undertaken. It was firmly wedged in the pelvic cavity, from which it was pushed up with some difficulty, and the body of the uterus and part of the neck were removed with it. The urine had nearly cleared up since the operation, and the patient was desirous to return to her work, although longer rest was advised.

Some Cases of Pyelitis in which Frequent and Painful Micturition was the Chief Symptom.—Dr. GEORGE CHISHORE, of San Francisco, author of the paper, being absent, it was read by the secretary. It gave the histories of two cases. In one case the true condition became manifest by the abscess connected with the kidney pointing and opening externally, after which the patient recovered. In the second case the diagnosis of cystitis as the principal cause of the symptoms was shown to be erroneous at the autopsy, when the kidney was found riddled with abscesses. In many cases a diagnosis of pyelitis must be made by exclusion alone.

Horny Growths of the Penis.—Dr. J. H. BRINTON, of Philadelphia, read a paper in which he referred first to the cases recorded in literature. There were only fourteen cases the histories of which were sufficiently well given to be of value for purposes of comparison. The longest growth on record was three inches long. The specimen now presented by the author had been removed by him after it had been growing more than four years. It had sprung from the seat of a wart, which had itched occasionally and caused the patient to rub it. It had given no trouble excepting mechanical interference with coitus. It sprang from the base of the glans, at the coronary border, was attached to both the glans and prepuce, was an inch and seven eighths long, an inch and three eighths in circumference at its base, and curved forward. An interesting feature was the fact that the meatus was involved in the growth, and so much encroached upon that the urine escaped in almost imperceptible drops. The only treatment for the condition was amputation. This patient left the hospital two or three weeks after the operation.

Dr. CABOT had, about twelve years ago, seen a specimen of horny growth of the penis, perhaps as large as the thumb-nail removed by Dr. Bigelow.

On the Choice of Operation for the Removal of Vesical Calculus in Cases complicated by Prostatic Obstruction.—

Dr. J. P. BRAYSON, of St. Louis, the author of the paper, thought it strange that prostatic enlargement had had so little influence in determining the choice of the cutting or crushing operation for stone in the bladder. He believed that very rarely was section made purely for prostatic reasons, or with the intention not only of removing the stone, but of reducing the size of the prostate as well, and thus reducing in intensity at least the causes which were most active in the production of stone, and lessening the sufferings of the patient in after years. Within the past few years he had had some clinical experience which

had led him to believe that this should have more weight in the choice of operation for stone than had generally been accorded it. Since 1884 he had operated for stone by pre-rectal section in four cases, all complicated by a large hypertrophic prostate. The choice of the operation was not determined in these cases by the desire to reduce the size of the prostate. As a matter of fact, however, the prostate had become manifestly reduced in size after the operation, as was determined by measurement and the ease with which the finger entered the bladder at a subsequent operation made necessary for the removal of a second stone. The estimated diminution in size of the prostate was from one third to one fourth. The difficulty of estimating a change in the size of the prostate by a rectal examination was pointed out. That inflammatory changes might have much to do with causing the enlargement and hypertrophy of the prostate with cystitis, he was led to believe by observing certain cases whose histories he recited. He did not think the enlargement of the prostate would have been equally reduced by other operations for the removal of the stone. In all of his cases, occurring in old people, the operation had resulted in marked benefit.

The PRESIDENT cited facts which went to show a diminution in the size of the prostate after certain operations in which this gland was more or less cut or torn, but he believed that the cutting operation for the removal of stone in old people was not justified on this ground, as statistics showed that a considerable mortality followed it, while litholapaxy was comparatively without danger. The safer operation should be adopted for the removal of the stone, and, if the symptoms demanded it, the prostate could be dealt with subsequently.

(To be concluded.)

OBSTETRICAL SOCIETY OF PHILADELPHIA.

Meeting of April 7, 1887.

The President, Dr. THOMAS M. DRYSDALE, in the Chair;
Dr. W. H. H. GITHENS, Secretary.

Late Infection in the Puerperal State.—Dr. B. C. HIRST read a paper on the aetiology and treatment of cases of this affection. He said that the object of the paper was merely to relate briefly the histories of four cases, all of which he believed were due to the same cause, all yielding to the same treatment, and conveying, therefore, a lesson of some interest and value. The first case was that of a young primipara, who had been delivered without difficulty after a moderately long labor. She had left her bed on the eleventh day, having had no fever and having manifested no unusual symptom. Two days afterward her cervix was exposed to view by means of a bivalve speculum, and a slight laceration was discovered, healing by granulation. The following morning, the fourteenth day after delivery, the patient was unwell, her temperature was 102° F., large doses of quinine were given, but the temperature rose to 103°, where it remained, with slight morning remission, for two days. A more careful examination being made, it was discovered that the uterus was unusually large, that the os was patulous, and that there was a foul-smelling discharge, with considerable abdominal tenderness. The history of the case with these symptoms pointed to the retention of membranes, possibly a portion of placenta, and their subsequent decomposition, that had been originated by the admission of air to the vagina and uterus by the use of the speculum. Acting upon this diagnosis, the uterine cavity was lightly scraped out with a dull curette and a large quantity of decomposing decidua removed. This was followed by an intra-uterine injection of bichloride of mercury through a Bozeman's double catheter. The woman's temperature at the time was

103°. The following morning it had sunk to 99°, and within twenty-four hours was normal, and so remained.

The second case was also that of a primipara. The labor had been terminated by the forceps. Upon the eleventh day the woman, although perfectly well until that time, had a morning temperature of 101°, rising in the evening to 102°. The uterus was found larger than it should have been. The os was patulous, and there was a foetid discharge. Profiting by the experience gained in the first case, the uterus was curetted and a considerable amount of decidua removed, and an intra-uterine douche given. In this case the womb almost at once contracted and the discharge ceased; but the patient had, unfortunately, an exacerbation of a tubercular trouble in one lung which kept the temperature high for some days.

In the third case, also that of a primipara, after an instrumental labor and an apparently normal lying-in, the temperature rose on the twelfth day to 99.8°, and on the following day to 100°. At the same time a foetid muco-purulent discharge made its appearance. In this case a very large quantity of decidua membrane was removed, and the scraping was repeated on the following day, whereupon the temperature fell to normal and the discharge ceased.

The fourth case was that of a primipara, who on the sixth day, after an easy labor, had a temperature of 100°, although previously there had been no fever; the uterus was very large, and the os quite patulous, but there was not much discharge. The same treatment was employed that had proved successful in the other cases, with the result of reducing the temperature within twenty-four hours to normal, where it remained.

Now, this experience was entirely too limited to enable one to come to a definite conclusion as to the cause of late infection in the puerperal state, but these cases suggested to the speaker's mind the possibility at least that the retention and subsequent decomposition of shreds of membrane or fragments of placenta would be found to be the most frequent cause of fever late in the puerperal state, and that, if not interfered with, this condition might lead to septicaemia and pyæmia. Other causes of fever late in the puerperal state were, of course, well known. Partially healed wounds of the cervix, vagina, and perinæum might be torn apart and the fresh wounds thus produced might give entrance to the germs of septicaemia. Exposure to an atmosphere impregnated with emanations from sewers or water-closets from bad sanitation might give rise to febrile diseases at any time during the puerperium, as proved in the cases related by Dr. Playfair in a recent English journal. There was a possibility that the pyogenic micro-organisms, which might carry on their work in the uterine cavity without very serious consequences to the patient, might in the tubes manufacture their product, pus, in such quantities that it could not be drained off, thus producing an abscess that might possibly open into the peritoneal cavity. There was a still more remote possibility that a pyosalpinx might be developed late in the puerperium by other pathogenetic micro-organisms, by those of gonorrhœa, of tuberculosis, or even of actinomycosis. Finally, any of the febrile diseases that were liable to attack a woman at any time might fasten themselves upon her during the lying-in period, but, as he had already said, it seemed to him that the most common cause of late infection in the puerperal state was the decomposition of retained membrane or fragments of placenta, and that therefore the curette and the intra-uterine douche might be employed as a routine treatment in all cases where there occurred late in the puerperium fever associated with a large uterus, a patulous os, and a foul-smelling discharge. This treatment could do no harm, but might effect much good. The speaker's experience in this direction was, however, limited, and upon this point he would like to have the opinion of

the society, whose experience collectively and individually must be greater than his own.

The Antiseptic Pad.—Dr. HIRST exhibited the antiseptic pad used by Richardson, of Boston, and Garrigues, of New York, to prevent the entrance of pathogenetic germs into the vagina after labor.

Dr. PARVIN was not impressed with the necessity for the antiseptic pad, believing that as good results could be had from antiseptic napkins. The oiled silk or muslin used in making it, it seemed to him, might hinder the ready escape of the lochia. After labor the vagina was practically a closed canal, open only for the egress of uterine discharge, and disease germs could not enter unless that canal was opened by some manipulation of the nurse or the physician, as in giving a vaginal injection, or in making an examination. It seemed to him needless to completely close the vulva, and it also seemed possible that such closure hindered the escape of the lochia. But, be this as it might, if the vulva was carefully washed twice a day with an antiseptic solution, and if napkins that had been wrung out of a 1-to-2,000 corrosive-sublimate solution were applied over it, and changed more or less frequently according to the amount of the flow, he thought as good results could be had as by using the antiseptic pad. Moreover, it seemed to him doubtful whether antiseptic pads, though they had proved very useful in maternities, would be readily accepted in private practice, especially in the country. In regard to the results in hospital practice from the use of antiseptics, he had no doubt of their value, and should insist upon their employment. So, too, in private practice he had used them for some years; but it was only comparatively recently that he had learned how they should be used. The speaker objected to the glass tubes for intra-uterine injections. Take, he said, for example, Chamberlain's, and especially that of the late Albert H. Smith, and they would be found too large for use in some cases where injections were required. Then, too, the liability of glass to break was to him a conclusive argument against the introduction of an instrument made of this material into the uterus, or into the vagina. The best instrument was, in his opinion, Bozeman's catheter. Formerly it had been his custom to wait in cases of septic infection until the flow was offensive, and then at first to endeavor to correct the condition by vaginal before resorting to uterine injections. He now knew that was wrong, for the patient might perish, or have a protracted illness, and then make but partial recovery, without the lochia at any time having an offensive odor. Within a year he had seen, in hospital practice and in consultation, eight cases of septic infection where the happiest results were promptly had from antiseptic solutions injected into the uterus. Most, if not all, of these patients probably would have recovered without these injections, but their recovery, judging from similar cases previously observed by him, would have been slow, possibly imperfect, and after a more or less prolonged period of suffering upon their part and of anxiety on the part of the practitioner. We had in antiseptic uterine injections the essential and the almost invariably successful treatment of puerperal septicæmia, if this treatment was begun soon enough and properly carried out.

The PRESIDENT, while conceding the importance of antiseptic precautions in hospitals, thought the advantage of these measures in private practice more difficult to prove. Until he relinquished obstetric practice, in 1874, he had met with but five cases of puerperal fever in over two thousand deliveries, and in none of these women had any antiseptic precautions been used other than cleanliness, as they were not then known.

Dr. LONGAKER believed with Dr. Hirst in the great utility of intra-uterine post-partum medication. Dr. Hirst had neglected to notice an agent in which the speaker had the greatest

confidence—iodoform as used by Elrendorfer, of Vienna, in the form of one-hundred-grain pencils. One of these was introduced into the cavity of the womb after irrigation; it dissolved very slowly, and continued to medicate the entire utero-vaginal canal for forty-eight or seventy-two hours. In removing shreds of membrane, after labor at term or after an incomplete abortion, he used the finger, and preferred it to any form of curette he had used. Theoretically he would prefer a glass tube for intra-uterine irrigation, chiefly for the reason that it was more easily cleansed and kept clean. Hitherto he had always used the Bozeman cannula, the only objection to which was the difficulty of cleansing, and hence a possible danger of carrying sepsis from one case to another.

Dr. BAER emphatically indorsed what had been said in favor of Bozeman's tube for intra-uterine irrigation and against the glass tube. The return current was sure, and the small size of the instrument, as compared with the glass tube, rendered the introduction easy and safe. Regarding the pad exhibited by Dr. Hirst, if he believed the theory that the atmosphere was constantly impregnated with germs which poisoned whenever they came in contact with open vessels, he would certainly advocate the use of an impervious covering for the vaginal orifice; for the theory taught that where there was no contact with the air there could be no sepsis. But he did not believe this fully. Therefore he thought it safer to place the napkin under and not over the vulva, so as to permit as perfect drainage as possible, thereby giving free exit to the lochia by making of the vagina a drainage-tube, its natural function after parturition.

Dr. HIRST remarked that the pads were used dry by Dr. Richardson and moist by Dr. Garrigues.

Labor complicated by Large Hard Heads.—Dr. M. PRICE said that he had been called to a patient three weeks before her delivery. She informed him that she was in labor and that her time had expired. Examination showed the cervix but little dilated, the os not being larger than a silver quarter of a dollar. There was quite a discharge from the vagina. The pains were at short intervals and were unquestionably labor-pains. The woman was in good condition and he had no doubt that labor would go on. He left, giving instructions to send for him if the pains increased, and said that if not sent for he would call next day. He had attended this woman in two previous pregnancies, both children being large and the labors tedious; so he had anticipated that this one would be a slow labor. The next day the pains were less than on the previous day, and there was no change in the cervix. He did not hear from her again for three weeks, when the husband called and stated that his wife had been in labor all night and all day. He now found the cervix wide open, but the presenting part of the child so high that he was not able to say what part was presenting. Passing the entire hand into the vagina, he found a vertex presentation in the second position, but the head would not engage. After waiting two hours, he found that the head had been pushed to the side of the pelvic inlet with the occiput resting on one side and the neck and shoulders on the other, and he determined to ascertain the cause of the difficulty. He pushed his hand up into the womb, and had no difficulty in bringing the head back to its first position, but found that it was completely ossified. There was no pulsation in the cord that he could detect, and he at once decided to deliver by turning, as he thought he could extract the child in that way sooner than in any other. He at once secured the feet, and soon had the body and arms extracted. The forceps was applied to the after-coming head, and it was extracted after quite a pull at the superior strait, but with ease through the soft parts without the instrument. There was no injury to the mother and she made a rapid recovery. The child was still-

born. Its head measured sixteen inches in the occipito-frontal circumference. There could be no doubt that the mother's pelvis was much above the average size, as a head perfectly ossified could not have passed through a pelvis of less than sixteen inches and a half in circumference, for the soft parts would take up at least half an inch. Standard authorities gave the circumference of the female pelvis at the inlet at from thirteen inches to thirteen and a half.

Abdominal Sections.—Dr. JOSEPH PRICE reported a mixed group of cases that had been treated by the methods of which Mr. Tait had been the first and chief advocate, and made the following reference to Dr. T. Gaillard Thomas's article on "Laparotomy as a Diagnostic Resource," published in the "Medical News," Philadelphia, December 11, 1886. Therein Dr. Thomas expressed in full Mr. Tait's views. They were simply, without the mention of Mr. Tait's name, an embodiment of the views given vent to by Mr. Tait while on a visit to America in the autumn of 1884. Dr. Thomas would select the text of Mr. Tait's law—his own axiom—as a motto for the walls of a hospital devoted to abdominal surgery: "When a doubt as to the diagnosis of an abdominal neoplasm of serious character, or of certain obscure pathological conditions of the abdominal cavity which threaten life, exists, give the patient the benefit of explorative incision." Mr. Tait, in like clear and terse English, had expressed the same view in a clinical lecture at the hospital of the Jefferson Medical College, September 15, 1884, when he said: "My experience teaches me that it is a surgical crime to allow a patient to go to her grave without operation where it offers a possibility of relief." Dr. Thomas, with great frankness, reported five cases as examples of the class in which he had to regret non-interference on his part: Cases in which "we" or "I" decided against operation—the patients died. Further, he said: "I regret to say that I could more than double the number of cases illustrating this part of my paper. Few such cases occur to me now for the very reason that I am a strong advocate for explorative incision as a diagnostic resource." As to another class of cases in which Dr. Thomas had met with happy results, he had reported as follows: "There is a class of cases in which, in my hands, explorative incision has yielded such brilliant results that I shall devote full consideration to it; I allude to cases of ascites in the female." Mr. Tait, in the address referred to, had given as an example in point a case in which an operation had been done four years previous. "The patient, a young lady, had an enormously enlarged abdomen, due to ascites, a fact I had recognized. I opened it by incision for exploration and drainage. By this means the fluid is evacuated just as well as with the trocar; but you can not feel anything with a trocar; but with a clean cut of two or three inches you can introduce one or two fingers, and find out the actual condition of the pelvic organs as you can in no other way." The pioneer work done by Mr. Tait, his influence in exploratory work and in the treatment of diseased conditions of the tubes, had been referred to by Mr. Greig Smith in a very fair and generous spirit: "Tait's name is mainly connected with inflammatory diseases of the tubes, and his influence has been strongly felt in the substitution of operation for actual disease as against vague nerve symptoms." The speaker was strongly of the opinion that an incision which admitted only two fingers, and not the whole hand, was a sufficient incision. Dependence upon fingers skilled in manipulation would serve best and effectively guard against danger in any pelvic operation. Herein he differed with Dr. Thomas, who urged: "Make an incision which will admit the whole hand; one which will admit two fingers only is hardly warrantable." There was great danger that a multitude of fingers would irritate the bowels and increase the risk from exposure.

Many fatal results attended men beginning the study and practice of surgery of the abdomen. This was illustrated by the statement of an abdominal surgeon: "I do not count my first thirteen cases, because I was learning how to do it." In this there was considerable Rip Van Winkle arithmetic: "We won't count this one." The present good results in the hands of young surgeons must not be attributed to the taking advantage of all the so-called "latest antiseptic improvements." In this relation the speaker made brief allusion to an experience with well-trained young surgeons, six in number, doing nine pelvic operations in cases of inflammatory trouble, with suppuration, adhesion, and matting together of the pelvic viscera. The operations were all completed, with but one death, notwithstanding they were all bad cases.

Dr. LONGAKER remarked that one of the four cases referred to by the author of the paper was that of a patient who had been under his care, and who had died forty hours after operation, and he gave a brief history of the case.

Virulent Puerperal Sepsis.—Dr. HIRST presented specimens from the body of a patient, by permission of Dr. Parvin, in whose service the case had occurred. He said the specimens were interesting not because they came from a case of puerperal fever, which unfortunately was not a rare disease, but from the rapidity with which the disease had terminated fatally, and from the possible point of entrance of the septicæmic poison. The history of the case before delivery presented nothing worthy of note. Immediately after delivery the temperature was 99.5°, and, in spite of the most energetic antiseptic treatment of the vagina and uterine cavity, the temperature rose to 102°, but dropped again to 99.5°, only again to rise to 102°, where it remained till the woman's death, about seventy-two hours after the birth. The post-mortem examination showed diphtheroid patches in the vagina extending into the cervical canal. The uterine cavity and walls were normal; the peritoneum, tubes, and ovaries healthy; the kidneys were the seat of numerous metastatic abscesses, and there were several infarcts in the liver. The lungs were healthy. The rectum was covered with extensive patches of diphtheroid membrane—a very interesting condition, for it indicated the possibility at least that here was the point of infection; and, if this was the case, the specimen at once assumed considerable importance, for the speaker knew of only three such cases recorded in medical literature—one by Winckel, the others by Koester and von Recklinghausen. These specimens might well serve to call attention to the possibility of infection by the administration of enemata and to the importance of observing the most minute precautions as to the chemical cleanliness of every instrument that might come in contact with the parturient or puerperal woman.

A Large Ovarian Cyst cured by Evacuation, Drainage, and Obliteration of its Cavity.—Dr. W. H. PARISH said that on January 27, 1887, he operated on a woman, twenty-seven years of age, for the removal of a large abdominal cyst. He saw the patient for the first time on January 24th. She was then under the care of Dr. N. Hickman, who had placed her under his care for operation. She was the mother of four children, the youngest only four months of age. In her last labor she had been attended by a midwife, and but little reliable information could be obtained with reference to the existence of an abdominal tumor during the three weeks following labor. The patient stated, however, that her abdomen had not been unusually large after the birth of the child. About three weeks after labor she was under the care of Dr. Hickman for a few days, during which time she presented the usual symptoms of general peritonitis. She then passed into the hands of others, and was not seen again by Dr. Hickman.

until just before the speaker operated. During this period of three months she was visited by a number of medical gentlemen. Aspiration was resorted to by one of the number. Laparotomy was repeatedly urged but persistently declined by the patient. The abdomen had increased rapidly in size. Pain had become constant; appetite had entirely disappeared; vomiting had occurred at very short intervals. Hectic had become marked with occasional rigors, and emaciation had reached an extreme point. The lower extremities were but slightly cedematous, and there was no special enlargement of the superficial abdominal veins. The abdomen was greatly distended, tense, and tender, and the patient was so exhausted that she could not rise from the semi-recumbent posture. She was at once transferred from her surroundings of filth and poverty to a private hospital, and the operation was done without delay, as it was apparent that without surgical relief her life could last but a few days longer. There were present Dr. Hickman, Dr. R. P. Harris, Dr. S. D. Lazarus, Dr. John Hand, and Dr. F. A. Packard. The patient had a general sponge bath with soap and water, and stimulants were administered. Before etherization the pulse was 130 in a minute. There was a dull percussion note over the entire abdomen anteriorly, and the diaphragm was pushed well upward by the tumor. Fluctuation was distinct, though palpation suggested a thick-walled cyst, rendered very tense. A diagnosis of ovarian tumor with suppurating contents and extensive adhesions was made. An incision two inches and a half long was made in the median line; without opening the peritoneal cavity the knife cut into the cyst-wall, which was easily recognized by its consistence, color, and anatomical elements. There were anterior adhesions of great extent and firmness. The cyst was opened and a quantity of pus-like fluid of offensive odor escaped. The cyst did not empty itself, and the introduction of two fingers showed large masses of a lymph-like character varying in density and size. The introduction of the hand was required to remove these masses. In the interior were a number of thin septa, such as were seen in colloid ovarian tumors. The great bulk of the contents was an apparent mixture of pus, lymph, and detritus, while part of the contents presented the translucent appearance of the fluid of some ovarian tumors. After thoroughly emptying the tumor it was evident that its walls were everywhere adherent. No portion of the wall could be brought into the abdominal incision. There were evidently dense adhesions to the liver, spleen, stomach, intestines, and the pelvic brim and contents. The tumor did not dip down into the pelvis; the walls were everywhere thick and strong. At this stage of the operation the patient's condition seemed threatening imminent death; pulse 140, and exceedingly feeble. The ether was withdrawn and was not used again; stimulants were given hypodermically. The thickness of the cyst-walls and the extensive adhesions rendered the case one well adapted to treatment by drainage. It was decided not to remove the cyst. Its interior was thoroughly cleaned, a glass drainage-tube was introduced, and the walls of the abdomen and cyst were approximated around it, the sutures being carried into the cyst-wall but not through it. The patient rallied well, and there was no ether vomiting; for several days the discharge through the tube was of a purulent fluid similar to portions of that removed during the operation; its character then changed to that of ordinary pus. The cavity of the cyst was daily emptied of about two ounces of fluid, and *phénol sodique* was injected in the same quantity. The abdomen was covered with a compress and binder to keep the inner cyst-walls approximated and to encourage absorption of the exuded lymph. The area of dullness diminished rapidly from day to day, and the discharge diminished with surprising rapidity. At the end of two weeks a shorter drainage-

tube was substituted, and at the end of three weeks a piece of rubber tubing about three inches in length was introduced in lieu of the glass tube. The wound was entirely healed by the end of the fourth week. Examination showed a small flattened mass, two inches by an inch, underlying the abdominal wall and adherent to it. The patient's appetite became ravenous a few days after the operation, and she was fed liberally. The recovery of the patient was now complete, and the speaker felt confident the cyst cavity was so effectually obliterated that it could not refill. Did the rapidity of the shrinkage and disappearance of the cyst indicate that it was not an ovarian tumor? He answered in the negative. It was not an extra- nor an intra-peritoneal abscess, for abscesses did not contain such septa nor such fluid. The character of the contents and septa distinguished this case from two cases of Tait's, in which he ascribed the tumors to distension and suppuration of a sacculated urachus. In making the incision the peritonæum external to the cyst was recognized. In his own mind there was no doubt as to the ovarian origin of the tumor. A specimen of the fluid was examined microscopically by Dr. F. A. Packard, who reported as follows: "I found it to be composed of numerous fatty degenerated epithelial cells, leucocytes, and granular material, entangled in a dense mesh-work of fine homogeneous, fibrin-like fibers. There appeared to be no definite arrangement or other evidence of an organized tissue. The general appearance was that of a tissue that had undergone complete fatty degeneration. I unfortunately ruptured the small cyst before I could collect the contents for examination."

Dr. R. P. HARRIS remarked that the cyst contents consisted chiefly of a thin greenish fluid of a puriform character in which were found masses of cell structure, some of them as large as a fist, on the surface of which were in some instances still to be seen small translucent cysts containing a yellowish fluid; there was also noticed during the emptying process an escape of fluid from cells which had preserved their integrity, and which resembled to the eye what was often seen in tapping during ovariectomy for multilocular tumors. His impression during the operation was that the tumor was ovarian. The emaciated state of the woman, her rapid pulse, and the strong adhesions of the cyst-wall to the abdominal parietes and viscera, satisfied him that any attempt to remove the cyst would cause the patient to die either upon the table, or of shock in a few hours. Judging from the recoveries after the secondary operation in abdominal pregnancies where it had been found of vital importance not to remove the cyst, a measure the value of which had been discovered by an accident more than ninety years ago in New York city, which occasioned its being left *in situ* and eventuated in saving the woman's life, it was decided to adopt the same plan here. When the abdominal wound was closed in Dr. Parish's patient, the thick cyst-wall could be felt like a large disc with edges more than half an inch thick. As the disintegrating process thinned the cyst-walls, contraction of the disc took place and the center of the abdomen became deeply fissured, until the diameter of the disc was not more than three inches, and it was also much thinner; this change continued until the percussion sound showed no dense structure beneath the abdominal wall. As the ovarian tumor was so altered in structure by peritonitis that its lining surface could no longer secrete ovarian fluid, there was no risk of the formation of a discharging fistula, and the wound rapidly closed as the sac contracted.

Dr. B. F. BAYLOR remarked that he thought Dr. Parish had acted wisely in not attempting to remove the source from which the fluid was secreted. He was led to express this opinion, first and mainly, because the doctor was not sure at the time of operation that there was a tumor, and, secondly, of its very close

adhesion, if a tumor existed. He questioned the ovarian origin of the fluid in this case upon the following conditions, as stated by the author: 1. The difficulty of diagnosis before operation. 2. The character of the fluid; absence of the ovarian cell especially. 3. The fact that the secretion so readily ceased after the sac had been opened. 4. Because there was such a rapid disappearance of the cyst-wall. It was so well known that the secreting surface of a true ovarian tumor was not destroyed by tapping or drainage, that tapping, and even drainage, had come to be regarded as very bad practice where the tumor could be removed even at considerable risk; free drainage and injecting the tumor had long ago been given up as futile in the cure of ovarian tumors. Then the sac of an ovarian tumor did not soon undergo atrophy and absorption, even if the secreting surface was destroyed. The cases of extra-uterine pregnancy mentioned by Dr. Harris in which the sac disappeared so readily were doubtless of the abdominal variety, and the gestation sac was therefore largely if not entirely adventitious. This was probably the character of the sac in a case in which he (Dr. Baer) had operated some time ago and removed a full-term child which had been dead thirteen months. The fœtus only was removed. A drainage-tube was placed in the sac. The patient recovered, and all remains of the fœtal envelope disappeared. The speaker would admit, however, that the fluid in the case reported was very like the ovarian except in the absence of the ovarian cell, which he regarded as of very great diagnostic value in a doubtful case. He requested the president to express his opinion concerning the absence of the cell in this case.

The PRESIDENT remarked that it would be very difficult to detect the ovarian cell in such a mass of purulent matter; but, if the fluid of the child cysts had been examined, the cell would most probably have been found. He dwelt upon the importance of the investigation of the fluid being made by one familiar with the appearance of the ovarian cells and those resembling them, as without such experience it was difficult to distinguish them. He referred to an obstetric case which Dr. Parish had attended for him four years ago. The woman had suffered from a tumor some years before, which had proved to be a dermoid cyst developed in the posterior wall of the uterus. During its growth it had formed a communication with the bowel, and a great quantity of offensive fluid had escaped in this way. The opening into the bowel had closed, the sac had filled again, the patient had emaciated rapidly, and septicæmia had set in. Aspiration was resorted to, and a quantity of very offensive matter removed, after which the cyst was washed out with a five-per-cent. solution of carbolic acid. This was repeated nine times at intervals, the patient declining any other operation. She had now become so emaciated that every process of bone showed through the skin, and her pallor was extreme. In this condition, with a pulse of 140 and a temperature of 105°, she finally submitted to an operation. Before this was commenced she was told that it was not likely that the tumor could be removed, as from its location in the uterine wall and its former communication with the bowel it would probably be found firmly adherent to the surrounding parts. He therefore proposed opening the abdomen, and, if the tumor was found as he apprehended, stitching the edges of the cyst to the lips of the abdominal incision, inserting a large drainage-tube, and closing the wound. This was done, and, although the case had been so unpromising, she made a good recovery, while the cyst gradually contracted and finally disappeared; but there still remained a fistulous tract, where the tube had been inserted, which occasionally discharged matter. She became pregnant about three years after the operation and was delivered by Dr. Parish, who informed him that she had an easy labor.

Dr. JOSEPH PRICE had no doubt of Dr. Parish's case being one of ovarian cyst. He had seen the patient and had recommended an operation.

Dr. PARISH remarked that the walls of the cyst were largely composed of adventitious material, the result of inflammatory processes breaking up the original substance, and this in part explained the rapid cure.

NEW YORK SURGICAL SOCIETY.

Meeting of May 11, 1887.

The President, Dr. CHARLES MCBURNEY, in the Chair.

Hernia of the Right Ovary; Successful Removal of the Gland.—The PRESIDENT exhibited a specimen, and related the following history: The patient, aged twenty-eight, stated that she had suffered with a right inguinal hernia since the age of twelve, for which she had worn a truss. The tumor had always been reducible, although at times with some difficulty. He had examined her for the first time on May 5th, when he found a tumor occupying the right labium; it was semi-fluctuating and painful on pressure, and gave no impulse on coughing. From its upper portion a rounded cord, resembling the spermatic cord in the male, could be traced upward to the internal ring. An attempt to reduce the tumor caused severe pain in the head, and nausea. The diagnosis of hernia of the right ovary was made, and two days later the speaker cut down upon the mass and found a hernial sac, which was dissected out and laid open. The appearances presented were those of ordinary congenital hernia; there was a persistent pouch of peritonæum, but no intestine could be found. On its posterior wall at the lower end was a mass half an inch thick covered anteriorly with thickened peritonæum. At the lowest portion of the tumor there was a quantity of fluid, in which floated a collapsed sac; at its upper portion there was a distinct constriction which admitted a fine probe, while above this point there was an ordinary hernial tract. The mass in the posterior wall of the sac was submitted to Dr. Frank Ferguson, the curator of St. Luke's Hospital, for microscopical examination, who found in it ovarian stroma. The sac was ligated with strong catgut at the level of the internal ring and was excised, and the patient made a good recovery. The speaker added that he had never before had an opportunity to examine a case of hernia of the ovary. The anatomical relations of the gland were the same as those of the testis in a case of congenital hernia.

Right Inguinal Hernia, with Non-descent of the Testis; Castration.—The PRESIDENT also showed a specimen which he had removed from a patient whose history was as follows: A boy, aged seventeen, had never seen his right testicle until three months before, when it had appeared in the inguinal canal, and had given rise to severe pain. Shortly after a mass of intestine had suddenly come down while the boy was at school in the country, and had been reduced with some difficulty. This accident had occurred on several subsequent occasions, the gut escaping beneath the truss which he wore. The last time it had been supposed to be strangulated, and an operation had been advised. On Sunday, May 9th, the speaker had cut down upon the testicle, which was very small, and removed it with the sac in the usual way. The intestine was not seen.

Dr. BRIDDOX remarked that he had seen but one case of hernia of the ovary, the patient being a prostitute. The vagina measured only an inch and a half or two inches in depth, and no uterus could be felt. The external genitals and the mammæ were well developed. On either side the canal of Nuck contained a small, insensitive body, which could be reduced into the abdominal cavity. The woman subsequently married, and

her husband probably never knew that she was not perfectly formed.

Dr. YALE asked if this case might not have been one of hypospadias.

Dr. BRIDDON replied that the breasts were large and the external genitals normal, although not prominent, while the woman presented decided feminine characteristics.

The PRESIDENT said, in reply to a question by Dr. Briddon, that there had been in the first case the same condition as existed in congenital hernia, the peritoneal pouch remaining open, while the ovary had descended behind the pouch. It was impossible to say how long the ovary had been displaced; the hernia had existed for over fourteen years.

Obstinate Hæmorrhage after Amygdalotomy; Recovery after Ligation of the Common Carotid Artery and Infusion of Salt Solution.—Dr. SANDS narrated the history of a case of secondary hæmorrhage after removal of the tonsils. Thirteen days before he had been called in consultation by Dr. Speir, of Brooklyn, who had requested him to bring his apparatus for transfusion. He arrived at the patient's residence at three in the afternoon, and found a man, twenty-four years of age, who had on the previous day visited Dr. Fuller's office at 4 P. M., and had had both tonsils excised with a tonsil-guillotine. The hæmorrhage following the operation was insignificant. The patient returned home, dined, and in the evening went to a wedding, at which he was to act as an usher. While there he began to bleed, and was obliged to return home. The hæmorrhage continued all night, in spite of efforts made to control it by pressure with the fingers, large dressing-forceps, and styptic cotton. The bleeding was confined to the right side. The following morning Dr. Speir was called. He found the patient greatly prostrated, and still bleeding. He tied the right common carotid artery, but the hæmorrhage continued, and transfusion had been thought of as a last resort. When the speaker saw the patient the latter was extremely weak, and could scarcely speak, and his pulse was small and rapid, at times almost imperceptible. Blood was slowly oozing from his mouth. On examining his throat, no bleeding point could be detected, but only oozing from the right tonsil, which ceased after the clots had been scraped away with the finger, perhaps because a better surface was thus afforded for the deposit of coagulum. The speaker opened a vein in the arm and introduced a pint of saline solution in the course of four or five minutes, using a Cohn's apparatus, with which any entrance of air was prevented. During the operation the volume and tension of the pulse improved considerably. The speaker had been informed that the patient's subsequent progress had been favorable, and that he was now convalescent. How far the infusion had contributed to this fortunate result the speaker was unable to say, but it might have assisted the recovery by increasing the amount of liquid in the blood-vessels. It had been learned after the removal of the tonsils that the patient belonged to a family of bleeders, and that he had once before bled profusely, after the removal of a tooth. The speaker did not believe that this explanation was satisfactory in the present instance, for, if the theory of the hæmorrhagic diathesis had been correct, there should have been bleeding from both tonsils, and also from the wound made during ligation of the carotid. The hæmorrhage was probably due to the division of a large tonsillar artery. The speaker added that this was the only case of the kind he had seen. He had seen very few "bleeders," among whom had been an orderly in Roosevelt Hospital, who bled for several days after the removal of a tooth, but eventually recovered. A lady, whom he had seen in consultation several years before, had lost a large quantity of blood after having a tooth extracted; pressure was of no avail in this instance.

Dr. BRIDDON said that he had observed a fatal case of hæmorrhage in an infant under one year of age, after lancing of the gums, in which the child was not a bleeder. He had seen two bleeders in whom hæmorrhage continued for five or six days, but was not fatal; one patient had purpura rheumatica. He had once been called to attend a young man whose inflamed tonsil had been incised three days before. The patient was much prostrated. On examination, a small stream of blood was seen spurting from the incision. The speaker inserted into the cavity the bulbous end of a silver tube, in which were a number of small perforations, and injected through it a solution of persulphate of iron, when the bleeding ceased at once. In the cases of the bleeders, the speaker had tried every remedy in vain; in one instance the patient had a wound in the lip, and on passing a couple of stitches through the latter the hæmorrhage from the needle-punctures was equally troublesome. He believed that Dr. Sands was correct in denying the influence of the hæmorrhagic diathesis in his case, because, if this had been the cause of the bleeding, the patient would also have bled from the wound made in ligating the artery.

The PRESIDENT thought that the anatomical relations of the divided vessels often exercised a more important influence in cases of persistent hæmorrhage than heredity; arteries were sometimes so situated that they could not retract, and hence coagulation was prevented. As an illustration of this, he cited the case of a gentleman who had suffered for twelve years with "hæmoptysis," and had been all over Europe, frequently having his chest examined under the impression that he had phthisis. No evidences of pulmonary trouble could be discovered, and, as none of his physicians had ever chanced to see him when he was bleeding, the cause of the hæmorrhage could not be discovered. The speaker happened to examine him while he was spitting blood, and found that it came from the bottom of a tooth-cavity. It was cured by removing the tooth. The patient was not a bleeder. The speaker said that he had seen a case of hæmorrhage after amygdalotomy in a medical student whose tonsils had been removed with a scalpel at the Demilt Dispensary. The operation was performed at 1 P. M. At four, when the speaker saw him, he was lying on the floor and was very weak. Persulphate of iron and other remedies were tried in vain. His throat was examined under a good light and a small spouting vessel was seen on the right side; the hæmorrhage was readily controlled by pressure with a sponge on a long handle. In many cases of epistaxis, the speaker added, we could on careful examination find a single bleeding point in one nostril, generally on the septum and near the external orifice, where the mucous membrane was very thin, and could stop the hæmorrhage by direct pressure.

Dr. RUSHMORE cited the case of a patient in South Brooklyn who belonged to a family of bleeders. He had bled for three days from a prick of the thumb; the speaker checked the hæmorrhage by elevating the hand on a splint.

Fracture and Dislocation of the Astragalus.—Dr. L. A. STIMSON exhibited a portion of an astragalus, and read the history of the case. [See p. 594.]

Dr. SANDS said that he had a specimen similar to the one presented. It had been obtained from a patient whom he had seen in consultation in Tarrytown, with a fracture and dislocation of the astragalus inward. The fracture was nearly vertical in direction, and was situated just in front of the ankle joint. The skin over the upper dislocated fragment greatly stretched. He cut down directly upon the bone, and easily removed it. The patient recovered, and walked well afterward, but had slight shortening and stiffness of

the ankle. The speaker thought that there was no use in wasting time by trying to effect reduction, because the conditions were so unfavorable; it was better to excise early, especially since the results obtained by modern antiseptic methods were so good. The broken bone acted as a foreign body, and would, if allowed to remain, do injury to the soft parts.

Book Notices.

BOOKS AND PAMPHLETS RECEIVED.

The Medical Annual and Practitioner's Index; a Work of Reference for Medical Practitioners. Edited by Percy Wilde, M. D., 1887. Bristol: John Wright & Co. Pp. xvi-550.

The Physician's Dose and Symptom Book: containing the Doses and Uses of all the Principal Articles of the Materia Medica and Official Preparations arranged in Alphabetical Order; also Tables of Weights and Measures, Rules to Proportion the Doses of Medicine, Common Abbreviations used in Writing Prescriptions, Alphabetical List of Materia Medica, Preparations and Modes of Administration, List of Incompatibles, Hints on Prescription Writing, Table of Poisons and Antidotes, Hints on Treatment, Table of Symptoms. By Joseph H. Wythe, M. D., Professor of Histology and Microscopy, Cooper Medical College, San Francisco, etc. Seventeenth Edition, completely rewritten and enlarged. Philadelphia: P. Blakiston, Son, & Co., 1887. Pp. viii-5 to 226.

Practical Lessons in Nursing, Maternity, Infancy, Childhood, Hygiene of Pregnancy; Nursing and Weaning of Infants; the Care of Children in Health and Disease. Adapted especially to the Use of Mothers or those intrusted with the bringing up of Infants and Children, and Training Schools for Nurses, as an Aid to the Teaching of the Nursing of Women and Children. By John M. Keating, M. D., Visiting Obstetrician and Lecturer on the Diseases of Women and Children, Philadelphia Hospital, etc. Philadelphia: J. B. Lippincott Company, 1887. Pp. 12-13 to 221. [Price, \$1.]

An Introduction to Practical Bacteriology. A Guide for Students and General Practitioners. By Thomas E. Satterthwaite, M. D., Professor of Pathology and General Medicine in the New York Post-graduate Medical School and Hospital. Detroit: George S. Davis, 1887. [The Physician's Leisure Library.] Pp. 85.

New Inventions, etc.

A NEW APPARATUS FOR MAINTAINING THE LITHOTOMY POSTURE.

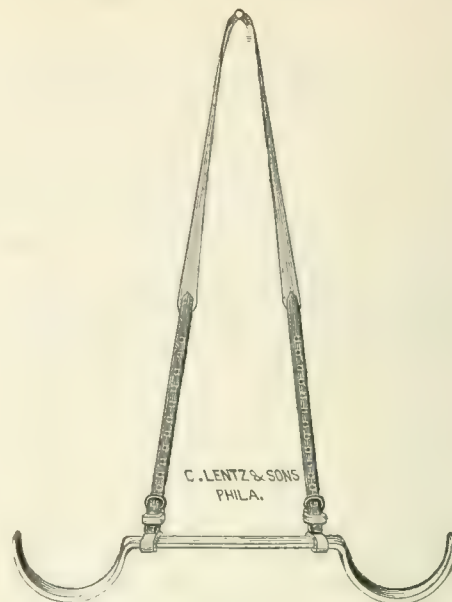
At a recent meeting of the Philadelphia County Medical Society, Dr. Thomas B. McBride showed an apparatus which he had designed for supporting the limbs and maintaining the lithotomy posture.

It consists of a piece of hard, elastic wood, preferably ash or hickory, $\frac{3}{8}$ of an inch thick, 1 inch wide, 36 inches long, bent at each end in a semicircle of 6 inches diameter, or a semi-circumference of 10 $\frac{1}{2}$ inches, thus leaving a shaft of 15 inches between the semicircles, and making the finished length of the instrument 27 inches (6 + 15 + 6).

To the shaft, 2 inches from each end, a buckle is immovably fastened by means of leather. A band of webbing, finished at each extremity with a leather strap, the whole 50 inches long, completes the device. In using the apparatus the thighs are flexed on the abdomen and put into the semicircles, and the band is placed around the neck and fastened to the buckles.

Dr. McBride said: "The advantages are apparent. Its cheapness places it within the reach of every one. The thoroughness with which it does its work, keeping the patient immovably in the lithotomy posi-

tion, and maintaining the same relative position of the parts; the fact that it does not interfere with the circulation; the strength, lightness,



and remarkable simplicity, will, I think, render it a valuable acquisition to the surgeon and gynecologist."

Miscellany.

The Massachusetts Medical Society will hold its one hundred and sixth annual meeting in Huntington Hall, Boston, on Tuesday and Wednesday, June 7th and 8th. The following papers are announced: "Tumors of the Bladder," by Dr. George W. Davis, of Holyoke; "Cases of Burns, with special reference to Complications, Sequelae, and Treatment," by Dr. James E. Cleaves, of Medford; "Laparotomy for Pus in the Abdominal Cavity and for Peritonitis," by Dr. John C. Irish, of Lowell; "Fracture of the Spine: its Immediate Treatment by Rectification of the Deformity and Fixation by the Plaster-of-Paris Jacket," by Dr. Herbert L. Burrell, of Boston; "Observations on the Puerperal Pelvic Ligaments," by Dr. Stephen W. Driver, of Cambridge; "The Relation of Tea-drinking to Disorders of the Nervous System," by Dr. William N. Bullard, of Boston; "Pulmonary Tuberculosis as a Sequel to Ordinary Pleurisy with Effusion," by Dr. Herman F. Vickery, of Boston; "The Surgical Treatment of Chronic Empyema," by Dr. Maurice H. Richardson, of Boston; "A Contribution to the Study of the Etiology of the Summer Diarrhoea of Infants," by Dr. Henry C. Haven, of Boston; "Sepsis and Antisepsis in Summer Diarrhoea," by Dr. S. Allen Potter, of Roxbury; "Training Nurses," by Dr. Alfred Worcester, of Waltham; "The Value of Public Health Measures to the State," by Dr. Samuel W. Abbott, of Wakefield; and the Annual Discourse, by Dr. George J. Townsend, of South Natick. The annual dinner will be served in the Skating Rink, at 1 P. M. on Wednesday.

The American Climatological Association will hold its fourth annual meeting in the Hall of the new Physical Laboratory of the Johns Hopkins University, Baltimore, on Tuesday and Wednesday, May 31st and June 1st. The programme includes the following: "The Prophylactic Treatment of those who inherit a Predisposition to Phthisis" (the President's Address), by Dr. Frank Donaldson, Sr., of Baltimore; "The Philosophy of the Climatic Treatment of Diseases of the Chest," by Dr. James R. Leaming, of New York; "An Analysis of Sixty Cases of Asthma, with the Results of Treatment," by Dr. F. H. Bosworth, of New York; "The Influence of Sea Air on Syphilitic Phthisis," by Dr. R. G. Curtin, of Philadelphia; "Diseased Conditions for which Sea Air is of Doubtful Benefit," by Dr. Boardman Reed, of Atlantic City, N. J.; "An Invalid's Day in Colorado Springs," by Dr. S. E. Solly, of Colorado

Springs; "The Causes of Cardiac Failure at Great Altitudes," by Dr. Frank Donaldson, Jr., of Baltimore; "Some Hospital Cases of Phthisis: Marked Improvement under General Treatment, with special reference to Alimentation," by Dr. F. C. Shattuck, of Boston; "Discussion of Dr. Shattuck's Paper, introducing the subject of Gaseous Injections in connection with Diet," by Dr. E. T. Bruen, of Philadelphia; "The Local Treatment of Diseases of the Respiratory Organs," by Dr. B. F. Westbrook, of Brooklyn; "The Treatment of the Final Stage of Phthisis," by Dr. John B. Musser, of Philadelphia; "Observations upon the Sanitary Advantages of Tide-Water, Va., including Virginia Beach as a Winter Health Resort," by Dr. A. Y. P. Garnett, of Washington; "Evergreen Forests as a Therapeutic Agent in Pulmonary Phthisis," by Dr. A. L. Loomis, of New York; "Environment in its Relation to the Progress of Bacterial Invasion of Tuberculosis," by Dr. E. L. Trudeau, of Saranac Lake, N. Y.; "The Climate of the Sub-peninsula Pinellas, Florida," by Dr. W. C. Van Bibber, of Baltimore; "The Climate of St. Moritz, Upper Engadine, Switzerland," by Dr. Walter Platt, of Baltimore; "The Climate of Southern California," by Dr. H. S. Orme, of Los Angeles, Cal.; "Report of the Committee on Mineral Springs," by Dr. Clarence C. Rice, of New York; "The Classification of American Mineral Waters," by Dr. A. C. Peale, of Washington; "St. Augustine as a Winter Health Resort," by Dr. F. F. Smith, of St. Augustine, Fla.; "Pass Christian, Mississippi, as a Health Resort," by Dr. Charles Le Roux, of Pass Christian. On Tuesday there will be a reception by the president, Dr. Donaldson, from 5 to 8 P. M. On Wednesday there will be a reception by Dr. Van Bibber, from 1 to 3 P. M., and the annual dinner will be served that evening.

Dilatation in the Treatment of Hæmorrhoids.—Dr. E. L. Macomb Bristol writes to us that he has employed M. Verneuil's treatment, as described recently by our Paris correspondent, and with much success.

Morel on the Treatment of Phthisis with Gaseous Enemata.—Messrs. James W. Queen & Co., of Philadelphia, who announce that they are prepared to furnish Dr. V. Morel's apparatus for the application of M. Bergeon's method of treatment, have published a translation of Dr. Morel's brochure on the subject, from which we make the following extract:

"This operation demands a certain amount of experience and several precautions. It is necessary that the patient should be as much disrobed as possible, or at least not to wear any dress, corset, or belt that would compress the abdomen, which necessarily swells a little on the entrance of the gas into the large intestine. It is preferable he should lie on his back. When an injection is made into the patient for the first time, it is well to observe with the hand the resistance which is made to the entrance of the gas into the intestine; to go slowly, or to stop a little if the resistance is too great, which announces that the intestine is filled, and to wait till the absorption takes place, and then commence again, and so on. It is also necessary to note the sensations of the patient; to stop quickly if he is attacked with colic or has an inclination to stool. In some cases this is so imperative that it has to be obeyed, and in this case, when the intestine has been emptied, the injection is recommenced. It is not necessary to take evacuants before the injection. In other cases, where the extent of the pulmonary lesions is very great, and in consequence the gaseous elimination is made but slowly, it is necessary to proceed very slowly on account of the sensation of fullness in the chest and abdomen. It is necessary to take fifteen to twenty minutes to administer the first injections. It is necessary that the first operation at least should be made by the physician himself, in order that he may take note of the susceptibility of the patient to the action of the gas, the rapidity with which the absorption and elimination take place with him, and the manner in which the intestine tolerates the gaseous mixture. It should not be confided to the patient nor his attendants until the physician is able to give them precise instructions. He should not give over these injections into the hands of the patient any more than he would the administration of hypodermic injections of morphine or other substances of the same kind. In one case, as in the other, grave accidents might result if account were not taken from time to time of the conditions which affect

or result from the injections, conditions which vary necessarily in one patient and another, and for which general rules can not be given.

"*En résumé*, the preparation of the gas is easy, with but few minutiae, but the injection should not be practiced except by a person who has had experience. The apparatus described is that employed when the gaseous medicament is obtained from mineral waters and solutions. When the medicament is a powder like iodoform, or a volatile substance like carbon disulphide, or an essential oil such as eucalyptol,* the wash-bottle, etc., is replaced by a glass tube . . .; the substance is placed between two tampons of cotton; the ends of the tube are closed with rubber stoppers, with small glass tubes placed in the perforations. One of these tubes is attached to the red rubber tubing of the bulb, and the other to the tube ending with the rectal nozzle. When the bulb is pressed, the carbonic-acid gas traversing the tube becomes sufficiently charged with the substance to be injected. The injection is far more easily borne when the gas has been washed through liquid also, and in special cases it can be so arranged. The fitting being placed in the wash-bottle containing ordinary water, it is attached on the one side to the bulb and on the other by a rubber tube to a tube containing the medicating substance. In this manner the gas passes through the water before reaching the glass tube, and is so freed of any impurities. The gas is then better tolerated by the intestine. The rectal injections should be made three or four hours after meals or immediately before them. If taken too soon after meals, they are likely to produce vomiting, if nothing worse. For the first injection it is well to use only part of the volume of carbonic acid in the gas-bag—say about three litres. After three or four operations, an injection of six litres is readily tolerated, morning and evening. The operation should be made slowly; it is necessary to take twenty to thirty minutes, and perhaps longer."

Asthma treated by Bergeon's Method.—At a recent meeting of the Philadelphia County Medical Society, Dr. S. Solis-Cohen said:

"By request of the chairman of the directors, I will briefly report a case of asthma in which immediate relief followed the injection into the intestine of the mixture of carbon dioxide and hydrogen sulphide, as recommended by Bergeon. Having noticed in Morel's paper reports of two cases, in which success attended the experiment, in one of the Parisian hospitals, and a case presenting itself which offered a fair test, I determined to make the trial.

"The patient is a stout married woman, about fifty years of age, of somewhat neurotic temperament, who has for some years been subject to attacks of spasmodic asthma, ordinarily manifesting recurrent paroxysms, lasting ten or twelve days. In the intervals there is neither bronchitis nor dyspnoea. There is no heart lesion. I have seen her in previous attacks, which have been relieved by methods with which we are all familiar. In one particularly obstinate seizure, by advice of Dr. J. Solis-Cohen, the patient was sent to the gas-works, and was benefited by inhaling the carbureted vapors there produced. I saw her on the second or third day of the attack, and proposed the injections, but could not obtain consent. Not wishing to complicate the therapeutics too much, in case she should later accede to the proposal, I simply prescribed, as a palliative for the dyspnoea under which she labored between the paroxysms, quercacho, in twenty-drop doses of the fluid extract, repeated hourly or half-hourly, according to indications. This, of course, gave great relief, but a paroxysm recurring in the evening, the patient consented to try the injection. Almost immediate relief was experienced. Some dyspnoea persisted, but there was no further paroxysm, and the dyspnoea gradually lessened, finally disappearing within thirty-six hours. After six injections, the latter ones being prophylactic rather than therapeutic, the patient professed herself feeling better than for years, and auscultation revealed only normal breath sounds.

"This is, of course, but a single case; yet, having a standard of comparison in previous attacks in the same individual, I can, so far as

* "These are the doses employed most frequently: One teaspoonful of iodoform; twenty to twenty-five drops of carbon disulphide or of eucalyptol highly rectified, for each injection. The cotton tampons need not be renewed."

one case is worth anything, confirm Morel's claim that the rectal injection of carbon dioxide and hydrogen sulphide is beneficial in asthma. Which of the two gases is the active agent, and whether it would be equally efficacious by inhalation, are questions which I do not now desire to discuss."

A Proposed Method of Treating Hydrophobia.—Dr. Charles A. Dachselt, of Memphis, Tenn., writes to us suggesting the introduction of a small tube into the stomach, the tube being so small that it can be retained. Through this tube he would inject whisky and water, and at the same time use small hypodermic injections of atropine. The whisky he would use for the purpose of relaxing the system and neutralizing the poison.

The Health of San Francisco.—According to the Health Department's "Condensed Statement of Mortality" for the month of April, the whole number of deaths was 450, including 4 from cholera infantum, 31 from croup and diphtheria, 2 from cerebro-spinal meningitis, 1 from diarrhœa, 2 from dysentery, 1 from erysipelas, 6 from typhoid fever, 1 from remittent fever, 1 from whooping-cough, 3 from pyæmia, 2 from septicæmia, and 1 from scarlet fever.

The Health of Boston.—During the week ending Saturday, May 21st, the following numbers of cases and deaths from infectious diseases were reported to the Board of Health: Diphtheria, 23 cases and 7 deaths; scarlet fever, 22 cases and 4 deaths; typhoid fever, 31 cases and 3 deaths; measles, 137 cases and 3 deaths. There were also 26 deaths from consumption, 19 from pneumonia, 1 from whooping-cough, 9 from heart disease, 6 from bronchitis, and 8 from marasmus. The total number of deaths was 182, against 175 in the corresponding week last year.

Government Health Reports.—By direction of the Secretary of the Treasury, Dr. John B. Hamilton, Surgeon-General of the Marine-Hospital Service, has issued the following abstract of sanitary reports received during the week ending May 19th:

England and Wales.—The deaths registered in twenty-eight great towns of England and Wales during the week ending April 30th corresponded to an annual rate of 20·6 in a thousand of the aggregate population, which is estimated at 9,245,099. The lowest rate was recorded in Derby, viz., 10·5, and the highest in Cardiff, viz., 35·4 in a thousand.

London.—One thousand four hundred and eighty-one deaths were registered during the week ending April 30th, including 102 from measles, 12 from scarlet fever, 16 from diphtheria, 59 from whooping-cough, 4 from enteric fever, and 19 from diarrhœa and dysentery. There were 338 deaths from diseases of the respiratory organs. Different forms of violence caused 53 deaths, and 7 suicides were registered. The deaths from all causes corresponded to an annual rate of 18·3 in a thousand. In greater London, 1,826 deaths were registered, corresponding to an annual rate of 17·6 in a thousand of the population. In the "outer ring" 16 deaths from measles and 8 from diphtheria were registered.

Ireland.—The average annual death rate represented by the deaths registered during the week ending April 30th, in the sixteen principal town districts of Ireland, was 24·7 in a thousand of the population. The lowest rate was recorded in Kilkenny, viz., 0, and the highest in Newry, viz., 52·7 in a thousand.

Dublin.—Two hundred and twelve deaths were registered during the week ending April 30th, including 11 from measles, 1 from scarlet fever, 4 from whooping-cough, 2 from enteric fever, 2 from diphtheria, 1 from cerebro-spinal fever, and 3 from diarrhœa. Diseases of the respiratory organs caused 41 deaths. In thirty-four instances the causes of death were uncertified. The deaths from all causes corresponded to an annual rate of 31·3 in a thousand.

Scotland.—The death rate in eight principal towns during the week ending April 30th was 22·5 in a thousand of the aggregate population, which is estimated at 1,299,000. The lowest mortality was recorded in Perth, viz., 9·7, and the highest in Paisley, viz., 26·5 in a thousand. The aggregate number of deaths registered from all causes was 563, including 27 from measles, 8 from scarlet fever, 6 from diphtheria, 36 from whooping-cough, and 8 from diarrhœa.

There were 27,524 deaths registered in these towns during the year 1886, being in the proportion of 21·4 in each thousand of the estimated population.

The number of deaths registered throughout Scotland during the year 1886 was 73,622, which is in the proportion of 18·6 in every thousand of the estimated population, the lowest rate yet recorded. The average number of daily deaths was greatest in March, being then 252; the lowest in October, 169.

Germany.—The deaths registered in fifty-two cities of Germany, having an aggregate population of 6,821,222, during the week ending April 23d, corresponded to an annual rate of 24·3 in a thousand. The lowest rate was recorded in Plauen, viz., 12·6, and the highest in Augsburg, viz., 37·1 in a thousand.

Calcutta.—Seventy-seven deaths from cholera were registered during the month of January, 1887, against 290 in the preceding month. During the month of February there were 83 deaths from cholera.

Greece—Athens.—The United States consul, under date of April 22d, states that "the strict quarantine enforced to this date against all arrivals from Sicily (viz., eleven days) is now reduced to a simple medical visitation, except in regard to arrivals from Catania, which are now subject to a quarantine of five days."

Buenos Ayres.—Two thousand three hundred and thirty deaths were registered during the two months ending February 28, 1887, including 576 from cholera, 19 from small-pox, 61 from enteric fever, 20 from scarlet fever, and 53 from diphtheria. It is reported that cholera disappeared in the month of March.

Havana.—Eight deaths from yellow fever and two from small-pox were registered during the week ending May 5, 1887.

The following is a translation of an article which appeared in "El Pueblo," Havana, May 10, 1887. The article is reprinted to show that the Havana public are fully alive to the necessities of the time. The rumor has not been verified:

"A melancholy rumor is in circulation, which, if true, must cause alarm throughout the island.

"It appears that there have been six cases of cholera in a suburb not very remote from the city, and that the terrible disease is communicating itself to others.

"We earnestly call the attention of the board of health to this grave report, which we quote with reserves."

MORTALITY TABLE, FOREIGN CITIES.

CITIES.	Week ending—	Estimated population.	Total deaths from all causes.	DEATHS FROM—							
				Cholera.	Yellow fever.	Small-pox.	Typhus fever.	Enteric fever.	Scarlet fever.	Diphtheria.	
Guayaquil	April 15.	35,000	72	6	8	...	...	25	...	...
Guayaquil	April 21.	35,000	38	4	5	...	...	14	...	...
Warsaw	April 23.	439,174	328	...	...	...	...	...	...	...
Paris	April 23.	2,260,045	1,309	...	10	...	...	27	8	48	
Reims	April 30.	97,903	46	...	...	...	...	1	1	...	
Trieste	April 23.	150,157	78	...	1	...	...	...	...	7	
Edinburgh	April 30.	258,629	100	...	...	...	...	...	4	...	
Glasgow	April 30.	545,678	250	...	...	...	...	...	1	4	
Belfast	April 30.	224,432	85	...	...	...	...	2	...	...
Copenhagen	April 26.	289,000	126	...	...	...	...	...	...	5	
Gibraltar	April 24.	23,631	12	...	...	...	...	...	...	2	
Palermo	April 30.	250,000	109	...	...	...	...	5	7	5	
Amsterdam	April 30.	378,686	136	...	...	2	...	...	1	3	
Léipsic	April 30.	170,000	67	...	...	...	...	...	...	1	
Mayence	April 23.	65,701	28	...	...	...	...	...	2	...	
Sagua	April 29.	15,605	12	...	...	...	...	1	1	...	
Toronto	May 7.	120,000	33	...	...	...	...	...	...	3	

UNITED STATES.

Pensacola, Fla.—Quarantine was opened on the 15th day of May, and will continue until the 15th day of November, 1887. No vessel which may have been between those dates at ports or places where yellow fever or other malignant disease has actually appeared shall be permitted to discharge ballast or cargo or load cargo in the Bay of Pensacola; and all other vessels arriving in said bay between said dates shall, immediately on crossing the bar, proceed to the quarantine station to be inspected, and, if deemed necessary by the quarantine physician, discharge ballast or cargo, and be submitted to a cleansing and disinfecting process.

Original Communications.

OBSERVATIONS ON THE USE OF OIL OF WINTERGREEN IN THE TREATMENT OF GONORRHOEAL RHEUMATISM.*

BY R. W. TAYLOR, M. D.,
SURGEON TO CHARITY HOSPITAL.

IN the latter part of September, 1886, a young man twenty-four years of age, of excellent health and fair habits, who had about a week previously been declared cured of an attack of gonorrhœa of moderate severity and of three weeks' duration, came to me in a very anxious frame of mind. Disregarding my injunctions, he had precociously indulged in much wine and venery, and as a result he had a slight muco-purulent discharge, and pain and swelling in both ankles, at the point of insertion of the left tendo Achillis, and in the right knee. He informed me that when nineteen years of age he had had gonorrhœa which had been complicated by rheumatism which had lasted five months, and which he thought had been finally cured by a sojourn at Vichy. This experience, together with the fact that his whole time was then occupied with large pecuniary interests which demanded constant attention, caused him great uneasiness and apprehension. I immediately put him at perfect rest, made suitable applications to the joints, administered a brisk mercurial cathartic, and ordered him to take salicylate of sodium and acetate of potassium in full doses. I was satisfied in a week that he was not benefited in the least by this alkaline and salicylate treatment. He averred, and I think justly, that his urethra was more inflamed and the discharge more copious than before taking it, and that his rheumatic pains were fully as severe. It then occurred to me that my friend, Dr. F. P. Kinncutt,† had obtained better results from the oil of wintergreen in acute rheumatism than from the more fixed salicylates, and without any of the toxic and gastric disturbances incident to the latter. I therefore ordered the oil of wintergreen in capsule form in ten-drop doses four times a day. The result was that in two days the pain in the joints was much less and the condition of the urethra much improved. The dose was increased to twenty drops three times a day, with still great benefit in both directions. Then four doses daily were given. The result was most gratifying. Within a week the urethral discharge and discomfort had ceased, and in fourteen days there was only slight stiffness and uneasiness in the joints, which did not prevent moderate locomotion with the aid of a cane. The wintergreen oil was continued for a fortnight longer in a reduced dose, and a perfect cure was made.

I was so impressed by the auspicious results in this case, both in the curative power of the remedy for the rheumatism and in its seeming anti-blennorrhagic action, that I resolved to try it in my wards at Charity Hospital. The observations which follow were made under my direction by my excellent house surgeons, Dr. Baner, Dr. Schlierback, Dr. Bosch, and Dr. Gilley. In prosecuting these studies I have not allowed myself nor my assistants to be in any way influenced by enthusiasm for a new remedy in a disease which is proverbial for its rebelliousness to the most varied

agents and methods of treatment. I have urged those engaged with me to state facts just as they presented themselves, to record a failure or partial failure as quickly as a success, and to extenuate nothing.

These observations extended over a period of more than seven months and included twenty odd patients. Twelve cases only are reported, for in them the therapeutic effects of the agent were put to the test. The others were chronic and almost hopeless cases under any treatment.

CASE II.—J. M., aged twenty-two, was admitted into Charity Hospital September 15, 1886; contracted gonorrhœa two months ago. The discharge has now stopped, but patient complains of severe pains in both knees and in the soles of the feet. Iodine was applied to joints and the anti-rheumatic mixture* of the hospital was given internally.

October 1st.—Patient in bed, still suffering. Continue treatment.

18th.—Dr. Taylor ordered ol. gaultheriæ, ten drops three times daily.

29th.—Patient able to walk; very little pain. Continue treatment.

November 12th.—Rapid improvement, scarcely any pain.

During December had fugitive pains at times, and was discharged cured January 2, 1887.

Résumé.—Rheumatism resisted ordinary remedies in full doses for over a month. Immediate relief from ol. gaultheriæ, and thorough cure in ten weeks. I was convinced that this man was, as so many hospital patients are, particularly during the cold weather, a malingerer during the last six weeks of his stay in the hospital.

CASE III.—B. S., a waiter, aged twenty-one, was admitted October 9, 1886. Three months previously he had contracted gonorrhœa, which had stopped temporarily in two months. Coincidentally with the reappearance of the discharge his left ankle and knee, both feet, left hip, and right shoulder became swollen and painful. Blisters, with alkaline treatment, having failed to benefit him, on October 18th he was ordered to take of ol. gaultheriæ ten drops three times a day. One week later he was able to walk without support, which had been impossible before, and four days later his pains had entirely stopped, and his joints were normal. He was discharged cured on the 2d of November, seventeen days after the commencement of the wintergreen treatment.

It seemed that in this case previous treatment had been powerless to cure, and that the most prompt and satisfactory results began soon after the new treatment was instituted.

CASE IV.—J. B., molder, aged twenty-two, admitted October 12, 1886, had three years ago rheumatism of uncertain origin. Three months ago he contracted gonorrhœa, and six weeks later he was attacked with pains in the soles of the feet and in both heels. Examination on entrance showed slight urethral discharge, tenderness of both ankle joints, and the right one much swollen. Patient was unable to walk without support. Though he complained of pain in the region of the heart, no murmur was discovered, but the action was rapid and irregular. Blisters and alkalies having failed to give relief in thirteen days, and the patient being unable to walk, he

* Read before the American Association of Genito-urinary Surgeons, at its first annual meeting, at Lakewood, N. J., May 18, 1887.

† "On the Use of the Oil of Wintergreen as an Efficient Salicylate in Acute Rheumatism," the "Medical Record," November 4, 1882.

* R. Sodii salicylatis, potassii iodidi, aa gr. xv; vin. colchici sem., gtt. xv; aquæ, ʒ ss. M. This is one dose.

was ordered to take ten drops of the oil of wintergreen three times a day, and blisters were reapplied. Twelve days later he was in every way better and able to walk for a short time. He was discharged at his own request November 15th, twenty days after the institution of the new treatment, perfectly cured.

Résumé.—In this case all symptoms began to mend soon after the patient began taking the wintergreen, and gradually ceased in twenty days. The question arises, Did the coincident use of the blisters for a time expedite the result?

CASE V.—F. J. M., waiter, aged thirty-six, admitted November 6th; had had several attacks of gonorrhœa of short duration, and one previous attack of gonorrhœal rheumatism. The present attack came on five weeks ago, and two weeks after that his left shoulder became painful and stiff, and afterward his left knee, right ankle, and left wrist were attacked. On examination, a profuse urethral discharge was found, and, in addition, the above-mentioned joints were swollen and painful. He was ordered to take mist. Lafayette, 3j, and ol. gaultheriæ, gtt. x, *ter in die*.

November 9th.—All the joints were much improved, and only slight pain in right ankle and left knee.

15th.—Much better in general, with slight pain in affected parts.

23d.—Condition the same. Lafayette mixture was discontinued, and an astringent injection ordered. Oil of wintergreen continued.

December 13th.—Discharged cured.

Résumé.—Improvement was noted within a week as to pain and swelling, and a perfect cure was effected in a little over a month. In his first attack he suffered much longer.

CASE VI.—J. H., hostler, aged thirty-one, was admitted December 29, 1886, with the following history: During the last seven years has had five attacks of gonorrhœa, and on each occasion, about three weeks later, he began to have pains in the different joints, generally beginning in the ankles. These pains lasted about ten weeks with each attack. He thinks that each succeeding attack has been less severe than its predecessor. With each there was some febrile movement. Present history: About four months ago he was affected with gonorrhœa a few days after intercourse, and three weeks later he experienced pain in the ankles, knees, hips, shoulders, and back. On examination, we found all these parts swollen and painful. Temperature 99.5° F., pulse 80. To take ol. gaultheriæ, gtt. xx, *ter in die*.

January 6, 1887.—The pains in different parts less severe.

12th.—Evident improvement. Continue treatment.

18th.—Has pains only in ankles.

24th.—Rapidly improving; able to walk about the ward with the aid of a cane.

February 10th.—Perfectly well.

Résumé.—A patient in whom all the larger joints were swollen and painful, who has been suffering for rather more than three months, was placed on the use of oil of wintergreen alone, and under its influence and rest was cured in forty-four days, improvement in all respects being noted from the beginning of the treatment. Patient stated that he had never had such relief in previous attacks.

CASE VII.—J. H., waiter, aged twenty-two, admitted October 22, 1886, had had three attacks of gonorrhœa, each complicated by rheumatism. Present attack of gonorrhœa began

some weeks ago, soon followed by rheumatism. On examination, the ankle, tarsal, and metatarsal joints were found to be swollen and painful. He also complained of difficulty in micturition. Until October 29th he took the anti-rheumatic mixture used in Case I, with no result. Ordered ol. gaultheriæ, gtt. x, *ter in die*.

November 11th.—Rheumatism seemingly cured, and wintergreen stopped.

16th.—Pain in right ankle; renew oil of wintergreen in fifteen drop doses thrice daily.

December 7th.—Rheumatism in all the joints first affected; oil of wintergreen increased to twenty drops.

25th.—Slight improvement.

January 7th.—Walks with ease and comfort.

February 7th.—Discharged at his own request, cured.

This patient also had a stricture, and, as is frequently noted in such cases, improvement seemed also to be in a measure due to the gradual dilatation of the urethra, which was practiced.

Résumé.—It is undoubted that in this case the oil of wintergreen was of much benefit, and that it acted in a two-fold manner—first on the general rheumatic condition, secondly on the urethral canal, in a manner comparable to the action of copaiba balsam or sandal-wood oil. In this case its superiority over the salicylates and the iodides in allaying rather than increasing irritation was very manifest. Though rather more than three months were occupied in effecting the cure, this can not be considered a long period, seeing that the condition of the urethra was so bad, and that inflammatory fluctuations took place in it.

CASE VIII.—W. B., laborer, aged nineteen years, admitted February 28, 1887, had had gonorrhœa four months, rheumatism complicating it in its sixth week. At his entrance, he was found to have a moderate discharge from the urethra, and pains in the ankles, knees, and elbows. An astringent injection was ordered, and oil of wintergreen, twenty drops, three times a day. Improvement began at once, and the patient was discharged cured on April 13th, having been under treatment less than six weeks. In this case also the wintergreen seemed to have an anti-blennorrhagic effect.

CASE IX.—R. W., aged thirty, machinist, was admitted February 23d. Had gonorrhœa and rheumatism six years ago, and now suffers from the same affection and complication, which began in July, 1886. Has slight discharge, and the knee and ankle are slightly swollen and quite painful. The treatment ordered was oil of wintergreen, twenty drops three times a day, and tincture of iodine locally.

March 2d.—Much improved.

April 3d.—Discharged, being able to work, and having only slight stiffness of joints.

Résumé.—In this case much benefit was promptly noted as to the rheumatic trouble and in the cessation of the discharge.

CASE X.—J. T., aged twenty-six, laborer, was admitted March 2, 1887, with gonorrhœa of three weeks' duration, and rheumatism of the left hip joint. Oil of wintergreen failed to benefit the patient, and the rheumatic mixture was tried with like result. A Buck's extension apparatus was used, and improvement began at once. On May 15th the patient could walk around the ward with the aid of a cane.

In this case the oil of wintergreen was a failure.

CASE XI.—H. C., aged fifty-two, laborer, admitted October 8, 1886, had an attack of rheumatism a year previously,

lasting three months. On admission, has his first attack of gonorrhœa, which has existed seven weeks. One week after its appearance he experienced pain in the left hip, then in the left knee, and lastly in the right knee. It now affects only the two knees. An astringent injection was ordered, and oil of wintergreen in twenty-drop doses. There was only slight improvement according to the patient, but I am disposed to think that his cure was protracted by his own want of moral courage. He could not be induced to leave his bed, or to think that he was in any measure improved. Later on he took the anti-rheumatic mixture without any striking result. As warmer weather came on he was induced to leave his bed, and has since gradually but steadily improved. He can now walk with the aid of a cane.

Résumé.—Perhaps the age and previous rheumatic condition of this man contributed to the stubbornness of his blennorrhagic joint affections. This case illustrates strikingly the effect of the mind upon the continuance of the disease. The patient gave up entirely to it, and hence made little progress. It carries with it a suggestion I have observed in many cases—namely, not to let these patients give up to rest too continuously. We find many of them contented to remain in bed indefinitely, and to report very little progress. A moderate amount of locomotion, with the aid of a stick, often benefits them both physiologically and morally. My rule is to insist on moderate and increasing locomotion as soon as the acuteness of the inflammatory symptoms is passing away.

CASE XII.—B. P., aged twenty-nine, confectioner, admitted December 8, 1886, had his first gonorrhœa five years ago, complicated by rheumatism of the right ankle and both knees. One month ago he contracted gonorrhœa again. Soon after he experienced sudden jerking pains in his sides above the ilia. These pains spread to the lumbar regions and down the thighs, especially the left to the knee, which became swollen. He has also pains in the neck and in the sole of the right foot. A mild astringent injection was ordered, and, besides, oil of wintergreen, ten drops three times a day.

December 16th.—Not much improved. The dose of the wintergreen increased to twenty drops. Rest in bed.

20th.—Marked amelioration of pain.

This treatment was continued, with gradual improvement, until January 20, 1887, when the patient was discharged, able to resume his duties, though a trifle stiff.

Remarks.—This case was a good example of gonorrhœal rheumatism of the broad fascia, also of the knee and of the fascia of the sole of the foot. Such cases are frequently very obstinate, and in this the action of the oil of wintergreen was very marked.

Besides the foregoing, a number of cases which were of long standing, and in which fibro-plastic and degenerative changes had taken place in the joint structures, were treated in the hospital with this agent with no benefit or result whatever. Then, again, it was tried in those old hybrid cases, in which the patients gave a confused history of chronic rheumatism, of a remotely antecedent syphilis, and of gonorrhœa, in which it is almost impossible to fix upon a definite aetiological cause, and always unsuccessfully. It would be a waste of time to consider these cases at greater length.

An analysis of these cases in tabular form will bring out more clearly the collective results.

CASE I, aged twenty-four, recent rheumatism; failure of alkaloids and salicylates, prompt cure by oil of wintergreen.

CASE II, aged twenty-two, recent rheumatism; no improvement from salicylates used for a month, immediate relief from wintergreen, cure in ten weeks.

CASE III, aged twenty-one, recent rheumatism; failure of blisters and alkalies, immediate relief and prompt cure from wintergreen.

CASE IV, aged twenty-two, recent rheumatism; failure of alkalies and blisters, prompt relief from wintergreen.

CASE V, aged thirty-six, recent rheumatism; prompt relief from wintergreen.

CASE VI, aged thirty-one, recent rheumatism; prompt relief of pain by wintergreen, in marked contrast with four previous attacks.

CASE VII, aged twenty-two, recent rheumatism; failure of iodides and salicylates, benefit from oil of wintergreen and gradual dilatation; the former acted also as an anti-blennorrhagic.

CASE VIII, aged nineteen, recent rheumatism; prompt relief from wintergreen, which also had anti-blennorrhagic effect.

CASE IX, aged thirty, rheumatism of seven months' standing; relief from wintergreen, which also acted as an anti-blennorrhagic.

CASE X, aged twenty-six, recent synovitis of hip joint; failure of wintergreen, improvement from rest and extension.

CASE XI, aged thirty-two, previous rheumatism; slow and unsatisfactory action of the wintergreen.

CASE XII, aged twenty-nine, recent rheumatism of large extent of fasciæ; prompt relief from wintergreen.

In this summary I have applied the term recent rheumatism to cases of about three months' and less duration, since beyond that time they belong, I think, to the category of chronic cases. Out of these twelve cases prompt relief to pain was noted in ten, and a satisfactory result as to ultimate cure was reached in periods averaging from one month to ten weeks. In many instances in hospitals the date of cure can not be determined, for many patients suffering from gonorrhœal rheumatism become more or less malingersers, and, from poverty or lack of moral courage, prefer to remain in the hospital, whereas, if outside, the necessities of life would prompt them to early and energetic effort. Therefore I think that in these cases, though in some the ultimate cure seemed protracted, the showing for the wintergreen treatment is, on the whole, good. An agent which, in such a rebellious and capricious disease, will give relief to pain so uniformly, should, I think, be entitled to consideration.

I do not intend to draw dogmatic conclusions from this not extensive experience, but I am led to the opinion that this agent will be found of most benefit in recent cases, in which the fibrous structures of joints and muscles are involved, and in which there is not a large amount of serous effusion. I have an impression that in cases complicated

by hydrarthrosis the agent will be more or less disappointing, and that when used in chronic cases it will not be found to be very reliable, but will take its place in the list of remedies which we use tentatively where others have failed doing more or less temporary good. In most of these cases structural changes have taken place, and these the oil of wintergreen, I think, is powerless to remove. Nor do I think that it will be of much service in relieving and curing that condition of cachexia into which these patients so frequently fall.

I think I may speak somewhat hopefully, even warmly, of the tendency of the drug to allay urethral irritation, which is a great advantage, since there is no doubt that the alkalies, iodides, and salicylates fail to produce a cure for the reason that their irritant action on the bladder and urethra necessitates their discontinuance.

While I have thus prominently brought forward this remedy in the treatment of gonorrhœal rheumatism, I must not be understood as relying upon it, or, indeed, any internal remedy alone, since we frequently have to use cooling lotions, counter-irritants, blisters, actual cautery, massage, immovable dressings, and other means as adjuvants. In many old cases, however, some of these means often effect the cure without the aid of internal medication.

40 WEST TWENTY-FIRST STREET, NEW YORK.

THE INDICATION FOR QUININE IN PNEUMONIA.

By MARY PUTNAM JACOBI, M. D.

(Concluded from page 593.)

I do not propose in this place to review the enormous literature, experimental, critical, and clinical, which exists on the subject of quinine. I wish rather to call attention to one theory of its action which seems to me to have been too much neglected. I refer to the theory advocated by the Neapolitan writer Chirone, in an experimental essay published in the "*Gazette hebdomadaire*" for 1875.

Chirone proposed to find some method for reconciling two current doctrines concerning quinine, each imposingly supported, yet apparently incompatible with each other. According to one of these doctrines, quinine is a powerful sedative to the heart and nervous system. According to the other opinion, and an extensive clinical experience, quinine is a powerful tonic to both nervous system and heart. It is agreed that these different effects are obtained by means of very different doses, being large in the first case, moderate in the second. Still, it is important to ascertain the precise point at which the tonic effect passes over into the sedative and depressing effect, and the mechanism by which this may be determined. The phenomenon only remotely resembles the contrast which is afforded by minute and average doses of other alkaloids, as morphine.

Experiments on dogs, rabbits, and frogs led Chirone to the following conclusion:

Quinine increases the diastole of the heart through a direct molecular action on the muscular fiber, in virtue of which this actively lengthens and the cavities it incloses become thereby

enlarged. From the increased energy of diastole more blood is aspired to the heart, and, in order to empty itself, the organ is compelled to contract more energetically, and thus the systole is indirectly increased in power. This is the case so long as the dose of quinine is moderate; the total result, therefore, is an increased energy of the circulation with consequent tonic effect.

If the dose of quinine is large, however, the cardiac diastole comes to predominate too much over the systole; more blood is aspired into the heart than can be expelled; the ventricular systole struggles in vain with the load, finally becomes paralyzed by it, and the heart stands arrested in diastole, with its cavities enormously dilated by blood. In the experiments on dogs, where the carotid tension was measured by Fick's manometer, the constant tension began to fall after the injection into the jugular of three doses of quinine of 15 centigrammes each; it soon completely disappeared. In the experiments on the frog the heart was exposed and observed for some time, the diameter of the base measured at the moment of maximum diastole. This, in one experiment, for instance, was 7.2 millimetres. Eight centigrammes of bisulphate were injected under the skin. In three minutes the heart was observed to dilate very energetically, to become very red. In ten minutes the ventricles were arrested in diastole, and their base measured 9.3 millimetres. The auricles were still beating. That this diastole was active and not cadaveric, the author infers from the fact that in thirty minutes the base measured only 8.6 millimetres and retained this size an hour later when quite dead. During this diastolic arrest the heart failed to respond to electricity. But when, in another experiment at the moment of increased diastole, a few drops of a solution of toad venom were injected, the systole grew gradually stronger, gained upon the diastole, until after energetic systolic contractions, in thirty-five minutes, the heart stood arrested in systole.

The toad venom has the property of stimulating the systolic contractions of the heart, and its ability to act upon a heart which is under the influence of quinine proves that this latter drug has not abolished contractility, but only stimulated the movement of the cardiac fiber in the direction of its extensibility. The antagonism of the two poisons by means of action upon different mechanisms is analogous to the cardiac antagonism which exists between muscarine and atropine. I have repeated the experiment on the frog, with similar results.

A frog at 10.30 received 8 centigrammes of bisulphate and a second similar dose at 10.41. Just before the injection the heart was contracting at the rate of 30 beats a minute; the base in maximum diastole measured 9 millimetres. Within three minutes after the injection the cardiac cycles became intensified, the diastole increased, the systole also energetic, but no longer rendering the ventricle white. In nine minutes the base diameter had decreased to 8 millimetres. In fifteen minutes the base had increased in diastole to 11 millimetres; the number of beats had fallen to 15 in a minute.

In a second frog, previous to the use of quinine the heart beat at 30 in the minute, becoming completely white in systole; the maximum diameter of the base measured 7 millimetres. Eight centigrammes of bisulphate were injected in two doses. In four minutes the beats had fallen to 24, in eight minutes to 22, and the base measured 9 millimetres. At this time the ventricle exhibited isolated tonic contractions by which it was divided in three parts. A similar observation has been made by Chirone.

In twelve minutes the heart remained red throughout systole; the base measured 10 millimetres. In nineteen minutes the base measured 11 millimetres; the number of beats had fallen to 16.

It is noteworthy that when monosulphate of quinine dissolved in water by means of acid was used, the heart was arrested in diastole in less than five minutes. The effect is here attributable to the acid rather than to the quinine. Only the soluble bisulphate is suitable for the experiment.

In addition to the experiments intended to directly measure the size of the heart in diastole and which I have imitated from Chirone, I have been able to make others which exhibit the influence of quinine on the cardiac tracings, obtained by means of a lever. For this purpose a frog, previously quieted by a quarter of a milligramme of woorara, was attached to the frog-plate and the heart exposed. A light lever, composed of a straw and an exploring disc of pith, reposed on the heart, and registered its movements on the revolving cylinder. The first trace is the normal trace of the same frog to which quinine was subsequently administered. The pericardium was intact, and on this account the excursions of the lever are less ample than in the other tracings. The heart beat thirty times in a minute. To the same frog was then administered 0.08 centigramme of bisulphate of quinine, and the first tracing taken ten minutes later. An immediate and noticeable change took place in the tracing. The stroke marking the systole of the ventricle is 3 millimetres high and 5 broad, while before the quinine it was 2 millimetres high and 5 broad. The systole therefore is more energetic, but no more prolonged. The diastole, on the contrary, is markedly prolonged, being scarcely measurable on the normal trace, while a perfectly straight line of 3 millimetres in length measures it on the quinine tracing. The extreme shortness of the diastole on the pre-quinine trace is not always observed, but quite the contrary, as may be shown by the other normal tracings taken from another frog. But the peculiar abruptness of the diastolic line and general appearance of the tracing following quinine was not observed except under its influence. At the time of this first tracing, ten minutes after the use of quinine, the heart did not offer the characteristic appearance that had been previously noticed—that is, the ventricle did not remain red during systole, but contracted completely, and became entirely white as usual. The number of beats was still thirty in a minute.

The tracing rate of pulsation and other characters remained the same for twenty-four minutes from the time of injection. Then (as shown in the succeeding tracings) when the ventricle began to remain red during systole, the diastole was markedly increased, and the character of the tracing changed. The curve of the systole is the same height—3 millimetres—but the ascent and descent are both gradual instead of so peculiarly abrupt, and the space occupied is 6 millimetres. The diastolic straight line has become a rounded curve, whose extremities are 5 millimetres apart. The diastole is still shorter in time than the systole, but it is increasing in energy, as shown by the sinking of the exploring disc into a curve, instead of a straight line. The rate of pulsation is only 18 to a minute. A strip of tracing 8 centimetres long contains only 9 pulse tracings instead of 17. Nine minutes later and the height of the ventricular systole trace reached a maximum of 4 millimetres, while retaining a breadth of 6 millimetres. The duration, therefore, was the same, the

energy still increased; the diastole is a little shortened. In forty-one minutes after the injection the systolic tracing begins to fall in height; in fifty-one minutes the systole is markedly enfeebled and the diastole apparently prolonged, though not really more so than on the previous tracings.

In fifty-four minutes the diastolic tracing becomes again a straight line, but now, for the first time, 6 millimetres in length. The duration of the systole was now expressed by a space of 5 millimetres, so that the diastole had decidedly gained upon it.

The measurements are the same on the last tracing taken fifty-eight minutes after the use of quinine. The observation was then interrupted.

The tracings entirely confirm the inferences drawn from the direct observation of the heart contracting under the influence of quinine. They show the increased length and energy of the diastole, but they show also that this is not a proof of paralysis; for a considerable time the energy of the systole is correlatively increased. The diastole finally gains on the systole, and the heart pauses in diastolic arrest. That the diastole of the heart is as distinctly active as the systole, has been sustained with weighty argument by Pettigrew.

"There is every reason," says this physiologist, "to believe that the movements of the amœba and the sarcois elements of a muscle are identical. Both can change their form: elongation in one direction entailing shortening in another and opposite direction. . . . The movements of the amœba are doubtless referable to a centripetal and centrifugal power inhering in the protoplasmic mass which enables the creature to advance or elongate, and withdraw or shorten, any part of its body. At times the amœba elongates its entire body by a wavelike movement, after which it sends out lateral processes which exactly correspond with the bulgings produced on a muscular fiber when it is made to contract or shorten under the microscope. . . . The heart differs from the muscular tubes of the blood-vessels, inasmuch as, when it closes, all its diameters are shortened; whereas, when it expands, all its diameters are elongated. . . . The fibers and the sarcois particles of the fibers are arranged vertically, transversely, and obliquely in continuous spirals. . . . The heart acts as a sucking and propelling organ, in virtue of its centripetal and centrifugal force. The heart has the power of forcibly expanding itself, as it has of forcibly closing itself. . . . The centripetal and centrifugal wave movements pass through the sarcois elements of the different portions of the heart very much as the wind passes through leaves; its particles are stirred in rapid succession, but never at exactly the same instant; the heart is moving as a whole, but its particles are only moving at regular and stated intervals, the periods of repose, there is every reason to believe, greatly exceeding the periods of activity. . . . The position of rest does not correspond either to diastole or systole, but to a line midway between both."

This conception, which perfectly corresponds to the facts of muscular action in the heart, the limbs, the hollow viscera, and the invertebrate animals, furnishes a solid base for the theory that the increased dilatation of the heart under the influence of quinine is due to an active stimulation of the diastole, and not to a commencing paralysis. According to Chirone, the same diastolic action is exerted by quinine upon the arterioles. The administration of quinine to

a rabbit causes a marked hyperæmia of the ears, which grow hot, and after a while begin to pulsate. The same phenomenon is observed if the auricular nerve, carrying the vaso-motor fibers of the ear, is divided previously to the administration of the quinine. The passive dilatation of the blood-vessels which immediately follows upon this operation is much exceeded by the active dilatation under the influence of the quinine.

In a small rabbit to whom I gave hypodermically ten grains of quinine, the blood-vessels of the ears almost immediately dilated; in five minutes the animal had an epileptiform convulsions; five minutes later a second, which terminated fatally. In another rabbit the same sudden flushing of the ears occurred five minutes after a dose of 8 centigrammes, but in twenty minutes had begun to subside. The animal died two hours later.

The action of quinine upon striped muscular fiber resembles that on the heart and arterial muscles in that it seems to finally depress the energy of contraction. Thus it is ranked by Brunton among the muscular depressants. I will not extend this paper unduly by analyzing this action of quinine, which only remotely bears upon the effects which here concern us. The accompanying tracings, however, taken from the gastrocnemius of a frog, excised and placed in Pfliiger's myograph, may be interesting as showing the truth of Brunton's proposition. Traces vii to xii were taken with a stationary, the others with a revolving cylinder. It will be seen that the height of the contractions, as also the number obtainable before exhaustion, is decidedly less after the quinine.

When the revolving cylinder was used, the load on the muscle was increased from twenty to forty grammes; the distance of the Du Bois-Reymond cylinder diminished from 210 to 150 millimetres. The excursions of the lever are enormously augmented both in the normal and in the quinine muscle, and about in the same proportion. Their maximum height in the first is $4\frac{1}{2}$ centimetres, in the second $3\frac{1}{2}$.

In the normal muscle were obtained sixty-three tracings of the first kind shown on the paper (traces xiii to xvii), before the energy of contraction is modified; the quinine muscle only gives fifty-one.

The normal muscle gave one hundred and forty-seven contractions before the shape of the tracing was markedly modified by prolongation of the descending stroke; but this occurred after the sixtieth contraction with the quinine muscle (traces xviii to xxiii). The descent of the lever corresponds to the relaxation or diastole of the muscle. In the quinine muscle this diastolic movement begins much earlier and becomes much more marked than in the normal muscle, though the irritability of the muscle, as shown by its response to the stimulus, seems to last as long with as without the quinine, and to be regained as thoroughly after repose. The slow and ample diastole should not, therefore, be attributed to paralysis, although the systolic—the contractile energy, usually so called—be diminished. But the diastole is directly increased in the voluntary as in the cardiac muscle. The application of these interesting observations to the theory of quinine in pneumonia is obvious and, it seems to me, important.

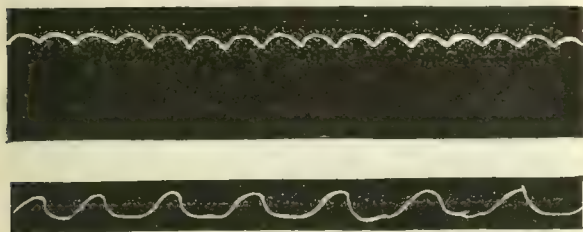
According to them, the immediate effect of the quinine would be an increased diastole of the heart, in virtue of which blood must be more energetically aspirated into it and from the lungs. Simultaneously, but correlatively, the systolic contraction is increased in energy, tending to drive the blood onward, in the pulmonary as in the systemic circulation. Thus, in a double way, an energetic influence is instituted calculated to dissipate congestion in the lung. This cardiac influence should be re-enforced by a similar increase of active diastole in the arterioles of the lungs themselves, due to a direct action of the quinine on their muscular fiber, and therefore independent of complex nerve influences. Without an increase in the energy with which blood may be drawn through and from the lung, an increased energy in the propelling force of the heart might be disastrous rather than beneficial. From the point of view here developed it becomes clear why the best effects of quinine should be obtained with relatively moderate doses, rather than with larger ones. The latter are constantly threatening arrest of the heart from excess of diastole; to use the classical phrase consecrated by experience, they tend to depress the heart, and thus to antagonize the very benefit we hope to gain.

Again, it is clear that this beneficial effect can only be looked for upon the tissues which are the seat of congestion—the congestion peripheric to the foci of inflammation. But experience shows that, if this congestion can be limited, the characteristic morbid process will not extend. The same experience shows that exudations may remain in the lung without causing fever or being dangerous, except in so far as they are liable to cascade. The increased energy of the pulmonary circulation which may be effected by the quinine tends to arrest this danger, though, unfortunately, not always successfully. For the numerous considerations which have been alleged, it should follow that a direct antipyretic effect was not to be looked for in using quinine in pneumonia, however often high temperatures were observed to fall after its administration. It is both useless and dangerous to push the drug for this purpose; far better, if really excessive temperatures require symptomatic palliation, to effect that with small doses of antipyrine.

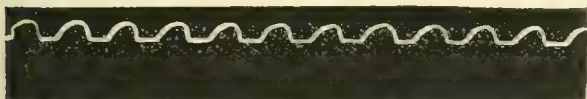
On the other hand, the absence of fever, while signs of consolidation persist in the lung, do not contraindicate quinine; on the contrary, quinine will often be followed by the most beneficial effects. These may be seen sometimes in cases of quite chronic pneumonia, or where, many weeks after asserted convalescence from a febrile pulmonary affection, a latent consolidation is discovered as the cause of gastric or nervous symptoms that had been considered quite inexplicable. Under the use of the quinine, not only these, but tubular breathing and percussion dullness may quite disappear.

I think the clinical facts which have been adduced in the beginning of this section help to bear out the conclusion that the *characteristic indication for the use of quinine in pneumonia is the dissipation of pulmonary congestion*. Theory and experiment indicate that this is primarily effected through an increase in the diastolic movement of both heart and arterioles. It is not improbable that the same

doses of quinine which do this *also re-enforce the medullary nerve-centers, and enable them to better resist vagus irritations*, and that thus, in a second way, the drug, though unable to really cure the disease, tends to limit it, and to arrest the tendency to death. But this large subject is beyond the scope of the present paper.



TRACE I.—(a) Tracing of normal frog's heart, taken *in situ*; beats, 30; $\frac{1}{4}$ n illig. woodra. (b) Tracing from another frog's heart.



TRACE II.—Cardiac tracing from heart (a) 10 minutes after hypodermic injection 0.08 bisulphate quinine; beats, 30; time, 5.12.



TRACE III.—Same at 5.22.



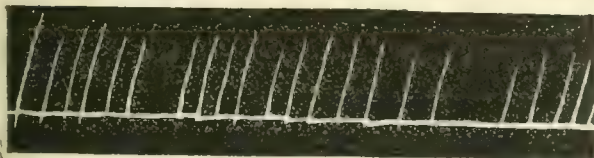
TRACE IV.—Same at 5.26; 18 beats to minute; heart red during systole.



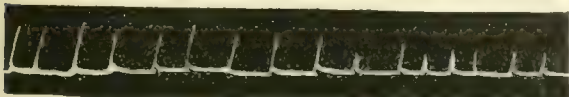
TRACE V.—Same at 5.35.



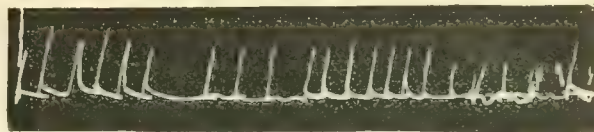
TRACE VI.—Same at 5.56. Observation ceased.



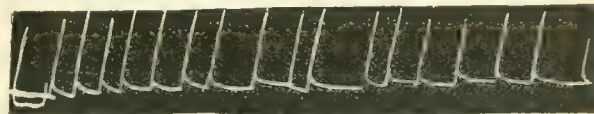
TRACE VII.—Contractions of normal gastrocnemius of frog, in Pilger's myograph, with stationary cylinder; weight, 20 grammes; R. A., 220 millimetres; time, 2.40; height of first 40 contractions, from 15 to 6 millimetres. Circuit closed by hand.



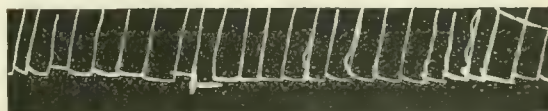
TRACE VIII.—Same at 3.47; 96 contractions obtained in 7 minutes before exhaustion. Rest of 1 minute included in this time.



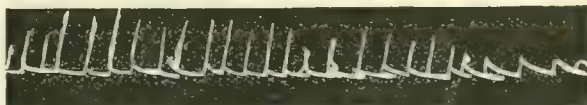
TRACE IX.—First contractions gastrocnemius 37 minutes after hypodermic injection of 0.08 bisulphate quinine; cylinder stationary; weight, 20 grammes; R. A., 210 millimetres; exhaustion in 2 minutes, after 61 contractions; height of first 40 contractions, from 10 to 3 millimetres. Circuit closed by hand.



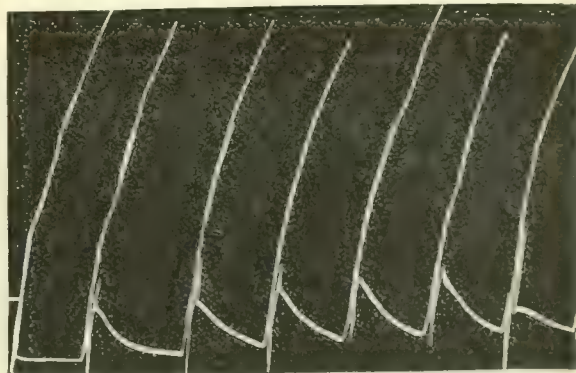
TRACE X.



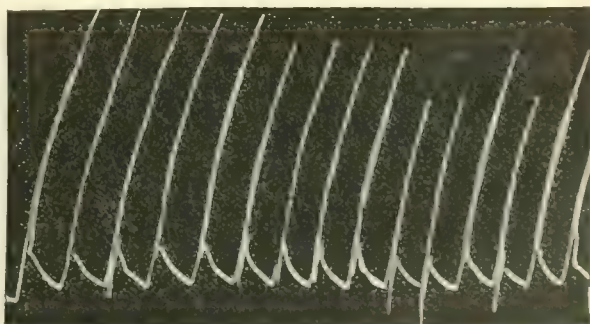
TRACE XI.



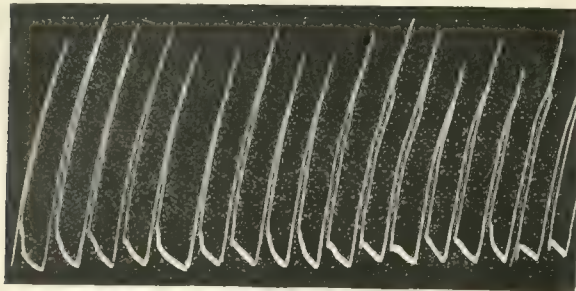
TRACE XII.—Same muscle after rest of 9 minutes; exhaustion in 2 minutes, after 54 contractions; height of first 40 contractions, from 10 to 5 millimetres.



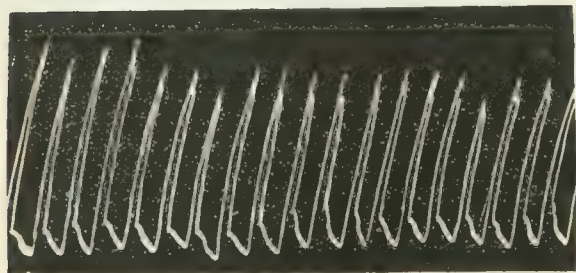
TRACE XIII.—Normal muscle; rotating cylinder; weight, 40 grammes; R. A., 170 millimetres; time, 3.56; shocks received automatically.



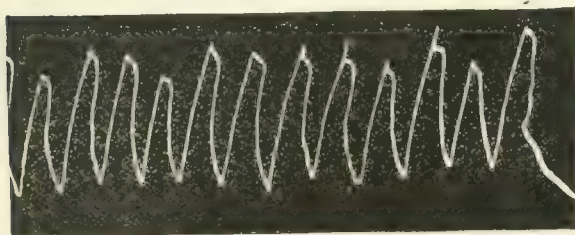
TRACE XIV.—Same continued.



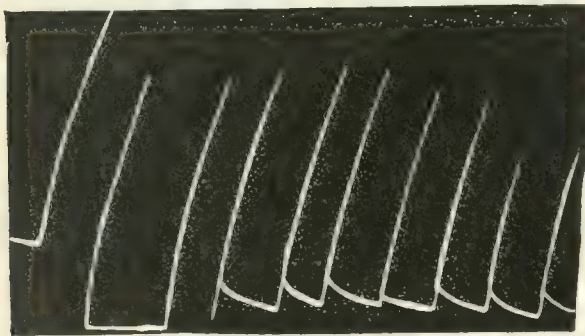
TRACE XV.—Same continued.



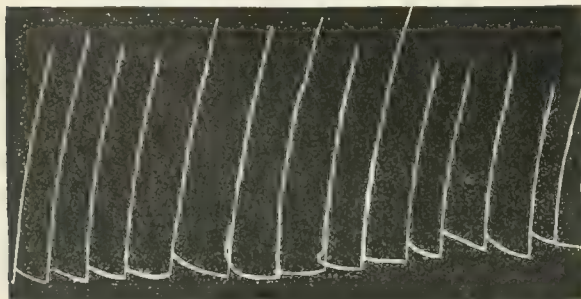
TRACE XVI.—Same continued.



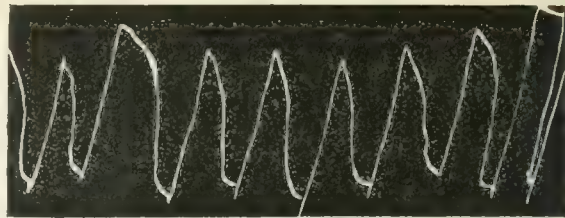
TRACE XVII.—Same continued at 4.03; total number contractions in 7 minutes, 147.



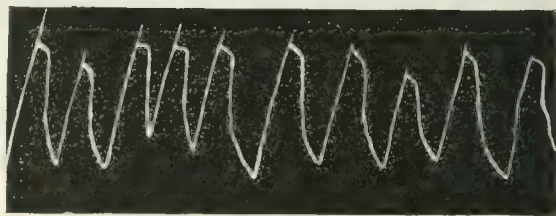
TRACE XVIII.—Gastrocnemius 30 minutes after 0.08 bisulphate of quinine; rotating cylinder; weight, 40 grammes; R. A., 150 millimetres.



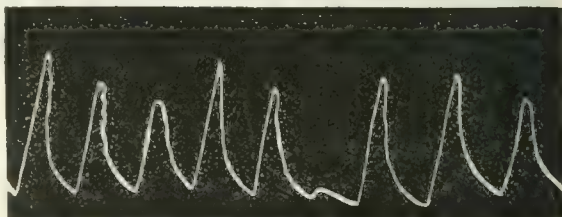
TRACE XIX.—Same continued.



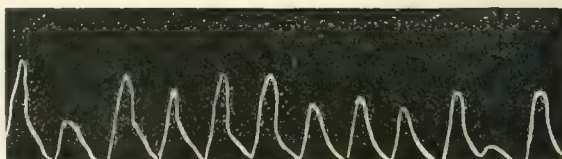
TRACE XX.—Same continued.



TRACE XXI.—Same continued.



TRACE XXII.—Same continued.



TRACE XXIII.—Same continued: total number contractions, 138.

INTUBATION OF THE LARYNX.*

By GEORGE McNAUGHTON, M. D.,
BROOKLYN.

"INTUBATION of the larynx means the introduction through the mouth of a tube which rests solely in the larynx and allows the epiglottis to close during the act of deglutition." With the exception of the experiments of Bouchut, all previous attempts were made with long tubes, one end of which rested in the larynx and the other protruded from the mouth or nose.

In January, 1880, Dr. Joseph O'Dwyer, of New York city, conceived the method which is now known by his name. Although this operation has been before the profession but a short time, it is now recognized throughout the medical world; and probably the name of O'Dwyer is as generally known as that of any other American surgeon, and I am sure that to O'Dwyer humanity and the profession owe a debt of gratitude. For five years he worked quietly and faithfully, receiving little or no encouragement from the

* Read before the Medical Society of the County of Kings, March 18, 1887.

few who were aware of his attempts. He did not desire to make his achievements known until all was satisfactory to himself, and it was with the greatest difficulty that he was persuaded to appear before two medical societies to demonstrate his methods. He preferred that the profession should take it up critically, and that it should provoke no undue enthusiasm, lest in consequence of failures, sure to occur, it might fall into disrepute.

It will be unnecessary to relate the various stages of development and the changes made in the shape of the tubes from the beginning of Dr. O'Dwyer's experiments to the present time. I will simply describe the set as now sold by the instrument-makers. The tubes are five in number, varying from one inch and a half to two inches and a half in length, made of metal, and heavily plated with gold, each tube having a separate obturator, a mouth-gag, an extractor, and a scale to indicate the ages for which the corresponding tubes are suitable.

It has been argued that the caliber of the tubes is not large enough to pass sufficient air for respiration. This point is easily set aside by placing a tube, suitable for a twelve-year-old child, between the lips and closing the nose. It will be found that an adult can so obtain a good supply of air without much increase of normal respiration. It will be noticed that the heads of the tubes are rounded off to prevent pressure against the base of the epiglottis.

The indications for intubation are the same as for tracheotomy—cyanosis, marked recession of those parts of the chest-wall which yield to the external air pressure when the internal air pressure is much diminished, absence or feebleness of the respiratory murmur over the lower posterior part of the lungs, and great restlessness. Dr. O'Dwyer says that an increase in the number of respirations in a minute alone is not a sufficient indication for an operation. He says that he has seen patients in such a condition as to need mechanical relief when the respirations were but fifteen to twenty in a minute. He has also seen them suffering marked laryngeal stenosis when making sixty respirations in a minute.

The dangers of intubation are few :

1. Holding the finger too long in the larynx, thereby shutting off the supply of air. Dr. O'Dwyer suggests that the operator make several quick attempts rather than one prolonged effort.

2. Forcing the tube through one of the ventricles of the larynx, an accident possible only by the use of an unjustifiable amount of force.

3. Pushing the membrane down before the tube, an accident most liable to occur on the second introduction. I have never known it to occur on the first introduction, and it can only occur on account of an accumulation of loose membrane at one point in the larynx. This accident is not peculiar to intubation, having occurred to many tracheotomists, and being usually attended with a fatal result. As this accident is liable to occur, and as the patient would be given another chance for life were the trachea opened, I think it well always to have a trachea-tube at hand.

4. The tube entering the œsophagus. This will be indi-

cated by the disappearance of the string, which is always fastened to the tube at the beginning of the operation. As the tube enters the œsophagus it draws the string after it. The string should be seized and the tube drawn out. The string should never be removed from the tube until we are assured that the tube is positively in the larynx. If you will notice the shape of the tubes you will see how they might easily pass through the intestinal tract without exciting much irritation. I can readily see how this accident might happen to one not accustomed to the operation.

In cases accompanied by little or no cough, there may accumulate within the tube more or less mucus, and if this diminishes the caliber of the tube too much, the tube will be coughed out, when it can be cleaned and, if necessary, reinserted. In all cases where the tube has been coughed out it has been thrown entirely out of the mouth, and not swallowed, as one might suppose. If the tube enters the larynx, and the stenosis is located in that part of the respiratory tract, the dyspnoea will be at once relieved. If further proof is necessary, the finger introduced can easily feel the head of the tube beneath the epiglottis.

Some of the gentlemen who have contributed to the literature on this subject have led us to believe that intubation is a simple operation. Having had experience, and having once failed to introduce the tube at all, I must dissent from their opinion. To one not accustomed to putting the finger in that portion of the throat, it is extremely difficult and sometimes impossible. Intubation is more difficult, but resembles somewhat the introduction of a uterine sound without a speculum; both are done entirely by the sense of feeling and our knowledge of the anatomy of the part. In one we have to deal with a comparatively fixed organ and with plenty of time, while in the other we have a movable organ, and with a limited amount of time. Both require dexterity which can only be acquired by experience.

Dr. S. E. Fuller was, as far as I know, the first to perform the O'Dwyer operation in this city.

The patient was a boy of six years, who had laryngeal diphtheria, following the same disease in the pharynx and nasal cavities. He was in bad condition generally, dyspnoea having begun several hours before the tube was inserted. After consultation we decided on intubation. Dr. Fuller had never seen the operation or instruments, but, having had much experience in treating diseases of the larynx and being familiar with the anatomical points, he succeeded, after three or four attempts, in placing the tube in the larynx. The insertion was followed by a violent fit of coughing. The patient then became quiet, breathed easily, and very soon fell asleep. So far the operation was very satisfactory, and we were glad that tracheotomy had not been done. The patient experienced much difficulty in swallowing, succeeding best with semi-solids. Liquids caused such a choking and coughing that the patient soon refused to try. We tried rectal feeding, but with little success. We hoped he would become accustomed to the tube sufficiently to allow him to swallow without these disturbances, but in this we were disappointed. Secondary dyspnoea became noticeable about twenty-four hours after the insertion of the tube, and the patient grew rapidly worse. We concluded to remove the tube. The dyspnoea was not relieved on this being done, but became more marked. The boy died as the tube was being reinserted.

I believe, in this case, a piece of detached membrane, coming in contact with and occluding the tube, hastened the death. But this accident has also occurred in tracheotomy. It has occurred with Dr. O'Dwyer but three times in his large number of cases. We should not, therefore, condemn intubation.

(I noticed in the "New York Medical Journal" for March 5th a letter from Dr. Ferguson, of Troy, in which he tells of a similar case in which the accident happened on the first introduction.)

All methods of treatment for laryngeal stenosis have their drawbacks, and this is no exception. I will mention them as they have occurred to me.

1. The difficulty of introducing the tube. I do not think any one should attempt the operation without previous practice on the cadaver. Without this practice failure is almost certain to result. By rare good luck the tube might be placed on the first trial, while the second and succeeding attempts would be failures.

2. The difficulty patients have in swallowing while the tube is in the larynx. But this is not an invariable difficulty. About ten days ago I placed a tube in the larynx of a patient who had no difficulty in swallowing everything offered, both liquid and solid. Dr. Read and Dr. Bartley witnessed this operation, and I should be pleased if they would favor the society with their impressions of the operation. In cases where the patient can not swallow readily, I think an œsophageal tube could be used with advantage.

3. A liability of occlusion from detached pieces of membrane. But this is probably no more liable to occur in intubation than in tracheotomy. Nevertheless, it is one of the objections.

Having enumerated the disadvantages, I will now speak of the advantages of the operation, and I hope the balance will lie in favor of intubation.

1. It is not difficult to obtain permission of the friends or relatives of the patient as soon as they understand that no cutting is to be done. This consent is difficult as regards tracheotomy, as neither the physician nor the people put much faith in the success of the latter operation.

2. The rapidity with which the operation may be performed, the time occupied by one skilled in the operation being but a few seconds.

3. A trained nurse is not necessary, as the tubes will take care of themselves.

4. It is much safer for the physician and attendants.

5. The air enters by the proper channel, is warmed thereby, and is less liable to irritate the mucous membrane below.

6. The patient can whisper and so make his wants known.

7. One of the greatest advantages of intubation over tracheotomy is that it allows of a cough of far more expulsive power, thereby getting rid of bronchial secretions.

It is to be remembered that intubation does not preclude tracheotomy, but I think that it should always be tried before tracheotomy is resorted to.

Cases. Recoveries.			Cases. Recoveries.		
O'Dwyer	123	23	Ingals	5	2
Dillon Brown .	71	15	Torchheimer .	5	2
Northrup	26	6	Strong	2	..
Waxham	83	23	Huber	11	4
Montgomery . .	5	2	Hause	5	1
Jennings	5	1	Total	280	71
Donaldson	1	..			
Cheatham	4	1			

Recoveries over 25 per cent.

In the "Medical Record" for September 4th, Dr. Waxham, of Chicago, says that "in 306 cases of tracheotomy performed in that city, there were 58 recoveries, or 18.95 per cent., while in 83 cases of intubation, 23 recovered, or 27.71 per cent."

The most difficult part of the operation is to remove the tube, but I know that this will become much easier with practice. It is possible to throw the tube out by turning the child on its face and pressing the larynx from the outside, although I do not deem this method a safe one.

[From the time this paper was presented up to the 1st of April I have intubated the larynx five times, with one recovery. Three of these patients suffered from diphtheritic laryngitis and two from croup following measles. The child which recovered had albuminuria at the time of the attack, and now suffers from paralysis of the soft palate. She is three years and a half old. For several days she was fed with a No. 16 catheter, a syringe being used to throw the nourishment through into the stomach.]

THE USES OF ADHESIVE PLASTER IN ORTHOPÆDIC SURGERY.*

By A. B. JUDSON, M.D.

THE earliest record, so far as I am aware, of the use of adhesive plaster in orthopædic practice is found in the fifth edition, published in 1740, of Cheselden's "Anatomy." On pages 37 and 38 he writes as follows: "The first knowledge I had of a cure of this disease (congenital club-foot) was from Mr. Presgrove, a professed bone-setter, then living in Westminster. I recommended the patient to him, not knowing how to cure him myself. His way was by holding the foot as near the natural posture as he could, and then rolling it up with straps of sticking-plaster, which he repeated from time to time as he saw occasion until the limb was restored to a natural position." This method, improved by the application of a strip of adhesive plaster surrounding the foot and extending up the leg, was advocated at a "clinique" held in this city in 1850 by the late Dr. S. D. Gross, who was at that time Professor of Surgery in the University,† and also by Dr. J. N. Quimby in a notable paper read before the Academy in 1867.‡ Plaster applied in this way will probably continue to be used occasionally in the management of congenital club-foot in its

* Read before the Section in Orthopædic Surgery of the New York Academy of Medicine, March 18, 1887.

† "New York Medical Gazette," December 21, 1850, p. 390.

‡ "Bulletin," November 20, 1867, p. 264.

early stage. Combined with other apparatus, it has been quite extensively used in the treatment of all stages of the affection. It is an essential part of the varieties of apparatus described by D. Gilbert,* Jolliffe Tufnell,† L. A. Sayre,‡ C. F. Stillman,§ E. Develin,|| and F. T. Paul.△ It is used in fixing the points of origin and insertion of artificial muscles, as applied by Barwell.◇ It was used in the "extension shoe" described by Dr. Shaffer in 1878,‡ but its use in this apparatus has been discarded by him, as explained in an elaborate and interesting paper recently read before the Academy.‡

I have found it possible to overcome the deformity in several cases of neglected and obstinate varus by "untwisting" the foot by means of a strap of adhesive plaster encircling the foot and buckled by an attached piece of webbing to the outside of the vertical part of the foot-piece of a club-foot shoe, as shown in Fig. 1, which represents schematically a transverse vertical section of the foot and

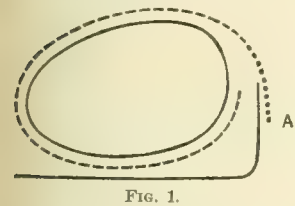


FIG. 1.

foot-piece, the broken line representing the adhesive plaster, the dotted line the webbing, and A the position of the buckle.

In passing I may notice that the overlapping of the toes, which is a frequent accompaniment of acquired club-foot, may be easily corrected by the use of adhesive plaster. This affection, though trifling in itself, may give rise to the conditions known as hallux valgus and "hammer-toe," the latter being a dorsal projection of the proximal phalangeal joint of the second or third toe resembling the hammer of a gun. It is a very painful and inconvenient deformity,

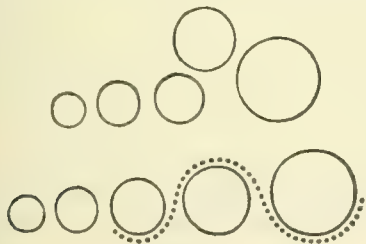


FIG. 2.

and has not infrequently led to amputation and other forms of operative interference.‡ Overlapping may be arrested by a single narrow strip of adhesive plaster passed over and under and between the toes in such a manner as to reduce

them to a straight line, as shown in Fig. 2, which represents the reduction of the overlapping second toe, the plaster being applied with the adhesive surface uppermost. In children this treatment permanently restores the toes to their normal position in a few days.

Adhesive plaster for making prehension of the head has been widely used in the treatment of torticollis. Dr. Gilbert,* of Philadelphia, applied a strip passing under the chin from one temple to the other. Dr. W. J. Little,† of London, encircled the forehead and occiput. Dr. A. J. Steele,‡ of St. Louis, encircled the forehead and occiput, and added two strips passing over the top of the head from side to side. Dr. L. A. Sayre§ applies a wide strip of plaster from one temple to the other across the forehead, a strip of muslin being attached to the extremities of the plaster and passing around the head. Prehension of the head being secured in one of these ways, a fixed point from which traction may be made is found by Dr. Gilbert and Dr. Sayre in an axillary band on the unaffected side, and by Dr. Little in a waist-band of adhesive plaster, which is re-enforced by Dr. Steele by a perineal strap. The methods of Dr. Sayre and Dr. Steele have whatever advantage is derived from the introduction of elastic traction.

Traction, which is such a prominent feature of the orthopædic practice of the present day, is applied by the use of adhesive plaster with a degree of ease and convenience which may be appreciated by recalling the experience of those who treated joint diseases by the application of traction before the introduction of adhesive plaster as a means of making prehension of the limb. So far as I am aware, Brodie was the first who applied traction in the treatment of hip disease. He used the weight and pulley, and said: "A bandage may be placed round the thigh above the condyle with a cord attached to it passing over the pulley."|| Ducros△ and William Harris,◇ working independently, applied traction by the long splint which was in use for treatment of fracture of the thigh. The former probably used a fillet around the ankle, and the latter the laced buckskin gaiter of Hagedorn's splint. Bonnet, in *le grand appareil*, made prehension of the limb by means of the starch bandage,‡ and Ferdinand Martin† flexed the patient's knee and ingeniously made traction by applying force to the calf of the leg in a line parallel with the axis of the thigh.

It would be interesting, but foreign to our purpose, to trace the gradual substitution of the use of adhesive plaster for these painful methods of grasping the limb in the treatment of fractures. It is enough to say that it was first described in 1830 by the late Dr. S. D. Gross,‡ who had learned it from Dr. Joseph K. Swift, of Easton, Pa., and,

* "Philadelphia Med. Examiner," December, 1852, p. 786.

† "Dublin Quart. Jour. of Med. Sci.," November, 1869, pp. 70-72.

‡ "Medical Record," July 15, 1874, p. 363.

§ "Trans. of the American Med. Assoc.," 1880, pp. 779-792.

|| "Med. News," August 22, 1885, pp. 205, 206.

△ "British Med. Journal," April 11, 1885, pp. 735, 736.

◇ "Medico-chirurgical Transactions," London, 1862, pp. 25-42.

‡ "Med. Record," November 23, 1878, pp. 401-404.

† "N. Y. Medical Journal," March 5, 1887, pp. 253-261; March 12, 1887, pp. 287-292.

‡ See Annandale's "Malformations of the Fingers and Toes," 1865, pp. 63-65, Plate vi.

* "Phil. Med. Examiner," December, 1852, pp. 786, 787.

† "Deformities of the Human Frame," London, 1853, pp. 193, 194.

‡ "Trans. of the Med. Assoc. of the State of Missouri," 1876, pp. 37-49.

§ "Lectures on Orthopædic Surgery," 1876, pp. 454, 455.

|| "Diseases of the Joints," 3d ed., 1834, p. 55.

△ "Gazette des hôpitaux," June 30, 1835, p. 311.

◇ "Phil. Med. Examiner," January 19, 1839, pp. 37-40.

‡ "Traité des maladies des articulations," 1845, vol. ii, p. 524.

† "De la coxalgie," 1865, pp. 488-496.

‡ "Diseases of the Bones and Joints," 1850, p. 5.

after being advocated by Dr. Josiah Crosby,* of New Hampshire, in 1850, it was in a few years generally recognized in this country as a most valuable addition to the therapeutics of fractures.

The question of more immediate interest is, Who first used adhesive plaster for traction in the treatment of diseases of the joints? I have not found the answer in the literature of the subject. And yet, so far as hip disease is concerned, this improvement in therapeutics is of more value than any of the very numerous inventions for applying traction in the treatment of this affection. The first record bearing on this point, so far as I am aware, occurs in the April number of the "American Medical Monthly" for 1860, in which Dr. Henry G. Davis and Dr. L. A. Sayre have each an article advocating the treatment of hip disease by the use of adhesive plaster applied to the limb for the purpose of traction.

It is interesting to notice here that, just as adhesive plaster, applied around the pelvis for counter-extension in the treatment of fracture of the thigh, in order to avoid the inconvenience of a perineal strap, was used by Dr. Gilbert in 1851 † and Dr. J. H. Churchill ‡ in 1877, so it was used for the same object in the treatment of hip disease in 1879 by Dr. C. F. Stillman,* who applied mole-skin adhesive plaster, and covered it with plaster of Paris, which, mixing with the nap of the mole-skin, made a fixed point of remarkable stability. Considering the advantages attending the use of a perineal strap, which not only furnishes a fixed point for counter-traction, but also acts as an ischiadic crutch-head when used with the long hip splint, it does not seem to me probable that it will be supplanted by adhesive plaster.

At this point I would like to call attention to some of the natural limitations of the use of adhesive plaster in the treatment of joint diseases. The first instrument invented for the treatment of hip disease did not extend to the ground, and yet it was designed not only to make constant traction on the limb, but also to prevent the weight of the body from being borne on the articular surfaces in standing. A consideration of the apparatus as applied to a patient will, I think, convince an attentive observer that if it is able to relieve the joint surfaces from the weight of the body in standing, the weight will be held up by the perineal strap and thence transferred to the surface of the limb over which the adhesive plaster is spread. In such a case the natural limits of the adhesiveness of the plaster and the integrity of the skin are speedily reached, and the joint surfaces receive at once the weight of the body.

Furthermore, the usefulness of adhesive plaster in orthopædic practice is seriously limited by the fact that, although we intend by its use to control the action and modify the

attitude of the skeleton, we are compelled, from the nature of the case, to apply it to the skin, which is not only elastic but also extremely movable on the bony tissue, which lies at a greater or less depth. This is one of the limitations which make it difficult to accomplish all that seems to be desirable in practice. It is supposed that the circumarticular muscles can be directly and potently affected by traction thus applied. Without denying that in some cases and for a limited time slight effects of this kind may be produced, I believe that, as a general thing, the benefit derived from the use of adhesive plaster in the treatment of joint diseases is due to the fixation which accompanies continued traction.

In the case of those joints which are found at the point of contact between the extremities of two long bones, as at the knee between the femur and tibia, the leverage furnished by the length of the bones enables us to obtain, by the use of retentive splints and without adhesive plaster or traction, a degree of fixation sufficient to allay pain and promote recovery, which it is impossible, from the nature of the case, to obtain by retentive splints in the case of the hip. I am not unmindful, however, of the fact that traction with adhesive plaster has been widely advocated in the treatment of disease of other joints than the hip, and especially in the treatment of chronic osteitis of the knee, by Dr. L. A. Sayre,* Dr. C. Fayette Taylor,† Dr. Edmund Andrews,‡ Dr. N. M. Shaffer,* Dr. C. F. Stillman,|| Dr. Simeon A. Foster,^ and Dr. Sydney Roberts.◇ The results of their treatment have doubtless been excellent, but no better, I think, than the results which follow fixation by retentive apparatus so constructed as to apply the principle of the lever which is so naturally applied to the femur and tibia. Having discussed this question at some length on other occasions, I bespeak a reconsideration of the opinion, which may have been formed or expressed by some of the eminent authorities above named, that counteraction of the muscles, and not fixation of the joint, is the curative agent in the treatment of joint diseases by traction.

In passing it may be noticed that not infrequently in the practice of mechanical surgery adhesive plaster is useful in holding an apparatus in place, although it may not be directly essential to the efficiency of the apparatus. In a convalescent case of hip disease, for instance, when traction is no longer required or maintained, the adhesive plaster previously applied to the limb for the purpose of traction may be useful in keeping the splint from falling off. In such a case the splint is simply an ischiadic crutch, converting the limb into a pendent member, and thus preventing an injurious amount of the weight of the body from descending on the heel of the affected side.

Since traction has helped us to a certain amount of fixation in the difficult hip joint, it is not unreasonable to resort

* "Trans. of the Am. Med. Assoc.," 1850, pp. 382, 383. One of Dr. Crosby's patients graphically described the sensation produced by this application in these words: "It feels as if my leg was in the mud, and I was trying to pull it out."—"New Hampshire Journal of Medicine," Oct., 1850, p. 65.

† "Am. Jour. of the Med. Sciences," January, 1851, pp. 70-72.

‡ "Med. Record," March 17, 1877, p. 167.

* "Med. Record," August 30, 1879, pp. 196-198.

* "Trans. of the Am. Med. Assoc.," 1865, pp. 383-390.

† "N. Y. Med. Journal," July, 1873, p. 46.

‡ "Archives of Clinical Surgery," New York, April 15, 1877, pp. 3-6.

* "Archives of Clinical Surgery," June 15, 1877, pp. 90-93.

|| "Trans. of the Am. Med. Assoc.," 1881, pp. 453-464.

^ "Annals of Anat. and Surgery," January, 1882, pp. 22-26.

◇ "Med. News," July 26, 1884, pp. 90, 91.

to it in the case of the carious vertebral joint, where there is, above and below the seat of disease, a flexible column which almost nullifies any attempt at fixation, by taking advantage of the principle of the lever. Difficult though the task appears, the application of traction to the vertebral column by the use of adhesive plaster was advocated by Dr. Andrews* in 1863 and Dr. George A. Berry† in 1879. I think it will generally be considered that, except in certain urgent cases, the difficulty which attends this application will more than counterbalance whatever special advantages may attend this plan of treatment. Dr. H. O. Marey‡ and Dr. J. J. Reid§ used adhesive plaster for the suspension of patients during the application of the plaster-of-Paris jacket, the former applying it to the back of the neck and head, and the latter to the back and front of the chest. The remarkably simple and ingenious device of Dr. Reid is well worthy of study.

In the practical remarks which follow, reference is had to plasters which owe their adhesiveness chiefly to the presence of tropical gums, and not to the resin plaster which is sometimes called lead plaster or diachylon. In 1848 Mr. D. F. Eyre, of Derby, England, proposed India-rubber dissolved in naphtha as a material for the manufacture of adhesive plaster. He wrote as follows: "If liquid India-rubber, spread upon calico or other material by a stiff brush or by a knife, be used as adhesive plaster, it will be found to answer far better, in almost every case, than any other adhesive material, as it sticks firmly, is pliant, produces no irritation to the skin, and will bear lotions or washing over it."¶

Notwithstanding this early reference and the occasional experimental use of India-rubber in this way, we are largely indebted for the introduction of gum plaster to Dr. H. A. Martin,[▲] who zealously advocated it in 1877. The article now manufactured has all the merits which were alleged by Mr. Eyre. It is sticky, pliant, non-irritative, water-proof, and, in addition, cheap and convenient. The softness and pliancy of this plaster when applied to the skin distinguish it from the lead plaster which composed "Scott's dressing," one of the objects of which was to prevent the motion of a diseased joint by the application of adhesive plaster in layers around the joint and to some distance above and below.

In practice I have found that the lighter kinds of plaster can be used, even where great strength is required, by stitching a piece of tape on the back of the plaster before the webbing or buckle is sewed on. When the sewing-machine refuses to work from the collection of gum on the needle, a drop of oil may be applied to the shuttle. If the stitches are in parallel lines, they will not interfere with the easy removal of the facing of thin muslin with which the adhesive surface of the plaster is protected.

The extreme adhesiveness of gum makes it possible to apply very powerful traction with two vertical strips of considerable width, extending to the upper part of the thigh. The ordinary roller bandage may also be dispensed with, its place being conveniently and cheaply taken by a laced muslin legging. The excellence of this device—first used, I believe, in the practice of Dr. C. Fayette Taylor—becomes evident when the patient's joint is in a painful condition, acutely resenting the disturbance which necessarily attends passing the roller under the limb and tightening the turns and reverses. In such a case the legging may be applied painlessly. Besides, it may be washed and reapplied by unskilled hands.

If a high degree of traction is employed during hot weather or while the patient's room or bed is overheated, the plaster will gradually slip down, making it necessary to buckle shorter the leather straps which proceed to the foot-piece, and in time the plaster will have to be renewed. Its removal from a very hairy surface may be facilitated by the free use of benzine or naphtha, either of which is dangerously inflammable.

The occurrence of eczema under adhesive plaster, no matter what kind of plaster is used, is an occasional inconvenient incident. It is apparently caused by the retention of moisture. The same condition follows a continued poultice or "wet-pack." It is said that its appearance in water-cure establishments is sometimes pointed to as an evidence that morbid material is being expelled from the body. In my experience this form of eczema rapidly disappears on the removal of the plaster if the patient will consent not to scratch the affected surface. I have found it convenient to apply one of the vertical strips of plaster on the inner and anterior surface of the limb, as shown at A, Fig. 3, and the other on the outer and posterior surface, B; and when they are renewed, one on the inner and posterior, C, and the other on the outer and anterior surface, D. By following this plan no portion of the skin is kept too long covered by the plaster. The long distance between the foot-piece and the lowest point of attachment of the plaster prevents the twisting of the splint on the limb, which might at the first glance seem likely to follow this arrangement.

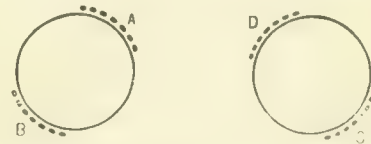


FIG. 3.

I will close by referring to the use of adhesive plaster as a covering for all kinds of surgical apparatus that are exposed to rust from contact with the body or otherwise. Club foot shoes may be lined with it in several layers if desirable. A strip of plaster wound around a piece of steel retains its place for an indefinite time, saves the expense of polishing and electro-plating, and may be covered at will with chamois leather or spirally with a strip of Canton flannel or silk.

* "Chicago Med. Examiner," September, 1863, pp. 419-421.

† "Edinburgh Med. Journal," July, 1879, pp. 45-47.

‡ "Boston Med. and Surg. Journal," Nov. 30, 1876, p. 654.

§ "New York Med. Journal," July, 1878, pp. 37-42.

¶ "Lancet," Feb. 19, 1848, p. 210.

▲ "Boston Med. and Surg. Journal," Oct. 11, 1877, pp. 407-411.

◇ Brodie on "Diseases of the Joints," 1821, p. 243. "Diseases of the Joints," John Scott, London, 1828, p. 134.

EUPHORBIA HETERODOXA.

By JAMES BARNSFATHER, M.D.,

MEMBER OF THE PHARMACEUTICAL SOCIETY OF GREAT BRITAIN.
DAYTON, KY.

THIS Brazilian euphorbiaceous plant, the *alveloz*, the milky juice and resin of which have been recommended as a cure for cancer and ulcers of a malignant type, destroys morbid tissue without much pain, but causes smarting on healthy flesh. I may state that in *all* the cases I have used it in it has acted on the kidneys.

The first cancer case I treated with *alveloz* was in October, 1885. The following is a copy of a letter I sent to Dr. John B. Hamilton, Surgeon-General, U. S. Marine-Hospital service, Washington, D. C., and his answer:

"In the July number of the 'Cincinnati Medical News' I saw a notice of the new alleged cancer-cure, 'alveloz milk,' and of your exhibiting a patient at a meeting of the medical society showing a cure of lupus of the nose by its use. I wish to state that I have at present a patient in Cincinnati who is suffering with carcinoma uteri, and whose case has been given up by two physicians as hopeless, and who was at death's door from five weeks' hemorrhage previous to my taking charge of the case. I have had her under the *alveloz*-milk treatment for fourteen days, and in that time the improvement has been marked. The physiological action of the drug is as follows: On application to the os, there is an intense burning feeling in the vagina, lasting from two to four hours. Absorption of the medicine evidently takes place, as in six hours after every application profuse discharges from the kidneys of a highly colored and offensively smelling urine commence to flow, and continue at intervals of two or three hours, until about a gallon has passed. The local bleeding ceased after three applications to the os, and since that time there has been a continuous flow of pus. I may state also that the lancinating pains have completely ceased, and she was able yesterday to get out of bed, dress herself, and walk into another room, without any ill effect whatever. She also eats and sleeps well since the application of the remedy, with the exception of getting up to pass water every two hours during the night. *The skin also has lost its sallow hue, and the patient states that her nervous irritability is entirely gone.*" . . .

Answer: "Washington, October 23, 1885. Your favor of the 20th is at hand. I am obliged to you for your account of your experience with the *alveloz*. How did you apply the drug? Those who have used it here claim that they have had entirely negative results. My experience varies; with some samples the effect is all that could be desired, with others there has been no benefit whatever. I have had much better results with the resin, which comes in granular form, than with the later samples of the 'milk,' which seems very unstable, and in some cases worthless. If it had proved equal to the first, I should have been glad, but I do not think it at all certain as to freshness. I should like to hear further from you as to the outcome of your cases." . . .

"Dayton, October 28, 1885. Received your very kind letter, and in reply beg to say I apply the drug to the os uteri with a brush, through a glass speculum, and repeat the application every twenty-four hours. My patient still enjoys freedom from pain, and only complains of the annoyance of passing water so often. Since I wrote you, eleven small pieces from the inside of the cervix have passed, and I can push my finger easily to the os internum. *Manipulation causes no bleeding now.*" . . .

This patient lived three months in comparative ease, but eventually died from acute peritonitis. Her husband told the writer that, although he knew it was a hopeless case, still the *alveloz* had saved her "ten thousand pains" she would have suffered if it had not been used. He said: "that *alveloz* is not only worth its weight in gold, but in diamonds."

Dr. Hamilton, in his letter, makes reference to some of the samples of *alveloz* as *being worthless*. I beg to indorse that statement as being only too true, as I have at present in my possession an imported bottle, marked *Alveloz Milk*, with Thomas Christy & Co.'s label on it, 155 Fenchurch Street, London, England, *which has no virtue in it whatever*. It looks like vaseline. [The energetic *alveloz* looks like pale butter, with the consistence of vaseline. The phials hold six grammes (3 jss.), and cost \$6.50 each.] To be sure I was correct, I applied it to the face of a patient I had used the good *alveloz* on, and next day she told me it neither acted on her kidneys nor did it smart round the sore as the other did. It is a shame that men, for the sake of a little gain, will adulterate costly drugs; but I can not believe that an eminent drug-house like Christy's would countenance such a thing; it must have been done before they received it. As the virtue of this drug lies in the resin. I suppose there is no resin in my sample. The resin is obtained by treating the *alveloz* with water, and afterward with absolute alcohol.

Formula for use: Resin, 1 part; vaseline, 33 parts. Mix, and apply to the part affected.

In my first case I used the drug simply, and did not even put an absorbent cotton tampon in the vagina, as I wanted to see what it would do, and govern myself accordingly in subsequent cases; hence, this may account for the burning the patient complained of in her vagina. Now I tampon in all cases, and my patients do not complain of that intense burning. I prepare my tampons by saturating them with benzoic acid dissolved in alcohol. I use them dry, and pack them against the cancerous mass, and it acts as a disinfectant to the discharges as they are absorbed. After all the cervical cancerous growths have been removed, I then saturate the tampons with resorcin dissolved in glycerin (one to seven), and apply after the *alveloz* has been placed in the uterus. It seems to act very nicely, causing the stump to heal over.

My principal object in writing this article is to bring before the medical profession the fact of the absorption and peculiar action of this drug on the systems of those afflicted with cancer, as I do not think it has been mentioned by any writer on the subject, and hope that those gentlemen who are experimenting with the drug will carefully watch the alterations in the urine microscopically and otherwise, and perhaps they may be able to solve the problem which has baffled the profession to the present time.

With our present knowledge of the drug I do not believe that an old-standing case of cancer, where the whole pelvic cavity is involved, can be cured by the topical application of the medicine, even if by absorption it seemingly attacks the constitutional infection (if we are to judge by the offensive discharges from the kidneys after each appli-

cation, and the sudden cessation of those discharges when the drug is not used, and the clearing up of the skin while those discharges are going on, and the feeling of lightness patients say they feel under its use, when before they complained of a tired, weary, lifeless feeling, and often wished that death would end their sufferings); but we shall have to look to some other form of the drug as an adjunct, and give it hypodermically, so that we shall be more likely to avoid inflammation of the gastro-intestinal mucous membrane, and the dangerous and sometimes fatal prostration which follows the swallowing of any of the products of the *Euphorbiaceæ*.

April 25, 1887.

Correspondence.

LETTER FROM NEW HAVEN.

The Meeting of the Connecticut Medical Society.

NEW HAVEN, CONN., May 28, 1887.

THE ninety-sixth annual convention of the Connecticut Medical Society was held at the County Court-House, Hartford, on Wednesday and Thursday, May 25th and 26th. The meeting of the president and Fellows occurred on Wednesday afternoon. In his annual address the president, Dr. T. M. Hills, of Willimantic, deprecated further discussion of a change in the charter of the society—a question which has attracted much attention throughout the State during the last two years, on account of the disproportionate representation of the different county societies in the governing body of the State society. He recommended the appointment of a standing Committee on Legislation, to consist of five members, and to be selected by the Nominating Committee. He advised the members to contribute individually to the support of the Ninth International Medical Congress, the treasury of the society not being in a condition to warrant appropriation for this purpose. Finally he expressed his approval of a resolution received from the Wisconsin Medical Society urging the profession to unite in bringing to the attention of Congress the necessity of enacting a law to limit further immigration of the defective classes.

Dr. H. A. Carrington, chairman of the committee appointed at the last annual meeting to confer with the Homœopathic and Eclectic Medical Societies with reference to the enactment of a law for the suppression of quackery, reported that two conferences had been held with committees from these societies. A draft had been made of a proposed law which provided for the early registration of all practitioners in the State, and prohibited subsequent registration by any one who had not graduated at a recognized medical college, until an examination had been passed before a committee of one of the societies. This had been presented to the Legislature late in the session, and consequently action upon it had been postponed until the next session.

The following officers were elected for the ensuing year: President, Dr. Francis Bacon, of New Haven; vice-president, Dr. George L. Porter, of Bridgeport; secretary, Dr. S. B. St. John, of Hartford; treasurer, Dr. E. P. Swasey, of New Britain; committee on matters of professional interest, Dr. George R. Shepherd, of Hartford, Dr. Frank E. Beckwith, of New Haven, and Dr. James Olmstead, of Middletown; dissertator, Dr. William H. Carmalt, of New Haven; alternate, Dr. R. M. Griswold, of North Manchester.

Three of the eight county societies of the State had transmitted

resolutions to the State society asking for a change in the charter so that either every member of the society might have an equal voice in the business proceedings, or at least that an increased representation in the governing body should be granted to the larger county societies. Three others had sent resolutions expressing disapproval of the constant discussion of this subject. These were all referred to the Committee on County Resolves, which reported favorably upon the latter resolutions, and unfavorably upon the former. A motion not to accept this report caused an animated discussion, in which Dr. Douglass, of New London, Dr. Griswold, of Manchester, Dr. Carrington, Dr. Beckwith, and Dr. Cremin, of New Haven, Dr. Griswold, of Rocky Hill, and others spoke in favor of a change; and Dr. Cleveland, of Middletown, and Dr. Carmalt, of New Haven, opposed it. On motion of Dr. R. W. Griswold, it was voted that a committee of two from each county be elected by the county societies to consider a revision of the charter, and report a new act of incorporation, if such a change was found desirable.

In the evening a special session was held to listen to a paper on "Ulcerations of the Os Uteri," by Dr. E. W. Cushing, of Boston, who had been invited to address the society by its officers. The paper was illustrated by micro-photographs exhibited with the aid of a stereopticon. These made clear the histological differences between simple and carcinomatous ulceration. The speaker pointed out the indications for, and the methods of using, the various astringents, as well as the necessity, in some cases, of an operation, and the desirability, when this was necessary, of performing it early.

The general meeting of the members of the society was held Thursday morning. The secretary reported the death of eight members, including one ex-president, Dr. C. M. Carleton, of Norwich, the addition of twenty-eight new members, and a total membership of five hundred and eight.

Dr. A. W. Nelson reported that the Committee on Matters of Professional Interest had addressed to the members of the society a circular-letter of inquiry in regard to the fees obtained for professional work, and the amount of work done by irregular practitioners. From seventy-five answers which were received it was learned that the fee charged for visits ranged from seventy-five cents to three dollars, that the charge for mileage was from twenty-five cents to one dollar, for office consultation from fifty cents to two dollars, and for attendance upon uncomplicated cases of midwifery from five to twenty-five dollars. The committee recommended a flexible scale of charges, and in some cases a lowering of the usual charges, so as to aid the poor, and compete with and drive out the irregular practitioners. From fifty cents to two dollars was suggested as a suitable office fee, from one to three dollars as the fee for a visit, and from five dollars upward for cases of confinement.

Other papers which were read were "Relations between Scrofula and Tubercle," by J. B. Kent, and "New Remedies," by Dr. T. H. Russell. In discussing the former, Dr. Nelson spoke highly of the value of inhalations of binoxide of hydrogen in phthisis, and expressed the opinion that this was the foundation of the much-advertised "Compound Oxygen Cure." In commenting upon Dr. Russell's paper, Dr. Carmalt commended the use of paraldehyde in the insomnia following the withdrawal of opium from victims of the opium-habit.

The secretary having called attention to the fact that during the year a circular had been sent to every member of the society charging him with neglect of duty, the following action was taken after a heated discussion: "Resolved, That the society condemns the publication of private circulars in general as a method of redressing grievances or bringing to notice alleged neglect of duty by officials of this society."

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CALOMEL INJECTIONS BY A NEW METHOD IN SYPHILIS.

NOTWITHSTANDING the oft-repeated attacks of the opponents of mercury and the popular prejudice against it, that drug still remains, as it has been for four centuries, the one sovereign and indispensable remedy for syphilis. As Kaposi said in his very able address before the *Kongress für innere Medicin* last year, the only distinct advances that have been made in the treatment of syphilis since the fifteenth or sixteenth century, with the sole exception of the introduction within the last fifty years of the use of the iodine compounds, have been in the direction of improved methods of administering mercury. Among these improvements Kaposi assigns the first places to the development of the inunction plan and the introduction of hypodermic medication. There is reason to believe that in the direction last mentioned progress in this country has not kept pace with the advances abroad. The routine treatment of constitutional syphilis here, even by those specially concerned with the disease, is that commonly known as internal. Inunctions are much less in vogue than in Germany, and it is doubtful if one patient in a thousand is treated with hypodermic injections. Yet, of all the methods of administering mercury, the hypodermic seems to be scientifically the most correct and rational. By no other method can the remedy be introduced into the system with the same degree of precision as to quantity, and with none other are the phenomena of elimination by the urine so constant and uniform. While, perhaps, the inunction plan is equally effective in curing the disease, it is an extremely rude method, open to this objection—aside from the minor consideration of its inconvenience to the patient—that we have no certain knowledge as to how or in what quantities the mercury gains access to the system; whether it enters through the skin, and, if it does, by what avenues, or whether, as many maintain, it is inhaled by the lungs after its vaporization. When it is administered by the stomach, on the other hand, there is the objection that it is apt to derange the organs of digestion, and thus still further impair the nutrition, already so prejudiced by the disease. Furthermore, there can be no certain relation between the dose administered and the amount absorbed or assimilated.

But, while hypodermic medication has great advantages as to precision, in practice it encounters no inconsiderable difficulties. The affinity of mercury in almost any form for albumin becomes a source of danger to the vitality of the tissues when the drug is introduced in large quantity within a circumscribed space. It may then produce local irritation and even necrosis. Especially does this objection hold good when the simpler mercurials—such as the reguline form, the bichloride in solution,

or calomel in suspension—are injected into the subcutaneous cellular tissue. Could this drawback be removed, the treatment of syphilis by hypodermic injections would leave little to be desired. Many mercurial combinations have been devised to accomplish this object, but the chemical difficulties are not easily overcome. The simplest plan, and perhaps the one most commonly adopted, is to add sodium chloride to a bichloride solution, so as to form a double chloride of sodium and mercury, which is supposed to be an approximation to the form under which mercury incorporates itself with the tissue fluids. The bicyanide solution (1 to 1,000 or 2,000), introduced by Cullingworth, is largely employed in Europe, and is said to be much less irritating to the tissues than the bichloride. Good results seem also to have been obtained with Bamberger's albumin and peptone combinations, but they only partially accomplish the object, and the difficulty in preparing them has been found an obstacle to their general use. A few years ago Liebreich, of Berlin, proposed a soluble compound of mercury with formamide, under the name of *hydrargyrum formamidatum solutum*, for which he alleged special chemical advantages by reason of which irritation was avoided and the absorption and elimination of the mercury were decidedly facilitated. The elimination through the kidneys reached its maximum in six weeks, while after the use of sublimate injections eighteen weeks are required, or, when it is combined with sodium chloride, thirteen weeks. After calomel injections, and also after mercurial inunctions, elimination goes on much more slowly, not reaching its maturity, it is said, until six months have elapsed, and, according to Balzer ("Gaz. des hôp."), it may continue for two or three years.

Undoubtedly calomel, when injected into the tissues, is absorbed very slowly, in consequence of which a mercurial remains in the system for a long time before it is eliminated. For this reason, it has been alleged, calomel possesses certain special advantages over other forms of mercury for hypodermic injection. Its slower absorption makes fewer and less frequent injections necessary. Its longer continuance in the system gives greater permanence to its effects, and hence, it is alleged, syphilitic relapses are less likely to occur after its use. The hypodermic injection of calomel, as first proposed by Scarenzio, of Pavia, had fallen into almost complete desuetude on account of the frequency with which severe local inflammation and often abscesses were produced. But recently certain modifications in the method, proposed more particularly by Smirnoff and Neisser, have revived the practice, and in many quarters it is receiving a good deal of attention. The calomel, which is suspended in mucilage or oil, instead of being injected hypodermically, is thrown deep into the muscular tissue, usually in the region of the glutæi. The point selected for the introduction of the needle is in the depression at the side of the natis, three centimetres behind the trochanter major. The number and frequency of the injections vary with different practitioners. Balzer uses the calomel suspended in oil of vaseline (three quarters of a grain to fifteen grains), and makes the injections at weekly intervals, on an average eight in all. Others make

the injections only at intervals of three weeks, and assert that four or five injections are all-sufficient. According to Neisser's formula, sodium chloride is added to the mucilage mixture, by reason of which the cannula of the syringe is less liable to be clogged and the local irritation is diminished. Lantz's mixture ("St. Petersburg. med. Wochenschrift") consists of from eighteen to twenty-four grains each of calomel and sodium chloride, from nine to twelve grains of gum arabic, and three drachms of distilled water—this quantity being sufficient for twelve injections containing from a grain and a half to two grains of calomel each. Often as much as three grains of the mercurial salt is injected at once.

With regard to the results of this method of treatment, the reports of those who have given it a trial are not all in accord. Some, while denying that any inconveniences attend it greater than or even as great as those incident to any form of hypodermic medication in syphilis, laud it as superior to all other plans, not only on account of its simplicity, but because of its peculiar efficiency against the disease. Accepting the representations of some of these advocates, we might fairly conclude that older methods were to be entirely superseded, and that the introduction of the new method marked an epoch in the history of anti-syphilitic therapeutics. Unfortunately, we have other reports in which the picture presented is in less glowing colors. Lantz, who seems to have given the method a thorough and impartial trial, reports some objections to it that are by no means inconsiderable. Comparison was made more particularly with the peptonate and formamide solutions of Bamberger and Liebreich. Patients who had already been treated with these latter complained invariably that the calomel injections were more painful. Abscesses were not of infrequent occurrence, and occasionally the irritation was such that the whole gluteal region became swollen and inflamed. Moreover, salivation was relatively frequent. It is possible, however, that much of the local irritation may be avoided by stricter attention to technical details. It is said that the production of abscesses is often due to the escape of some of the injected fluid into the subcutaneous cellular tissue instead of its being wholly deposited within the muscle.

With regard to the alleged freedom from relapses after this treatment, the evidence is insufficient. It is not easy to determine such a point with the constantly shifting "material" of a hospital practice. As suggested by Diday ("Lyon médical"), the best sphere for such an investigation is the medical department of an army, where the subjects treated can be under observation for long periods of time. For the present, we may look upon the new method, if not as a new weapon, at least as a new string to the bow which has long stood us in stead as our most effectual arm against a dreaded and insidious disease.

MINOR PARAGRAPHS.

THE BY-PATHS OF MEDICAL CHARITY.

To contribute, however indirectly, to a sick person's comfort or, so far as the capacity for it may be present, his enjoy-

ment, is not only noble in itself, but palpably contributory to rapidity of recovery, and even in many instances to its occurrence. We must therefore look upon the various hospital "missions," comprising those that are devoted to furnishing the patients with flowers, reading matter, and the like, as most praiseworthy and efficient adjuncts to the efforts of the medical officers. A new organization of this sort is now attracting attention in Boston, having for its object the supplying of pictures for the walls of the hospital wards. We understand that, by a system of securing loans of pictures, even costly works of art are likely to be placed before the patients, and that the plan includes the practice of changing the pictures at intervals. This latter feature will doubtless facilitate the loan system, and it has the additional advantage of presenting an agreeable variety to those whose convalescence is protracted. Another important collateral channel of medical charity is that by which apparatus of one kind or another is supplied to those who are suffering with some sort of physical disability, whether they are inmates of hospitals or still attempting, under great disadvantage, to ply their several vocations. A commendable example is the "spectacle mission" lately established by an English physician, Dr. Edward Waring, as we learn by the "Lancet," the object of which is to furnish suitable glasses to the poor.

O'DWYER'S OPERATION IN EUROPE.

WE lately remarked upon the slight attention which had been given in Europe to Dr. O'Dwyer's procedure of intubation of the larynx. We are glad to see indications that the device is getting to be more thought of abroad than has heretofore been the case. In a recent issue of the "Wiener medicinische Presse," Dr. Störk publishes an article in which he deals particularly with "Tubage des Larynx nach O'Dwyer." The author has invented a forceps of his own for introducing the tube, and he speaks very favorably of the merits of the operation.

A FRENCH VERSION OF EMMET'S "GYNECOLOGY."

A FRENCH edition of Dr. Emmet's "Principles and Practice of Gynecology" has recently been issued in Paris, the translator being Dr. Adolphe Olivier, adjunct secretary of the Paris Obstetrical and Gynecological Society, with a preface written by Professor Trélat. In some respects Dr. Olivier's translation is to be commended: where he has followed Dr. Emmet's text it is excellent, and the illustrations have been reproduced with painstaking accuracy. Had the work stopped here the result could only have been to the advantage of the study of gynecology in France, but the translator, taking Dr. Emmet's work as the basis, has apparently endeavored to produce what, according to his own ideas upon the subject, a text-book of gynecology should be. Many long quotations from contemporary French and English works appear in brackets, together with much that seems to bear the stamp of no particular authority. In the original no specula are mentioned but Sims's and some of its self-retaining modifications, for Dr. Emmet holds that this instrument alone is of scientific value. In the translation the whole subject is gone over, and nearly every known speculum is pictured and carefully described. In the field of plastic surgery the same faults are noticeable. With regard to the pathology of prolapse of the posterior wall of the vagina, and with regard to so-called laceration of the perineum and the operation for its proper repair, Dr. Emmet's views have long been radically at variance with those of the majority of writers, and therefore, if they are correct, they render all others untenable. This fact seems to have escaped the translator, for he

has described the methods that have been employed since Baker Brown first performed the operation, simply including Emmet's in a list where all are looked upon as about equally good. These illustrations furnish a fair example of the way in which the whole subject has been treated, and make it evident that the real spirit of Dr. Emmet's work has not been appreciated. In this the French version differs widely from the German translation, which is a true reproduction of the original.

THE GENEALOGY OF AN OUTBREAK OF SMALL-POX.

IN the Fifth Annual Report of the Provincial Board of Health of Ontario, for the year 1886, a summary of the course of the infection in an outbreak of small-pox, or rather a series of outbreaks, is given in the ingenious form of a genealogical tree. The Michigan State Board of Health has taken the trouble to have copies made of this graphic representation, and it is to that body that we are indebted for an opportunity to examine it. It is a pity to see such a clever piece of work marred by the statement that a certain woman "took sick" on a given date.

PHELPS'S TREATMENT OF CLUB-FOOT.

A METHOD of dealing with certain forms of equino-varus adopted by Dr. A. M. Phelps, of Chateaugay, N. Y., was described by that gentleman in a paper read at the last annual meeting of the Medical Society of the State of New York. At about the same time, in the February number of the "Deutsche Zeitschrift für Chirurgie," Dr. A. Philippson published an interesting account of his experience with Dr. Phelps's operation. The general tenor of the German article was quite favorable to the procedure, and its publication will doubtless serve to heighten the interest with which Dr. Phelps's paper will be read when it appears in the forthcoming volume of the State society's "Transactions."

BLACK TONGUE.

THIS curious affection, termed *lingua nigra*, or *nigrities lingue* (the *nigrité de la langue* of the French, the *schwarze Zunge* of the Germans), is described as being due to a deposit of pigment granules in the cells of the epithelial sheaths of the papillae filiformes. Dessois attributed it to the presence of a micro-organism, the *glossophyton*, but Scheeb, of Munich, who gives an account of a case recently observed by him, in the "Münchener medicinische Wochenschrift" (summarized in the "Deutsche Medizinal-Zeitung"), failed to find any other organisms than those usually found in the mouth, and therefore avers that the disease is not a mycosis, but simply a papillary hypertrophy with corneification and pigmentation. In his case, the blackness was in the form of fine, hair-like growths, and they gave the patient the sensation of fine hairs on his tongue. Nothing is known of the etiology of the disease, and its course is erratic: in some cases it disappears in a few months, while in others it lasts from six to twenty years. According to Scheeb, it should be treated at its onset with bland alkaline washes and mechanical removal of the hair-like outgrowths.

THE COW AS A SOURCE OF SCARLET FEVER.

UNQUESTIONABLY there is much to be gained by studying any possible connection there may be between man's diseases and those of his brute companions. Such a course has been pursued in and about New York at times during the past few years, especially with reference to scarlet fever, but the public statements made by those who have prosecuted the inquiries do

not seem to have excited quite so much attention as might have been expected. Toward the close of the year 1885, Dr. E. Klein, of London, undertook a bacteriological investigation in this direction, and he gives an account of his observations in a paper contributed to the "Proceedings of the Royal Society," vol. xlii, No. 253, containing, among others, the proceedings of the meeting of March 3, 1887. Dr. Klein satisfied himself of the morphological identity of a micrococcus found in the blood of human scarlet-fever patients with that obtained and cultivated from certain cows affected with a similar disease. He also inoculated eight calves with cultivations of the micrococcus of scarlet fever in the human subject, and in all of them a disease was developed that seemed identical, as to both the cutaneous and the visceral lesions, with an affection produced in other calves by inoculation from the cows in question. Dr. Klein thinks it is evident from these observations that the danger of scarlatinal infection from the disease in the cow is real, and that toward the study and careful supervision of this bovine disease all efforts ought to be directed, in order to check the spread of scarlet fever in man, as well as in the interest of agriculturists.

SECONDARY HÆMORRHAGE AFTER TRACHEOTOMY.

EVERY practitioner is familiar with the danger of immediate hæmorrhage to an embarrassing degree in the operation of opening the trachea, but the occurrence of serious secondary hæmorrhage in tracheotomy cases is rare. Eight years ago, a Turin practitioner, Dr. Fulile, described two fatal cases, in the "Annales des maladies de l'oreille et du larynx," and now Dr. Bouju, a Rouen hospital interne, gives an account of an additional case of death from this cause, in a recent issue of "La Normandie médicale." The patient was a child five years old, affected with diphtheritic croup. On the eleventh day after the operation, when the tube had been removed and the child was in full convalescence, a gush of blood suddenly took place from the mouth, the nose, and the tracheal opening, and in two minutes death occurred. It was found at the autopsy that the end of the cannula had caused ulceration, and that the ulcerative process had finally opened into the innominate artery. The lesson drawn from the case by Dr. Bouju is that the incision was made at too low a point.

THE AMERICAN ASSOCIATION OF GENITO-URINARY SURGEONS.

Two of our English contemporaries, the "Lancet" and the "British Medical Journal," have published facetious paragraphs concerning this new society. There is nothing remarkable in that mere fact, but it does strike us as a little odd that both journals should have hit upon the same heading for their irony—that of "Specialism in Excelsis." Can this mean that both drew their inspiration from the same source?

A QUERY CONCERNING ETHER.

IN a recent number of the "Lancet," Mr. John W. Teale, of Scarborough, gives the notes of an interesting case of illness in which coprostasis seems to have played an important part. The patient was an elderly lady who, when she was brought to Mr. Teale for treatment, was so sick and weak that, although he appreciated the vital necessity of evacuating the rectum, he feared to undertake any operative procedure to that end, lest she might sink under it. Therefore temporizing measures were resorted to. They proved ineffectual, and the lady was seized with apoplexy. Mr. Teale took advantage of the insensibility incident to the apoplectic state to stretch the sphincter, which was ex-

ceedingly tight. This had the happy result of at once eliminating the element of coprostasis, and, although the lady continued to be desperately ill for a considerable time, with marked albuminuria among other grave symptoms, and died in rather less than a year, that of prolonging her life to that extent and making her comparatively comfortable. The query that suggests itself to us is, could this patient not have borne anæsthetization with ether (an anæsthetic still too little used in Europe) better than she bore an attack of apoplexy. It would be interesting, too, to know whether, in case such anæsthetization had been resorted to, the albuminuria subsequently discovered would have been imputed to the ether.

THE PLASTERING OF FRENCH WINES.

WE regret to see that the French Government seems almost as subservient to the clamors of tradesmen now as it lately was when, at the behest of French hog-raisers, it prohibited the importation of American pork. Ever since 1879, an effort has been carried on among the hygienists of France to secure the enforcement of the regulation forbidding the sale of wine containing more than two grammes of potassium sulphate to the litre, but, except for a brief period at first, the Government has pursued a policy of inaction, professing that more positive evidence as to the detrimental effect of plastered wine ought to be in its hands before it could justly embarrass the wine trade. The absurdity of the position thus taken has lately been shown anew by M. Marty, in an essay which, as we are glad to learn from the "*Gazette hebdomadaire de médecine et de chirurgie*," enlisted the full sympathy of the *Académie de médecine*. In view of the pork precedent, ought we to tolerate much more delay on the part of the French Government before prohibiting the importation of plastered wine?

BERGEON'S TREATMENT OF PHTHISIS.

AMONG the current reports as to the efficiency of Bergeon's plan of treating phthisis by means of gaseous enemata, we notice a very positive expression of opinion by Dr. J. G. Sinclair Coghill, of Ventnor, Isle of Wight, published in the "*British Medical Journal*." Dr. Coghill says that he has used the method with most encouraging results, and considers it by far the greatest advance ever made in the therapeutics of pulmonary diseases.

A BENEFICENT ATTACK OF PYEMIA.

THE "*Gazette hebdomadaire de médecine et de chirurgie*" gives an interesting summary of a case that was observed at the Königsberg Klinik, and reported in the "*Archiv für klinische Chirurgie*." The patient was a young woman who had a large melanotic sarcoma of the thigh of three years' standing, which had made rapid progress under domestic treatment, and was accompanied with glandular enlargement. An operation for the removal of the growth was undertaken, but its ramifications were found to be so deep that some parts of the neoplasm could not be reached. The skin sloughed, and then pyæmic symptoms appeared, but the patient survived the attack, and the wound finally healed. This was in 1883. In June, 1886, she was seen again, and found to be pregnant and in excellent health. The attack of pyæmia is credited with having led to the absorption of the sarcoma.

THE GOVERNMENT HEALTH REPORTS.

EVER since their first appearance, we have regularly published Surgeon-General Hamilton's summary of consular and other foreign health reports, except on a few occasions when

they have failed to reach us in time. We quite agree with a Washington correspondent of the "*New York Times*" in the suggestion that these excellent reports could be supplemented to advantage by similar data from various localities in our own country, and we will add that, in our opinion, the Government would be doing a public service by extending the scope of Dr. Hamilton's work in this direction.

THE OPHTHALMOLOGIST'S QUANDARY.

MR. CHRISTOPHER S. JEAFFRESON closes a clinical lecture on gunshot wounds of the eye, published in the "*Lancet*," with a discussion of the comparative merits of various operations for removing an eye that has been so seriously damaged as to be useless, or for rendering it inoffensive—with how much satisfaction, may be inferred from his thus parodying the school-boy rhyme:

"Exenteration is vexation,
Abcission is as bad,
Neurotomy won't do me,
Though extraction drives me mad."

ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Fourth Division of the Health Department for the following statement of cases and deaths reported during the two weeks ending May 31, 1887:

DISEASES.	Week ending May 24.		Week ending May 31.	
	Cases.	Deaths.	Cases.	Deaths.
Typhus.....	1	0	0	0
Typhoid fever.....	10	3	8	4
Scarlet fever.....	62	9	64	15
Cerebro-spinal meningitis....	5	5	4	4
Measles.....	49	12	65	7
Diphtheria.....	110	62	116	45
Small-pox.....	25	3	11	3

The New York Post-graduate Medical School and Hospital.—Dr. Charles Carroll Lee has been elected a professor of the diseases of women, and Dr. J. R. Nilsen, formerly an associate professor, has also been made a professor in the same branch, succeeding Dr. A. J. C. Skene, resigned. Among the new instructors appointed is Dr. Joseph O'Dwyer. We learn that the last year's sessions have been attended by more than two hundred matriculates, that the hospital has constantly contained an abundance of instructive and serious cases, and that the babies' ward continues to be well supported by benevolent ladies. The summer session begins on the 15th inst.

The New York State Medical Association.—The Third District Branch will hold its third annual meeting at Elmira on Thursday, the 16th inst. The programme is as follows: "The Use of Cold Water as an Antipyretic in Typhoid Fever, with Cases," by Dr. S. P. Allen, of Whitney's Point; "The Clinical Value of Antipyretics," by Dr. Leroy J. Brooks, of Norwich; "Leucocythæmia," by Dr. S. M. Hand, of Norwich; "Treatment of Fracture of the Inferior Maxillary Bone," by Dr. C. W. Brown, of Elmira; "Hernia of the Brain and Fungus Cerebri," by Dr. Elias Lester, of Seneca Falls; "The Prevalence of Insanity and its Relation to Crime," by Dr. Lyman H. Hills, of Cooperstown; "Interesting Results of a Personal Experience in the Surgical Wards of Bellevue Hospital," by Dr. Joseph D. Bryant, of New York; "The Induction of Premature Labor for Puerperal Albuminuria and General Dropsy," by Dr. F. O'Donohue, of Syracuse; "Pelvic Cellulitis," by Dr. M. L. Halbert, of Cincinnati; "An Unusual Case of Urinary Fistula," by Dr. Nathan Jacobson, of Syracuse; "Uterine Fibroids," by Dr. T. H. Squire, of Elmira; "The Symptoms,

Diagnosis, Prognosis, and Treatment of Medullary Cancer," by Dr. Frederick Hyde, of Cortland; "Bergeon's Treatment of Consumption by Gaseous Enemata," by Dr. Frank W. Ross, of Elmira; and "Erythema Nodosum," by Dr. Orson M. Allaben, of Margaretville.

The Massachusetts Medical Society.—The Section in Clinical Medicine, Pathology, and Hygiene, of the Suffolk District Branch, will meet on Wednesday, June 8th. Dr. J. W. Farlow will read a paper on "Cascara Sagrada and its Use in Constipation"; Dr. P. C. Knapp, one on "The Measurement of the Galvanic Current, and some Remarks upon Electrodes"; Dr. F. W. Page will exhibit a gallstone weighing 23 grains, and Dr. A. N. Blodgett will report a case of agoraphobia.

The Health of Boston.—During the week ending Saturday, May 28th, the following numbers of cases and deaths from infectious diseases were reported to the Board of Health: Diphtheria, 13 cases and 5 deaths; scarlet fever, 31 cases and 5 deaths; typhoid fever, 38 cases and 6 deaths; measles, 128 cases and 3 deaths. There were also 34 deaths from consumption, 27 from pneumonia, 8 from heart disease, 8 from bronchitis, and 3 from marasmus. The total number of deaths was 186, as against 160 in the corresponding week last year.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from May 22, 1887, to May 28, 1887:*

HUBBARD, V. B., Major and Surgeon. Granted leave of absence for one month, to take effect on or about June 1, 1887. S. O. 119, A. G. O., May 24, 1887.

ELBEY, F. W., Captain and Assistant Surgeon. Found incapacitated for active service by an Army Retiring Board. Sick leave still further extended until further orders on account of disability. S. O. 116, A. G. O., May 20, 1887.

BURTON, H. G., Captain and Assistant Surgeon. Granted two months' leave of absence, on surgeon's certificate of disability. S. O. 107, Division of the Atlantic, May 25, 1887.

Naval Intelligence.—*Official List of Changes in the Medical Corps of the United States Navy for the week ending May 28, 1887:*

DEANE, C. W., Passed Assistant Surgeon. Detached from the U. S. Steamer Dale and ordered to the U. S. Naval Hospital, Mare Island.

HAEVEY, H. P., Surgeon. Orders to the U. S. Steamer Iroquois revoked, and to wait orders.

DICKSON, S. H., Passed Assistant Surgeon. Detached from the U. S. Navy-Yard, Washington, D. C., and ordered to the U. S. Steamer Dale.

WAGGENER, J. R., Surgeon. Detached from the U. S. Steamer Iroquois, and to wait orders.

WHITE, S. STUART, Assistant Surgeon. Ordered to the Receiving-ship St. Louis, U. S. Navy-Yard, League Island.

FIELD, DR. JAMES G. Commissioned an assistant surgeon in the U. S. Navy, May 23, 1887.

Marine-Hospital Service.—*Official List of Changes of Stations and Duties of Medical Officers of the United States Marine-Hospital Service for the week ending May 21, 1887:*

GOLDSBOROUGH, C. B., Surgeon. Leave of absence extended to June 1st on account of sickness. May 18, 1887.

GUITÉRAS, JOHN, Passed Assistant Surgeon. Granted leave of absence for four days. May 21, 1887.

ARMSTRONG, S. T., Passed Assistant Surgeon. To remain in charge of service at Memphis, Tenn., until further orders. May 21, 1887.

DEVAN, S. C., Passed Assistant Surgeon. Leave of absence extended thirty days. May 19, 1887.

CARRINGTON, P. M., Assistant Surgeon. Ordered to U. S. Revenue Steamer Rush. May 18, 1887.

NORMAN, SEATON, Assistant Surgeon. To proceed to Marine Hospital, Baltimore, Md., for temporary duty. May 20, 1887.

HEATH, F. C., Assistant Surgeon. Granted leave of absence for thirty days. May 18, 1887.

WOODWARD, R. M., appointed an Assistant Surgeon May 20, 1887, Assigned to temporary duty at the Marine Hospital, Baltimore, Md. May 21, 1887.

Society Meetings for the Coming Week:

MONDAY, June 6th: Medico-chirurgical Society of German Physicians; Morrisania Medical Society (private); Brooklyn Anatomical and Surgical Society (private); Utica, N. Y., Medical Library Association; Boston Society for Medical Observation; St. Albans, Vt., Medical Association; Providence, R. I., Medical Association; Hartford, Conn., City Medical Association; Chicago Medical Society.

TUESDAY, June 7th: American Medical Association (first day—Chicago); Massachusetts Medical Society (first day—Boston); New York Neurological Society; Elmira, N. Y., Academy of Medicine; Buffalo Medical and Surgical Association; Ogdensburg Medical Association; Medical Societies of the Counties of Columbia (semi-annual—Chatham); Franklin (semi-annual); Herkimer (annual—Herkimer); Niagara (annual—Lockport); Orange (annual—Goshen); Saratoga (annual); Schoharie (annual); Ulster (annual—Kingston); and Yates (annual), N. Y.; Hudson, N. J. (Jersey City), and Warren, N. J. (annual), County Societies; Androscoggin, Me., County Medical Association.

WEDNESDAY, June 8th: American Medical Association (second day); Michigan State Medical Society (first day—Jackson); Massachusetts Medical Society (second day); Rhode Island Medical Society (annual—Providence); New York Pathological Society; American Microscopical Society of the City of New York; Medico-legal Society; Medical Societies of the Counties of Albany; Cayuga (annual); Cortland (annual); Dutchess (semi-annual—Poughkeepsie); Montgomery (annual—Fonda), and Middlesex (annual), N. Y.; Philadelphia County Medical Society.

THURSDAY, June 9th: American Medical Association (third day); Michigan State Medical Society (second day); Society of Medical Jurisprudence and State Medicine; New York Laryngological Society; Brooklyn Pathological Society; Medical Society of the County of Cayuga (annual), N. Y.; South Boston, Mass., Medical Club (private); Pathological Society of Philadelphia.

FRIDAY, June 10th: American Medical Association (fourth day); New York Academy of Medicine (Section in Neurology); Yorkville Medical Association (private); Medical Society of the Town of Saugerties, N. Y.

SATURDAY, June 11th: Obstetrical Society of Boston (private).

OBITUARY NOTES.

Thomas Ryerson, M. D., of Newton, N. J., died on Friday, May 27th, in the sixty-seventh year of his age. The deceased was a graduate of the College of Physicians and Surgeons, of New York, of the class of 1844.

Carl Friedländer, M. D., of Berlin.—An announcement of Professor Friedländer's death is published in the "Deutsche Medizinal-Zeitung" for May 19th. The deceased was chiefly

known in this country as the author of an excellent manual on "The Use of the Microscope in Clinical and Pathological Examinations."

Proceedings of Societies.

AMERICAN ASSOCIATION OF GENITO-URINARY SURGEONS.

(Concluded from page 608.)

Idiosyncrasy as Affecting the Specific Treatment of Syphilis.—In a paper with this title Dr. P. A. MORROW, of New York, referred to the ample grounds for ranking mercury and iodide of potassium as "specifics" in the treatment of syphilis, for they attacked the organic lesions and caused them to disappear, as well as the functional disturbances. Experience showed, however, that their specific action was by no means constant and infallible, and all syphilitics were not equally susceptible to their action. The definite peculiarities of constitution generally comprehended under the term idiosyncrasy exerted a dominant influence in modifying the action of drugs, and that of specific remedies was especially subordinate to conditions of aptitude inherent in the individual. In relation to mercury and iodide of potassium, idiosyncrasy might be manifested in various modes and degrees of intensity: 1. In an abnormal susceptibility to their physiological or toxic effects. 2. In the production of incidental ill effects, which might be associated with a drug's physiological action, or might take the place of it, constituting an aberration of its typical mode of action. 3. In an insensibility of the system, or its failure to respond to the curative action of these drugs. Various clinical illustrations of these propositions were given, and the author closed with the suggestion that the significance of idiosyncrasy in therapeutics had not received from specialists the consideration that it deserved.

Oil of Wintergreen in the Treatment of Gonorrhœal Rheumatism.—Dr. R. W. TAYLOR, of New York, read a paper on this subject. (See page 617.)

The Treatment of Late Neoplasms of Syphilis.—Dr. ALGERNON S. GARNETT's paper on this subject was read by the secretary. The author did not regard syphilis as a benign disease at all—one having a tendency to self-limitation. The benignancy of to-day was the ataxia of to-morrow. The treatment to which he called attention was that by mercury and the iodide of potassium, and these he continued to give in very large doses. If necessary, tolerance of the drug should be cultivated. No fixed rules should be made for the dosage; it should vary according to circumstances.

Temporary Overstrain of the Bladder producing Chronic Retention of Urine.—Dr. F. N. ORIS, of New York, introduced his subject by defining the usual causes and varieties of atony of the bladder. He called special attention to that form recognized as occasionally resulting from sudden overstrain by reason even of a single attack of retention, particularly when it occurred independently of any organic obstruction, but probably as a result of reflex irritation caused by a contracted meatus urinarius or a urethral stricture of large caliber. Such reflex trouble might, however, arise from the irritation of hæmorrhoids, or it might be caused by temporary loss of consciousness or any nervous shock, or by sexual excess. However caused, he maintained that a single retention of urine might, within a few hours, produce such an overstrain of the muscular structures of the bladder as to necessitate, in some cases, the use of the catheter during the remainder of the patient's life. Several cases were cited in proof of the occurrence of acute re-

tention from reflex causes which were promptly and permanently relieved by division of a urethral contraction. In none of these, was there any prostatic enlargement, any close stricture, or any general atony of the bladder. From this fact it was assumed that the overstrain had been local, chiefly in that portion concerned in opening the vesical orifice. The portion thus weakened was unable to overcome the resistance of the muscular structure of the so-called vesical sphincter. The most salient points of the paper were: 1. The importance of recognizing the influence of even slight urethral stricture in producing sudden retention of urine. 2. The importance of early recognition and relief of such retention by catheter, and in this connection the author advised against a too rapid emptying of the bladder, and stated that by a gradual withdrawal of the urine the dangers of syncope, hæmorrhage, and cystitis were to a great extent avoided. 3. The fact that a localized atony of the bladder might be present in sufficient degree to prevent voluntary urination while the contractile power of the superior portion of the organ remained practically undiminished. 4. Failure to restore the urinary function in such cases by other measures suggested a possible cure, even in long-standing cases, by incision of the vesical neck.

Early Syphilitic Epididymitis.—Dr. J. N. HYDE, of Chicago, read a paper, and cited cases with a view to presenting the negative side of the subject. He thought the following propositions were based on clinical facts: 1. A man might suffer from a blennorrhagic epididymitis on one side, subsequently contract syphilis, yet escape syphilitic involvement of the epididymis. 2. He might suffer from blennorrhagic epididymitis involving first one organ then the other, finally get syphilis, and escape syphilitic epididymitis. 3. He might suffer from blennorrhagic epididymitis of one or both organs, become so irritable as to exhibit by inflammatory accidents sympathy with successive blennorrhagic attacks, yet throughout a final syphilis betray no sensitiveness to the last-named disease. 4. One affected at the same time with syphilis and blennorrhœa might suffer from an epididymitis evidently a complication of the last-named disease, and yet escape syphilitic involvement of the organ. 5. He might suffer from tuberculosis and subsequently incur syphilis, yet the epididymis escape involvement. 6. One who had suffered from repeated attacks of blennorrhœa, and that lately, might exhibit a typical form of early syphilitic epididymitis.

Prostatotomy for Obstruction.—Dr. A. T. CABOT, of Boston, reported two cases. In one the patient had had cystitis for five years. Two years previously the author had performed litholapaxy, removing a phosphatic stone. The patient's difficulty with micturition became so great that he could pass his urine only in the crouching posture, and with great force in straining. When the prostate was examined the obstruction was found in the shape of a narrow bar. Although the obstruction was so great, the bladder was still able to empty itself almost completely. The author ascribed the subsequent incontinence to this hypertrophied condition of the bladder, which was sufficient to overcome the constrictor muscle weakened as a result of the incision into the membranous urethra. He queried whether in a case like this, with good evidence of an hypertrophied bladder, and in which the obstruction was a narrow bar, the internal prostatotomy of Mercier might not prove the better operation. In the other case the operation was followed by almost complete recovery of the function of the bladder: litholapaxy had previously been done.

The Use of Nitrate of Silver in the Deep Urethra.—The PRESIDENT showed an instrument for injecting the deep urethra, which he believed was more suitable and more serviceable than other syringes now in general use. His method was to deposit from three to five minims of a watery solution of the nitrate, of

a strength varying from one to forty-eight grains to the ounce, very accurately in the center of the membranous urethra, by the use of an instrument open at its tip. He thought the method unsuitable in cases of cancer, tubercle, or considerable circum-urethral inflammation, but most beneficial in inflammatory and neurotic surface disturbances of the deep urethra and the neck of the bladder. He gave illustrative cases of the cure of gonorrhœal cystitis, relapsing epididymitis, vesical irritability, prostaticorrhœa, etc.

Dr. J. H. BRINTON had employed injections of nitrate of silver in the deep urethra with marked success. Discomfort or pain was readily allayed by allowing a small stream of water to flow over the corona glandis.

A Rare Form of Septicæmia after Urethrotomy.—Dr. TAYLOR read a paper on a rare form of septicæmia (*septicémie foudroyante gazeuse*) following internal urethrotomy. In 1878 a physician performed this operation, and the author was called to the case in consultation. The patient was a perfectly healthy man, twenty-eight years old, who had a tight stricture at the bulbo-membranous junction, which was incised by means of Maisonneuve's instrument, the operation being performed with all care. Within twenty-four hours, severe pain attacked the perineal region, and soon a reddish, boggy appearance was observed. Then the inflammatory action extended and presented marked features. The integument became œdematous, and a distinct emphysematous crackling was felt when pressure was made on the parts. As this rapidly extended, large brown patches developed on the skin and felt as hard as the rind of ham. Besides these, there were large ecchymotic spots and deep blue-black lines caused by congestion and distension of the veins. This condition extended over the whole body, which during life was much enlarged by the œdema and by the gas in the subcutaneous tissue, and after death became rapidly swollen beyond recognition, being of fully twice its natural size, and was a deep-purple gangrenous mass covered with large bullæ and emitting a horrible stench. Death took place eighty-seven hours after the operation. The symptoms were rapidity of the pulse, tumultuous action of the heart, progressive and distressing dyspnoea, intense restlessness, utter agony, and despair. The temperature at first rose, and then fell below normal. Such a disease had not been accurately known until 1870, although many cases of it had been reported, particularly as occurring in armies and navies and in crowded hospitals. Most of them had been epidemic, but few sporadic cases, like the one just reported, having been put on record, and in general the manifestations had occurred on the limbs, especially the legs, and on the trunk after the ablation of tumors. Of the many names that had been proposed, the author preferred Mollière's term, *septicémie foudroyante gazeuse*. By some English authors it was called acute spreading gangrene—too mild a name for such a fulminating malady. Reasons were given in support of the view that the disease was caused by a specific septic microbe. The only treatment was thorough ablation of the part in which the septicæmia began, if that was practicable.

OBSTETRICAL SOCIETY OF PHILADELPHIA.

Meeting of May 5, 1887.

The President, Dr. THOMAS M. DRYSDALE, in the Chair;
Dr. W. H. H. GITHENS, Secretary.

Placenta Prævia.—Dr. DANIEL LONGAKER said that he desired to reopen the discussion on this subject to submit a few clear and distinct rules of practice in that grave emergency. In a recent debate in this society it had been quite evident that our ideas were not so clear as they should be. One of the meth-

ods of treatment, and the best one that had ever been pursued in the appropriate class of cases—a method which would be found the best in the vast majority—had even been regarded with skepticism. He referred to the treatment by means of bimanual version after the manner of Braxton Hicks, a plan by which three operators—Behm, Hoffmeir, and Lomer—had saved ninety-two out of ninety-three patients under their personal care ("Am. Jour. of Obstetrics," December, 1884, p. 1242). He would like to detail briefly his last case. The patient, a multipara, aged twenty-eight, had called him at 4 P. M., April 19, 1887. The anticipated date of confinement was one month later. Eight days before date she had had a trifling loss of blood, but had not sent for him. He was called because of a sudden hæmorrhage coming on without pain while she was walking across the room. It was difficult to estimate the quantity of blood lost—it was not more than half a pint. Arriving a half hour later, he found that the os admitted barely two fingers. The placenta was on the right side at the margin of the internal os; a slight flow of blood continued; she had had a few pains in the hypogastrium. Bimanual version was at once decided upon; two fingers of the right hand in the vagina pushed up the head, while the left depressed the breech down toward the right side. As soon as the head was above the linea terminalis the right hand also manipulated from the outside, raising the anterior shoulder toward the left hypochondrium, the left hand constantly manipulating the breech toward the pelvic brim. As soon as version was completed the two fingers of the right hand were introduced into the vagina and the membranes ruptured at the margin of the placenta. A leg was ready to drop into reach of the index finger; it was brought out, displacement of the cord being carefully avoided. The delivery was left to the natural efforts up to the expulsion of the shoulders. The arms were extended, and were easily brought down, and the head was quickly extracted. Hæmorrhage was practically absent after the leg had tamponed the dilating cervix. The child cried almost immediately and had since thriven remarkably. There was slight post-partum hæmorrhage, but not a single unfavorable symptom, and the mother was about on the ninth day feeling perfectly well. No anæsthetic was used, and, as illustrating the ease with which turning by the bimanual method might be done, he might say that the patient did not know this had been done. In order that our ideas might be as definite as possible, the speaker would emphasize the points made in narrating the history of the case by a few quotations from Lomer's valuable contribution: 1st. "Turn by the bimanual method as soon as possible." 2d. "Pull down the leg and tampon the ruptured vessels of the placenta with it and the breech of the child." 3d. "Do not extract the child then." 4th. "Do away with the plug as much as possible. It favors infection and valuable time is lost by its application." 5th. "Do not wait to turn until the cervix and os are sufficiently dilated to allow the hand to pass." 6th. "Turn as soon as you can pass one or two fingers through the cervix." 7th. "Use chloroform freely." 8th. "Rupture the membranes at the margin of the placenta. If this is not feasible, perforate the placenta." 9th. "The next part of the treatment is expectant. Experience shows that flooding ceases." So long as these results remain unsurpassed by those of any other plan of treatment in the hands of different operators, were we not morally bound to accept these teachings? In large numbers (*op. cit.*) of cases, collected by Charpentier, Depaul, Simpson, Schwarz, Trask, Müller, and King, we had a maternal mortality ranging from 35 to 22.5 per cent., and in the hands of single (*op. cit.*) operators, Spiegelberg, Barnes, Hecker, Müller, and Murphy, a mortality ranging from 16 per cent. to *nil* in the cases of Müller and Murphy. It was also to be feared that harm might have been done by the vigor-

ous defense of the tampon, and that there might be danger of going back to the old bad record. While it might, though rarely, serve a useful purpose in controlling a hæmorrhage, it was a dangerous agent and one that could nearly always be superseded by the natural and safe tampon formed by the *leg and breech of the child*. The speaker could not better illustrate this than by a brief reference to one of the tampon's victims: A patient was tamponed, and when the os had been dilated she was delivered of a dead baby with the forceps. The record said she had died one week after delivery of septicæmia. Another died six days after version, and presumably immediate extraction, for the autopsy showed rupture of the inferior segment of the uterus. His own record was seven cases; all the mothers saved and three of the children. He wished to plead finally the ease of performing the operation, the necessity for action in the face of hæmorrhage, and the efficiency of this natural tampon.

Hydramnion; Malformation of the Fœtus.—Dr. LONGAKER also said that the history of the following case, with a description of the peculiarities presented by the fœtus, was submitted in the hope of contributing something to our knowledge of a disease the pathology of which was still involved in some obscurity. On January 1, 1887, Dr. E. I. Santee had requested the speaker to see with him Mrs. R., who had supposed herself seven months advanced in her fourth pregnancy. She had always enjoyed good health. In her former pregnancies she had been delivered at term without complication. There had been no symptoms to call attention to any unusual condition until three weeks before the date of his visit. Her symptoms at that time were attributed to impending miscarriage. She complained of pain, especially in the umbilical and epigastric regions. This pain was much worse at night, so that large doses of opiates were demanded. He found her confined to bed; pulse and respiration normal; temperature subnormal, 97.5° at 4 P. M. Her abdomen was uniformly enlarged from the pubes to the ensiform cartilage, the girth at the umbilicus being 37 inches. Percussion showed resonance in the flanks, and fluctuation was quite distinct. On careful palpation, no trace of the fœtus could be found. No fœtal movements were noted, nor any fœtal heart-sounds. She had not felt life for four days. The uterine walls were firm and unyielding. The supra-public region was œdematous. Examination *per vaginam* revealed the cervix intact and the os externum patulous. The internal os admitted the index finger. Immediately over this was felt the tense amnion; it conveyed the impression of the membrane during a labor-pain. The diagnosis of hydramnion was concurred in, and it was concluded that, in the absence of symptoms of an urgent nature, it was best to treat the case expectantly. Three days later pains set in actively. The amount of fluid was large. It was estimated as certainly more than a gallon. Some inertia followed its discharge, for which ergot was given. The feet presented. Powerful traction was necessary, and extraction was accomplished only after the spinal column had parted. Convalescence was slow, but recovery was finally complete. The fœtus, of six months and a half, was 34 cm. long, and weighed 1,500 grms. The epidermis was macerated, and partially peeled off on the extremities. The neck was the seat of a tumor, fluctuating in the greater part of its extent, of the size of an average full-term fœtal head. It involved the anterior and lateral aspects, and extended from mastoid to mastoid, and, with the head in a position of moderate extension, it reached from the border of the inferior maxilla to the ensiform cartilage. The integument over the swelling was thin and almost semi-transparent. The entire head was œdematous, the swelling, however, being most marked over the frontal and facial region. Ossification of the two halves of the inferior maxilla was imperfect. On section, the pleural, pericardial,

and peritoneal cavities were found moderately distended with serum of a faint-red color. The heart was greatly hypertrophied. It was of fully twice the size of that of a normal fœtus of a corresponding period of development. The kidneys and supra-renal capsules were normal. No abnormality was found in the remaining abdominal and thoracic organs. The stump of the umbilical cord was œdematous. The placenta could not be examined, as it had immediately been thrown away by the nurse. The spinal column was severed in the cervical region. The trachea, œsophagus, and vessels were also torn across. The head was attached to the trunk solely by the integument and muscles of the neck on its anterior aspect. A portion of the brain-like mass of the tumor had escaped through this laceration. The large vessels passed through the mass. Dr. W. J. Haehlen, who kindly examined the specimen, reported that it was a myxoma. There could be no doubt that in this case the excessive amount of fluid was of fœtal origin. It was greatly to be regretted that the placenta could not be examined. The hypertrophy of the heart was due to the pressure exerted on the great vessels of the neck by the tumor. In like manner this had interfered with the return current of blood, and hence the œdema. The same condition must have existed throughout the entire venous system. Increased pressure existed in the umbilical vein, and hence transudation into the amniotic cavity by the capillary network of Jungbluth, which had been shown to be persistent at term in hydramnion (Lusk, "Science and Art of Midwifery," p. 288). It was also known that an increase of pressure in the umbilical vein caused a rapid transudation into the cavity of the amnion (*op. cit.*). It was worthy of note that the kidneys were not hypertrophied, and that there was no indication of increase of functional activity in distension of the bladder. The œdematous condition of the cord might also be regarded as significant of increased pressure in the umbilical vein. This increased pressure, primarily due to embarrassment of the heart, must be regarded as the direct cause of the rapid and abnormal accumulation of fluid in the cavity of the amnion. Dr. Robert T. Wilson ("A Contribution to the History of Hydramnion," "Am. Jour. of Obst.," January, 1887) had recently given an interesting *résumé* of this subject. His case was of peculiar value in so far as it enabled us to determine the mooted point of maternal origin in some of these cases. A careful dissection of the fœtus by Professor Welch failed to reveal any abnormality. The enormous amount of seven gallons of fluid had accumulated.

Dr. KELLY was glad that some of our countrymen had at last taken up this interesting subject in a scientific manner, pregnant as it was with important issues on other questions. The admirable paper of Dr. Wilson, of Baltimore, deserved special mention. There was no doubt concerning the correctness of Dr. Longaker's view, that the associated hydramnion had been due to the hypertrophy of the heart, which in turn had depended upon the pressure of the tumor upon the large vessels of the neck. The possibility of transudation from the cord and the placental surface under such mechanical conditions had been abundantly proved. The most interesting cases were such as had been recorded by Schatz and Kustner, in which the hydramnionic twin had been shown to have a heart enlarged by keeping up the anastomotic circulation with the weaker twin.

Axis-Traction Forceps.—Dr. B. C. Huest exhibited the forceps of von Hecker, used in the Frauenklinik at Munich. The Pouliet attachment had been added to the original forceps.

Dr. LONGAKER remarked that the idea of making traction by means of tapes attached through perforations of the blades was suggested by Chassagny, of Lyons, as early as 1865.

Dr. KELLY was pleased with the forceps of von Hecker, and considered it better adapted to the Pouliet tractor than the

Hodge or any straight forceps. The very fact of attempting to use a long, straight forceps was an attempt to realize thus, in some measure, an axis traction (according to the present use of the term, which meant a direct pull). The Poulet forceps which Dr. Kelly had previously exhibited was not, as stated by Dr. Longaker, a modified Chassaigny, but combined ideas developed by Hubert, of Louvain, and Chassaigny. The former had shown the necessity of pulling in the axis of the pelvis to make a traction which would be at the same time effective and non-injurious to the mother, while Chassaigny had drawn special attention to the importance of grasping the child's head in such a way that the pull came as nearly as possible in the center of the figure of the child's head. The speaker had within a week used the Poulet forceps in the following interesting case: Mrs. K. had a justo-minor pelvis. She had been delivered about two years before by her present physician, a skilled accoucheur, of an average child with the forceps. This time, however, the physician had made long unsuccessful attempts with a long Simpson forceps, when he called the speaker, declaring that the head was locked at the brim, and that it was utterly useless to try to move it with any ordinary instrument. At his request the speaker applied his Poulet-Levret forceps with the woman lying on her back. The Levret blades were simply adjusted to the head, which was engaged at the brim, completely flexed. The first few tractions on the bar seemed to make slight but distinct progress. The head under the following traction efforts moved steadily, slowly, and quietly down the axis of the pelvis, rotating, and, although large, emerged at the outlet. No fixation lock or screw was used to compress the head. It took a long time to release the body, but finally a male weighing 13½ pounds, measuring 60 cm. in length, and with a head 47½ × 37 cm. in its largest circumference, was extracted. The child was profoundly asphyxiated, but revived under syringing and douching. This case was but a type of many, some of which he had announced to the society, in which the Poulet-Levret forceps had done him such excellent service. He now used no other instrument.

Abscess of the Ovary, with Pyosalpinx.—Dr. J. M. BALDY related the following history: A woman, thirty-one years old, married thirteen years, five children, one miscarriage, always healthy, and menses regular before marriage. Had a good "getting-up" from all her labors, excepting the last, which had occurred seven years ago. She gave a history of some inflammatory trouble at that time, which had kept her in bed for some weeks. She had since bled irregularly and profusely. She had had constant pain in her abdomen whenever receiving a slight jar, or when long on her feet, as well as on coition. Her general health had been poor, and she had lost considerable flesh. The speaker was called to attend her on the 31st of March, and found her on her back, suffering with general abdominal pain; constipation; tender, swollen, and tympanitic abdomen. She had been sick for a month, and had been getting gradually worse. An examination *per vaginam* showed the uterus in good position, normal in size, with a mass running from the right corner to the pelvic wall; the mass was larger than the fundus uteri, and firmly bound down; painful on pressure. The pulse was 120°, and the temperature high. As she did not improve under general treatment, abdominal section was performed April 4th. The left tube and ovary were found healthy; the right tube and ovary were removed. The ovary contained an ounce or more of pus, and the tube was distended with pus. Adhesions were general. The mass was adherent to absolutely everything within reach, and, as was seen by the specimen, there was hardly a spot on it free from these strong adhesions. Monsel's solution was used to check bleeding from points of adhesion to intestines, and a

glass drainage-tube was put in. After the third day there was a free discharge of pus from the tube, and the abdominal cavity was thoroughly washed out four times a day with boiled water. The pulse fell below 100, and the temperature was lowered, and neither exceeded this point subsequently. The tube was removed by the fourteenth day, and the patient made a good recovery, not only from the operation, but from all her old troubles. Her pulse and temperature were normal; her pains had disappeared entirely, her peritonitis was cured, her menses had appeared at their proper time and in proper quantity, and she was rapidly gaining her lost flesh. The result had been altogether most gratifying. The case was of particular interest, inasmuch as it illustrated very well the class of inflammatory tubal troubles arising from the puerperal state to which the speaker had called the attention of the society the month before. The origin was clearly septic, and not traumatic. These women got along apparently well for a few days after delivery, and then suddenly began to develop alarming symptoms. The fact of the delay in the development of trouble was a clear proof that it was non-traumatic and threw all the evidence in favor of the septic origin, and then the micro-organisms of puerperal septicæmia had been found in these cases. This particular case was clearly one of this character. The patient had been perfectly well until her last labor; she then developed inflammatory trouble a few days after the labor, and had been a sick woman ever since. There was, so far as could be ascertained, no history of gonorrhœa in her case, and he would say from his knowledge of the woman that her statements were to be absolutely believed so far as she herself knew.

A New Leg-holder.—Dr. McBRIDE exhibited a new *Beinhalter* [a description of which was given in our issue for May 28th, on page 614].

Dr. KELLY said that this apparatus was an excellent substitute for the heavier, more clumsy, and expensive ones commonly used. He then exhibited his own, which he considered attained the same ends even to a greater degree of perfection. It consisted simply of two collars of muslin padded with hair-cloth, which fitted the thighs close to the knees. Through these collars passed a broad muslin strap, also well padded, which was provided with a snap-hook at each end. The snap was caught in a ring on one collar placed under the knee, and the strap was then brought under one arm, around the back of the neck, and down over the other shoulder, and the other end snapped in the opposite collar, also in place above the knee. The distance from knee to knee, by this course, when properly flexed on the abdomen for operation, was twenty inches or less. A simple device of rings on the inside of the strap allowed of still further shortening. The speaker did not consider the cross-bar between the knees at all necessary. His *Beinhalter* could be carried in the pocket. He described that of Clover; also gave blackboard illustrations of Fritsch's, Gendny's, and Sânger's. Most of those in use in Germany, while convenient in a large clinic, were too clumsy to be carried about. Sânger's was by far the simplest and most convenient for general use.

Dr. PARISH agreed that a *Beinhalter* was desirable, and described one that he used that was attached below the knee.

MEDICAL SOCIETY OF THE COUNTY OF KINGS.

Meeting of March 18, 1887.

The President, Dr. WILLIAM WALLACE, in the Chair;

Dr. C. E. DE LA VERGNE, Secretary.

Intubation of the Larynx.—A paper on this subject was read by Dr. GEORGE McNAUGHTON. [See page 624.]

Dr. SHEERWELL said that he had been much interested in

the paper, and in the successful demonstration on the cadaver by the author. He had also had the pleasure of seeing the procedure demonstrated by the originator of the method and instruments at a recent meeting of a New York medical society, and he believed no one there could have failed to note the modesty, as well as the earnestness, with which his arguments in favor of it had been brought forward. Dr. O'Dwyer had, however, at that time personally disclaimed any idea of this method supplanting tracheotomy in the cases in which the operation was most frequently needed—*i. e.*, diphtheria and croup; but favored the idea that each was supplementary to the other, in which, the speaker believed, he was quite right. Dr. McNaughton had advanced all the arguments *pro* in an entirely reasonable way; but the speaker was unable to believe that the percentage given of recoveries by that method was entirely just, as he thought it was reasonable to believe that this procedure had sometimes been adopted when the necessity did not exist; for instance, the parents' consent, as the doctor had stated, was for obvious reasons so readily obtained, etc. This was in one way one of the strongest arguments for O'Dwyer's method, as it seemed to him. It would, however, sometimes result in an unnecessary operation. While the speaker had had no personal opportunity of employing intubation, he had had a fair amount of experience in tracheotomy in children, and this experience had been in the "late operation," so called, when the child was "in articulo mortis" or thereabout, one actually dying on the table. Still, the number of successful cases had been in his hands four, in a total of fifteen operations, which compared favorably with the percentages given in Dr. McNaughton's paper by this other method. He thought, too, that the dangers of occlusion of the tube were great, though he was glad to be assured by Dr. Dillon Brown that they were less than seemed probable. The relative ease of cleaning the tracheotomy-tube with a feather, etc., was decidedly an advantage. He had spoken of his own success in tracheotomy, but that was generally excelled nowadays, and 33 per cent. was often given as a ratio, in the last few years at any rate—among others, by Dr. A. R. Robinson, of New York. To conclude as he had commenced, he much desired a favorable issue to this mode of treatment, which, to be fair, was even yet *sub judice*, but could scarcely believe it would take the place in any great degree of the older operation, even though it was so eminently desirable. No one could wish anything else but success to O'Dwyer and his followers. In cases of stenosis of the larynx from syphilis and kindred causes, the speaker believed it to be the ideal instrumental procedure.

Dr. McMANUS said that he had performed the operation three times, with the result of two deaths and one recovery. The first case was that of a boy aged twenty-two months. An O'Dwyer's tube was introduced and relieved the dyspnoea immediately, but the boy died two hours afterward from heart failure. The second case was that of a girl aged eleven months. She was first attacked with measles, and then developed diphtheria and, finally, diphtheritic croup. The tube was introduced with some difficulty, which at the time he attributed to his own clumsiness in the use of the instrument. The dyspnoea was at once relieved, but she died eleven hours afterward with the tube in her throat. The third case was that of a girl two years and a half old. A sister older and a brother younger had died of diphtheria and diphtheritic croup, respectively, before he was called to her. In this case the tube was introduced with considerable difficulty and only after several trials, each trial causing considerable blood to come away, with some patches of false membrane. The dyspnoea was immediately relieved, and the tube was allowed to remain twenty-four hours, and was kept

out for several more hours, when it was reintroduced because the symptoms again seemed to demand it. The time of attendance in this case was two weeks after the first introduction. It was followed by paralysis of the soft palate, and this had caused him to wonder whether the dyspnoea, etc., might not have been caused by some paralysis of the laryngeal muscles, possibly the abductors.

Dr. WIGHT commended the operation and said, should opportunity offer, he would give it a trial.

Dr. HUNT said that he had spoken to several friends about the operation and had found that they all agreed that there was not so much trouble in introducing the tube as in taking it out. He would like to hear something said about that.

Dr. CHARLES JEWETT said that he had had no experience in this operation. While listening to the reading of the paper, however, it had occurred to him that there was another advantage of intubation over tracheotomy that had not been alluded to in the discussion. The after-care of the case was much simpler. This, in his experience, had proved one of the most troublesome things in tracheotomy and most difficult to accomplish. It had also occurred to him to ask how long the tube was usually left in the larynx, and by what means the time for its removal was determined.

Dr. DILLON BROWN said that in discussing the subject of intubation of the larynx it should be remembered that Dr. O'Dwyer had never made extravagant assertions for the operation, but had confined himself as much as possible to a bare statement of the results of his work and observations. After spending five years of hard work in developing and perfecting his idea, he had presented it to the profession along with the results so far obtained, and left them to determine its true value. There had rapidly accumulated such a mass of evidence in its favor, coming as it did from all parts of the country, that its position as a substitute for tracheotomy was well established. However, in cases of doubt, intubation did not prevent a tracheotomy being subsequently performed, but made it easier by giving the operator a guide upon which he could open the trachea quickly and safely. Whatever the final decision might be as to the value of intubation compared with tracheotomy, the former from necessity must have the wider field, because in the vast majority of cases consent of the parents to permit a cutting operation could not be obtained. The coughing excited by swallowing fluids was beneficial, for it not only freed the tube of any accumulations, but, being an expulsive cough, cleared the bronchi. The refusal of patients to take food was due in a certain number of cases not so much to their inability to swallow as to anorexia from nephritis and other complications of the disease. In many cases children refused food before any operation had been done. The most brilliant application of Dr. O'Dwyer's method was in chronic stenosis, and in these cases it would probably take the place of all methods of treatment previously proposed.

Dr. SHERWELL asked if it was not easier to practice intubation on the living subject than on the cadaver.

Dr. BROWN replied that it was, and, in answer to Dr. Jewett's question as to how long the tube should be left in the larynx and how to determine the proper time for removal, said that this was a matter which must be determined by experience. As long as the patient was doing well, it was better not to remove the tube until the fifth or sixth day. But if there was a return of the dyspnoea, the tube should be immediately taken out to see if it was clear, for in a certain number of cases it was impossible to determine whether the dyspnoea was due to laryngeal obstruction or to extension of the membrane to the bronchi.

Dr. WALKER asked Dr. Brown if he had ever tried feeding by the nose.

Dr. BROWN replied that he had, and in some cases it was

necessary. The danger from food getting into the bronchi and causing pneumonia was slight. As a matter of fact, the cause of death in most cases was due to extension of membrane to the bronchi. In thirty-five deaths following intubation, of which he had seen the autopsies, there was not a single case of so-called septic pneumonia, there was never found any trace of food in the bronchi, and there were but few cases of extensive broncho-pneumonia.

Dr. ROCHESTER asked what the cause was of its being expelled. Did Dr. Brown ever have the tube spring out as soon as his finger had been removed from it, and how did he account for this?

Dr. BROWN replied that the tube might have been in the pyriform sinus, or, if in the larynx, the retaining swell of the tube had not been pushed well down below the narrow subglottic region. He had an adult now under treatment for chronic stenosis following tracheotomy, in whom this had occurred by reason of the lower end of the tube catching in the tracheal wound.

Dr. THALLOX asked what his experience was as to the effect of the tube in causing or preventing the exudation of false membrane.

Dr. BROWN was unable to say positively what influence the tube exerted in this respect, but he had noticed at autopsies that the pressure of the tube had seemed to cause a diminution of the swelling and exudation.

Book Notices.

BOOKS AND PAMPHLETS RECEIVED.

Some Observations upon the Modern Treatment of Urethritis (read by invitation before the New York Dermatological Society). By George E. Brewer, M. D., Assistant Surgeon to the Out-door Department of Roosevelt Hospital. [Reprinted from the "Journal of Cutaneous and Genito-urinary Diseases."]

Controlling Sex in Generation. The Physical Law influencing Sex in the Embryo of Man and Brute, and its Direction to produce Male or Female Offspring at Will. By Samuel Hough Terry. Second Edition, with an Appendix of Corroborative Proofs. New York: Fowler & Wells Co., 1887. Pp. 5 to 299.

Elementary Microscopical Technology. A Manual for Students of Microscopy, in Three Parts. Part I. The Technical History of a Slide from the Crude Materials to the Finished Mount. By Frank L. James, Ph. D., M. D., etc. St. Louis, Mo.: St. Louis Medical and Surgical Journal Company, 1887. Pp. iv-7 to 107.

Public Health. The Lomb Prize Essays. Award made at the Thirteenth Annual Meeting of the American Public Health Association, Washington, D. C., December 10, 1885. With an Appendix. Second Edition. Concord, N. H.: Republican Press Association, 1886. Pp. 198.

A Case of Nephrolithotomy during the Fifth Month of Pregnancy. By Louis McLane Tiffany, M. D., Professor of Surgery in the University of Maryland. [Reprinted from the "Medical News."]

Sur un nouveau traitement de la métrite chronique et en particulier de l'endométrite par la galvano-caustique chimique intra-utérine. Par le Dr. G. Apostoli, Professeur libre de gynécologie et d'électrothérapie à l'école pratique, etc. Avec 9 figures dans le texte. Paris: Octave Doin, 1887. Pp. 68.

Baldness. What can we do for it? By George Thomas Jackson, M. D., Assistant Visiting Physician to the New York Skin and Cancer Hospital, etc. [Reprinted from the "Medical Record."]

A Further Study of the Therapeutic Value of Oxygen, with Cases Treated. By Samuel S. Wallian, A. M., M. D., New York. [Reprinted from the "Journal of the American Medical Association."]

Differentialdiagnose der verschiedenen syphilitischen Geschwüre. Von Prof. Dr. Gustav Wertheim, k. k. Primararzt an der "Rudolf-Stiftung" in Wien.

Reports on the Progress of Medicine.

NEUROLOGY.

By J. LEONARD CORNING, M. D.

Insanity Among the Chinese of the United States.—Wilkins ("American Journal of Insanity") draws attention to the considerable proportion of insane Chinamen in California. As to the belief that there is little or no insanity in China, Dr. Wilkins states that he has been informed by natives of that country that when a man becomes insane he is placed in solitary confinement and eventually dies. From his own observations, however, the writer is led to believe that the proportion of Chinamen who become insane is not so great as that of other nationalities. This comparative immunity he ascribes more particularly to the fact that they eat rice and unstimulating food, and also somewhat to their stolidity of temperament. So far as he was able to observe, there was nothing peculiar about the forms of mental derangement encountered among the Chinese; they were afflicted with melancholia, mania, and dementia, much in the same proportion as European nations.

Drumine ("Australian Medical Gazette"), the new local anæsthetic, has been obtained from the *Euphorbium Drummondii* by Dr. John Reid in the following manner: A tincture is made with rectified spirit. After standing a few days, it is evaporated so as to be rid of the spirit; ammonia is added in excess, and the solution is then filtered. The residue, after the ammonia smell is gone, is dissolved in dilute hydrochloric acid, and the filtrate is filtered through animal charcoal to destroy the coloring matter. The filtrate is evaporated slowly, and leaves the alkaloid. It gives a colorless solution with very little taste, is almost insoluble in ether, but freely soluble in water and chloroform. The crystals are colorless and frequently stellate in form. By dropping the solution upon the conjunctiva of the cat, the latter soon became insensible. A like effect was observed when the medicament was placed in the nostrils or upon the tongue. Dr. Reid has employed the remedy in sciatica and other painful conditions with good results. A more thorough investigation of this substance is greatly to be desired. We, ourselves, have sought to obtain it, but without result.

Descending Degeneration of the Brain and Cord.—Bianchi and d'Abundo ("Neurologisches Centralblatt") have made an interesting series of experiments with a view to ascertaining the course followed by the degenerated fasciculi after removal of various zones of the cortical substance. Thus, after removal of the gyrus sigmoides, permanent changes (paresis, contracture) of the limbs of the opposite side were observed, as well as protracted derangements of sight (hemipia lateralis homonyma). On the other hand, no disturbances of cutaneous sensibility were noted. Again, the intellectual life of the animals (dogs) remains apparently unimpaired; they retain their instincts as before, exhibiting vivacity, acuteness, and affection. Nutrition remains in an excellent state of efficiency; the animals increase in full measure, but their offspring are epileptic.

Contribution to the Physiology of the Corpus Striatum.—Baginsky and Lehmann (Virchow's "Archiv für pathologische Anatomie") have conducted an interesting series of experiments with a view to a more exact determination of the functional significance of this important structure. The technique resorted to would seem to possess many advantages. In brief, the process employed was the following: A fine glass cannula was connected with an ordinary water air-pump and those portions of the brain to be extirpated were removed by suction. By gradually removing in this way the greater part of the nucleus caudatus, these investigators ascertained that the consequent modifications in function were merely quantitative in character. The principal phenomena observed were the following: Increased susceptibility of the animals to sensory impressions; tendency to run away with precipitancy, if attempts were made to catch them, but without evidence of any

internal motion; a peculiar derangement manifesting itself in anomalous attitudes of the extremities, particularly of the forelegs. When severely irritated, the extremities resumed their normal attitudes. This phenomenon has already been described by Schiff and Nothnagel, and is ascribed by Nothnagel to partial paralysis of the muscular sense. All the phenomena retroceded, but it was observed that the greater the amount of the nucleus removed, the longer the time which elapsed before function was again restored. It was also observed that whenever the anterior portion of the nucleus caudatus was irritated (not destroyed) a rise in temperature took place. A resumption of the normal temperature took place, however, with great rapidity.

New Facts concerning Anæsthesia in Conjunction with Organic Lesions of the Spinal Cord.—The manifold contradictions and doubts which beset the physiology of sensory conduction in the cord are, according to Brown-Séquard (*"Compt. rend. hebdomadaire des séances de la société de biologie,"*), to be ascribed to the fact that, when after an operation upon the central nervous system there is cessation of function, it is at once assumed that the conducting paths necessary to such function have been destroyed. According to Brown-Séquard, this is by no means the case, but, on the contrary, the derangement may take place through the agency of "dynamic inhibition," which on its part is to be accounted for on the score of the wounded structure itself or the wounded tissue in its immediate vicinity. Brown-Séquard has proved this experimentally as follows: When, by means of appropriate injury to the cord, anæsthesia of one side of the body and hyperæsthesia are obtained, it is possible by the aid of a second operation to render the anæsthetic side of the body hyperæsthetic, and *vice versa*. This, of course, goes to prove that the anæsthesia is not to be ascribed to destruction of conducting paths. Again, an analogous result may be obtained in a much simpler manner. If, by transverse section of the cord, we cause anæsthesia of the opposite side, it is possible, by powerful faradization of the sciatic nerve, to cause disappearance of the anæsthesia. Powerful thermic and mechanical irritants, as well as careful stretching of the nerve, act in the same manner. When the sensibility of a limb was not entirely destroyed, but only profoundly depressed, Brown-Séquard has succeeded in greatly ameliorating the condition, or even in rendering sensibility quite normal by repeated applications of mechanical stimuli, or the hot iron, to the affected limb.

[These latter phenomena forcibly recall the wonderful benefit frequently observed after applications of Franklinism in cases of hemianæsthesia of hysterical origin.]

Antipyrine in Hemicrania.—Ungar (*"Centralblatt für klinische Medizin,"*), referring to the unsatisfactory condition of the therapeutics of hemicrania, presents his own experience with antipyrine in this affection. He was led to undertake these experiments, not from the inspiration afforded by circuitous reasoning, but rather from a knowledge of the resemblance existing between the effects of salicylate of sodium on the one hand and those of antipyrine on the other. By reason of his own experience as well as that of his colleagues, Ungar feels convinced that antipyrine is not only equal to the remedies heretofore employed in the treatment of hemicrania, but even more certain and rapid in its effects. When taken at the beginning of the attack, antipyrine either causes arrest of the same or diminishes its intensity to a remarkable degree. But even when the symptoms of the attack were fully developed, the exhibition of the drug was sometimes followed by relief. Among the patients who were benefited by the use of antipyrine were some who had previously resorted in vain to all the remedies usually employed in hemicrania. In certain cases, however, antipyrine proved itself to be no more efficacious than other remedies. Ungar was unable to ascertain any particular phenomena by which such cases could be recognized. In the successful cases fifteen grains of the drug were usually given at a dose, and in most cases one such dose was sufficient to produce the desired effect. Unfavorable effects from the use of antipyrine were not observed. The question as to the manner in which the drug produces its favorable effects in hemicrania Ungar does not attempt to answer.

The Electrical Irritability of the Nerves and Muscles of the Newly Born.—Westphal (*"Neurolog. Centralblatt,"*) has had the opportunity of making some researches as to the irritability of the brain of a newly born child. The conditions for conducting these experiments were ex-

ceptionally favorable, as both hemispheres were free from bone, being merely covered by pia mater. In spite of these favorable circumstances, the result was entirely negative. Westphal, while engaged in these researches, had the opportunity of confirming the observation of Soltmann, that much stronger currents are required to excite the larger peripheral nerves of the new-born than are necessary to the attainment of the same end in adult individuals. The same was also true of the muscles, as well as of the nerves of the face and extremities.

On the Duration of the Period of Incubation in Hydrophobia.—Bauer (*"Münchener med. Wochenschrift,"*) has collected and examined a large number of cases of lyssa humana with reference to the duration of the period of incubation. His conclusions are founded upon the analysis of 510 cases. Thus, for male individuals, the average duration of the period of incubation was eighty, and for females sixty-five days. In children the period of incubation is fifty-seven days against from seventy to seventy-five days in the adult. It is probable that the differences in the locality of the wound have something to do with this discrepancy. It is also interesting to note that when the wounds are located about the head or neck the time consumed in the incubation of the disease averages fifty-five days. When, on the other hand, the wound is located upon the lower extremity, seventy-four days are consumed; and when it is situated upon the upper extremity, eighty-one days are required. When the wound is inflicted by a wolf the average duration of the period of incubation is thirty-nine days, when by a dog seventy-three days, and by a cat eighty days. Whatever the form of treatment adopted, no influence upon the duration of this incubatory stage of the affection is to be anticipated.

Remedy for Sleeplessness.—The "Scientific American," referring to an article which recently appeared in an English medical journal, observes that the popular view that noise disturbs sleep, like most popular views, only touches the truth, but does not grasp it. The true cause of disturbance is interruption. Any sudden cessation of the continuity of silence or of sound awakens the sleeper, for sound, provided it is monotonous, has precisely the same effect on the brain as silence. The alarm-clock is based on the theory of interrupting silence. Why might not, therefore, a simple mechanism be devised to act on the same principle, but with the reverse object—to wit, that of insuring sleep by sound? Let such an instrument produce the monotonous buzz of the humming-top, not so loud as to be heard in an adjoining room, but loud enough to drown distinct noises when placed close to the bedside or hung over the pillow.

[In so far as the perpetuation of sleep is concerned, a device of this kind might serve an excellent purpose. The ancient expedient of placing a pendulum-clock in the room of a light sleeper served, although in an imperfect manner, to attain a similar end. The primary motive to physiological sleep we believe, however, must always consist in an exhaustion of the cerebral centers, and particularly of the protoplasm of the cortical cells. The cerebral anæmia and suspension of conscious perception are clearly to be looked upon as secondary to this exhaustion. While, therefore, such an instrument as that above described might have an influence in perpetuating unconsciousness, it could have little effect in the primary induction of sleep.]

Strychnine in Alcoholism.—Parzevski (*"Deutsche med. Zeit.,"*) being aware of the favorable results obtained by the internal administration of strychnine in alcoholism, conceived the idea of conducting a series of clinical observations with it when subcutaneously administered. In seven persons the results obtained were gratifying; there was a return of sleep; the appetite increased; the tremor disappeared, and even an antipathy for alcohol was engendered [?].

Mental Disturbances after the Use of Salicyl Preparations.—J. Krueg (*"Wiener med. Presse,"*) has made some interesting observations on this subject. When salicylate of sodium is given in repeated large doses for a considerable length of time, a condition of delirium may be engendered, giving rise to extravagant dreams at night and fantastic exaltation of the imagination during the hours of wakefulness. Persons thus afflicted seem, however, quite conscious of their morbid condition, comment upon it, and often ascribe it to the medicine which they have taken. In severe cases the phenomena appear for several days after the medicine has been discontinued. In the cases reported by Krueg, the mental exaltation developed into systematized de-

lusions. Nausea and tinnitus aurium appeared, the patient heard cries and musical sounds, and finally well-marked delusions of persecution were developed, so that it was necessary to place the patient in an institution. Digitalis was prescribed and afforded relief, especially from the tinnitus. The remaining phenomena gradually disappeared.

"Apoplexy" of the Medulla Cervicalis, the Result of a Fall.—

The following case, which occurred at the Imperial Hospital in Vienna, presents certain features of interest ("Medicisch-chirurgisches Centralblatt"): K., a laborer, sixty-four years of age, was admitted on the 28th of June, 1884. On the previous day he had fallen from a wagon, striking upon the neck, and experiencing at the same time vertigo and an involuntary contraction of the legs. In spite of this, he was able to stand up, and was about to pursue his way when he again fell, and was seized with tonic contractions of the upper and lower extremities and severe cervical rigidity. Consciousness was, however, preserved, and there was no impairment either of speech or of facial mobility. Vomiting and dysphagia were absent. An examination revealed weakness of both arms, particularly of the left; voluntary motion was also abolished in the lower extremities, and, when passive movements were attempted, violent resistance was met with on the part of the contracted muscles. Anæsthesia was present in the right leg, and the bladder was paralyzed, so that the daily use of the catheter was necessary. With the exception of some pain in the feet, no other important phenomena were noted. On the 15th of July he was put upon baths and the iodide of potassium. About the beginning of September the patient was much emaciated, and tormented by violent and painful cramps of the extensors, alternating with spasms of the corresponding flexors of the legs. The evacuation of the bladder was accomplished voluntarily. Both arms were weak, and the flexors of the left arm were the seat of spasm. He also complained of a woolly sensation in the right hand. The right leg could be flexed at the knee, but this was impossible in the left. Sensibility seemed to be entirely normal in the legs. The patellar tendon reflex was exaggerated on both sides, and there was likewise clonus of the ankles and knees. The neck was quite mobile and devoid of tenderness. The right knee was swollen. The further progress of the case offers nothing of special interest. The frequent painful spasms in the legs necessitated the copious use of hypodermics of morphine; by degrees the evacuations became wholly involuntary, and on the 2d of January, 1885, death took place.

Besides numerous bed-sores, the autopsy revealed, in the posterior portion of the right lateral column, a spot of softening of about the size of a millet-seed. The softening extended as far as the gray substance, and presented a yellowish-white appearance. A similar though smaller spot of softening was found in the right posterior column. These changes were found at the level of the sixth and seventh cervical vertebrae. Further below, the substance of the lateral and posterior columns was likewise found softened. Minute hæmorrhagic spots were also distributed throughout the extent of the cord.

A Case of Hysterical Dumbness in Man.—Charcot ("Progrès médical") has recorded a case of "mutisme" occurring in a young man thirty-three years of age. Between the ages of twenty-four and thirty this person had suffered from occasional attacks of hysterical epilepsy. Finally, after an attack of laryngitis, with aphonia, he became dumb, but was suddenly cured by the mere application of the laryngoscopic mirror. After the lapse of three weeks the dumbness again returned, this time also consecutively to laryngitis. It is of diagnostic importance that, while unable to articulate, he was still able to express his thoughts in writing without difficulty. Ordinary aphonia from an organic lesion of the brain was thus excluded. Moreover, while he could execute the ordinary movements of the tongue and lips—such as blowing, whistling, and the like—he was quite unable to pronounce a word, either by his own efforts or by imitating the movements of the lips of those about him. These are the manifestations referred to on former occasions by Charcot as being typical of hysterical dumbness. The fact, too, that even whispering was impossible lends strength to the diagnosis.

From all that we are able to learn deductively from cerebral physiology, such an individual is evidently the victim of some phase of functional disturbance, probably cortical.

Influence of the Brain upon Animal Heat.—Girard ("Archives de physiologie") has performed a number of experiments upon dogs and rabbits, from which he concludes that, when the center of the corpus striatum ("calorific region") is excited chemically or mechanically, a rise in temperature is induced. Moreover, he is convinced that the extent of such rise of temperature is in proportion to the duration of the irritation. On the other hand, he has found that like excitation of the cerebral hemispheres does not give rise to a corresponding augmentation of corporeal temperature.

Miscellany.

Small-pox in South Africa.—Small-pox is said to have broken out in the Maclear village location, Cape Town. The medical man who was practicing there is said to have left for the gold fields, and the nearest medical practitioner is about seventy miles distant. The magistrate has taken measures for quarantining patients.—*Brit. Med. Jour.*

The German Universities.—According to the "Revue générale de clinique et de thérapeutique," Dr. Kaltenbach has been nominated professor of obstetrics and gynaecology at Halle; Dr. A. Vogel, director of the pædiatric Poliklinik at Munich; and Dr. K. Rieger, professor of neurology at Würzburg.

The Hopital Saint-Louis.—A library of dermatology and syphilography has been started by the medical staff, and the "Revue générale de clinique et de thérapeutique" announces that gifts of books relating to those branches are asked for.

The Ninth International Medical Congress.—It is announced that a discussion on syphilis and its relations to insanity, to be opened by Dr. George H. Savage, of London, will occupy one of the sessions of the Section in Psychological Medicine and Nervous Diseases, embracing the following divisions: 1. Idiocy, imbecility, and moral perversions due to inherited syphilis. 2. Insanity associated with acute syphilis (a) psychical, (b) moral. 3. Syphilis producing epilepsy, with or without insanity. 4. Syphilis producing mental weakness, (a) with, (b) without paralysis. 5. Syphilis as associated with general paralysis of the insane. 6. Pathology, as represented by coarse changes like gummata, or slighter ones as seen in arterial disease. The secretary of the section, Dr. E. D. Ferguson, of Troy, N. Y., requests those who intend to engage in the discussion to send him notice.

The College of Physicians and Surgeons, of Boston, held its sixth annual commencement exercises on Thursday of last week. The degree in medicine was conferred upon eight candidates, three of whom were women. One of the male graduates was a native of Turkey.

THERAPEUTICAL NOTES.

Hydrogen Peroxide in Whooping-cough.—Dr. B. W. Richardson ("Asclepiad"; "Dublin Jour. of Med. Sci.") uses the following formula:

Hydrogen peroxide (10 vols.)	6 drachms;
Glycerin	4 "
Water, to	3 ounces.

Dose, half a fluidounce, in a wineglassful of water, five or six times a day. The author thinks that the peroxide acts like nitric acid, but with more effect, subduing the paroxysms, checking the secretion in the throat, and shortening the course of the disease.

An Enema for the Convulsions of Children.—"Nouveaux remèdes" attributes the following formula to Dr. J. Simon:

Musk	3 grains;
Camphor	15 "
Chloral hydrate	7 "
The yolk of one egg;	
Distilled water	4 ounces.

The rectum is to be emptied by a simple enema before this is injected.

Original Communications.

A STUDY OF CHLOROTIC ANÆMIA, WITH SPECIAL REFERENCE TO THE CARDIAC AND VASCULAR AUSCULTATORY PHENOMENA.*

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THE term "chlorosis" (chloræmia, chloranæmia) has been applied since the time of Hippocrates to a peculiar form of anæmia affecting chiefly young females between the ages of twelve or fifteen and twenty-five. Considered etymologically (Greek, *χλωρός*, light-green), this appellation is not always correct, as the hue of the skin is by no means a criterion. The term has the sanction of ages, however, and its expunction from the nosology is not to be recommended, although the foregoing fact should not pass unmentioned, as it is apt to be misleading to beginners.†

It is beyond the scope of this contribution to consider in detail the many and diverse problems which have arisen in connection with this strange disease; it is intended rather as a summary of the present state of our knowledge concerning it, together with the presentation of a few practical points gained from personal observations on a considerable number of cases.

Pathology.—Virchow‡ has attempted to give this disease a distinct anatomical basis founded on a so-called arrest of developmental energy on the part of the circulatory apparatus. In numerous post-mortem examinations of persons who had suffered from chlorosis during life he found that the heart and great arteries were in a state of hypoplasia or imperfect development. For example, the aorta in full-grown women was sometimes almost infantile, being so small as not to admit the little finger. In addition, the caliber of all the larger arteries was diminished and their coats were much thinner than in healthy persons, and degenerative changes in the intima were frequent. Exceptionally there was a compensatory hypertrophy of the heart. The reproductive organs were also often found to be imperfectly developed. The views of Virchow, based on these observations, have not met with the general acceptance of the profession. It is said that the changes noted by him are by no means constant, and when present they may be regarded more as secondary results of chlorosis than as essential pre-existing conditions. Besides, in many of Virchow's autopsies stenosis of the aortic or mitral valves was present, and, according to Fagge,§ obstructive diseases of the left side of the heart are almost invariably accompanied

by hypoplasia of the greater arteries. It has seemed to me that a sufficient refutation of the *universality* of Virchow's pathological changes may be found in the ready tractability and rapid recovery often observed in even the most intense cases under proper therapeutic measures. Observers are agreed, however, that the walls of the heart and arteries, as well as of the veins, are apt to undergo slight fatty metamorphosis. Should the disease persist, this fatty change is apt to become considerable and to extend to the liver, to the kidneys, and even to the voluntary muscles. The medulla of the long bones may undergo the same changes as in other forms of anæmia. Beyond this, however, there are no organic changes in the cytogenic organs. Although it is well known that this disease is intimately associated with the evolution of the reproductive organs at the period of puberty, the occasional post-mortem changes found in these organs, consisting in hypoplasia of greater or less degree, have been too slight and too infrequent to entitle them to any fixed pathological value. Concerning the state of the blood in chlorosis, pathologists are also practically agreed. It has long been known that the circulating fluid in this disease is deficient in hæmoglobin, and a study of the urine, especially its marked poverty in urea and coloring matter, led investigators to the opinion that this deficiency was due rather to an arrest of development of the corpuscles before becoming fully impregnated with hæmoglobin than to an increased numerical destruction. It remained for Johann Duncan,* in 1867, to demonstrate the truth of this belief by actual experiment. He showed that the changes in the blood do not necessarily involve a numerical diminution of the red corpuscles (although this change is sometimes present), but a falling off in the hæmoglobin value of the individual corpuscles. Taking 1 as the normal standard, the proportion of hæmoglobin in Duncan's cases was 0.3, 0.31, and 0.37. The proportion may be reduced from 14 per cent., about the normal amount, to as low as 2 per cent. These brilliant and original observations of Duncan have been repeatedly verified by subsequent observers. In addition to the foregoing, other changes have been noted in the red corpuscles. Under the microscope many of them are found to be small in size, pale in color, and to present a variety of alterations in shape and form (poikilocytosis), being frequently crescentic, flask-shaped, or ovoid. In a word, the blood in untreated cases may be said to be in a state of imperfect evolution. These lesions, though not characteristic of chlorosis, are far more intense than in the majority of anæmic cases. The remaining constituents of the blood suffer neither qualitative nor quantitative changes. There is no reduction in the leucocytes, in the watery elements, or in the plasmatic albuminates (Becquerel and Rodier, Quinquaud). It has even been maintained that the blood is in a state of hyperalbuminosis, but the truth of this statement has not been demonstrated.

Ætiology.—The fundamental conditions underlying the causation of chlorosis have been suggested in the preceding paragraph. It is essentially a disease of puberty, and is

* Read before the Clinical Society of the New York Post-graduate Medical School and Hospital, April 2, 1887.

† The attempt is not uncommonly made in practice to differentiate between cases of this disease, the diagnosis turning on the presence or absence of a greenish tinge of the skin. In my opinion, the term "chlorosis," or "chlorotic anæmia," should be applied to all cases of this class, the unqualified term "anæmia" being used in a more generic sense.

‡ "Ueber die Chlorose und Anomalien im Gefassapparate," 1872.

§ "The Principles and Practice of Medicine," 1886.

* "Sitzungsbericht der k. Acad. der Wissensch. zu Wien."

closely associated with the development of the sexual functions at that period. Cases are occasionally met with before and after this period, but the vast majority occur between the ages of fifteen and twenty-five years. As Immerman* justly remarks, a careful investigation of those cases seen at a later stage of life will show that they are simply relapses of the old trouble, which first appeared at the advent of womanhood. The same author, however, is of the opinion that age and sex are "physiological antecedents," and not "pathogenic conditions." Exactly why the disease comes on at this period we are unable to state. The ancients believed that unrequited love and masturbation were of special ætiological significance, whence the old names of "*febris amatoria*," "*icterus amantium*," "*morbus virginæus*," etc. Two chlorotic girls have admitted to me that they attributed their diseases to disappointments of this nature; it is probable, however, that these act in the same way as crosses and depressing emotions of other kinds, and occupy no special genetic relation to the disease. Chlorosis is most likely to occur in girls previously of feeble constitutions. Given a pale, delicate child of a capricious, fretful disposition, who has suffered more than usually from the diseases of childhood, it is not difficult to foresee the occurrence of chlorotic anæmia when to her already deficient cytogenic functions are superadded the increased demands of sexual development. This is not invariably true, however; the feeble and delicate sometimes escape, while the previously healthy fall ready victims. In these cases other factors are concerned in the causation. According to M. Potain,† heredity plays an important rôle. In several instances mothers who have attended their daughters to the clinics have informed me that they "suffered from the same disease when they were young." Osler‡ believes the morbid stimulation of unwholesome literature to be an important factor. It is hardly necessary to add that poor food, overwork, and imperfect ventilation are largely instrumental in determining the development of the disease. Females at this age are, of course, not exempt from the causes operating to produce other forms of anæmia. Indeed, I have more than once seen anæmia resulting from excessive menstrual losses, but when produced in this manner the disease, it seems to me, is a true oligæmia, and not identical with the one under consideration.

Clinical History.—The symptomatic phenomena observed in chlorosis are varied and complex. The peculiar appearance of the superficies is one of the most striking. The derivation of the word from which the disease receives its name would indicate that a greenish tinge of the skin prevailed. This, however, is seldom true except when the disease occurs in very dark brunettes. The color commonly observed more nearly simulates a pale-yellow or fallow. In blondes the skin often presents a smooth, waxy, transparent appearance. It is not infrequent, however, to find a circumscribed flush on the cheeks, especially on excitement or after active exercise or exertion.* The mucous

membranes lose their natural vermilion tint where visible, and assume a degree of pallor of greater or less intensity. The "cærulean eye" is a common feature, especially, according to my experience, in blondes. It is marked by a dark-blue tint of the globe, and is due to a semi-transparency of the conjunctiva. Emaciation is not a feature of chlorosis. On the contrary, a considerable degree of *embonpoint* is not rare, owing to a thickening of the *panniculus adiposus*. Muscular weakness, however, is seldom absent. Aside from the foregoing symptoms, the neuropathic element is perhaps most prominent, and this fact, together with the alterations in the blood, has led some to regard chlorosis as a neurosis of the ganglionic nervous system, and not referable to the category of anæmias. In passing, it may be stated that these pathological and symptomatic phenomena, while very striking in chlorosis, are not sufficiently characteristic to separate it from blood diseases in general; therefore it is very properly described by most writers as a form of anæmia.

The symptoms commonly described as referable to the nervous system are cardiac palpitation and precordial pain, neuralgia in various situations, hyperæsthesia of the surface, headaches, fainting spells, and various hysterical phenomena. The cardiac symptoms are most prominent and distressing—so much so, indeed, that it is not uncommon in dispensary practice to enter cases of chlorotic anæmia in the clinic-books as "functional cardiac disease." It is for the relief of these symptoms that the patient usually applies for treatment. They come on generally after some exertion, such as walking rapidly, climbing up-stairs, etc., and consist principally of violent palpitation, a sense of oppression, and notably dyspnœa. These symptoms are partially referable to a neurotic origin, but the slight fatty changes and concomitant weakness of the cardiac muscular structure are also, doubtless, concerned in their appearance. It is improper, however, to rank dyspnœa among the nervous manifestations. The cause of this distressing symptom is found in the great loss of the hæmoglobin of the corpuscles—the medium by which the tissues are oxygenized. There is usually sufficient present for the ordinary wants of the system, but not for the increased demand originated by active exercise or exertion. The pulse is not notably frequent, but is soft and compressible, and easily excited to great rapidity. In very severe cases transient œdema of the feet and ankles may exist from cardiac weakness. In long-continued cases patients will sometimes complain of severe frontal headache, post-orbital pains, etc., and will state that their eyes tire and become exhausted easily. Indeed, Gowers* maintains that inflammation of the optic nerve and retina is not an infrequent complication. He has seen one case of chlorotic neuro-retinitis continue until consecutive atrophy resulted. The case was at first supposed to be syphilitic, and treated with iodide of potassium. The emotions in this disease are most easily excited; patients will

ing matter of the blood. Gubler and Renaud are of the opinion that this has to do with the greenish appearance, if we admit that very diluted hæmoglobin allows the passage of green rays. Art. "Sang," "Dict. encyclop."

* Von Ziemssen's "Cyclopædia," vol. xvi.

† Art. "Anæmie," "Dict. encyclop. des sci. méd."

‡ Pepper's "System of Med.," vol. iii, 1886.

* The discoloration of the skin is due to a diminution of the color-

* "Brit. Med. Journal," May 21, 1881.

sometimes show the most *bizarre* caprice in their moods. Gastralgia and acid eructations occur in some cases. Constipation is a symptom of great frequency. According to my experience, the fantastic perversions of the appetite described by some authors are very rare. The appetite is more or less capricious, but usually poor for all articles of food. The temperature is not elevated in chlorosis. I have frequently tested the truth of this statement, and have found it to be invariable. In a few cases the temperature was rather below than above the standard of health. Dr. Mollière,* however, in a series of observations on eight young women suffering only from anæmia (chlorosis?), found that the rectal temperature, during a period of from two to fifty days, oscillated between 101·8° and 102·8° F. These observations, so far as I know, have not been confirmed. Immerman† is of the opinion that, when pyrexia exists, the case is probably transitional between chlorosis and progressive pernicious anæmia. The menstrual flow is usually scanty from the beginning in true chlorosis; it is, as a rule, attended by more or less dysmenorrhœa. Amenorrhœa may temporarily ensue. At rare intervals, however, menstruation seems to be normal so far as regularity and duration are concerned. I have never seen a case of genuine chlorosis in which menorrhagia was present. The appearance of the catamenia is sometimes delayed for months by this disease. Leucorrhœa is a not uncommon symptom.

Other morbid processes may complicate or stand in a close causal relation to chlorosis—such, for example, as phthisis, Basedow's or Graves's disease, gastric ulcer, endocarditis, choreic paroxysms, etc. The danger from pneumonia, typhoid fever, and other febrile disorders is undoubtedly augmented by the presence of chlorosis.

Physical Signs.—Some of the objective symptoms of this disease—viz., those relating to the skin, pulse, etc.—have been considered in the foregoing paragraph. It is to the auscultatory phenomena observed in the heart and great vessels that I would now invite attention. These consist in the cardiac and arterial murmurs, and the venous hum or *bruit de diable*, and occur not only in chlorosis, but in other forms of anæmia as well. Many diverse opinions have been entertained, and not a few misconceptions are extant with reference to these sounds. In two works on "Physical Diagnosis" in my library, probably as widely used as text-books as any similar works in this country or Europe, I find the following statements regarding the cardiac and arterial bruit: First text-book:‡ "These murmurs (anæmic and functional) are soft and blowing in character, are always systolic, and are *almost always aortic*." Second text-book:§ "They occur most frequently at the pulmonary orifice, next most frequently at the mitral orifice, but *very seldom at the aortic or tricuspid valve*." (Italics mine.) In von Ziemssen's "Cyclopædia" it is stated that the hæmic bruits are generated at the *mitral and tricuspid orifices*. Thus we see the diversity of views in reference to their points of development. It is but fair to state, however, that most English and American authors regard these sounds as basic in their

origin, and proceeding from both the aortic and pulmonary valves and orifices. I have made many careful examinations of chlorotic cases with special reference to this point, and am enabled fully to sustain this view, if auscultatory evidences are to be relied upon. In an average of five cases out of eight under my observation the murmur was best heard to the left of the median line of the upper part of the sternum; in the remainder the maximum intensity was to the right of this line. In almost all well-marked cases the bruit may be heard all over the upper part of the chest; sometimes it is audible as low as the seventh rib. It is only by carefully noting the location where it is most distinct that we can form a proper idea as to its point of origin. It is here that the stethoscope will be found of the greatest advantage. The bruit can be heard with great distinctness by the unaided ear, but it has seemed to me to be an impossibility to trace it to its point of origin by this means, and this, in my opinion, applies to all cardiac murmurs, whether organic or inorganic. The adjoining diagram will show the area of maximum intensity of the average cardiac bruit of anæmia according to repeated observations which I have made. It is present in almost every well-marked case of untreated chlorosis, and bears a direct relation to the severity of the disease, being loud and distinct in intense cases and almost inaudible in mild ones. The bruit is soft and blowing in character, is invariably systolic in time, and is best heard, as

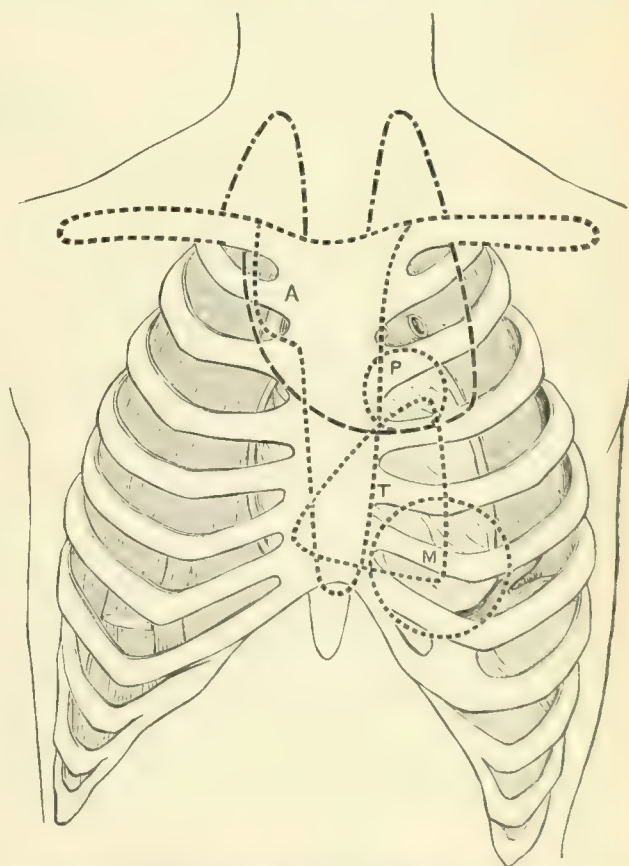


Diagram showing areas of cardiac murmurs. A, aortic; M, mitral; T, tricuspid; P, pulmonary. The "dot and dash" lines show the areas of the venous hum, and the dash line that of the systolic bruit of anæmia.

shown by the diagram, above the third rib, generally in a space extending from an inch to the right to two inches to

* "Lyon médical," 1883.

† *Op. cit.*

‡ Loomis, third edition, 1883, p. 107.

§ Guttman, 1880, p. 217.

the left of the sternum. The area of diffusion is invariably upward. In all well-marked cases it can be heard with equal distinctness along the course of the common carotids. When the murmur is slight and indistinct in mild cases, it is most apt to be heard to the left of the sternum over the pulmonary area alone. I have noticed also in convalescing patients that it persists in the pulmonary area for some time after subsiding in the aortic. I have never met with a case in which the bruit had its maximum intensity at the apex of the heart. Concerning the exact manner of production of these murmurs we may say, *imprimis*, that we are comparatively ignorant. One soon becomes convinced of this fact in looking over the literature of the subject. Immerman, who, it may be said, represents the German idea, insists that these sounds are generated at the auriculo-ventricular valves, and are due to regurgitation caused by weakness of the *musculi papillares*. We can not accept this explanation, however, for the auscultatory signs do not indicate that the murmurs originate at the mitral or tricuspid valve. It is well known that mitral and tricuspid murmurs are not heard with greatest distinctness at the base of the heart, nor are they transmitted up the great vessels of the neck. Besides, if the mitral and tricuspid valves are insufficient, why should there not be a corresponding insufficiency of the aortic and pulmonary valves, and consequently a double bruit instead of the invariable systolic murmur? We find in Fagge's work on the "Principles and Practice of Medicine" * the following explanation based on Professor Tyndall's "fluid-vein" theory, which assumes that the volume of blood is diminished. According to this view, the bases of the two main arteries (aortic and pulmonary) are supposed to be unable to retract in correspondence with the diminished volume of blood to the same extent as the orifices through which the blood enters them. Therefore, in passing through a small orifice into a larger receptacle, the blood is thrown into vibrations, and in this way the hæmic murmurs are produced. A fatal objection to this theory has been anticipated. The total volume of blood is not diminished in chlorosis, as has been repeatedly shown. In addition, how can this explanation be reconciled with the fact that certain drugs, notably digitalis, will almost always cause a complete disappearance of the hæmic bruit without in any way affecting the volume of the blood? Another explanation is hinted at by several authors, which seems to be less objectionable than either of the foregoing. It assumes the bruit to be purely arterial in its origin. With some amplification the theory is as follows: In anæmic conditions, as we are well aware, the muscular coats of the larger vessels undergo slight fatty degenerative changes, which causes more or less weakness and loss of tonicity of the vascular coats. This condition gives rise to an abnormal vibration or tension of the arterial walls, so that during the period of contraction, instead of the normal systolic sound, we hear a blowing murmur. The conditions mentioned in this explanation are undoubtedly present; whether or not they are sufficient to produce the bruit is so far a matter of conjecture. The view is strengthened by the rapidity with which the bruit disappears under treat-

ment calculated to improve the nutrition of the arterial coats, and to regulate and strengthen their contractile power. This theory might be extended so as to include the changed relations between the arterial walls and the surrounding structures induced by the fatty changes as a factor in the production of the murmur.

The Venous Hum.—On applying the stethoscope over the lower antero-lateral cervical region in almost every well-marked case of chlorotic anæmia a more or less distinct continuous roaring sound, not unlike the subdued rush of waters or the boiling of a tea-kettle, is heard. This sound is known as the "venous hum," or *bruit de diable*.* The sound which comes to the ear is undoubtedly produced in the superficial cervical veins and chiefly in the external jugular, as can be readily demonstrated by laying the finger across the sternomastoid muscle with sufficient firmness to arrest the flow of blood in this vein without interfering with the deeper circulation. Such pressure will cause an instant temporary cessation of the sound. Respiration should be suspended while the auscultation is being made, as the bruit is easily confounded with the breathing sounds. After numerous clinical investigations I would locate the maximum intensity of this hum in a plane rather external to the course of the great vessels of the neck. The space will correspond very nearly to a triangle having a base about two inches in length formed by the upper border of the inner third of the clavicle, and the sides intersecting at a point about two inches and a half above this bone (see diagram). It can sometimes be heard near the outer extremity of the clavicle over the subclavian vein in thin subjects. I have observed several curious facts in connection with this sound which I believe have not been mentioned before. In about one third of the cases in which it exists it is unilateral, and in these cases it is heard with far greater frequency on the right side alone than on the left side alone. The proportion is about as 4 to 1. I have noticed also that it persists on the right side sometimes for weeks after its total disappearance from the left. It is, therefore, not infrequently that we find a systolic bruit to the *left* of the sternum over the pulmonary artery, and a venous hum on the *right* side of the neck. These facts may be utilized by some subsequent observer in clearing up the obscurity which envelops the origin of these venous sounds, as in the present state of our knowledge it is as far from elucidation as is that of the arterial bruit. Fagge † offers the following ingenious theory, which is very similar to the one applied to the arterial sound: "According to the theory which refers all murmurs to the fluid vein, it may be easily accounted for, at least if we admit that in anæmia (or chlorosis) the volume of blood is diminished. The sinus of the external jugular vein is fixed by adhesions to the cervical fascia; consequently when, in an anæmic patient, the veins in general shrink and adjust themselves to the quantity of fluid circulating through them, the sinus remains unaltered in size and forms a relatively

* Philadelphia, 1886.

* So called by Bouillaud from the diable or humming-top, a toy common in Paris in 1835, the noise of which this sound resembled. It was called the "Nonnengeraus" by Skoda, the *Nonne* being an instrument similar to the French diable.

† *Op. cit.*

wide space within which the streams that enter it are thrown into vibrations." This is rather an improvement on the older theory of Hamernyk, which attributed the murmur to exactly similar conditions existing in the *internal jugular vein*. This view is open to the same objections here as in the case of the arteries. 1. There is no diminution in the volume of blood in chlorosis. 2. Digitalis will likewise frequently cause the cessation of the venous hum without influencing, so far as we know, the volume of blood. Consequently, it seems to me that we can do no better in the present condition of our knowledge than refer it to the same cause as that to which we attributed the arterial murmur—viz.: to a fatty degeneration and consequent weakness of the venous coats causing unequal and irregular vibrations, and perhaps also to a changed relation of the venous walls with the surrounding structures. The hum is continuous in the veins for the reason that the flow of blood is continuous and uninterrupted, and not intermittent or remittent, as in the arteries.

Diagnosis.—In well-marked cases this disease is so very distinctive in its symptomatology that it is difficult to see how it could be mistaken. The age and sex of the patient, the discoloration of the skin, the absence of emaciation and of a history of sanguineous losses, the strongly marked neuropathic phenomena, and the cardiac and vascular physical signs, form a picture at once complete and distinctive. Mistakes have been made, however, and it is well to consider some features in the clinical history of the affection which are common to other diseases. For example, a young female patient, with a pale face and a long-continued history of chest pains and dyspnoea, loss of appetite, and irregular or absent menstruation, might at the first blush be regarded as being either phthisical or chlorotic. But a further examination is not apt to leave the diagnosis long in doubt. If phthisis, even in its incipency, is present, we shall find more or less cough, emaciation, and fever, with probably a history of hæmoptysis and night-sweats. The physical signs of phthisis also, if any are present, are so distinctive and form so sharp a contrast to those of chlorosis that it hardly seems possible to err. The disease may be distinguished from progressive pernicious anæmia and leukaemia by its tractability, by the absence of pyrexia, and by the absence of splenic or lymphatic enlargement. It has seemed to me that the chief difficulty pertaining to the identification of this disease lies in the exclusion of organic cardiac disease. This is sometimes not an easy matter, as the following case will show:

Mary C., aged twenty-three, unmarried, came under observation November 20, 1886. The patient stated that she had long suffered from precordial pain, great shortness of breath, and muscular weakness. Menstruation was irregular and she had occasional severe headaches. Her face was pale and bloodless, but there was no emaciation. (My notes do not state whether she had had articular rheumatism.) She was found to have considerable œdema of the lower extremities, extending half way up to the knees. On examining the chest, a distinct systolic murmur was heard at the base of the heart to the right of the sternum and propagated upward. There was no venous bruit. The action of the heart was somewhat labored, but the thickness of the chest walls and extensive mammary develop-

ment made it impossible for me to decide whether or not there was some enlargement of the heart. The *tout ensemble* of symptoms led me to regard this case as one of aortic stenosis with loss of cardiac compensation. The patient was given inf. digital., 3 j, and spt. æth. comp., ℥ xx, to be taken three times a day. Absolute rest was enjoined.

November 27th.—The patient has taken the medicine as prescribed. The cardiac murmur has completely disappeared, as has also the œdema of the feet and ankles. The palpitation and pain are also somewhat improved. She still presents the pale, anæmic appearance, however, and complains of loss of appetite. Digitalis and Hoffmann's anodyne continued, together with two grains of the subcarbonate of iron, after each meal.

December 4th.—The patient has continued to improve. Shows well-marked signs of returning color. Appetite is much better. No sign of œdema of feet or cardiac murmur. Iron ordered continued, and digitalis and spirits of ether in diminishing doses.

The patient did not return to the clinic subsequently, but the history of the case is complete enough to show that she was certainly not suffering from organic heart disease, but, on the contrary, from an unusually severe attack of chlorotic anæmia. Few cases, however, offer such difficulties in diagnosis as this. The chlorotic bruit is always basic and systolic, almost invariably soft and blowing and accompanied by a venous hum, and is very seldom attended by cardiac hypertrophy or dilatation or œdema of the lower extremities. Occasionally chlorosis may co-exist with organic disease of the heart. Such a case came to the medical clinic at the Post-graduate School last autumn. The patient had all the well-marked subjective symptoms of chlorosis, with a venous hum in the neck. In addition, she had a very *rough* systolic murmur in the aortic area and considerable cardiac hypertrophy. She had had repeated attacks of inflammatory rheumatism, and had long been aware that she had heart disease. Under treatment the venous hum disappeared and the general condition of the patient became much improved. The cardiac hypertrophy and the murmur, however, remained permanent. Some intense cases of chlorosis might at first be mistaken for hepatic jaundice, but an examination of the sclerotic coat of the eye is sufficient to differentiate between the two diseases.

Treatment.—Trousseau* states that a young girl who has been chlorotic will remember it all her life, as the disease leaves an indelible impression. It may well be that chlorosis leaves a permanent imprint on the memory, but the great mass of clinical experience is opposed to the view of Trousseau, that its effects are necessarily ineradicable from the physical economy. I believe I am fully sustained in the statement that, when treated promptly and energetically, few diseases are more tractable and easily managed than this. In occasional cases, however, the truth of Trousseau's proposition is amply verified; these cases will persist or undergo constant relapses in spite of all therapeutic measures. I have had one chlorotic girl under close observation and almost constant treatment for more than two years, without observing any definite improvement. There is reason to believe that Virchow's anatomical changes are

* "Clin. de l'Hôtel Dieu," tome iii, p. 478

present in these cases. Some patients will improve and remain in a fair state of health—artificial health as it were—but relapse suddenly as soon as treatment is suspended. As before stated, however, a majority of cases will yield kindly and permanently to proper remedies. We believe no fact in practical medicine has been more fully demonstrated than the promptness and efficiency with which iron overcomes the morbid manifestations of this form of anæmia. Our knowledge of the pharmacodynamic action of this agent in the blood has indeed been reduced to something like mathematical precision by the researches of numerous recent observers (Hayem and Malassez, Gowers, Hunt, Baxter, Willcocks, and others). These observations, while not strictly agreeing in some of the minor details, show practically that large doses of iron in this disease inaugurate at once an increase both in the number and in the hæmoglobin value of the individual red blood-corpuscles, and this increase, especially the latter, is very rapid and long-continued. Small doses of the hæmatinic act slowly, chiefly by giving rise to a numerical corpuscular increase, with at first a diminution in the individual hæmoglobin value. The ultimate effect of all ferruginous preparations, however, is the same—viz., to produce a rise both in the number and in the individual color value of the corpuscles, the latter being maintained long after the cessation of the former.* Iron, then, we may regard as our sheet-anchor in the management of these cases. It sometimes happens that the gastric irritability, which is not uncommon in chlorosis, will be sufficiently marked to contra-indicate the use of iron. Here a few days' "preparatory treatment" may be required. Those cases attended by "water brash" and acid eructations are benefited by a short course of alkaline medication. The popular rhubarb and soda mixture of the U. S. P. will be found valuable here, especially if constipation is present. Other cases of indigestion will be benefited by a few drops of dilute hydrochloric acid after meals. Indeed, Zander† holds that chlorosis is largely due to a defect in the hydrochloric acid of the gastric juice by which the iron-holding compounds are dissolved, and maintains that the administration of this remedy after eating fulfills every indication, and enables the iron in the foods to be converted into an absorbable compound. While not agreeing with Zander in these views, I can testify to the value of this agent in many cases of anæmic and chlorotic dyspepsia. Some of these cases of long-continued gastric trouble are improved by Fowler's solution, in two- or three-drop doses, after meals; but, in my opinion, no arsenical preparation is of any value whatever in restoring the hæmoglobin of the blood, the loss of which, as we have seen, constitutes the true histological basis of the disease. In selecting the preparation of iron some discretion should be used. Until very recently I have confined myself almost exclusively to the tincture of the chloride. I have become fully convinced, however, that this preparation is exceedingly liable to lead to constipation and digestive disturbances. In addition, considerable care must be exercised in

taking it, as it is apt to produce discoloration of the teeth, which is commonly regarded as a misfortune by young ladies. During the past few months I have formed a predilection for the famous "Blaud-Niemeyer" pill. The formula is as follows: \mathcal{R} Sulphate of iron, carbonate of potassium, of each half an ounce; marshmallow-root, 30 grains; gum tragacanth sufficient to make one hundred and twenty pills. Dose, two to four pills three times a day after eating. (It will be seen that this preparation is very similar to the pilula ferri comp. of the U. S. P., the latter containing carbonate of sodium instead of the potassium salt.) In the Blaud preparation a double decomposition occurs in the pilular mass; the carbonate of iron is formed, mixed with the sulphate of potassium. This preparation has the great advantage of ready digestibility; its good properties may also be partially due to the fact that the sulphate of potassium, as well as the iron, is a constituent of the red blood-globules. The maximum dose may seem rather excessive, but clinical experience, as well as late experimental research, warrants us in administering the hæmatinic in larger quantities than are usually authorized by posological tables. On theoretical grounds, the albuminate of iron recommended by Dr. A. McL. Hamilton* should be an easily assimilated compound. It has been held by Miahle "that the albuminate of the peroxide of iron is formed in the blood, and that this is the basis of the red globules." Mr. Angelo, of this city, has made a dry preparation of the albuminate, which appears in the form of lozenges, each of which contains ten grains of the salt. Regarding the use of emmenagogues, it may be stated that they are generally contra-indicated. Menstrual disturbances are not the cause, but the consequence of chlorosis. Yet, in certain cases in which the advent of the catamenia seems to be delayed by the presence of the disease, emmenagogues may be found useful, especially if the delay is causing the patient and her friends great anxiety. Under these circumstances I have combined a grain or two of the binoxide of manganese with the ferruginous preparation, with occasional happy effects. The manganese should not be kept up for longer than ten days or two weeks at a time, as it is extremely liable to upset the stomach.† One of the most distressing cases of gastric irritability I have ever seen was in a young chlorotic girl who had taken permanganate of potassium for amenorrhœa. I have never prescribed this remedy since. The cardiac palpitation is frequently so severe as to call for special treatment. It has seemed to me that no remedy is so beneficial in these cases as Hoffmann's anodyne. It should be given in twenty- or twenty-five-drop doses at the beginning of a paroxysm, the dose to be repeated every half-hour until relief obtains. The tincture of valerian or hyoscyamus may be combined with it. In unusually severe or obstinate cases of cardiac distress I have recently prescribed nitro-glycerin with considerable success. It may be given in the form of solution or granule in commencing doses of one one-hundredth of a grain. This remedy frequently causes a distressing headache, and should be temporarily discon-

* For valuable information on this subject, *vide* paper by Frederick Willcocks, M. D., M. R. C. P., etc., "Practitioner," August, 1883.

† Virchow's "Archiv," lxxiv.

* "Medical Record," vol. xxvi, 1884.

† See a paper by Dr. Thomas J. Kearney, "Medical Record," vol. xxx, 1886.

tinued after two or three days' use. Other symptomatic indications may arise during the progress of a case of chlorosis; the foregoing, however, constitute the most prominent and constant. The patient should, of course, be placed under as good hygienic surroundings as possible. Rules as to diet, ventilation, etc., are to be enjoined. Meat, especially beef, should enter largely into the daily dietary. As Professor Flint says: "The quantity of wholesome food should equal, but not exceed, the powers of digestion and assimilation." The latter are promoted by small quantities of malt liquors, or one of the simple bitters, at meal-times.

Summary.

Our knowledge of the pathological features of chlorosis may be expressed as follows: The disease may be said to consist in a temporary arrest of hæmatopoiesis, without fixed or well-defined organic changes in the cytogenic, circulatory, or reproductive apparatus. The true histological substratum of the disease consists in a loss of the hæmoglobin of the blood. This loss is due less to a numerical destruction of the red blood-globules (oligocythæmia) than to a diminution of the hæmoglobin value of the individual corpuscles (oligochromæmia). The remaining constituents of the blood are unchanged.

Concerning the causation we may say that this is *par excellence* a disease of puberty, and is intimately associated with the development of the reproductive organs at this period. The nature of this connection is not perfectly understood in our present state of knowledge. It occurs most frequently in the previously feeble and delicate, and its development is facilitated by imperfect nourishment and pernicious hygienic surroundings.

The principal symptomatic phenomena consist of a more or less intense pallor of the superficies, cardiac palpitation and dyspnœa, neuralgia in various situations, headaches, and other neuropathic manifestations. The diagnosis rests upon the foregoing symptomatic features, conjoined (in most cases) with certain auscultatory signs in the heart and great vessels, consisting of the *arterial systolic bruit* and the *venous hum*. Graver forms of blood disease are excluded by the absence of pyrexia and splenic or lymphatic enlargement.

The treatment of chlorosis consists in placing the patient under as good hygienic conditions as possible, in the observation of a nutritious regimen, and especially in the administration of large doses of iron. The curative value of ferruginous preparations has been amply attested both by clinical experience and experimental research. Other symptomatic indications which may arise are to be met as occasion requires.

THE RADICAL CURE OF HERNIA.*

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HERNIA exists in all ages and conditions of life; there is, therefore, no necessity to plead the importance of a sub-

ject so full of general interest. From a remote period the cure of this affection has attracted the attention of the surgeon. It is a singular fact, apparent on perusal of the surgical history of the past as well as the writings of our own times, that of the various methods that have been devised in order to effect the radical cure of hernia, all, with one or two exceptions, have been abandoned as dangerous and unsatisfactory. It is most remarkable that the simplest and most direct operation is the last to be proposed and ultimately adopted. To cut down upon the cleft in the abdominal wall, to remove the trouble as we would any other deformity, to bring into apposition and unite the parts abnormally separated—should long ago have suggested itself. So late as the year 1881 I saw Mr. John Wood, of King's College Hospital, London, operate for the radical cure of hernia by his subcutaneous method, and yet he at this time was almost the only one attempting the cure of hernia by a radical operation. Not until 1879, when Czerny presented a report of several cases of operation by the open method at the meeting of the Berlin Congress, did surgeons generally adopt the radical operation. The introduction of antiseptic principles in surgery marks a new era in the treatment of this disease; it is one of the greatest surgical triumphs of this decade to have offered to many a safe and efficient cure for a most distressing malady. A few years ago the subcutaneous operation was the only surgical interference attempted, whereas now, under the influence of Listerism and stimulated by the success with which the abdominal cavity is invaded for a variety of affections, we find surgeons on all sides devising bold operations for the relief of all the different forms of herniæ.

In considering the propriety of an operation of this kind, the danger to the life of the patient must be taken into consideration. The risks vary, of course, with the method adopted and the condition of the hernia. Much also depends on the skill and experience of the surgeon. That these are not unimportant considerations is shown by the results of other operations, such as laparotomy or ovariectomy. In the history of these operations, as well as that for the radical cure of hernia, it is shown that the rate of mortality and failure of the earlier operations were very much greater than at a later period, when experience had taught the skill and care necessary to deal with the difficulties of each case. This fact is admirably illustrated in the gradually decreasing rate of mortality in the operation performed by Mr. Wood.

In a recent article on the radical cure of hernia by Anderegge,* the statistical results of 136 operations performed at the surgical clinic at Bâle are given. These operations were performed on 128 patients; the mortality percentage in the cases of non-incarcerated intestine was 3.6 per cent. Comparing these figures with the results reported by Ségond and Leisrink, the author finds that in 273 operations the mortality was 5.1 per cent.

Svenen and Erdman† have recently reported the results of 106 operations for the radical cure of hernia. The op-

* Read before the Medical Society of the State of New York at its eighty-first annual meeting.

* "Die Radical-Operation der Hernien," "Deut. Zeits. f. Chirurg.," 1886, Bd. 24, Hft. 3, N. 4.

† "Nord. med. Arkiv."

eration consisted in the ligature of the sac as high as possible and its extirpation, followed by suture of the aponeurotic pillars. The mortality of the operation was absolutely nil. There was a recurrence in 20 per cent. But even in the cases where the hernia supervened, the operation was useful in that the protrusion was easily reduced, and the painful symptoms were relieved.

Dr. J. Lucas-Championnière, in a recent valuable and interesting contribution to this subject,* reports ten operations performed by himself, with no deaths and only one recurrence; in this case the hernia was easily supported by a truss. He maintains that a mass of statistics collected from different sources has no value whatever. A few cases reported by one individual have a much greater value. "Malgré la grande compétence de leurs auteurs, je crois ces statistiques entachées d'un vice radical. Malgré des chiffres nombreux, elles ne démontrent rien du tout." He states, as a result of his experience, that the radical operation, performed with strict antiseptic precautions, is not only free from danger to life, but that it should not be followed by those accidents which frequently attend wound healing, such as suppuration and the formation of fistulæ. These complications are due in all cases to imperfect antiseptics, conclusions with which I fully agree. I can not read the report of the series of cases operated upon by the distinguished Czerny † without feeling that the antiseptic details in many particulars were sadly defective.

The direct radical operation is now established on a scientific basis, and surpasses in every respect every other mode of treatment designed for the cure of hernia. If the patient is not permanently cured by an operation, his condition is in no way rendered worse. If the hernia recurs, it is of a smaller size, capable of being comfortably supported by a truss, and is more amenable to a permanent cure by a subsequent operation.

What is the proper application of this operation? What are the cases in which a radical operation is indicated? Surgeons as yet are not of a unanimous opinion in their answers to these questions. It has been well established that a radical cure should be attempted in all cases of kelo-tomy for strangulation.

I believe that the radical operation is applicable to all the varying forms of hernia occurring in young and old. No one will dispute that an operation is perfectly justifiable in either of the following conditions:

1. All forms of irreducible hernia.
2. Congenital hernia with atrophied testicle.
3. Large herniæ which can not be restrained by the use of a truss.
4. All forms of painful hernia.
5. Hernia existing in persons whose occupation subjects them to the dangers of a strangulation.

Before considering the various modifications of the modern operation that have been suggested, a description of the general operative procedures, as illustrated in a case of indirect inguinal hernia, will be given. The method out-

lined is equally applicable to other forms of abdominal hernia.

OPERATION I. Large Reducible Inguinal Hernia; Czerny's Operation; Removal of the Sac; Suture of the Canal.—The patient whose history forms the basis of these remarks was a married woman, forty-seven years of age, who for some time had suffered from a large reducible inguinal hernia. She stated that in 1870, after a severe labor, for the first time, she had noticed a small hernia on the right side. She had never worn a truss since the appearance of the hernia, but had supported the protrusion at times by means of a pad and bandage. On two occasions during the last year the hernia had become temporarily irreducible after unusual exertion. Receiving a severe fall on the ice in January, 1886, the hernia had protruded, giving severe pain and symptoms of strangulation. She was taken by ambulance to the Long Island College Hospital, where she was placed under the influence of ether and the hernia reduced. Since her fall the tumor had given her much trouble, and prevented her from performing her ordinary duties. When she first consulted me in February, 1886, the tumor was enormous, extending half-way down the thigh. As the patient would not at this time consent to an operation, I sent her to the Brooklyn Orthopædic Dispensary, where she was fitted with a truss.

In about four weeks the patient again returned, wearing a truss, but stated that it did not prevent the protrusion of the hernia. The inguinal canal was now so large that I think it would have been impossible to retain the hernia by means of mechanical support. She now readily consented to an operation. On March 26th I performed the following operation:

The patient was prepared for the operation by having her bowels thoroughly evacuated, and for twenty-four hours preceding the operation being placed on an exclusive diet of pancreatized milk. Before commencing the operation, the integument in the neighborhood of the inguinal region was thoroughly washed with soap and warm water, cleanly shaved, dried, washed with ether, and finally covered with lint saturated in a 1-1,000 bichloride solution. After the patient was etherized, towels saturated with 1-2,000 bichloride solution were placed over the parts in the region of the groin, leaving exposed only sufficient space for the incision. An incision six inches in length was made in the axis of the tumor. A careful dissection was then made, until the distended sac of the hernia was reached. All hæmorrhage was arrested by ligatures of Kocher's catgut. The sac was exceedingly thickened and hardened, hypertrophy having been induced by long-continued pressure. The sac was separated and elevated from the adjacent tissues, thus requiring an elaborate dissection and leaving a large wound fully ten inches in length. The finger was then passed along the neck of the sac, separating it from the margins of the internal abdominal ring, while traction was made on the sac, so that it might be ligated as high as possible, in order to obliterate the pouch of peritonæum at the mouth of the sac. The hernial sac was then opened, its contents were inspected, and it was reduced within the abdominal cavity. The neck of the sac was transfixed with a needle armed with a double ligature of stout silk, and tied with Tait's Staffordshire knot. The walls of the sac were so thick and vascular that, foreseeing the danger of subsequent hæmorrhage, I would not trust to the uncertainty of a catgut ligature. This afterward proved a source of trouble. The fundus of the sac was then cut away beyond the ligature. The skin was so stretched and redundant that I found it necessary to remove a large elliptical-shaped portion, in order to secure its approximation with any degree of neatness, and at the same time secure some additional support for the tissues beneath. The tissues forming the pillars of the inguinal canal were then freshened and closely approxi-

* "Cure radicale des hernies," Paris, 1887.

† "Berlin. klin. Wochenschr.," 4, 1881.

mated by means of two silver-wire and two silkworm-gut sutures. These were introduced as follows: A needle was threaded at each end of the suture and introduced from within outward, including the pillars of the ring and the external integument. By means of these strong sutures and several fine interrupted catgut sutures the internal abdominal ring and inguinal canal were completely obliterated. A rubber drainage-tube was inserted and the skin-wound closed by a continuous catgut suture. Iodoform was sprinkled over the wound, and an antiseptic dressing firmly secured in place, after which the patient was put in bed. The temperature never at any time rose above 100° F. The dressing was not removed until the eighth day, and then only because the nurse allowed the patient to soil a portion of the dressing with her urine. The wound was found to be completely united except where the drainage-tube had been inserted. The drainage-tube was removed and an antiseptic dressing reapplied. The wire sutures were removed on the twelfth day; it was then discovered that a small fistulous tract remained at the site of one of the wire sutures. This at the end of a week had apparently closed. At the end of three weeks the patient resumed her ordinary duties. In about a month the patient again presented herself; the cicatrix had become hard and firm, but the small fistula had again opened; it continued to discharge a few drops of pus until May 20th, when I opened the cicatrix in the tract of the fistula. An incision was made through the old cicatrix, following by direction the fistula, which led down to the silk ligature encircling the neck of the sac. The ligature was removed by a careful dissection, in order to avoid opening into the peritoneal cavity. The Tait knot was removed entire. The softened tissue surrounding the track of the ligature was curetted away, the wound packed with iodoform gauze, and allowed to heal by granulation. The patient made an easy recovery, and in a short time was again able to go to work. In August I examined the patient; the line of union was firm and resisting, and there was nothing to indicate a return of the hernia.



FIG. 1.

I herewith present a photograph, which I took after the patient had been etherized, showing the site and size of the tumor. Owing to the fact that the patient's bowels had been thoroughly evacuated of feces and intestinal gas, the tumor is not distended to its full size.

The patient remained well up to November, when, after she had passed through a severe attack of bronchitis, a slight bulging appeared in the region of the cicatrix. This is admirably shown in Fig. 2, although the size of the tumor is slightly exaggerated. On November 29th I per-

formed a third operation for her relief, which is described further on.

There are several practical points which are worthy of note in the above case. When the sac is very large, as in the case related, it is recommended that the neck be simply ligatured, and that the body of the sac be left *in situ*. It is maintained by many that the extent of tissue disturbance caused by the complete removal of the sac is often great, and adds materially to the danger of the operation. There are several objections to this procedure. In the first place, the presence of the sac in the inguinal canal prevents accurate approximation of the pillars. Again,



FIG. 2.

there is danger that the vitality of the sac may be lost, and suppuration follow. I am convinced that a large incision, with strict antiseptic precautions, increases very slightly the danger of the operation, and that this is more than counterbalanced by the advantage of working in an open space instead of a small, deep cavity. It is also maintained that a large, firm skin cicatrix offers a greater resistance to the recurrence of the hernia than the natural elastic skin. In the treatment of the sac I followed the method recommended by Banks and the German surgeons. In order to secure a good result, the sac, the neck, and even a part of the peritonæum within the abdominal ring, must be completely extirpated. To accomplish this effectually, the sac must be carefully separated from the subjacent tissues and from the margins of the internal abdominal ring. While firm traction is being made on the sac, the neck is transixed with a needle carrying a double ligature as far within the abdominal cavity as possible. The ligature is then tied in a double loop, or several ligatures may be passed through the neck of the sac at different points, and tied so as to form a chain ligature. The shoemaker's stitch, as recommended by H. O. Marcy, would serve a good purpose in the ligature of the hernial sac.

In regard to the material of the ligature, it is generally recommended that catgut be used; the only objection to this material is that it becomes softened and stretches. Several surgeons have reported hæmorrhage due to this cause. Some of the Liverpool surgeons have ligated the sac with silver wire. The disadvantage of wire is that it is apt to act as a foreign body, and has to be removed at a subsequent period. Olshausen has tested silver wire and silk-worm gut side by side, and found the gut less irritating than the wire. Several of the English surgeons use silk-worm gut for sewing up the abdominal wound after ovariectomy. Mr. Parker has reported several cases of suppuration due to the large ligature used, and other surgeons have reported similar accidents. As Championnière* well says,

* *Op. cit.*

the single detail of a badly prepared ligature is sufficient to convert a benign operation into a serious calamity. The ligature used in my case had been boiled in a sublimate solution, but I believe that it became infected subsequent to its introduction. I see no reason why carefully prepared silk is not perfectly innocuous. Billroth has adopted it almost exclusively in his practice. I believe that chromic catgut for the subcutaneous tissue, with silk for uniting the skin, will give the best results.

The method of treating the sac, as employed by Czerny, has been modified in various ways, most of which are intended to obviate the danger attending its removal, and to effect a more permanent cure. Mr. Charles Ball, surgeon to Sir P. Dun's Hospital, Dublin, dissects the sac from its attachments, seizes the neck high up with a clamp forceps, and then twists it, executing, as a rule, three complete revolutions. The advantages which he alleges for this operation are three: First, a more perfect closure of that portion of the sac situated in the inguinal canal. Second, the twisting has the effect of tightening and throwing into ridges the peritonæum for a considerable area surrounding the abdominal opening. The funnel-shaped puckering of peritonæum presenting at the internal abdominal opening is obliterated. Third, the danger of septic peritonitis is diminished. After disposing of the sac, the pillars of the ring are approximated by silkworm-gut sutures, which are made to transfix the stump, in order to prevent its untwisting. Hardie has suggested that the ligature be carried around the transversalis fascia as well as the peritonæum. Dr. J. D. Bryant* has employed a method of treating the sac which has not hitherto been described. After the sac is tied, two parallel incisions are made in the pillars on each side. The sac is then interwoven into these openings, so as to approximate the boundaries of the abdominal ring, and at the same time introduce additional layers of peritonæum in front of the weakened point of the abdominal wall.

Championnière† insists that the total eradication of the sac is the basis of the operation. He does not lay so much stress on the suture of the pillars; still, his practice is to bring them closely in apposition, and suture with catgut.

The greatest advance in the radical treatment of hernia has recently been practiced by Macewen, of Glasgow.‡ His improvements in the method of operating are three: 1. The use of stout catgut sutures, which may be left in the tissues without danger of irritation. 2. Forming out of the sac an internal abdominal peritoneal pad or bulwark. 3. The restoration of the valve-like arrangement of the inguinal canal.

Disposal of the Sac.—Instead of tying and excising the sac, as above described, it is dealt with as follows: Separate and lift the sac from its attachments in the inguinal canal. Then, with the tip of the finger introduced alongside the sac, separate the peritonæum for about half an inch round the whole abdominal aspect of the circumference of the internal ring. A strong catgut ligature is then securely tied in the bottom of the sac, the free end, threaded on a curved needle, is made to transfix the sac repeatedly, and

finally to pierce the abdominal wall, from within outward, one inch above the internal ring. By traction on the ligature it is evident that the sac becomes folded upon itself, like a curtain, and drawn completely within the abdomen, there to remain as a bulwark to prevent the future descent of the hernia. Whether this method of disposing of a thickened and inflamed sac is advisable in all cases is to me still a doubtful question.

Suture of the Ring or Canal.—To my mind the most important part of Macewen's operation is the valve-like closure of the inguinal canal. The sutures are first passed through the conjoined tendon or internal pillar, and then through Poupart's ligament in such a manner that, when tightened, the inner pillar is drawn under the outer pillar, and two flat surfaces are placed in apposition for union. Macewen has used in his operations a peculiar form of hernia-needle and method of introducing the sutures, a description of which appears somewhat tedious. I have simplified the operation in one case by using a "double-needed suture." Both needles are made to penetrate the conjoined tendon at two points three fourths of an inch apart, passing from within outward, so as to leave the loop on the inner surface. The needles are then passed in a similar manner through Poupart's ligament, and the aponeurotic structures of the transversalis and the internal and external oblique muscles. The needles are passed through these structures at points on a level with the corresponding structure in the conjoined tendon. Several sutures may be introduced in a similar manner at points lower down the inguinal canal. When these sutures are tightened and tied, the outer pillar is found to overlap the inner, so that the edge of the conjoined tendon is drawn under and in contact with the surface of the external pillar. The needle of Reverdin, as recommended by Championnière, the eye of which is closed by a sliding lever, would serve an excellent purpose in the introduction of these sutures.

The success attending Macewen's operation has been most remarkable. He reports thirty-three cases in which the operation was performed for the radical cure of inguinal hernia, in which the ages of the patients ranged from five to fifty-seven years. Of these not one had a return of the hernia, and only one wore a truss as a protection against its recurrence. In almost every case union occurred without suppuration.

On November 29, 1886, I performed the following operation:

OPERATION III. Modification of Macewen's Operation.—After preparing the skin at the seat of operation, an incision was made down to the hernial sac. It was my intention to deal with the sac according to the method of Macewen, but I met with unforeseen difficulties. The sac was so thin and adherent that, in my attempt to enucleate it, I opened



FIG. 3.

* "Operative Surgery," 1887.

† *Op. cit.*

‡ "Annals of Surgery," August, 1886.

several times into the peritoneal cavity. I then determined to make an elliptical section of the whole abdominal wall through the peritonæum, and including the region of the inguinal canal.

Macewen has reported that in several cases of femoral hernia the sac was so firmly adherent that it could not be separated and reduced. This operation was very instructive in several ways. A surgeon can hardly have a true conception of the nature of a hernia until he has performed a similar operation on the living subject. The condition of the widely separated pillars and relaxed peritonæum is clearly shown. It is generally believed that pulling down the sac and tying it off, at the peritoneal level, obliterates the funnel-shaped depression presenting at the abdominal ring. As a result of my dissection, I am convinced that this object in most cases is not accomplished. There is an abnormal laxity or fullness of the peritonæum in the neighborhood of the inguinal canal; this is especially marked just above the pubic bone, the bony surface probably acting as an inclined plane and serving to direct the intestinal wave toward this weakened point. In tying the neck of the sac, the peritonæum, for a considerable area surrounding the abdominal opening, is thrown into ridges or radiating folds, and it is readily seen that a pouch or depression situated at a short distance from the seat of ligature is not effaced, however deeply the sac is tied. In order to meet the difficulties in the above-mentioned case, I removed all traces of the hernial sac and united the edges of the parietal peritonæum by a continuous catgut suture running in the axis of the inguinal canal.

Now follows what I believe to be the most important step of Macewen's operation—the uniting of the aponeurotic structures in a valve-like manner.

Instead of passing the suture with a needle mounted on a handle, as recommended by Macewen, I used a suture of catgut with a needle threaded at each end. Both needles were passed from within outward through the internal pillar and then through the external pillar; four sutures were thus passed, and, when they were tightened, Poupart's ligament was found to overlap the conjoined tendon, thus securing broad surfaces for union. The superficial tissues were united by fine catgut sutures. The several layers of tissue were then matted together by means of buried and quilted sutures. The whole wound united by primary adhesion, and the patient made a rapid and uneventful recovery. It is now over two months since the operation, the cicatrix is firm and unyielding, and there is no sign to indicate a recurrence. The final result is illustrated in Fig. 4.

Allow me to suggest, in this connection, that if Macewen's method of uniting the tendinous aponeuroses were adopted in ordinary cases of abdominal section, ventral hernia would be less frequent. Professor W. Gill Wylie, for several years, has insisted upon the careful coaptation of the abdominal fasciæ in closing the abdominal wound. In five cases of ovariectomy, where I have exercised much care in approximating the fibrous tissues, no sign of a ventral hernia has appeared in any case. The manner of treating the omentum is worthy of some consideration. It is believed that the descended omentum plays an important part in the production of hernia. In the radical operation, just

before opening the sac, the hernia should be made to protrude; and if, on opening the sac, part of the contents are



FIG. 4.

found to be omentum, it should be ligated and excised as high up as can be reached. In tying off a portion of omentum, it should be transixed with a double ligature and tied with a double knot on both sides. If the mass of omentum to be excised has a broad pedicle, a number of ligatures should be passed and tied with a chain knot. An additional precaution, to prevent hæmorrhage, is to place an extra ligature so as to encircle the whole mass. The pedicle should then be dropped. Adherent omentum should be carefully separated and treated in the same way. I believe that the shoemaker's stitch of Marcy would be an excellent method of tying the pedicle in excision of the omentum.

If the hernia is complicated with an undescended testicle, the surgeon should not hesitate to perform castration. Such an organ is usually in an atrophic state and is of little value as a sexual organ. It is also a source of constant danger if left in the inguinal canal, and it predisposes to the recurrence of the hernia. It is also stated that an undescended testicle is especially liable to become the seat of malignant disease or cystic degeneration.

In cases of congenital hernia the lower part of the sac should be cut off and sewed up, so as to form an artificial tunica vaginalis. The upper part of the sac is divided longitudinally, separated from the cord, and then dealt with as the sac of an acquired hernia.

The following case illustrates the method of procedure in a case of umbilical hernia:

L. S., a female, thirty-nine years of age, married, no children. Patient stated that she had had a small protrusion in the region of the umbilicus for about ten years. During the past six weeks this had rapidly increased in size, giving rise to considerable pain, and attended with nausea and vomiting. Examination showed a hernial protrusion situated just below the navel. The integumentary covering was red and oedematous. The hernia was irreducible, and very sensitive to pressure.

Operation.—Antiseptic precautions. Incision in a vertical direction through the integument of the hernia. Sac carefully isolated and aponeurotic structures forming the borders of the ring exposed. Sac was then opened; hernia was found to consist of adherent omentum; this was separated, ligated with strong catgut, excised beyond the ligature, and the stump re-

duced within the abdominal cavity. The sac was excised at the edges of the parietal peritonæum. The edges of the peritonæum were united with a continuous catgut suture. The edges of the abdominal ring then demanded attention. The margins of the aponeurotic structures were freshened and united according to Macewen's method. Three rubber drains were inserted, and the abdominal wound was closed, layer by layer, with continuous catgut sutures, antiseptic dressing applied, and patient placed in bed. Recovery without incident; bowels moved naturally on the fourth day.

A word in regard to the antiseptic method and mode of dressing. In all cases of operation on hernia the antiseptic method should be followed even to the minutest detail. This is necessary, not only for the safety of the patient, but in order to secure the success of the operation. An excellent description of general antiseptic details, by R. T. Morris,* may be found in the "Annals of Surgery" for December. I shall merely dwell on some of the more important precautions in connection with this operation. The thorough cleansing of the region of operation should occupy the earnest attention of the surgeon. A wound in this region is especially liable to infection, because of its proximity to the avenues of excretion. The skin should be thoroughly washed with soap and water and then shaved; it is then washed with 1-to-1,000 bichloride solution, or 1-to-20 carbolic-acid solution. During the etherization of the patient it is covered with a compress wet with one of the above solutions. During the progress of the operation the parts around the wound should be covered with towels wet in a hot 1-to-2,000 bichloride solution. Should any of the abdominal contents protrude through the wound, they should be wrapped in towels wrung out of a hot 1-to-5,000 bichloride solution, and be wiped with a clean sponge before being returned to the abdomen. If a portion of the omentum is resected, the stump should be wiped with a clean sponge before it is placed in the abdominal cavity.

After completion of the operation, the dressing should be applied as follows: If the wound is a large one, it should be covered with a strip of Lister's protective; around this a number of strips of iodoform gauze are placed. A number of handkerchiefs of bichloride gauze, shaken up into a loose mass, are then placed on the wound, and above this a large pad of bichloride or borated cotton. After a sufficient thickness of dressing has been applied, a spica bandage of wet gauze is snugly applied. The spica is made with much care; when this is done, the dressing forms a homogeneous mass. The dressing should not be removed under six days, and, when this is done, all antiseptic precautions, including the spray, should be employed.

The patient should retain a perfectly easy and recumbent posture during the first three or four days, in order to secure exact approximation of the parts and immediate union, with a firm cicatrix. It is thought by many surgeons that the cicatrix formed after a certain amount of suppuration is firmer and more resisting. Dr. R. F. Weir, in order to secure this form of cicatrix, packs the upper part of the wound with iodoform gauze, so as to secure union by granu-

lation. I believe that the cicatrix secured by primary union is more perfect, and offers a greater resistance to the return of the hernia. It stands to reason that exact approximation of the parts, with rapid and immediate union, will insure a firmer abdominal wall than can be obtained after the parts have been subjected to all the wound disturbances which must accompany prolonged suppuration.

PERSONAL IMPRESSIONS OF THE ARKANSAS HOT SPRINGS, WITH A REPORT OF A CASE.

BY GEORGE W. GALVIN, M. D.,

BOSTON, MASS.

THE object of this paper is to give an example of those exceptional cases in which the most rigid and scrupulous treatment does not prevent the full manifestations of secondary syphilis, or mask its symptoms in the least; and at the same time to describe the treatment which is used with the baths at the Arkansas Springs, hoping that it will be of interest and benefit to those of the profession who are not familiar with it. Moreover, I wish to lay stress upon the importance of keeping the functions of the excretory organs in a high state of activity by baths and the use of alkaline mineral waters internally, while using anti-syphilitic remedies.

In May, 1885, while sewing a scalp wound, I ran the needle into the outer side of my left index finger just at the root of the nail. I used the usual precautions against inoculation, such as sucking the wound and applications of antiseptic solutions, and thought no more about the matter until about a week afterward, when the finger at the seat of puncture commenced to annoy me by a sensation of throbbing pain. The end of the finger on the outer side was of a dull-red color. The pain was similar to that experienced when a string is tightly tied about the finger. There was no ulcer to indicate a syphilitic lesion, and, being at a bony extremity, specific induration could not be satisfactorily determined. For the next six weeks the pain was almost constant, and every therapeutical and surgical means was used to obtain relief, but that only came with the development of an eruption of as profuse a syphilitic roseola as I have ever seen. In the mean time my health failed so perceptibly that I gave up my professional work, placed myself under the care of Dr. James C. White, and went into the country. At the end of the twentieth inunction, each consuming about as much as a two-grain blue pill, my mouth began to show the influence of the mercury. I returned home, ceased treatment until the sensitiveness of my gums had disappeared, and was then placed upon the "mixed treatment," viz.: one fifteenth of a grain of bichloride of mercury in pill, and from five to ten grains of a saturated solution of the iodide of potassium. This treatment, except where symptoms developed requiring larger doses of the iodide, was continued almost uninterruptedly for twenty months, with an occasional tonic of iron and quinine. During this time, although I was as faithful to the directions given me by my medical attendant as a patient could be, and was receiving thorough treatment with mercury and iodide of potassium, the following symptoms presented themselves, viz.: The eruption of roseola already spoken of, eruptions of maculæ, papulæ, pustulæ, and squamæ; a myalgia which was so painful that for two days it was almost impossible for me to turn in

* "The Results of Antiseptic Methods in Treatment of Wounds, as shown in a Series of One Hundred Consecutive Operations."

bed; angina and alopecia, both unusually severe; an iritis commencing in November and lasting nearly four months, and leaving posterior synechia which could not be broken up by atropine, and diminished vision of about one third. During the summer of 1886 a peculiar pain commenced in my coccyx and extended gradually as high as my seventh cervical vertebra. This pain was not diffused, but occurred at different points and remained about six weeks. There was tenderness on pressure. It was followed by momentary attacks of dizziness, more frequent in the morning. From the first manifestations of secondary syphilis in July, 1885, until August, 1886, I was subject to outbreaks of some form of the disease. By that time I considered it pretty well under control, but, to my disappointment, in September I was attacked by the most intense headache imaginable, which seemed to extend from the base of my brain to the fundus of my eyes. It was more severe on the right side, and as painful in the forenoon as at night. It resisted doses of the iodide of potassium as high as sixty to eighty grains, four or five times daily. After waiting nearly four months, hoping that the iodide would sooner or later control the pain—and the only result being that it put my stomach into such a rebellious condition that digestion was almost impossible—I concluded to consult Dr. F. N. Otis, of New York city. After a careful consideration of my case, Dr. Otis advised me to give up my professional work entirely for the time and devote myself to the business of recovering my health. He also suggested that I would find greater toleration of the remedies necessary at the Hot Springs of Arkansas, and advised my giving them a trial. Taking his advice, I arrived in that city November 20, 1886, and placed myself under the care of Dr. Algernon G. Garnett.

Among the laity there is a common idea that the water of the Hot Springs is a specific for syphilis. It is not unusual to meet people who have visited the springs and undergone a course of treatment, who profess to have been entirely cured. Personally I know of but one patient who could be considered as cured, he being under my observation for eight years, neither he nor his children showing any evidence of the disease.

After I had given Dr. Garnett my history prior and subsequent to inoculation, and answered many questions about my kidneys, heart, and nervous system, he placed me on the following treatment, viz.: one ounce of mercurial ointment, which is a 50-per-cent. mixture, divided into six papers; a saturated solution of the iodide of potassium, thirty minims to be taken after meals; abstinence from malt and spirituous liquors, tobacco, fruit, and pastry.

He laid particular stress upon abstinence from tobacco, and was so emphatic that I was naturally inclined to attribute his strong antipathy to a hobby, but observation among his patients, and practical personal experience, convinced me that he was right, for the system of a syphilitic can not tolerate tobacco in any form. To prove this assertion, is it not a fact that mouth symptoms and mucous patches on the pharynx are the commonest symptoms with which we have to deal? and the smoker is the one who comes in for treatment most frequently; at least, that has been my experience. But to return to the treatment prescribed:

At eleven o'clock I was to take a bath, at a temperature of 98° F., for ten minutes, drink a pint of the spring water at a temperature of 35° or 40° F., and then, after having dressed, go into the waiting-room, and remain there until perspiration had almost ceased; then return to my room, remove my cloth-

ing, dry myself, get into bed, and stay until I ceased to perspire, which might be in an hour or an hour and a half. At 2.30 P. M. my bath attendant would come to my room to rub into my back one of the papers of mercurial ointment, each paper containing one sixth of an ounce, the inunction to last twenty minutes. A long walk in the morning and a horseback ride in the afternoon were my usual exercise. After following this treatment until the sixteenth inunction, my gums became tender, so that I stopped the mercury for a week, and then renewed the ointment until I had received twenty-four inunctions, and had consumed four ounces of mercurial ointment and about two thousand eight hundred grains of iodide of potassium. All headache disappeared after the fifth bath. During this time my physician saw me four times a week, and examined me thoroughly once a week. I continued the baths one week after discontinuing medicine, and left the city on the 27th of December, fifteen pounds lighter than when I entered it, but feeling better than I had for years.

Before my inoculation I was of robust constitution, rarely experienced the sensation of fatigue, and had almost constant color in my cheeks, and now I feel that I have regained all that I lost during my illness. The "mixed treatment" in my case was more successful than the treatment by mercury alone. Several times I watched the action of mercury alone on my enlarged cervical glands, and then the action of mercury with iodide of potassium, and the enlargement disappeared more readily under the latter treatment.

Hot Springs owes its reputation to the waters, the mild climate, and the change of air and scene, which is always beneficial to the invalid, and its curative effects are due largely, I think, to the implicit faith many patients have in it, and to the fact that they make a business of getting well while there. The treatment, however, without mercury and iodide of potassium would be unsuccessful, as was shown in the case of a medical man who, a few years ago, located himself at the springs and professed to cure syphilis without mercury. Of course, people flocked to him, so that his practice was phenomenal, and, although he is, according to his own statement, as strong in his belief to-day as his patients were a few years ago but are not now, his business has declined to the patronage of those few skeptics who could not be induced to use mercury in any form or dose. Many others returned to the springs a year or two after their first visit, but not to this man. The toleration by the system of such enormous doses of mercury and iodide of potassium for weeks, and with some for months, can only be explained by the theory of their rapid elimination. The factor of the patient's breath, which elsewhere is so common, is rarely noticed here.

I became intimately acquainted with a man who had taken twelve ounces of mercurial ointment and twelve ounces of the iodide without showing any toxic effect. He was under my close observation for seven weeks. I saw many who were suffering from the effects of the mineral, but their condition could usually be traced to taking cold, an indiscretion in diet, or indulgence in tobacco; one man, whose system seemed intolerant of the effect of mercury, became salivated in a few hours after partaking of a piece of lemon-pie; another after eating an apple. Smoking is sure to blister the tongue or bring out mucous patches, it being impossible to distinguish between the two. I underwent the experiment with most gratifying results, thereby con-

firming Dr. Garnett in his opinion that a man with syphilis should never use tobacco, and that if he did he might even develop a cancer of the tongue.

A visit to the springs brings one in contact with all of the different forms of specific paralysis, from a ptosis of the lid to hemiplegia and paraplegia, and they get well. One patient of Dr. Garnett's, who had well-marked aphasia and in whom he diagnosticated a gummy tumor of the brain, left the springs apparently cured.

Old leg ulcers are treated at the springs by bathing with and drinking the waters alone, and it is said get well.

The reader may ask why such enormous doses of medicine are given. Dr. Garnett says that his long experience at the springs (thirteen years) has given him abundant opportunities to test the relative merit of large and small doses upon thousands of cases. When asked if there is any special virtue in the water, he replies: "I don't know, but the patients recover, and I can show you records of hundreds of cases in which all traces of the disease have been lost. Each patient is requested to report his condition every few months."

Note.—Since my return I have taken no medicine, and up to date (April 11, 1887) there has been no recurrence of symptoms.

Correspondence.

TELEGRAPHIC LETTER FROM CHICAGO.

The Thirty-eighth Annual Meeting of the American Medical Association.

CHICAGO, June 10, 1887.

It was evident on Tuesday, the first day of the meeting, that the attendance was to be large; about 850 delegates and permanent members were registered before the close of the day. The meeting was called to order shortly after eleven o'clock. The preliminary proceedings included a brief but very appropriate address of welcome by the Mayor, after which the president of the association, Dr. E. H. Gregory, of St. Louis, was introduced, and proceeded to deliver his address.

An article criticising the principles supposed to actuate the association having appeared in one of the morning newspapers, a resolution was offered condemning the tone of the article. It is much to the credit of the meeting that it promptly voted to lay the resolution on the table, and it is also to the credit of the mover that, the following day, he asked leave to withdraw it, basing his action on the fact that the newspaper had corrected its objectionable statements.

The second day's session was opened with a vote to postpone the reading of the addresses set down on the programme, and proceed to the consideration of business matters. Dr. Toner then read the report of the Board of Trustees for the Publication of the Journal, showing a total circulation at the date of the report, March 31st, of 4,387. Dr. Davis presented the report of the Special Committee on Changes in the Plan of Organization and By-laws, appointed last year. The report did not recommend any radical changes in the plan of organization, but it did recommend certain minor changes in the Constitution and By-laws, referring chiefly to the method of receiving "members by application," an increased number of whom was desirable in order to swell the revenue. It was recommended

that such members should be drawn only from the members of organizations entitled to representation in the association. The report further recommended certain changes in the Constitution and By-laws thought to be necessary to facilitate the business of the association, especially the formation of a General Committee to take the place of the present Nominating Committee, and to meet on the day preceding each annual meeting of the association and as often as necessary during that week, for the transaction of general business. In addition, the report recommended a specific method of choosing the Board of Trustees for the Publication of the Journal, and defined the powers and duties of the board, which were to include the appointing of the editor and assistant editor, the procuring and control of matter for publication, the fixing of the editors' salaries, etc. A further amendment recommended looked to the replacement of the present addresses of chairmen of sections by addresses in general medicine, in general surgery, and in public medicine by eminent members of the profession invited to prepare and deliver them. After the report had been read, a motion to adopt it, and then another to accept and adopt it, produced some confusion, which was intensified by a misunderstanding as to whether the proposed amendments to the Constitution could be legitimately acted upon without lying over for another year. Dr. Davis stated it as his impression that, inasmuch as the action taken in appointing the committee last year had virtually forecast the nature of its report, it was competent for the meeting to look upon the proposed amendments as having been under consideration for a year; at the same time, he protested that on no consideration of mere expediency would he favor any action that could properly be criticised as irregular. The meeting coincided with Dr. Davis, and passed a motion to that effect, but by a small majority (272 to 232).

The first business of importance that came up on Thursday was the report of the Committee on Nominations, as follows: For president, A. Y. P. Garnett, of the District of Columbia; for vice-presidents, Duncan Eve, of Tennessee, Darwin Colvin, of New York, C. J. O'Hagan, of North Carolina, and A. Stedman, of Colorado; for librarian, C. H. A. Kleinschmidt, of the District of Columbia; for treasurer, R. J. Duglison, of Pennsylvania; for assistant secretary, A. S. Ransohoff, of Ohio; for trustees for the publication of the "Journal," Leartus Conner, of Michigan, E. O. Shakespeare, of Pennsylvania, and W. T. Briggs, of Tennessee. The report also appointed the next meeting to be held in Cincinnati, beginning on the second Tuesday in May, 1888. The report was adopted.

A statement made by Dr. Davis, to the effect that, under the amendments to the Constitution adopted on Wednesday, it would be necessary to proceed now to the appointment of members of the General Committee, provoked a relapse of the muddle of the day before. It was promptly quelled, however, by the action of the president, who remarked that he believed that there was a great deal of dissatisfaction at the course taken on Wednesday (a voice: "a great deal of it"), and that he felt that he himself had been the head and front of the offending; yesterday's rulings had been wrong in a measure, and he would now rule that the amendments to the Constitution must lie over, but that those to the By-laws had been adopted.

The address in obstetrics was read by the chairman of that section, Dr. F. M. Johnson; the address in State medicine by Dr. G. H. Rohé; and the address in diseases of children by Dr. J. S. Knox. The last-named address met with great favor on account of its brevity. The treasurer reported a balance of \$143.77 on hand. It was voted to subscribe for ten copies of the "Index Medicus," and, after considerable discussion, it was voted to appropriate \$1,000 for the International Medical Congress.

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ALCOHOL AS AN ARTICLE OF FOOD.

Few of those who have read the early numbers of the "Practitioner" are likely soon to forget the vigor with which the late Dr. Anstie contributed to a discussion carried on in that journal of the question as to whether alcohol taken into the system was used up, or was excreted as such; in other words, whether it could be looked upon as a food. At about the same time, Professor Binz, of Bonn, was engaged in investigating the effect of alcohol on the bodily temperature. Anstie and Binz were both agreed that, taken in moderate quantities, alcohol was almost if not entirely used up in the system. Some recent researches carried on in the Pharmacological Institute at Bonn by Bodländer and Geppert, accounts of which have been published respectively in the "Zeitschrift für klinische Medicin" and the "Archiv für experimentelle Pathologie und Pharmakologie," seem to be accepted by Binz as supplementary to his own investigations, and in a recent issue of the "Centralblatt für klinische Medicin," of which he is one of the editors, he gives a *revue critique* of Bodländer and Geppert's work, together with that of Wershoven and Schmid, also carried on at the same institution and likewise regarded by Binz as in some sense a continuation of his own. Bodländer and Geppert studied the effects of alcohol on the respiratory exchange of gases, while Wershoven and Schmid dealt with its influence on the cutaneous transpiration and the radiation of heat. It is with Bodländer and Geppert's inquiries only that we shall concern ourselves at present.

Bodländer repeated Zuntz and Wolfers's experiments, using an apparatus specially devised by himself for the purpose, and almost always observed a diminished appropriation of oxygen and elimination of carbon dioxide, the reduction in the amount of oxygen absorbed amounting on an average to 15.41 per cent. in the dog and to 3.13 per cent. in the rabbit, and that of the carbon dioxide given off amounting to 14.97 per cent. in the dog and to 7.74 per cent. in the rabbit. The dose of alcohol which caused this reduction was 1.6 ccm. in one dog and 3.9 ccm. in another to each kilogramme of the animal's weight, and 1.4 ccm. in the rabbit. The experiments were so conducted that the animals, being kept unchained under a roomy tower, were not subjected to other disturbing influences. Bodländer concludes that alcohol is burned up in the system, thus protecting either the constituents of the body or other articles of food against oxidation, and so much the more from the fact that the total oxidation is not increased, but is diminished.

The objection that the action of alcohol on the human economy may be wholly different is met by Geppert's experiments, which were made on four adult persons, two of whom were accustomed to the moderate use of spirits, while another

took little or no alcohol, and the other was an habitual drinker. The dose of absolute alcohol varied from 30 to 75 ccm., for the most part simply diluted with water and sweetened; in a few instances wine and cognac were used, their alcoholic strength having been ascertained beforehand. The apparatus was so arranged as to measure both the oxygen inhaled and the carbon dioxide expired. It was found that the doses of alcohol mentioned had no considerable effect on the imbibition of oxygen, and that the oxidation going on in the organism remained the same; the amount of carbon dioxide given off likewise continued constant or was slightly reduced. Alcohol acts, therefore, like any other respiratory nutrient. In a state of repose, the quantity of oxygen appropriated is very nearly unvarying; it may be increased by muscular or glandular activity, but not by the mere introduction of oxidizable material. Since Binz's experiments proved the almost complete disappearance of alcohol in the body, it follows that its combustion uses up a part of the oxygen that would otherwise attack different material, and therefore that its presence saves that other material to the body. Thus is explained the diminished excretion of carbon dioxide often observed, since, according to the chemical composition of the oxidized body, a given amount of oxygen furnishes very different quantities of that gas.

Riess's observations of the reduction in the excretion of the leading elements of the renal secretion under the influence of alcohol—the urea being diminished from 15 to 22 per cent., the uric acid from 11 to 16 per cent., the sulphuric acid from 2 to 22 per cent., and the phosphoric acid from 11 to 34 per cent.—are strikingly confirmatory of the conclusion that alcohol spares the tissues from oxidation; and Zuntz has lately put on record observations essentially to the same purpose as Geppert's. Qualitatively, says this author, the effect of alcohol on the respiration differs in no wise from that of other nutrients. Thus there is now a practical agreement in this conclusion, which was for some time made doubtful by Wolfers's experiments on animals. Its legitimate application, says Binz, can, of course, be made to the sick only, for to persons in health alcohol as an article of food is, to say the least, superfluous.

HYPNOTISM AS AN ANÆSTHETIC.

In the May number of the "Annales de gynécologie" M. Auvar and M. Varnier give an exceedingly interesting account of an accouchement that took place last April under their observation at the hôpital Lariboisière, in which hypnotism was employed as an anæsthetic. The patient, a laundress, twenty-nine years old, belonged to a highly neurotic family and had for years suffered with convulsive hysterical attacks. She was admitted into the hospital in the seventh month of her fourth pregnancy, and it was accidentally discovered that she could be hypnotized easily by simple compression of the eyeballs. It was resolved that the effect of hypnotism as an anæsthetic should be tested at the time of labor, and, to increase the chances of success, she was regularly drilled, so to speak, by being hypnotized daily. It was soon found practicable to make

her sleep for three hours in succession, and wake spontaneously at a time previously agreed upon. During this period of training it was ascertained that she was also readily "suggestible." On one occasion she was instantaneously relieved of an intense dental neuralgia by being hypnotized. The power of "suggestion" over her was forcibly illustrated by the fact that, although she was known to be extremely desirous of remaining in the hospital through the rest of her pregnancy, when it was suggested to her that she should go to the director and ask for her discharge, she at once proceeded to make preparations accordingly, and at the end of fifteen minutes was found making parcels of her belongings, but half-clad, fidgety, and in tears. To all questions she answered, "I want to go away; I don't know why, but I want to go." So thoroughly had the "suggestion" become fixed upon her that it was found necessary to hypnotize her anew, in order to rid her of it by a "counter-suggestion." On emerging from this second hypnosis, she set about arranging her clothes again as if for a prolonged stay.

On the 17th of April uterine contractions set in, recurring every ten minutes. Each pain caused her to cry out, toss about, and show signs of excessive excitement. By compression of the eyeballs for one minute she was thrown into a state of hypnotic lethargy in which she was totally insensible to pain. The contractions lasted rather more than two hours, and during that time the compression of the eyeballs was repeated twice. She showed no sign of suffering from the uterine action, but usually heaved a deep sigh as the individual contractions passed off. Once or twice she complained of pain about the heart and made efforts at vomiting. It was suggested to her that her distress about the heart was now at an end, and her attempts to vomit ceased at once. The action of the uterus then remained in abeyance for more than four days, when the pains returned, occurring at first every ten minutes, and presently as often as once in two or three minutes. The child's head was now found engaged, the membranes had ruptured, and the pains were very severe. The eyeballs were compressed for five minutes, and, although a strong contraction occurred during those five minutes, the patient complained but little. An hour and a half elapsed before the child was born. Most of the uterine contractions were accompanied by only very slight evidences of suffering, and in the intervals between them the woman lay as motionless as a statue. Toward the close, it was found difficult to renew the hypnotism, and finally, as the head appeared at the vulva, carrying the anterior lip of the cervix before it, the patient became indescribably excited, and cried out incessantly. This time it was found impossible to hypnotize her anew, and three pains occurred before the child's expulsion was completed. Of this suffering, however, the woman subsequently had no remembrance. Post-partum hæmorrhage took place, and the patient was again hypnotized, to allow of an intra-uterine injection of hot water, which, as well as combined expression and extraction of the placenta, was entirely painless. Severe after-pains were at once allayed by hypnotism and suggestion. After that the progress of the case was perfectly normal.

MINOR PARAGRAPHS.

MEDICAL REGISTRATION IN PENNSYLVANIA.

A PENNSYLVANIA physician, a graduate of the College of Physicians and Surgeons, of New York, writes to us that he finds that he can not register as a practitioner in Pennsylvania until he has been examined and granted a certificate by some Pennsylvania medical faculty. Our correspondent has made inquiries of two of the Philadelphia colleges, and finds that they interpret the law as requiring them not merely to certify to the genuineness of diplomas, but to satisfy themselves of candidates' fitness to practice medicine, which they can do only by an examination, and that for this examination they require each applicant to pay a fee. Our correspondent considers this state of things to be a grievance. We cordially agree with him, but the colleges are not to blame; the fault lies with the law. In our opinion, the State has no right to exact a test of a man's fitness to practice any profession unless it pays the expense of applying the test. We have an equivalent law in this State, however, and therefore New Yorkers have no ground of complaint against Pennsylvania in this matter. We can only advise our correspondent to undergo the required examination and pay the fee, for the colleges seem to us correct in their interpretation of the law.

THE QUESTION OF PAIN AFTER DECAPITATION.

In a recent communication to the Paris *Société de biologie* ("Progrès médical"), M. Paul Loye reported his observations on movements in the head after decapitation. He has found that the mouth opens somewhat as the head drops, and that there are convulsive movements of the tongue and the eyelids; furthermore, that yawning motions set in in fifteen seconds and cease in a minute and a half. During this time no evidence of volition is to be observed, and the movements mentioned differ in no respect from those that take place in an animal that is in a state of profound anaesthesia at the time of decapitation. The injection of blood into the detached head prolongs the movements, and even gives rise to contractions of the facial muscles resembling those that indicate suffering, about which, however, there seems to be nothing voluntary. The experiments were made on dogs.

THE NEW FRENCH CABINET.

It is much to be regretted that the vicissitudes of French politics, which we can not pretend to understand, seem to have prevented the retention of M. Berthelot, the distinguished professor of organic chemistry, in the position of Minister of Public Instruction. M. Berthelot being excluded, the Rouvier cabinet, as finally settled upon, appears not to include a single member trained to scientific pursuits.

A SPANISH THESIS FOR THE DOCTORATE.

A *feuilletoniste* relates an amusing occurrence in a recent number of the "Gazette hebdomadaire de médecine et de chirurgie." A medical licentiate came up for examination for the degree of M. D. before the Madrid faculty, for which he wrote a thesis on "The Progress of Modern Surgery." The essay was published in the usual form, with the following note printed at the head of the first page: "At the end of this thesis will be found the notes of the professors composing the examining tribunal." Turning to the end, the writer found a note by the first professor to this effect: "Although this memoir is defective, I think it had better be received, if only as a guide in the candidate's oral examination," to which the other professors

had added: "We think so, too." We agree with the writer that it is cruel to compel a candidate to publish an unfavorable criticism of his work.

PROFESSOR BILLROTH.

It is with great regret that our readers must have noticed recent press dispatches announcing the serious illness of the great Vienna surgeon. By the latest reports it appears that his condition is indeed such as to occasion grave apprehension, but we trust that the feeling of hope which the "Lancet" draws from a bulletin mentioned by its Vienna correspondent will prove to be well founded. The disease is reported as bronchitis complicated with cardiac weakness. Professor Billroth's age is fifty-eight.

ACTORS AND THE HOSPITALS.

At the recent annual meeting of the organization known as the Actors' Fund, the president, Mr. Palmer, spoke with justifiable pride of the readiness with which members of his profession give their time, and managers the use of their theatres, in aid of charitable undertakings. He is reported to have added: "It is a fact that in this very city a hospital which has received many favors from the dramatic profession, which was in fact originally started by funds from a benefit, refused to take one of our beneficiaries except for a price we were unable to pay." We trust that some satisfactory explanation of this course on the part of the institution alluded to may be forthcoming, for it would be highly unseemly to ignore the generosity so often displayed by actors.

A PROPOSED MODIFICATION OF BERGEON'S TREATMENT.

A CONTRIBUTOR to the "Union médicale," writing under the pseudonym of *Simplissime*, professes to have received an anonymous letter setting forth the inconveniences of Bergeon's method of introducing hydrogen sulphide and carbon dioxide into the intestine, suggesting that these gases make up a great part of the ordinary intestinal flatus, and proposing the use of articles of food that are known to produce flatulence, the patient being instructed to oppose the expulsion of the gas by a vigorous and determined contraction of the sphincter. Beans are mentioned as worth trying.

A NEW AUSTRIAN PHARMACOPŒIA.

THE "Lancet's" Vienna correspondent states that the Minister of the Interior has appointed a commission of physicians and pharmacologists to prepare a seventh edition of the Austrian Pharmacopœia, nearly twenty years having elapsed since the last revision appeared. It is added that among the new drugs to be recognized are pyrogallie acid, amyl nitrite, the bromine salts, antipyrine, chrysarobin, cocaine, tannate of mercury, eundurango, quebracho, carbonate of lithium, menthol, naphthal, naphthaline, salicylate and sulphate of physostigmine, thymol, vaseline, and hydrochloride of pilocarpine.

YELLOW FEVER AT KEY WEST.

In view of the disquieting headway made thus early in the summer by the outbreak at Key West, it is satisfactory to learn that Surgeon-General Hamilton, of the Marine Hospital Service, has authorized the employment of skilled nurses for the sick at the expense of the Government. Recent dispatches represent the disease as spreading through the town, and the place is said to be quarantined by all ports except New York and Havana.

ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Fourth Division of the Health Department for the following statement of cases and deaths reported during the two weeks ending June 7, 1887:

DISEASES.	Week ending May 31.		Week ending June 7.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever.....	8	4	8	2
Scarlet fever.....	64	15	66	12
Cerebro-spinal meningitis....	4	4	6	5
Measles.....	65	7	58	3
Diphtheria.....	116	45	122	50
Small-pox.....	11	3	11	4

The New Jersey State Medical Society will hold its annual meeting on Tuesday and Wednesday of next week, at Beach Haven. We are informed that a large attendance of the New York profession is desired, and that a special effort will be made to render the occasion enjoyable to those of them who may be present. We presume that the State of New York is referred to, and not merely the city, and we feel sure that those who are able to go from New York to attend the meeting will find it profitable as well as pleasant.

The American Medical Association.—The programme of the thirty-eighth annual meeting, held in Chicago on Tuesday, Wednesday, Thursday, and Friday of this week, included the following in the general sessions: *Tuesday.*—"Cell Antagonism" (the president's address), by Dr. E. H. Gregory, of St. Louis. *Wednesday.*—An address by the chairman of the Section in Surgery and Anatomy (Dr. H. H. Mudd, of St. Louis); an address by the chairman of the Section in Practice of Medicine (Dr. J. S. Lynch, of Baltimore); the annual report of the Board of Trustees for the Publication of the Journal, by Dr. J. M. Toner, of Washington. *Thursday.*—An address by the chairman of the Section in Obstetrics and Diseases of Women (Dr. F. M. Johnson, of Missouri); an address by the chairman of the Section in Ophthalmology, Otology, and Laryngology (Dr. X. C. Scott, of Ohio); an address by the chairman of the Section in Diseases of Children (Dr. G. S. Knox, of Chicago). *Friday.*—An address by the chairman of the Section in State Medicine (Dr. G. H. Robé, of Baltimore); an address by the chairman of the Section in Dental and Oral Surgery (Dr. J. S. Marshall, of Illinois); an address by the chairman of the Section in Medical Jurisprudence (Dr. I. N. Quimby, of Jersey City); a report of the Standing Committee on Meteorological Conditions and their Relations to the Prevalence of Disease, also concerning the Collective Investigation of Disease, in co-operation with the committee of the British Medical Association, by the chairman, Dr. N. S. Davis, of Chicago.

The American Orthopædic Association.—The organization of this new society will be completed at a meeting to be held at the New York Academy of Medicine on Wednesday and Thursday, the 15th and 16th inst., the sessions beginning at 2.30 p. m. and 8 p. m. Papers are expected to be read by Dr. Judson, Dr. Gibney, Dr. Shaffer, and Dr. Sayre, of New York, Dr. Bradford, of Boston, and others.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from May 29, 1887, to June 4, 1887:*

FRYER, B. E., Major and Surgeon. Granted two months' leave on account of sickness, with permission to apply for an extension. S. O. 28, Division of the Pacific, May 28, 1887.

BROWN, PAUL R., Captain and Assistant Surgeon. Granted leave of absence for four months. S. O. 126, A. G. O., June 2, 1887.

PERLEY, H. O., Captain and Assistant Surgeon. Relieved from duty at Fort Maginnis, Montana Territory, and ordered for temporary duty at Fort Snelling, Minnesota. S. O. 49, Department of Dakota, May 23, 1887.

WOOD, LEONARD, First Lieutenant and Assistant Surgeon. Ordered for temporary duty at Fort Huachuco, Arizona Territory, and relieved from duty at Headquarters, Department of Arizona. S. O. 126, A. G. O., June 2, 1887.

SUTER, WILLIAM N., First Lieutenant and Assistant Surgeon (recently appointed). Ordered for temporary duty at Washington Barracks, D. C. S. O. 122, A. G. O., May 27, 1887.

Society Meetings for the Coming Week:

MONDAY, June 13th: New York Academy of Medicine (Section in Surgery); Lenox Medical and Surgical Society (private); New York Ophthalmological Society (private); New York Medico-historical Society (private); Boston Society for Medical Improvement; Gynecological Society of Boston; Burlington, Vt., Medical and Surgical Club; Norwalk, Conn., Medical Society (private).

TUESDAY, June 14th: Oregon State Medical Society (first day—Portland); New York Medical Union (private); Medical Societies of the Counties of Chemung (annual—Elmira), Chenango (semi-annual), Delaware (annual), Erie (semi-annual—Buffalo), Genesee (annual—Batavia), Livingston (annual—Genesee), Onondaga (annual—Syracuse), Oswego (annual—Mexico), Schenectady (semi-annual—Schenectady), Steuben (annual—Bath), Warren (annual—Lake George), and Wyoming (Warsaw), N. Y.; Newark, N. J. (private), and Trenton, N. J. (private), Medical Associations.

WEDNESDAY, June 15th: Oregon State Medical Society (second day); Harlem Medical Association of the City of New York; Northwestern Medical and Surgical Society of New York (private); Medical Societies of the Counties of Allegany (annual) and Tompkins (annual—Ithaca), N. Y.; New Jersey Academy of Medicine (Newark); Philadelphia County Medical Society.

THURSDAY, June 16th: Oregon State Medical Society (third day); New York Academy of Medicine; New Bedford, Mass., Society for Medical Improvement (private).

FRIDAY, June 17th: Chicago Gynecological Society.

SATURDAY, June 18th: Clinical Society of the New York Post-graduate Medical School and Hospital.

water. . . . The result was magical. After this the symptoms of shock did not return, and at no time was there a subnormal temperature."

It affords me much pleasure to indorse the practice of Dr. Wylie in the cases alluded to, as it is further corroboration of the value of the method of treatment of open wounds advocated by me, and given to the profession in a paper read by me in the Surgical Section of the American Medical Association at its meeting held in Washington in May, 1884, on the subject of "Railroad Injuries of the Extremities of the Human Body, with Observations on the Site of Amputation and Subsequent Treatment of the Stump," and published in the "Journal of the American Medical Association," vol. iii, page 372, in the following words: "It has been my practice for many years, after the vessels have been tied, to sponge the surface of the stump with water a little below the boiling-point, not only for the purpose of dislodging any coagula that may have formed in the interstices of the tissues, *but to stop further oozing.*" Also, in a paper read by me before the New York County Medical Association, February 16, 1885, on "The Protective Treatment of Open Wounds," and published in the "New York Medical Journal," vol. xli, page 237, I used the following language: "My practice is, and has been for nearly six years, immediately the large vessels have been tied, *to apply water slightly below the boiling-point freely and continuously to the abraded surface* until all oozing is stopped, the parts are thoroughly glazed, and the red hue of the tissues is slightly deadened. . . . The effect is not only to form the protective shield before mentioned, from autogenous material, which is always available, *but it mitigates shock, it promotes reaction*, and accelerates healing in a marked degree." After considering the question of shock, both primary and secondary, I further remarked: "It is under these circumstances that the stimulating effect of heat transmitted to the heart is most marked. . . . Before I adopted the method of treatment under consideration, many patients died after apparent reaction from primary shock in the manner described above; since its adoption, no death from either primary or secondary shock has occurred in my practice."

It is not the particular locality of the operation in which this method may have been applied, but the principle of therapeutics involved in the subject under consideration, with which we have to do. In conclusion, I would state that it gives me pleasure to congratulate Dr. Gill Wylie on his readiness to appreciate a real advance in the treatment of open wounds, but at the same time most decidedly demur to any claim as to priority on his part to the method of treatment of parts involved in surgical operations by the application of *hot water*.

THEODORE R. VARICK, M. D.,

Medical Director of and Surgeon to St. Francis's Hospital and the Jersey City Hospital.

Letters to the Editor.

THE APPLICATION OF HOT WATER TO OPERATION WOUNDS.

JERSEY CITY, N. J., June 4, 1887.

To the Editor of the New York Medical Journal:

SIR: In the "Medical Record" for March 19, 1887, there appears an article by Dr. W. Gill Wylie, entitled "Observations on the Use of Hot Water within the Peritoneal Cavity during and after Laparotomy, to Prevent Shock," etc., in the course of which there occurs the following language: "After the pedicle was tied and the tumor removed, the oozing was checked by the free use of hot-water irrigation to the whole peritoneal cavity. . . . I noticed that not only was the bleeding checked by the hot water, but that the indications of shock, which were present to an alarming extent—that is, very feeble heart's action, cold perspiration, etc.—were at once relieved by the hot

WHAT IS LITERARY PIRACY?

LEICESTER, ENGLAND, May 12, 1887.

To the Editor of the New York Medical Journal:

SIR: I should like to know whether a writer is justified in sending a communication which has already appeared in an American paper to an English one, or whether an editor can be justly accused of "piracy" in publishing such an article. Dr. Whitehead, Denver, Colorado, U. S. A., sent me ten blocks for a paper of his which had already appeared in the New York "Medical Record." I have his written consent to publish his article. The editor of the New York "Medical Record" has seen fit to accuse me of a grave charge in his issue of April 30th. I should be glad to know what your American customs are. My custom is to give an extra proof to any author who

desires to publish his paper in any American journal. I know that an English paper can not be affected by this, and I do not see that I lose thereby. For instance, a paper by Mr. Lawson Tait, which was especially written for me, subsequently appeared in an excellent American medical paper—I have reason to believe, reprinted from one of my proof-sheets. I gave Dr. Bantock an extra proof of his article on "Listerism" to send to America. I published a paper by Dr. Phelps, of Chateaugay, N. Y. (with illustrations). I sent him a proof to the Langham Hotel, London, to utilize in the States, if he so desired. The paragraph in the New York "Medical Record" is utterly misleading, and, as I hope to visit the States, I should like my fellow-journalists to know the real facts of the case. If you have a rule on the subject, I should be glad to know it, as I am anxious to conform to the strictest code of American journalistic ethics.

I am yours truly,

THOMAS M. DOLAN, M. D.,

Editor of the "Provincial Medical Journal."

**. Concerning the particular case to which our correspondent refers, the "Medical Record" for May 28th says: "Dr. W. R. Whitehead writes that his article, published first in the 'Record,' and subsequently in the 'Provincial Medical Journal,' without acknowledgment, was sent to the latter journal by request, and with the understanding that due acknowledgment would be given."

Concerning the general question asked by our correspondent, we can speak for New York only, where we believe the invariable practice and sentiment of medical editors are in strict accord with what is stated in the following paragraph, which we take from the "British Medical Journal" for May 21, 1887: "We wish it to be distinctly understood that, when a manuscript is forwarded to the 'British Medical Journal,' it is implied that a similar manuscript has not been sent elsewhere, unless special notice of the fact be given; we shall regard any infringement of this rule as a breach of faith."

Proceedings of Societies.

NEW YORK SURGICAL SOCIETY.

Meeting of May 25, 1887.

The Vice-President, Dr. LEWIS A. STIMSON, in the Chair.

Motor and Sensory Paralysis of the Left Arm following Fracture of the Clavicle.—The VICE-PRESIDENT presented a patient, a man twenty-nine years of age, with the following history: On April 12, 1887, he fell from a height of about eight feet, striking upon the outer aspect of his left shoulder. He remained unconscious for an hour, and was then able to walk to the Presbyterian Hospital, a distance of about a mile. On examination, there was found a simple fracture of the left clavicle at the junction of the outer and middle thirds, without displacement, the symptoms being localized pain on pressure and crepitation when the fragments were moved. But a more singular and striking phenomenon was the condition of the left arm, which hung powerless by the side, and which, on examination, showed extensive sensory and motor paralyzes without recognizable injury to its bony or soft parts. There was loss or diminution of tactile sensibility over an area beginning a little above the lower margin of the deltoid muscle, and covering the posterior surface and the external half of the anterior surface of the arm and forearm, the radial half of the hand, the thumb, and the index-finger. There was complete motor pa-

ralysis of the external scapular muscles, the deltoid, triceps, biceps, coraco-brachialis, and brachialis anticus, and the supinator and extensor muscles of the forearm. The extensors of the middle and terminal phalanges of the fingers (the interossei and lumbricales) were not involved. The arm could not be actively raised, abducted, or rotated; the elbow could not be flexed or extended, the forearm could not be supinated, and the only movements of the parts below the forearm that were possible were flexion and extension of the distal phalanges. The muscles reacted well to the faradaic current. During the six weeks that had elapsed since the accident the paralysis had persisted, and the limb had wasted notably, the wasting including the supra- and infra-spinatus muscles. The only recorded cases of which the speaker had knowledge, in which a fracture of the clavicle had been immediately followed by paralysis of the arm, were those of Earle* and Gibson.† In the former a sailor fell from the main-yard, broke his left collar-bone, and was unconscious for some time; when first seen by Earle, six days later, the arm was found to be entirely useless and paralyzed. Three weeks later sharp pains were felt, especially at the finger-tips, whenever the limb was moved, and occasionally when it was at rest; there was complete loss of sensation throughout the limb. Improvement followed the use of electricity and blisters. Earle mentioned that there was gradual recovery of power in the muscles of the scapula and the pectoralis major. In Gibson's case the falling branch of a tree caused a comminuted fracture of the collar-bone, and bruised the soft parts so severely that violent inflammation followed. The fragments were depressed behind and below the level of the first rib, and the brachial plexus was compressed, in consequence of which complete paralysis and atrophy of the entire limb followed. In two cases reported by Blassius,‡ in which the patients were first seen one or more years after the accident, a fracture at or near the junction of the outer and middle thirds of the clavicle had united with marked angular displacement and approximation of the shoulder to the thorax; and in each the deltoid was atrophied.

A few other cases had been reported in which paralysis of the arm had been observed after an interval and had been attributed to the pressure of the dressings, especially to that of an axillary pad. In Gibson's case the attribution of the paralysis to the pressure of the depressed fragments upon the brachial plexus might be accepted as probably correct, but in the report of Earle's case there was nothing to show that either fragment was exceptionally displaced, and in this, as also in the speaker's case, the implication in the paralysis of the supra-scapular nerve, which was given off above the level of the clavicle, from the cord formed by the fifth and sixth cervical nerves, seemed to be almost a positive proof of some other cause. What that other cause might be was not indicated, so far as he could see, by any symptom that could guide to a choice among the several possible causes which suggested themselves, and a search through the works of a number of authors had not yielded any information. In Weir Mitchell's "Injuries of the Nerves" the only suggestion of the existence of such a class of cases was contained in the following clause (page 99): "... falls on the shoulder, or on the hand, being competent to cause palsies of the arm, we may expect to meet with the latter even in such cases of dislocation as put out of the question any possible compression of the nerves by the head of the humerus." But he dismissed the question of pathology and aetiology by saying that "on the

* Earle, "Med.-chir. Trans.," 1816, vol. vii, p. 175.

† Gibson, "Principles of Surgery," sixth edition, vol. i, p. 27.

‡ Blassius, quoted by Gurlt, "Knochenbrüche," vol. ii, pp. 602 and 605.

whole it is more in accordance with modern views to see in the atrophy a consequence of nerve lesion, of which rheumatic or serofulous inflammations of the joint are so apt to furnish examples."

The suggestion contained in the first of these quotations, that certain paralyses observed in connection with dislocations were not due to compression of the nerves by the displaced bone, was one that deserved attention in connection with the prognosis and treatment. Nerves that were disabled by pressure promptly regained, as a rule, their power of conducting impulses after the removal of the cause, but those that were due to the unknown conditions assumed to exist in the present, and in similar cases, were sometimes persistent.

Dr. BRIDGON asked if there was any reason to think that the patient was unconscious before he fell. The reporter replied in the negative.

Dr. GERSTER asked if the patient might not have struck the object upon which he fell in such a way as to cause traction on the nerves.

The VICE-PRESIDENT replied that the man struck directly upon his neck and shoulder, in the manner described.

Dr. GERSTER cited the case of a boy whom he had presented to the society two or three years before. The patient had been run over and sustained a fracture of the head of the humerus and the neck of the scapula, with extensive effusion. There had been almost complete paralysis of the limb, but recovery had subsequently been perfect.

Exsection of the Knee Joint for Tuberculosis.—Dr. GERSTER read the following paper:

White swelling of the knee joint in adults of the laboring class can, for various external reasons, rarely be treated by orthopaedic measures. In children a rational mechanical and general treatment will often reward the patience and skill of the physician by excellent results. Exsection of the infantile knee joint is to be avoided as long as possible on account of the great shortening that is caused by the removal of the epiphyses adjoining the knee, on which depends the growth of the thigh and tibia. In adults, exsection is the shortest and safest way of eliminating the tedious morbid process, and substituting firm ankylosis for a useless joint. Arthrectomy, or exsection of the capsular ligament alone, as suggested by Volkmann, has not been attended with good success in the experience of the author. Two cases—one in an adult, the other in a child—resulted in relapse of the tubercular affection, although great care was taken in removing the entire capsule. A third case was permanently cured.

CASE I.—S. L., metal-worker, aged twenty-seven. February 28, 1882, arthrectomy and removal of the patella were done for fungous arthritis of the knee joint. Primary union of the wound followed. March 22d, a relapse occurred in the cicatrix, which gradually involved the articular aspects of the femur and tibia. Amputation of the thigh was performed by Dr. I. Adler.

CASE II.—Fred. O., aged five years and a half. Tubercular arthritis of the knee joint. January 26, 1887, arthrectomy was performed at the German Hospital. March 22d, revision and scraping of the entire cavity on account of tubercular relapse. In May the boy was still under treatment.

CASE III.—George K., butcher, aged twenty-six. July 6, 1882, arthrectomy and removal of carious patella were performed at the German Hospital. November 5th, discharged cured, with slight mobility of the joint.

In children, exsection should be strictly limited to the removal of actually diseased parts of the bones. By Schede's plan of dressing the wound, the hollow space remaining between the incongruent joint surfaces will be filled up by an organizing blood-clot, and firm union may be attained.

CASE IV.—Eva G., aged eight. Osseal tuberculosis of the knee joint, with sequestrum in the external condyle; granular osteitis of the internal condyle; multiple cheesy deposits in the thickened capsule; subluxation backward of the tibia, with rectangular contraction. August 12, 1886, partial exsection of knee joint at Mount Sinai Hospital. After the removal of the sequestrum, a deep recess were left behind in the intercondylar notch. Patella and entire capsule were removed; the ham-string tendons were divided to prevent recontraction. The tibia was superficially pared, and the bones were held in apposition by a nail driven diagonally through femur and tibia. Plaster-of-Paris splint over a Schede's dressing. Several relapses in the popliteal space required repeated scrapings. The patient had one attack of erysipelas. By reason of these complications, cure was delayed. February 27, 1887, patient was discharged cured, with firm ankylosis.

Total exsection of the knee joint is usually done by the author in the following manner: After careful scrubbing and disinfection of the region of the knee, the foot and leg and the thigh of the diseased limb are wrapped in clean towels wrung out of corrosive-sublimate lotion. The limb is held elevated in the vertical position for five minutes to deplete its vessels, and the constricting elastic band is applied well up near the root of the thigh. The knee is flexed, and an incision, commencing at the middle of one condyle of the femur and extending in a semi-circular line *above the patella* to the middle of the other condyle, is carried into the joint.

Note.—The transverse incision above the patella, proposed by Eugene Hahn, of Berlin, has many advantages over the incision made below the knee-pan. The chief one is the free access it affords to the bursa of the quadriceps, which must be carefully exsected along with the capsule.

The crucial ligaments are cut close to their attachment to the femur, and the patella, semilunar cartilages, and entire capsule, together with the bursa of the quadriceps, are exsected with mouse-tooth forceps and curved scissors. Care must be taken not to overlook some small bursæ situated behind the head of the tibia, which regularly communicate with the interior of the joint. The condyles of the femur are sawed off, the plane of section corresponding to the transverse diameter of the epiphysis of the femur.

Note.—Disregard of this rule will lead to ankylosis in the bow-leg position.

The articular aspect of the tibia is sawed off at a right angle to the long axis of this bone. All visible orifices of vessels are secured by ligature. They can be made visible by compressing the vicinity of the wounds with both hands. If the transverse incision has not been made long enough to permit of an easy arrangement of the drainage-tubes in the angles of the wound, it should be sufficiently lengthened. The inner ends of the tubes should reach into the popliteal space, just behind the sawn surfaces, and the tubes must not be compressed and occluded by the tension of the soft parts surrounding them. The limb is placed upon a long cushion covered with a clean towel wrung out of corrosive-sublimate lotion, and, while the sawn surfaces are held in exact apposition, two or four long steel nails, previously well disinfected by heating in an alcohol flame, are driven diagonally through femur and tibia, so as to firmly lock the bones in the desired position. The cutaneous incision is united by a sufficient number of catgut stitches. The limb is raised by the foot from the cushion, which is then removed. Strips of disinfected rubber tissue are slipped under the safety-pins, securing the ends of the trimmed drainage-tubes, and an oblong compress of iodoformed gauze is laid over the entire line of union. A suitable number of sublimated gauze compresses are arranged around the knee joint, and two short lateral splints of veneer or thin board are firmly bandaged on to serve as a deep

support. Over these comes an ample external dressing of corrosive-sublimated gauze, also firmly held down by a gauze bandage. The towels are removed, and the uncovered parts of the limb are enveloped in a layer of borated cotton to equalize the outline of the extremity. Two long lateral pasteboard splints, held down by a muslin or crinoline bandage, complete the dressing for children or adolescents. The more voluminous limbs of adults are better secured by a solid circular plaster-of-Paris splint. The limb is vertically elevated and the constricting rubber band is removed. Return of circulation is attested by the pink color of the toes. As soon as these turn pale, the extremity can be brought into the horizontal position.

If asepticism has been well maintained, little aseptic fever and no severe pain will follow the operation. The dressings should remain undisturbed for thirty days to afford a good chance for bony union. After thirty days the splints and dressings can be removed, and the nails and drainage-tubes can be withdrawn. The remaining sinuses are to be dressed lightly, the limb is incased in a silicate-of-sodium splint, and the patient is ordered to walk about on crutches, whether osseous union is present or not. Gradually the use of crutches is dispensed with, and the patient generally learns to walk very well on an elevated sole compensating for the shortening.

In twelve cases of total exsection done by the author for tuberculosis, eleven patients recovered; one died of meningeal tuberculosis.

CASE I.—Fred. F., aged seven. Osseal relapsing tuberculosis after arthrectomy done by Dr. F. Lange in June, 1885. March 4, 1884, total exsection, done at the German Hospital, reveals two periarticular abscesses and five cheesy foci in tibia and femur. Suppuration of wound. March 10th, incision of abscess on outer aspect of knee. April 23d, separation of epiphysis of tibia. Separated epiphysis was firmly united to femur. In April symptoms of meningeal tuberculosis developed, to which patient succumbed on May 31st.

In one of the remaining eleven cases amputation of the thigh became necessary on account of suppuration.

CASE II.—H. D., professional athlete, aged thirty. Extensive destruction of right knee joint by tuberculosis complicated with pyogenic infection. The knee, leg, and thigh contain a large number of abscesses. Profuse secretion from seven fistulae. The case was not suitable for exsection, and amputation was advised. But, at the patient's urgent request to make an attempt to save his limb, February 14, 1884, total exsection was done at the German Hospital. As suppuration was expected, the extremity was fixed to an interrupted dorsal suspension splint made of hoop-iron and plaster bandages. Profuse suppuration followed, with evident prostration, and on April 19th amputation of the thigh was performed. The wound healed by granulation, and in June patient was discharged cured.

Ten cases were cured with preservation of the limb. In nine of these, firm bony ankylosis was secured. One case terminated in the formation of ligamentous union.

CASE I.—Niclas G., carpenter, aged fifty-four. Synovial tuberculosis with high temperatures and emaciation following a slight traumatism. Contraction of knee at an acute angle, with constant violent pain. February 19, 1886, at the German Hospital, puncture yielded a small quantity of turbid bloody serum. In anaesthesia the limb was straightened and the joint was incised, irrigated, and drained. The fever at once disappeared, but flocculent pus commenced to exude from the tubes, confirming the assumption of tuberculosis. In view of the patient's age, his wretched general condition, due partly to disease and to chronic alcoholism, amputation was thought to be advisable. The plan of operation was changed at the operating-table, and total exsection of the knee joint was done. Hemorrhagic synovitis and a large cheesy deposit in the bursa of the quadriceps were found. Five nails, aseptic dressing, paste-board splints. Temporary compression by Martin's elastic bandage to control secondary oozing. Esmarch's constrictor was re-

moved after the completion of the bandage. Feverless course of healing. Change of dressings on the twenty-second day. Four nails were found loose, and were withdrawn. May 8th, scraping of drainage-tracks and removal of fifth nail. Ligamentous union. Plaster splint. June 12th, sinuses healed; patient walking without stick or crutches in a light silicate-of-sodium splint, though union of the bones is not perfect.

The other nine cases were in brief as follows:

CASE II.—Willie B., aged three and a half. Osseal tuberculosis, with fistulae. February 2, 1879, total exsection. April 2, patient discharged cured.

CASE III.—Charles H., aged twelve. Osseal tuberculosis, with fistulae, contracture and subluxation backward. June 13, 1884, total exsection at the German Hospital. Hahn's incision, two nails, plaster-of-Paris splint. Some fever and deep-seated oedema of the region of the knee followed. Sawed surfaces and flesh wound united by primary union. The nails being withdrawn on the 12th day, some pus exuded from their tracks, showing that the nails had apparently not been well disinfected. Several revisions were required on account of unhealthy granulations in the drainage-holes. February 4, 1884, patient discharged, with firm ankylosis and no fistula.

CASE IV.—S. B., aged nine. Osseal tuberculosis, several fistulae, subluxation. August 26, 1885, total exsection at Mount Sinai Hospital. Nails; plaster splint. September 25th, change of dressing. Drainage-tubes and nails were withdrawn; firm ankylosis. October 10th, patient discharged cured.

CASE V.—Leonard P., waiter, aged nineteen. Synovial tuberculosis, no fistula. August 27, 1885, total exsection at the German Hospital. September 27th, plaster splint, dressings, drainage-tubes, and nails removed. October 9th, sinuses healed. October 19th, discharged cured, with firm ankylosis.

CASE VI.—Bertha D., aged twelve. Synovial tuberculosis of five weeks' standing. Continuous high fever, with rapid emaciation. Puncture yielded scanty bloody serum. January 21, 1886, total exsection at Mount Sinai Hospital. The capsule was found studded with innumerable miliary tubercles. The fever disappeared immediately after the operation. February 20th, plaster splint removed; wound healed by first intention. March 10th, patient discharged cured, with firm ankylosis.

CASE VII.—Lizzie B., aged twenty. Osseal tuberculosis of eighteen years' standing; rectangular contraction with subluxation backward. February 12, 1886, total exsection at German Hospital. March 10th, change of dressings; primary union; three nails and drainage-tubes were removed. April 4th, patient complained of a good deal of pain in walking. A hard body could be felt under the skin on the outer aspect of the tibia. An incision exposed the head of the fourth nail, which had not been found at the first change of dressings. It was withdrawn with some force, a little blood exuding from its track. May 9th, patient discharged cured.

CASE VIII.—Anna S., aged twenty-two. Synovial tuberculosis, with osseal ulceration of articular surfaces of both femur and tibia. May 10, 1886, total exsection at the German Hospital. June 12th, first change of dressings, primary union of soft parts, delayed union of the bones. August 1st, discharged cured, with firm ankylosis.

CASE IX.—Katie W., aged eighteen. Synovial tuberculosis, with caseous deposits in several recesses of the capsule, notably around and behind the crucial ligaments. Caries of articular surfaces. May 18, 1886, total exsection at the German Hospital. Slight fever following the operation, the dressings were removed May 26th. Marginal slough of the upper edge of the skin wound. June 17th, nails were removed; firm ankylosis. July 26th, patient discharged cured.

CASE X.—Emma F., aged twenty-seven. Synovial tuberculosis with caries of articular surfaces. April 18, 1887, total exsection. April 22d, considerable secondary oozing necessitated a change of external dressings and plaster splint. Feverless course. May 23d, change of dressings, primary union, firm ankylosis. Tubes and three nails were removed; a fourth nail could not be found.

Note.—To prevent the disagreeable necessity of cutting down and searching for a nail buried in the tissues, Dr. F. Lange's suggestion of

fastening a silk ligature to the head of each nail before driving it in seems to be very appropriate.

After finishing his paper, the reader added that he did not believe that any blood was saved in operations on the extremities by bandaging the limb previous to applying the constricting band. By elevating the limb for a few minutes, gravity assisted in depleting the vessels to some extent; then the constriction was applied. The blood left the arteries and collected in the veins. This was of great advantage to the surgeon, because he could, by making pressure on the part with both hands, always locate the vessels in order to apply the ligatures. Only a small amount of blood could escape, as the rest was kept back by atmospheric pressure. The reader objected to the use of Esmarch's bandage for the following reasons:

1. Amputations and exsections were frequently performed in cases of acute or chronic infectious disease, where the application of the bandage would tend to force the septic matter into the general circulation.

2. The avoidance of this danger more than compensated for the amount of blood that might be lost.

The VICE-PRESIDENT said that his experience in four or five cases had been similar to that of the reader. He had noted a recurrence of the disease in two cases—one that of an adult, and the other that of fifteen; complete excision was required afterward. The field of usefulness of the operation must be limited. A special objection to excision in young subjects arose from the consequent arrest of growth in the limb, and it was important to remember that a cure might sometimes be obtained by immobilization and pressure, without resort to the knife. The speaker here cited the case of a child two years of age, whose left knee had presented marked evidences of tuberculous disease. A quantity of pus was aspirated, the limb was fixed in a plaster-of-Paris splint, and three weeks later the symptoms were much relieved. A leather splint was then applied and was worn all winter. He had seen the child six weeks before the meeting, and all evidences of disease had disappeared, the joint being freely movable.

Dr. GERSTER agreed with the speaker regarding the propriety of expectant treatment in children, as the results were generally much better than when exsection was performed. He would only except in cases in which there had been prolonged suppuration, or where orthopædic treatment had been neglected. He had seen a number of cases that had been treated by orthopædic surgeons on the expectant plan, and had been surprised at the good results obtained. We could not be too radical in our treatment of tuberculous joints in adults, as hospital patients were too poor to submit to a long course of orthopædic treatment. By excision a cure was effected in six weeks, instead of being delayed for several months. All the cases reported had shown that it was better not to wait until fistulæ had formed and new complications had arisen.

Book Notices.

The Practitioner's Hand-book of Treatment; or, the Principles of Therapeutics. By J. MILNER FOTHERGILL, M. D., Physician to the City of London Hospital for Diseases of the Chest, etc. Third American from the Third English Edition. Philadelphia: Lea Brothers & Co., 1887. Pp. xx-17 to 660. [Price, \$3.75.]

To one conversant with the medical literature of the last twenty years few names are more familiar than that of Fothergill.

He has often addressed the profession, not only through the periodicals, but also in pamphlets and books. Particularly to young physicians have his messages been frequent and instructive. His audience, moreover, has not been limited to his own country, most of his writings having appeared under the imprint of American as well as English publishers. Many of his readers—who know him only as he has incidentally revealed himself—have come to think of him as a man in the prime of life, who, being a physician's son, has always breathed a medical atmosphere; who learned many of the practical lessons of professional work under a father's watchful eye; who has spent much time in infirmaries and hospitals; who has made some original contributions to scientific knowledge, but at the same time has always taken a practical view of his cases; and who, when he writes, although always having something to say, often says besides not a little which is irrelevant and sensational.

In examining a new medical book, one naturally turns to the title-page in order to learn in what college and of what subject the author is a professor. In the present instance the information on this point, thus obtained, is entirely negative, and yet the author is almost constantly appearing in the rôle of a teacher. In the preface of the second edition of the work under consideration he remarks with evident satisfaction that the success of his book "demonstrates that non-teaching hospitals may be useful beyond their immediate precincts," especially in the advancement of therapeutics. An interval of ten years elapsed between the publication of the first and third editions. It is rather unusual that a book written by one who lacks the prestige of a professorship should have been so favorably received, although the work of one American author—Emmet—has been even more successful, a third edition having been called for in five years. Such success shows that the function of teaching is not a monopoly in the hands of those who hold positions in medical colleges. To the many ambitious men who, either on account of their location or the absence of influential friends, are debarred from obtaining such positions this fact should be an inspiration to careful investigation and the publication of their observations.

The first edition of "*The Hand-book of Treatment*" contained five hundred and seventy-five pages, divided into twenty-four chapters, and subdivided into two hundred and fifty-two sections. The third edition has been increased in size by eighty pages. Two new chapters, embracing six sections, have been inserted just before the concluding chapter. The remaining sixty-two pages consist of additions to the original chapters, in the first twenty-three of which the division into sections has not been changed. It is therefore apparent that the whole work has undergone revision. The subjects of the two new chapters are: "*The Dietary in Acute Disease and in Malassimilation*" and "*The Management of Convalescence*." In the former are pointed out what foods are most easily digested under various circumstances, and when predigested food and the digestive ferments are indicated; in the latter are emphasized the necessity of caution in the administration of nitrogenized food, the danger of overtaxing the liver, and the unfavorable influence of cold during recovery from grave illness.

The work was originally written with the object of setting forth the principles which underlie the various therapeutic procedures which the author has found useful. His aim seems to have been to teach his readers how to treat patients, rather than, as is commonly taught in the colleges, to treat diseases. He endeavors to show the necessity of tact to the successful practitioner, and how this quality may be developed. The first half of the book is devoted to a consideration of the normal and abnormal workings of the more important physiological

processes, and to a description of some constitutional conditions and disorders; the latter half to a discussion of the principles involved in the treatment of the different physiological systems. The practical value of the volume is greatly increased by the introduction of many prescriptions. To Americans a noticeable feature of these is the increase of the bulk of a single dose of many of the mixtures to one ounce by the addition of an infusion. The practice common among the apothecaries of this country of charging for prescriptions a uniform price by the ounce would render this method of prescribing very expensive, and therefore, in some cases, impracticable.

The man who has been taught the latest advances in physiology and practical medicine will find much which will seem to him trite and out of place in a book the aim of which is so ambitious. But let him not for that reason contemptuously throw the volume aside. He may gain from it many suggestions which will prove of value even to one thoroughly trained in modern medical science. To the young man who has had little experience in the practical management of patients, to him who has been in practice a few years and perchance has forgotten his physiology, and to the still older practitioner who has neglected his reading, this work must prove both interesting and valuable. To have a description of the normal physiological processes of an organ and of the methods of treatment of its morbid conditions brought together in a single chapter, and the relations between the two clearly stated, can not fail to prove a great convenience to many thoughtful but busy physicians. Few men can read the book carefully without being benefited thereby. That the profession appreciates that the author has undertaken an important work, and has accomplished it with a reasonable degree of success, is amply shown by the demand for this third edition.

Sphygmography and Cardiography, Physiological and Clinical.

By ALONZO T. KEYT, M. D. Edited by ASA B. ISHAM, M. D., and M. H. KEYT, M. D. New York and London: G. P. Putnam's Sons, 1887. Pp. vi-229. [Price, \$3.50.]

SELDOM has a volume embodying such ingenious, original, and thoroughly scientific research as this appeared from the pen of an American practicing physician. The premature death of the writer has deprived him of the just reward of his years of solitary labor, in the complete recognition of their value that can not fail to come from both sides of the Atlantic.

The cardinal problem proposed for solution by Dr. Keyt is the varying rate of transmission of the pulse-wave through different parts of the arterial system and under different circumstances. The solution of this problem required the compound sphygmograph which Dr. Keyt invented. This, by means of a double system of explorers, water-filled transmission-tubes and levers, permits of the simultaneous registration of the pulse at any two arteries, or of the heart beat and the pulse of any artery. The cardiogram and sphygmogram are registered in superposition upon a glass slide moving by clock-work; and underneath, on the same slide, a clock-work chronograph marks time in fifths of seconds. On such a slide the base of the upstroke of the sphygmogram will always be inscribed a little later than the base of the upstroke in the corresponding cardiogram. The distance between the two points is measured, and, for the radial artery, is found to equal $\frac{1}{10}$ of an inch. The space occupied by the fifth of the second marking of the chronograph is $\frac{1}{10}$ of an inch. The time, therefore, which corresponds to the distance between the beginning of the cardiac pulsation and the beginning of the radial pulsation, is indicated by the formula $\frac{1}{10}$ of $\frac{1}{5}$ of a second; which equals $\frac{1}{50}$ of a second.

To determine the average mean velocity of the pulse-wave along the arterial tree from the trunk near the root to a branch in the foot, the foregoing data are combined with those given the length of the artery. Thus the time difference between the pulse in the carotid and in the dorsalis pedis artery was found in one case to be 0.125 of a second. In this individual, the distance from the third cartilage, opposite the aortic orifice, to the carotid, was 7 inches, and to the dorsalis pedis, 53 inches. To the latter was added 6 inches for the aortic arch. The difference, then, between the carotid and dorsalis pedis pulse is $53 + 6 - 7 = 52$ inches.

The time difference (0.125") is to the distance traveled by the pulse-wave (52 inches) as 1" is to the velocity of the pulse-wave in a second, viz., 416 inches.

From experiments of this nature, Dr. Keyt has been able to formulate the following laws:

1. The rate of transmission of the pulse-wave along different positions of the arterial tree is not uniform, but considerably diverse.
2. The rate is minimum for the aorta, maximum for the arteries of the lower extremity, and intermediate for those of the upper extremity.
3. The mean velocity of the pulse-wave is much slower in young children than in adults, especially in the lower extremities, where it may not exceed one half that in adults.
4. The mean velocity of the pulse-wave increases with age.
5. The time difference between the beat of the heart and the carotid pulse is very nearly the same in young children as in adults.
6. The interval between the contraction of the ventricle and expansion of the artery is notably less in young children than in adults.

These conclusions are in perfect accord with the observations of Benedek, to the effect that in children the arteries are large and their tension is low (which implies a diminished velocity). As the body elongates in growth, the arteries elongate out of proportion to their increase in diameter, and with this relative narrowing the tension (and presumably the velocity) rises. Such rise of tension is especially marked in the arteries of the lower extremities and the pelvis, and, Benedek suggests, becomes an important causal condition of the establishment of sexual functions, and especially menstruation.

The causes of the variation in velocity of the pulse-wave have been carefully studied by Dr. Keyt by means of a schema of the circulation, tested with his sphygmograph. He concludes:

1. The velocity of the pulse-wave is principally determined by the elasticity of the arteries, being slower as the arteries are more elastic.
2. This incessantly changes within small limits, from variations of arterial tone, being faster as the tone is higher.
3. It diminishes when the size of the artery is increased.
4. It tends to increase with increase of arterial pressure.
5. It is not perceptibly modified by an aneurysm, although the distal wave may be delayed there, in consequence of absorption by the yielding aneurysmal walls.

One of the results of the simultaneous graphic method has been the demonstration and measurement of an interval of time between the beginning of ventricular contraction and the opening of the aortic valves. To this period the author applies the term "presphygmie," or "cardio-aortic," or "ventriculo-aortic."

Clinical and schematic researches demonstrated the important facts that:

1. The duration of the presphygmie interval is *increased* in slow ventricular contraction, infrequent pulsations, relatively

high arterial pressure, heavy aortic valves, mitral insufficiency, and probably mitral contraction.

2. The duration of the presphygmie interval is diminished in quick ventricular contraction, frequent pulsations, relatively low arterial pressure, and aortic insufficiency.

In the last case there is also observed an abnormal diminution in the delay of the carotid or radial pulse upon the cardiac, and, in the absence of an aortic aneurysm, which also causes such delay, this becomes an important diagnostic sign of aortic insufficiency.

The author thus explains this interesting fact: In large aortic insufficiency the base of the arterial column rests against the sides of the ventricle, instead of against the aortic valves, and is advanced, causing rise of the pulse, with the first movement of ventricular contraction.

The coincidence of an aortic aneurysm may so antagonize the effect of the aortic insufficiency that the pulse is brought back to normal. This proposition is illustrated by a remarkable case.

In mitral insufficiency the pulse is retarded; and this sign of the lesion was first demonstrated by Dr. Keyt. The phenomenon is due to the loss of time and work of the ventricle, as the ventricular systole first drives the blood backward, and only forward into the aorta when the pressure in the left ventricle and auricle exceeds that of the aorta.

Such are the principal conclusions which have been obtained by the author with his new method—new clinically, although the principle of multiple registration had of course been recognized in laboratories.

The new facts discovered by Dr. Keyt, and the new methods for clinical observation disclosed by him, are of great and permanent value. There is no treatise on sphygmography which contains more original contributions to science.

It is noteworthy that these are all obtained by the evolution of a single fundamental method—namely, the measurement of the velocity of pulse-waves. The author does not discuss the question of the various forms of the pulse tracing, which has principally occupied other writers on the subject.

A Treatise on Diseases of the Skin, with Special Reference to their Diagnosis and Treatment, including an Analysis of Eleven Thousand Consecutive Cases. By T. M'CALL ANDERSON, M. D., Professor of Clinical Medicine in the University of Glasgow, etc. With Colored Plates and Numerous other Illustrations. Philadelphia: P. Blakiston, Son, & Co., 1887. Pp. xviii-17 to 662.

AFTER nearly thirty years of experience as a physician, and after having issued several monographs upon skin diseases, Dr. Anderson now presents us with a large and attractive treatise. Unlike most works on the same subject, this one is written from the standpoint of the general practitioner. The author plunges at once into a discussion of cutaneous diseases without any preliminary chapters upon the anatomy, physiology, and hygiene of the skin. He pauses for a few brief pages to describe the lesions of the skin, to say a word upon classification, and to give an analysis of eleven thousand cases; then he begins his subject proper with an account of pruritus cutaneus. The author's style is pleasant, although it is rather that of the lecture-room than of the text-book. Very little attempt has been made to give the pathology of skin diseases, and scarcely any notice is taken of the latest researches of the Germans. Perhaps it is for this reason that our indulgence is asked on the score of the book having been written "during the exigencies of hospital and consulting practice." The best books, however, are usually so written.

The sections upon sebaceous cyst, anthrax, malignant pustule, dermatitis calorica, nævus vasculosus, and epithelioma are by Dr. H. C. Cameron; those on Delhi boil, parangi, donda ndugu, elephantiasis, frambæsia, leprosy, ainhum, Madura foot, pellagra, and Guinea-worm disease are by Dr. James Christie; and that upon ulcers is by Dr. William Macewen. These make up nearly one fifth of the book, and are well and scientifically written. Those by Christie are of special interest, as he describes what he has seen, and some of the diseases are not commonly found described in text-books.

We are sorry to note that no attention has been paid to diseases of the nails, except as they are involved in other diseases; and that neither dermatitis or impetigo herpetiformis nor tuberculosis cutis is even hinted at. No mention is made of the use of galvanism in the treatment of vitiligo, of the chrysarobin pigment in psoriasis, of electrolysis in nævus vasculosus, or of the local application of pure carbolic acid in lupus erythematosus. The terms "lepra" for a circinate psoriasis, "psoriasis syphilitica" for a squamous syphilide, "lichen" for papular eczema, are retained, despite the general opinion that, for the sake of clearness and simplicity of nomenclature, such terms should be discarded. The bacterial or microbial origin of erysipelas, lupus, and the scrofulides is entirely ignored, and the tubercle bacillus has apparently not attracted the author's attention. "Salt rheum" is omitted from the synonyms of eczema. The author's chronic erythema of the face is rather what we should regard as a chronic erythematous eczema, his hydroa is identical with herpes iris, and besides this he makes no mention of hydroa. In the ætiology of acne and of rosacea no mention is made of constipation, or of digestive derangements. We are surprised to find perforating ulcer of the foot spoken of in the section on clavus and nowhere else; that, while Foulis's treatment of ringworm is given, no mention is made of Harrison's plan; and that we are warned against curing a chronic case of pediculosis capitis for fear of disastrous effects on the child.

The book contains one steel plate, two chromo-lithographs, and sixty-nine woodcuts. Probably from oversight the illustration of Auspitz's modification of Volkmann's sharp spoon is repeated, and that of Squire's multiple scarifier. The text bristles with histories of cases, in some instances more space being given to the recital of a case than to the description of the disease. A great deal of labor has been successfully bestowed upon diagnosis, the excellent form of parallel columns being made use of in many places to give the differential points. This seems to us to be the most valuable feature of the book. The busy general practitioner will be pleased to note that a great number of formulæ are given at the bottom of the pages. The publishers have done their part of the work well, and produced a handsome book.

On Aphasia; being a Contribution to the Subject of the Dissolution of Speech from Cerebral Disease. By JAMES ROSS, M. D., LL. D., Aberd., Fellow of the Royal College of Physicians of London, etc. London: J. & A. Churchill, 1887. Pp. 128.

THIS interesting monograph consists of a series of papers contributed to the Manchester "Medical Chronicle" and now collected into a more convenient and accessible form, with some alterations and additions by their author. In the preface the author disclaims any intention of presenting an exhaustive account of the subject, but the reader will find, nevertheless, nearly all forms of aphasia considered in detail, and much instructive information collected from the most eminent authorities on neurology. The literature of the subject has been fully explored, and the foot-notes and references form at once a valu-

able index to any who may wish to follow in this field, as well as a testimony to the industry and discrimination of the author.

Dr. Ross defines aphasia as "a generic term used to include diminution or loss of function of the emissive department of the motor, or of the apperceptive department of the sensory function of speech, or of both these departments combined." And he divides it accordingly into three varieties—namely: (1) motor aphasia, (2) sensory aphasia, and (3) a combination of the two. All three of these varieties receive full consideration, and all are illustrated by a detailed description of cases. More than one half the book is devoted to the chapters on morbid anatomy and morbid physiology, and, wherever necessary, diagrams and other illustrations have been used. These chapters are exceedingly interesting, and are rendered so not merely by the intrinsic value of the knowledge imparted, but by the lucid and pleasant manner as well in which the author has presented the subject. We find here discussed all the complex disturbances connected with the function of speech—paraphasia, paraphagia, paralexia, psychical blindness, and psychical deafness—and a consideration of the various theories regarding their causation, including the author's exposition.

The general practitioner interested in nervous diseases will find this work an excellent compendium, therefore, to which to refer, as it contains the most recent information drawn from all sources with a discriminating judgment.

On Fevers; their History, Ætiology, Diagnosis, Prognosis, and Treatment. By ALEXANDER COLLIE, M.D. (Aberd.), Member of the Royal College of Physicians of London, etc. With Colored Plates. Philadelphia: P. Blakiston, Son, & Co., 1887. Pp. viii-288. [Price, \$2.50.]

AFTER having read the preface, which says that the little volume is the result of observations by the author, founded upon over twenty-one thousand cases, we must confess to considerable disappointment with its contents. The fault may have been that we expected too much, but one certainly has a right to expect independent observations from a writer who professes to have had such an extensive experience. We can scarcely see the *raison d'être* of a book which is made up, for the most part, of lengthy quotations from well-known text-books.

Of the four plates contained in the book, one is of considerable interest in that it shows the condition of the affected bowel at the end of the first week in typhoid fever. It represents marked swelling of Peyer's patches and isolated glands without any ulceration, which may, however, be seen just commencing on the patch next the ileo-cæcal valve. It is not often that one has an opportunity of seeing the bowel at so early a stage of the disease. Of four thousand cases, the writer states that he has met with only two of this kind.

Evacuant Medication (Cathartics and Emetics). By HENRY M. FIELD, M.D., Professor of Therapeutics, Dartmouth Medical College, etc. Philadelphia: P. Blakiston, Son, & Co., 1887. Pp. vi-13 to 288. [Price, \$1.75.]

WE believe it to be a pretty general rule that books which have an origin in common with the one before us, the accumulated notes of a college professor, rarely fail to possess value to the world at large. The present one is certainly no exception. The author says very pertinently in his preface or "apology" that "whosoever proposes to add, however slightly, to the burden of those who read in this busy and much-pressed age, should suggest the consideration of his claim to be heard." The claim in this instance is manifold. In the first place, it is of great service to collect all this material together, and present it in such a clear and concise form. Even were this a mere com-

pend of the mass of literature on this subject, scattered in our libraries through a vast series of journals and medical works, it would be worthy of commendation; but it is much more than this. There are numerous practical suggestions, the results of the author's own clinical experience, which can not fail to be of value to the busy practitioner. Constipation and "biliousness," those most empirically treated of all disorders, are still the *bête noire* of the profession, because we do not take thorough cognizance of all the means at our control. The classification adopted in this work is into cathartics and emetics, the author dealing with the materia medica, pharmacy, action and use, and contra-indications of each drug. Mercury is called "the pre-eminent cathartic if properly used," and this we ourselves believe to be true. As usual, the pendulum, having swung too far in one direction in one generation, is carried over equally beyond the line in the opposite direction in the next. It has about reached the popular intelligence that mercury was at one time given to excess, and so to-day we find that every advertising medicine-man who desires to attract popular sympathy to his "preparation" takes care to label it in large letters "purely vegetable." As if, forsooth, the most powerful poisons known were not all of vegetable origin. The chapters on "Emetic Medication" and "Arrest of Vomiting" are filled with suggestions of great value to the young practitioner, and of not a little to the more experienced.

In everything relating to typography and general appearance the book is a model one.

The Year-book of Treatment for 1886. A Critical Review for Practitioners of Medicine and Surgery. Philadelphia: Lea Brothers & Co., 1887. Pp. viii-304. [Price, \$1.25.]

ALTHOUGH the present volume has among its contributors the usual number of distinguished medical gentlemen, the general impression conveyed by a careful perusal of it is that several of the papers do not show that discrimination in the selection of material which has marked former "year-books." This can hardly be due to the paucity of subjects; it is rather to be ascribed to hasty preparation on the part of the writers. It would be unfair to criticise individual articles, but it must be confessed that those on midwifery and diseases of women are not up to their authors' best work, that Dr. Duckworth's chapter on diseases of the abdominal viscera is distinguished principally by its general tone of *nil admirari*, and that the eminent author of the section on diseases of the nervous system seems to have found very little to say regarding the recent advances in therapeutics in his department. In the chapter on rhinology and laryngology a brief reference is made to intubation of the larynx, in which "O'Dwyer's practical revival of an old suggestion" receives rather faint praise. Dr. Compland gives a valuable *résumé* of the subject of the intravenous injection of salt solution, and renal and pulmonary affections are satisfactorily presented. The subject of general surgery is handled by Mr. Bryant and Mr. Treves in their usual careful manner. Aside from the unevenness of the volume, which is unavoidable, considering the wide range of subjects, it presents a very good idea of medical progress during the year 1886.

A Compend of Obstetrics, especially adapted to the Use of Medical Students and Physicians. By HENRY G. LANDIS, A.M., M.D., late Professor of Obstetrics and Diseases of Women in Starling Medical College, etc. Third Edition, thoroughly revised, with illustrations. Philadelphia: P. Blakiston, Son, & Co., 1887. Pp. 118. [Price, \$1.]

THE success of this little work is shown by the fact that it has already reached a third edition. It is by no means on a

level with the ordinary "cramming" epitomes which are so numerous and are of such questionable value, since the author took care that his book should only be intelligible to those who had already mastered the subject with the aid of an extended treatise. The matter is so condensed that it would be unwise for a student to risk an examination depending upon the compend alone. As a means for affording a hasty review of an already familiar theme, it is admirable. Although we might question certain theoretical statements, the work is thoroughly safe and conservative in its practical deductions. The text is unusually free from typographical errors.

A Compend of Electricity, and its Medical and Surgical Uses. By CHARLES F. MASON, M. D., Assistant Surgeon, U. S. Army. With an Introduction by CHARLES H. MAY, M. D., Instructor in Ophthalmology, New York Polyclinic. Philadelphia: P. Blakiston, Son, & Co., 1887. Pp. xv-17 to 108. [Price, \$1.]

In this little volume there is much useful information. As an abstract of the contents of more pretentious volumes it will serve a useful purpose; and we may also add that the style of the author is at once clear and simple, qualities which, wherever found, are worthy of commendation.

GENERAL LITERARY NOTES.

AMONG recent foreign publications we note the following:

F. ALCAN, Paris.—P. Garnier, "Dictionnaire annuel des progrès des sciences et institutions médicales," 1886. (7f.) — C. Firket, "Études sur les conditions anatomiques de l'hérédité de la tuberculose." — G. Pouchet, "Charles Robin, sa vie et son œuvre."

ASSELIN & HOUZEAU, Paris.—G. Butel, "La tuberculose des animaux et la phthisie humaine." — Arloing, Cornevin et Thomas, "Le charbon symptomatique du bœuf." (7f.)

J. B. BAILLIÈRE & FILS, Paris.—L. Lichtwitz, "Les anesthésies hystériques des muqueuses et des organes et les zones hystérogènes des muqueuses." (3f.) — A. Corlieu, "La prostitution à Paris." (2f.) — Azam, "Hypnotisme." Preface by J. M. Charcot. (3f. 50.)

O. BERTHIER, Paris.—A. Veillard, "Formulaire clinique et thérapeutique pour les maladies des enfants." (4f.) — F. Bottey, "Études médicales sur l'hydrothérapie." — L. Natanson, "La circulation des forces dans les êtres animés. Essai de psychologie scientifique."

BUREAUX DU "PROGRÈS MÉDICAL," Paris.—A. Blondeau, "Étude clinique sur le poulx lent permanent avec attaques syncopeles et épileptiformes." (2f.) — H. Picard, "De l'incontinence nocturne d'urine essentielle." (Of. 50.) — A. G. Raison, "Des traitements des phénomènes douloureux de l'ataxie locomotrice progressive par pulvérisations d'éther et de chlorure de méthyle." (2f. 50.)

A. DELAHAYE & E. LECROSNIER, Paris.—Motaïs, "Anatomie de l'appareil moteur de l'œil de l'homme et des vertébrés."

O. DOIN, Paris.—L. Poisson, "Voyage chirurgical en Allemagne." (3f.) — G. Lemoine et J. Chaumier, "Des troubles psychiques dans l'impaludisme." — A. Dichas, "Étude de la mémoire dans ses rapports avec le sommeil hypnotique." — A. Pinard et D. Pinard, "De la gingivite des femmes enceintes et de son traitement." — A. Brissay, "Fragments de chirurgie et de gynécologie opératoire contemporaines," Introd. by Doléris. (7f.) — E. Callamaud, "Du rôle de l'eau dans la nutrition." (3f.) — L. Danion, "Traitement des affections articulaires par l'électricité." (5f.) — R. Lefour, "De la constriction métallique appliquée à la rachitomie." (3f. 50.)

V. ROZIER, Paris.—L. Lacrocnique, "Des fractures dites indirectes des os longs par petits projectiles de guerre."

G. STEINHEIL, Paris.—L. A. Sayre, "Leçons cliniques sur la chirurgie orthopédique." Transl. by H. Thoreus, preface by Polaillon. (10f.) — B. Marfaud, "Troubles et lésions gastriques dans la phthisie pulmonaire."

W. BRATMÜLLER, Vienna.—E. Bock, "Zur Kenntniss der bandförmigen Hornhauttrübung." (2M.)

J. F. BERGMANN, Wiesbaden.—J. C. Holm, "Die Technik d. Badens." (1M.) — S. Moos, "Untersuchungen über Pilzinvasion d. Labyrinths im Gefolge von einfacher Diphtherie." (3M. 60.)

T. FISCHER, Kassel.—G. A. Erdmann, "Geschichte d. Entwicklung u. Methodik d. biolog. Naturwissenschaften." 8th part. (3M. 60.)

HEUSER, Neuwied.—F. Dahlmann, "Zur Behandlung d. Fehlgeburten." (0M. 75.)

A. HIRSCHWALD, Berlin.—E. v. Bergmann, "Arbeiten aus d. chirurg. Klinik der königl. Universität Berlin." 2d part. (8M.)

H. LAUTP, Tübingen.—G. Walcher, "Senkung u. Vorfall an Scheide u. Gebärmutter sowie die veralteten Dammmisse." (4M. 60.)

O. PARRISIUS, Berlin.—E. Rudeck, "Ueber u. gegen das Gift der Schlange u. Fliege." (0M. 50.)

J. SPRINGER, Berlin.—M. Freger, "Die Ohnmacht bei d. Geburt vom gerichtsz. Standpunkte." (7M.)

V. PASQUALE, Naples.—G. Petteruti, "Esperimenti ed osservazioni ulteriori intorno alla ossaluria."

F. RECHIEDEI, Milan.—C. Marocco, "Sopra un' anomalia congenita dell' introito della vagina." — C. Marocco, "Studio clinico sui tumori del bacino nei loro rapporti di origine e di sede nel legamento largo."

F. VALLARDI, Milan.—G. Amadei, "Mutismo isterico guarito colla suggestione ipnotica."

ESPASA & CA., Barcelona.—Viura y Carreras, "Instrucciones populares para evitar la propagación y los estragos de la difteria."

J. C. GARCIA, Madrid.—M. Corral y Mairá, "Estudio Médico de Difteria y su Tratamiento mas eficaz." (2r.)

BOOKS AND PAMPHLETS RECEIVED.

Ligaments; their Nature and Morphology. By John Bland Sutton, F. R. C. S., Lecturer on Comparative Anatomy, Senior Demonstrator of Anatomy, and Assistant Surgeon to the Middlesex Hospital, etc. Philadelphia: P. Blakiston, Son, & Co., 1887. Pp. vi-107. [Price, \$1.25.]

Report of William M. Smith, Health Officer of the Port of New York, to the Commissioners of Quarantine. [Reprinted from the "Report of the Commissioners of Quarantine" to the Legislature for the year 1886.]

The Vest-Pocket Anatomist (founded upon "Gray"). By C. Henri Leonard, A. M., M. D., etc. Thirteenth Revised Edition. Enlarged by Sections on the Anatomical Triangles and Spaces, Herniæ, Gynecological Anatomy, and Dissection Hints. Detroit: The Illustrated Medical Journal Co., 1887. Pp. 154.

New Commercial Plants and Drugs. No. 10. Strophanthus, its Botany profusely illustrated, its Chemistry, Pharmacy, Physiology, and Therapeutics; the Colonial and Indian Exhibition; Hints on the Cultivation of Drug-yielding Plants in Great Britain; Notes from Actual Practice in the Treatment of Disease with Jambul, Salix Nigra, Kava-Kava, Siegerbeckia, Papaw, Hydrocotyle, etc.; Gogo Plant; Chlorocodon Whitei; Huamauripa; Kola Chocolate; Ditana Digitifolia; and Particulars of many other New and Rare Drugs; Reports on Produce Received and Examined. By T. Christy, F. L. S., M. S. C. I., F. R. G. S., F. R. B. S., etc. London: Christy & Co., 1887. [Price, 3s. 6d.]

Scheme for Case Reporting. Arranged by W. H. Allechin, M. B., F. R. C. P., Physician to the Westminster Hospital, etc. London: H. K. Lewis, 1887. [Price, 1s.]

Granular Conjunctivitis, with and without Pannus. By W. Cheatham, M. D. [Reprinted from the "Atlanta Medical and Surgical Journal."]

New Treatment of the Affections of the Respiratory Organs and of Blood Poison by Rectal Injections of Gases, after the Method of Dr. Bergeon, Senior Deputy Professor at the School of Medicine at Lyons. By Dr. V. Morel. Translated from the French by L. E. Holman. Published by James W. Queen & Co., Philadelphia, Pa. [Price, 25c.]

Nasal Reflexes as a Cause of Diseases of the Eye. By W. Cheatham, M. D., Lecturer on Diseases of the Eye, Ear, Throat, and Nose, University of Louisville, etc. [Reprinted from the "American Practitioner and News."]

Lehrbuch der Kinderkrankheiten. Für Aerzte und Studierende. Von Dr. Adolf Baginsky, Privatdocent der Kinderheilkunde an der Universi-

tät Berlin. Zweite vermehrte und verbesserte Auflage. Braunschweig: Friedrich Wreden, 1887. Pp. xix-902.

Stricture of the Urethra: its Diagnosis and Treatment facilitated by the Use of New and Simple Instruments. With Original Wood Engravings. By E. Distin-Maddick, F. R. C. S. Edin., Late Surgeon, Royal Navy. London: Ballière, Tindall, & Cox, 1887. Pp. v-9 to 154.

Zur localen Behandlung der Blase. Über Polyurie, Anurie und Oligurie. Zwei Abhandlungen von Prof. Dr. Robert Ultzmann, in Wien. [Separatabdruck aus der "Internationalen klinischen Rundschau."]

Annual Address of the Retiring President of the Cuyahoga County Medical Society. By Dr. H. H. Powell, Cleveland, O. [Reprinted from the "Cleveland Medical Gazette."]

Iodol: an Effective Substitute for Iodoform. By R. Norris Wolfenden, M. D., Cantab., etc. [Reprinted from the "Practitioner."]

The Cremation of the Dead considered from an Æsthetic, Sanitary, Religious, Historical, Medico-legal, and Economical Standpoint. By Hugo Erichsen, M. D., etc. With an Introductory Note by Sir T. Spencer Wells, Bart., F. R. S., etc. Illustrated. Detroit: D. O. Haynes & Company, 1887. Pp. xiv-264. [Price, \$2.]

Elements of Botany, including Organography, Vegetable Histology, Vegetable Physiology, and Vegetable Taxonomy, and a Glossary of Botanical Terms, illustrated by nearly Five Hundred Engravings from Drawings by the Author. By Edson S. Bastin, A. M., F. R. M. S., Professor of Botany, Materia Medica, and Microscopy in the Chicago College of Pharmacy. Chicago: G. P. Engelhard & Company, 1887. Pp. xv-282. [Price, \$2.50.]

Merritt H. Cash Prize Essay. The Physiological Condition and Sanitary Requirements of School-Life and School-Houses. By A. N. Bell, A. M., M. D., Brooklyn, N. Y. [Abstract from the "Transactions of the Medical Society of the State of New York," for the Year 1887.]

Miscellany.

The "Sanitas" Disinfectant.—Mr. C. T. Kingzett, of the English Society of Public Analysts, has prepared a pamphlet entitled "A Precise Investigation of some Micro-organisms and Soluble Ferments," in which he says: "In the first part of this memoir I have dealt generally with the collective knowledge of the relations of micro-organisms to disease, and have pointed out that in those cases in which it can be reasonably proved that micro-organisms are in some way or the other responsible by their presence for the existence of disease, they probably act by giving rise to the production of poisonous products in the nature of zymases, but which are strictly chemical in character.

"In the second part I have proved experimentally that *yeast* is destroyed by 'sanitas,' and is prevented thereby from exercising its ordinary functions when contained either in a solution of glucose or starch or gum. Similarly, it has been experimentally demonstrated, in a strictly quantitative manner, that 'sanitas' destroys and prevents the functions of other micro-organisms, including the *Bacterium lactis*, the *torulaceous* ferment which changes urea into ammonium carbonate, the *Bacterium termo*, and the collective microscopic agencies of the putrefactive process.

"In the third part of this investigation I have proved also experimentally and quantitatively that 'sanitas' fluid prohibits the action of soluble ferments or zymases such as ptyalin (in saliva) and pepsin.

"Dr. Miller, of Dundee, has described four experiments in which 'sanitas' fluid was mixed with lymph in equal proportions, in all of which, after standing eight hours, the 'disinfection' was complete.

"Viewing these new results of mine, and weighing them with the results now generally known to attend the use of 'sanitas' in the treatment of wounds and as a disinfectant generally by medical men, I do not hesitate to say that all the claims which I originally made, some years ago, in respect of this agent, have been fully justified, and that, by the discovery and introduction of 'sanitas,' I have provided for a long-felt want. It is a typically excellent disinfectant in every true sense of that word, alike destructive of micro-organisms and of the

soluble zymases to which they and other organisms give rise. Moreover, it alone, of all substances available for use, possesses those other properties which the highest authorities say are necessary for the general use of a disinfectant. In the Thirteenth Annual Report of the Local Government Board, 1883-1884, Professor Burdon Sanderson writes as follows:

"Nor must it be forgotten that, even after the labor of discovery has been got through, and we have joyfully cried *εὕρηκα*, what are called practical difficulties are sure to come in of such a kind as to render our achievements in a utilitarian sense fruitless. For an antidote against infection to be of real value, it must be readily procurable, free from poisonous action, and have such physiological relations to the organism that it is capable of remaining in it sufficiently long to exercise its restraining influence on the process which it is intended to counteract. To discover such an agent is indeed a problem of difficulty."

"I have italicized Professor Burdon Sanderson's words as specially worthy of attention, but I venture to assert that the discovery for which he looks has been already made. While he and others are seeking among the very products of putrefaction itself for a reliable disinfectant, there exists in 'sanitas' the agent possessing all the characters they regard as essential to an antidote to infection for general use. Not only is 'sanitas' a natural disinfectant and a mild oxidizing agent capable of readily giving off oxygen when and where required, but it is also as well qualified by its non-poisonous nature for internal administration as for external application, and so it can be used for the treatment of all infectious diseases which are located in the human body, such as cholera, typhoid fever, dysentery, ulcerated bowels, and throat complaints, as also for the other contagious diseases which affect more particularly the outside surfaces of the body.

"With further reference to the internal use of 'sanitas' fluid, it may be pointed out that, although, by the experiments described in this paper, it has been proved that 'sanitas' interferes with the action of pepsin and presumably other digestive ferments, yet the quantity required to wholly arrest their action is considerable in itself, and much greater than that which is competent to arrest the action of micro-organisms. That is to say—the amount of 'sanitas' which could be given in doses for the treatment of such diseases as cholera and enteric fever would not suffice to cause serious interference with the digestive processes."

Pinus Canadensis in the Treatment of Burns.—Dr. W. C. Wile, of Philadelphia ("Med. Register," May 11, 1887), says:

"Many remedies have at one time or another been proposed for the surgical condition following the application of excessive heat to the body, and, while some of these are of value, still all are more or less unsatisfactory. The alleviation of the pain and suffering attendant upon burns is one of the most important points in the case toward which the surgeon directs his efforts. The shock from this cause alone is sufficient oftentimes to produce death, and always is great. Accidentally, I recently discovered a remedy which is easily applied and exceedingly prompt in its action. I was called in some haste to a little child, about three weeks ago, who was badly burned about the hands and face from falling on a hot stove. The burns were deep, the pain excessive, and the shock very considerable. I hastily sent to the drug-store for a mixture of lime-water, olive-oil, and carbolic acid. While waiting for this, I prepared to give the child a hypodermic injection of morphine, with which to allay the agony, which was so great that convulsions seemed imminent. While I was getting ready to do this, I espied upon the shelf a bottle of *Pinus canadensis* (colorless) which I had some time before ordered to be diluted as a vaginal wash for the mother. Remembering its wonderful soothing influence in acute inflammations of the vagina, I at once concluded to try it. Taking a corner of a soft handkerchief, I rapidly painted the injured parts, when, like magic, the pain ceased. You can well imagine my surprise and delight at the result. I directed a camels'-hair brush to be purchased, and had the mother make free applications, and the case had no other treatment, save a little iodoform ointment later on. Since this I have tried it in several cases, both slight and severe, and with the same delightful results. The preparation used was made by the Rio Chemical Company, of St. Louis, Mo."

The New York Academy of Medicine.—Among the autograph manuscripts lately added to the Academy's collection is a letter written by the late Dr. George B. Wood, of Philadelphia, presented by Dr. W. H. Haines. The letter contains an autobiographical sketch.

Bellevue Hospital.—Dr. George B. Fowler has been appointed a visiting physician, to succeed the late Dr. E. Darwin Hudson.

The Health of the State of New York.—By the State Board of Health's "Monthly Bulletin," for April, it appears that the whole number of deaths reported during the month was 7,967, of which 30.6 per cent. were of children under five years old. In each thousand deaths there were 136.20 from zymotic diseases (against 211.11 in March), including 14 from diarrheal diseases, 7 from typhoid fever, and 60 from croup and diphtheria.

The Baltimore Academy of Medicine.—The following-named gentlemen have been elected officers for the year 1887-'88: Dr. W. C. Van Bibber, president; Dr. B. B. Browne, vice-president; Dr. C. C. Bombaugh, secretary; Dr. G. L. Taneyhill, treasurer; Dr. W. B. Canfield, reporting secretary; and Dr. T. A. Ashby, Dr. R. T. Wilson, and Dr. Hiram Woods, members of the executive committee.

The Health of Michigan.—According to a summary of returns to the State Board of Health, for the four weeks ending May 28th, for which we are indebted to the secretary, Dr. Henry B. Baker, diphtheria was reported from thirty places, scarlet fever from thirty-two, typhoid fever from four, and measles from fifty.

Government Health Reports.—By direction of the Secretary of the Treasury, Dr. John B. Hamilton, Surgeon-General of the Marine-Hospital Service, has issued the following abstract of sanitary reports received during the week ending June 2d:

England and Wales.—The deaths registered in twenty-eight great towns of England and Wales during the week ending May 14th corresponded to an annual rate of 19.7 in a thousand of the aggregate population, which is estimated at 9,245,099. The lowest rate was recorded in Bolton, viz., 10.7, and the highest in Huddersfield, viz., 29 in a thousand. Small-pox caused 1 death in Cardiff and 1 in Portsmouth.

London.—One thousand three hundred and ninety-five deaths were registered during the week ending May 14th, including 89 from measles, 16 from scarlet fever, 9 from diphtheria, 59 from whooping-cough, 1 from enteric fever, and 8 from diarrhoea and dysentery. There were 295 deaths from diseases of the respiratory organs. Different forms of violence caused 48 deaths, and 15 suicides were registered. The deaths from all causes corresponded to an annual rate of 17.3 in a thousand. In greater London, 1,742 deaths were registered, corresponding to an annual rate of 16.8 in a thousand of the population. In the "outer ring" 16 deaths from measles, 7 from whooping-cough, and 5 from scarlet fever were registered.

Ireland.—The average annual death rate represented by the deaths registered during the week ending May 14th, in the sixteen principal town districts of Ireland, was 22.3 in a thousand of the population. The lowest rate was recorded in Sligo, viz., 9.6, and the highest in Drogheda, viz., 38.1 in a thousand.

Dublin.—One hundred and sixty-five deaths were registered during the week ending May 14th, including 9 from measles, 2 from scarlet fever, 1 from typhus, 4 from whooping-cough, 1 from enteric fever, and 1 from cerebro-spinal fever. Diseases of the respiratory organs caused 32 deaths. In nineteen instances the causes of death were uncertified, and 1 homicide was registered. The deaths from all causes corresponded to an annual rate of 24.4 in a thousand.

There were 25,392 deaths registered in Ireland during the quarter ending March 31, 1887; corresponding to an annual rate of 20.9 in a thousand of the estimated population. The death register included 148 from measles, 236 from scarlet fever, 93 from typhus fever, 253 from whooping-cough, 87 from diphtheria, 107 from simple continued and ill-defined fever, 145 from enteric fever, 244 from diarrhoea, and 6 from simple cholera. No fatal cases of small-pox were recorded during the quarter.

Netherlands.—The average annual death rate represented by the deaths registered during the month of March, 1887, in the twelve principal cities of the Netherlands, having an aggregate population of 1,102,191,

was 27.6 in a thousand. The lowest rate was recorded in Croningen and in Leiden, viz., 23.5, and the highest in Amsterdam, viz., 31.5 in a thousand.

Kingston, Jamaica.—One hundred and sixteen deaths were registered during the month of April, 1887, including 2 from yellow fever, 14 from small-pox, and 1 from diphtheria.

Havana.—Twenty deaths from yellow fever, 2 from small-pox, and 3 from enteric fever were registered during the week ending May 19th.

Merida, Yucatan.—The United States consul, under date of May 14th, reports the existence of four cases of yellow fever.

MORTALITY TABLE, FOREIGN CITIES.

CITIES.	Week ending—	Estimated population.	Total deaths from all causes.	DEATHS FROM—						
				Cholera.	Yellow fever.	Small-pox.	Typhus fever.	Enteric fever.	Scarlet fever.	Diphtheria.
Guayaquil	April 29.	35,000	42	..	..	5	..	12	..	..
Guayaquil	May 6.	35,000	54	..	8	3	..	12	..	..
Paris	May 7.	2,260,045	1,165	..	..	11	..	10	..	38
Bordeaux	May 8.	240,582	134	..	..	..	..	1	..	..
Bristol	April 30.	223,695	121	..	..	..	..	..	4	..
Toronto	May 21.	120,000	34	..	..	..	..	..	..	3

UNITED STATES.

Lewes, Del.—The acting assistant surgeon in charge of the quarantine at Delaware Breakwater reports that in the town of Lewes (population 1,900) from January 9th, when the first case appeared, to April 20, 1887, there were 836 cases of measles reported, and about 200 cases in the immediate vicinity of the town. The mortality was low, being only about 1.5 per cent.

Key West.—The medical officer in charge of the Marine-Hospital Service (Passed Assistant Surgeon Glennan), under date of May 28th, reports that "out of a total of 5 cases there have been 3 deaths and 1 recovery, and 1 with a probability of recovery," from yellow fever, "all originating in one infected premises. The danger apprehended was on account of the large number of unacclimated persons in the city, with every means of outlet cut off. Many left in sailing-vessels, and, at my suggestion, Dr. Porter asked the Louisiana board to allow healthy persons to go from here this week, subject to inspection or detention at the New Orleans quarantine, which was granted. At this date no new cases have developed, but it is yet too early to say that the disease has been stamped out. In any event, the care exercised in this instance by the board of health, in guarding infected houses, fumigating and destroying infected material, and in promptly declaring the existence of the disease (measures probably for the first time efficiently adopted in this place), has practically established an outside confidence in sanitary information emanating from here. . . . It is reasonable to suppose that the infection was introduced here by a Bolio family, who formerly kept the San Carlos and Fifth Avenue hotels in Havana. During the past winter they have brought over household goods and stored them in the adjoining house. It is said that Baker and his wife slept upon one of their mattresses. At a special meeting of the board of health this morning, at which I was present, this was recognized as probable. The disease may now be said to have three foci; and should the board of health now succeed in preventing its further spread, it will only be done by the utmost care and vigilance."

A telegram, June 1st, reports 4 new cases in different localities.

The War Department authorized the president of the board of health to use the hospital and the laundress quarters attached to the military barracks for the treatment of yellow-fever patients. Iron bedsteads and mattresses were sent from the marine-hospital stores.

The United States sanitary inspector at Havana, Dr. Burgess, reports that the furniture bought of Mrs. Bolio and used by the Baker family had been used in a hotel at Havana, and it is well known that many cases of yellow fever have occurred in that hotel during the last few years. He himself had treated 5 cases in it, and is of opinion that the old pillows, bedding, etc., were the sources of infection.

Inspection of vessels was commenced at the Delaware Breakwater quarantine June 2, 1887.

Original Communications.

THE PRESENT STATE OF OUR KNOWLEDGE REGARDING LOCALIZATION IN THE CORTEX CEREBRI.*

By LANDON CARTER GRAY, M. D.,

PROFESSOR OF NERVOUS AND MENTAL DISEASE IN THE NEW YORK POLYCLINIC.

ALTHOUGH it has only been within a very recent time that cortical localization has been precise, the doctrine is yet an old one. The evidence of varied mental action, of which every people must have been conscious after the attainment of a certain grade of civilization, necessarily led the ancients to the conception of cerebral compartments. But these conceptions were confined to such vague ideas as those of the early Arabian physicians, who placed sensibility, intellect, judgment, and memory in the ventricles; or as those of Albertus Magnus, bishop of Ratisbon, who mapped out, on a brazen head of his own manufacture, the frontal region as the site of general sensibility and imagination, the vertex as that of intellect and judgment, the occiput as that of memory; or as those of Mondino di Luzzi, who in the fourteenth century thought each ventricle to be endowed with a particular form of intellectual force; or as Guy de Chauliac, surgeon to the Avignon popes, evolved a fanciful cerebral localization; or as Montagnanus, who in 1491 published a chart of the brain with regions indicated for the "sensus communis," for the imaginative cell, for the cogitative cell, for the memory cell, and for the rational cell; or as Ludovico Dolci, Thomas Willis, Swedenborg, Descartes, Vieussens, or Haller, who gave free rein to their imagination, unchecked by any foreshadowing of what the centuries might disclose. It was not, however, until the early part of the eighteenth century that the idea was clearly outlined. Haller and Zinn, in 1756, professed to have seen convulsive phenomena after injury of the cerebral white substance; but these observations were soon overlooked. It is too much the fashion at the present day to overlook the services which were then unconsciously rendered by Gall and Spurzheim. Both of these Germans were excellent cerebral anatomists, both have left works of unquestionable scientific merit, both were persecuted for opinion's sake,† and both lived in the thick of the times which bred Mesmer and Hahnemann, and the pseudo-scientific, semi-mystical mixture of truth and charlatanism of which Mesmer and Hahnemann were the most illustrious exponents. But Gall and Spurzheim were above the level of Mesmer and Hahnemann, as, apart from the quality of their other work, is evidenced by the fact that they counted among their believers such men as Broussais, Bouillaud, Andral, G. Comte, and, with certain qualifications, also Reil and Hufeland. Even the great Goethe thought their system of phrenology of sufficient importance to enter into an elaborate argument against it. But it is

not surprising that this idle pretense of diagnosing the mental faculties by the protuberances upon the external surface of the skull should have met with no enduring reception, or that, following the teachings of Magendie and Flourens, the medical profession should have veered to the other extreme of disbelief in any cortical localization whatsoever. It is, however, a remarkable illustration of the limitation of the human faculties that such an expert physiologist as Flourens should have failed to obtain any of the diversified and startling cortical phenomena which any tyro knows how to obtain to-day. Flourens, writing in 1824, and reiterating his assertions in 1842, stated unequivocally that removal of the brains of animals produced mental impairment in proportion to the amount of cerebral tissue removed, and not with any relation to the locality. Opposed to his teachings were the clinical observations of Bouillaud, who in 1825 recognized that loss of the memory of words which has in later days come to be known as aphasia; of Marc Dax, who in 1836* located this symptom in the frontal lobe; of Broca, who in 1863 made a more precise localization within the third frontal convolution; of Andral, in 1834, who then reported cases of paralysis of the arm and leg from cortical disease; of Panizza, who in 1855 reported two autopsies which clearly indicated a relationship between sight and the parieto-occipital region of the hemisphere. It is noteworthy that, in the lively discussion of the subject of aphasia at the Parisian *Académie de médecine* in 1864, much skepticism was expressed, and even the gifted Trousseau, in spite of his peerless clinical instinct, strenuously gainsaid that clinical and anatomical precision of Broca's which time has magnificently vindicated. Notwithstanding these clinical revolts, the influence of Flourens was paramount with such physiologists as Longet, Magendie, Matteucci, Budge, and Schiff until 1870—nearly half a century. Yet the same old vague line of thought was still germinating. In 1867 Theodor Meynert began his brilliant and original series of articles upon the structure of the cerebrum, and announced his theory of the projection-system—i. e., of a nerve-tract which should connect with the cortex of the hemisphere all sensory surfaces and the voluntary muscular system. Through this tract all sensations should travel inward, all motor impulses should travel outward. As he puts it epigrammatically: "A cross-section of the *crus cerebri* would therefore implicate the whole organism, which would simply be smell-less and blind," inasmuch as the olfactory and optic nerves do not pass to the periphery through this channel. The motor portion of this projection-tract went, he maintained, through the nucleus caudatus and the nucleus lenticularis, to the frontal lobe, while the sensory went, by way of the optic thalamus and the corpora quadrigemina, to the occipital and temporal lobes. The epoch-making experiments of Fritsch and Hitzig, in 1870, lent a remarkable confirmation to these teachings, at the same time that they revolutionized the existing ideas of cortical physiology. These original observers demonstrated, in direct contradiction of all previous experimenters, three important series of facts:

* Read before the Medical Society of the County of Kings, March 15, 1887.

† Gall was forbidden to lecture in Vienna, because, forsooth, it was feared that his views would disturb the minds of men in their feudal beliefs and feudal loyalty.

* Although he first published his views through his son, G. Dax, before the Academy in 1863.

I. That a portion of the convexity of the cerebrum is motor in its function, while another portion is not motor.

II. The motor portion, speaking generally, lies more anteriorly, the non-motor portion lying more posteriorly.

III. Electrical irritation of the motor portion gives rise to combined muscular contractions of the opposite side of the body.

They mapped out in the brain of the dog the centers for the neck muscles (Fig. 1), the extensors and adductors

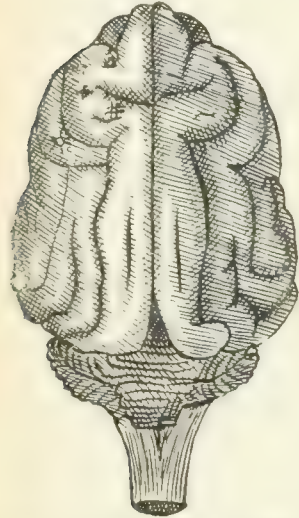


FIG. 1.—(After Fritsch and Hitzig.) Δ , neck muscles; + (anteriorly), extensors and adductors of fore-leg; + (posteriorly), flexors and rotators of fore-leg; * hind-leg; ✂ facial.

of the fore-leg (+ anteriorly), the flexors and rotators of the fore-leg (+ posteriorly), the muscles of the hind-leg (*), and the facial muscles (✂). They also removed with a scalpel the center of the fore-leg, and found that the dog in walking set this foot down clumsily, seemingly without intention, sometimes to one side, sometimes to the other, and that this leg slid outward. In standing, the same phenomena appeared, and it was also seen that the foot was occasionally set down upon the dorsal surface. In sitting upon the hinder parts, both fore-feet resting upon the ground, the affected fore-leg gradually slid outward,

until the animal lay prone upon the corresponding side of the body.

The paper of Fritsch and Hitzig gave birth to an enormous literature, to which addition is being made daily. The subject has been furiously discussed, and, in one instance, almost led to a personal altercation between two distinguished physiologists. Confirmation of the doctrine thus

advanced by Fritsch and Hitzig, of circumscribed cortical centers, came from every side. It was, however, soon shown that the paralysis resulting from destruction of such a center might entirely disappear, although the destruction of the center was proved by an autopsy to be complete.

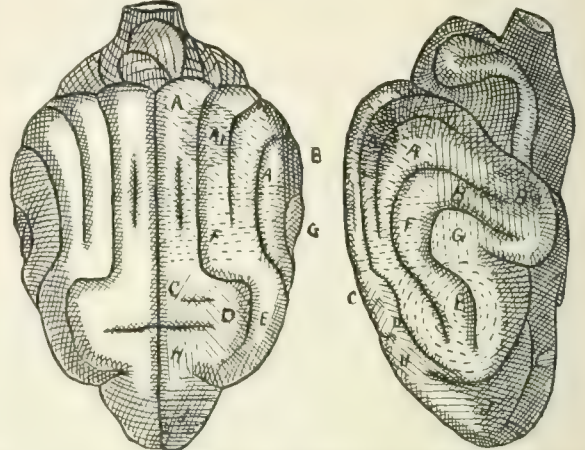


FIG. 3.—(Munk.) A, sight sphere; B, auditory sphere; C-J, sensory sphere; D, fore-leg center; E, hind-leg center; F, eye center (for muscles of the eye); G, ear center (for muscles of the ear); H, center for neck muscles; J, center for trunk muscles.

This seemed, at first sight, to be a serious objection to the theory; but further experimentation on the monkey tribe, as well as the results of disease in the human being, demonstrated that this recovery from the resultant paralysis of destruction of a cortical center was only observed in those animals in which the cerebrum played a subordinate part. Some lower animals, for example, run and walk soon after birth. In these, removal of the hemispheres has only a temporary effect, because in them the masses of gray matter lying beneath the hemispheres are relatively of larger development, and perform those functions which are relegated higher up in the scale of nervous evolution to the hemispheres. But even those who have accepted Fritsch and Hitzig's declaration of circumscribed motor centers have not been in perfect accord with them in regard to the

exact localization of each area. Ferrier, of London, has been greatly at variance with them, as will be seen by a comparison of the accompanying figure with Fig. 1. And others, while recognizing the existence of cortical centers of which electrization gives rise to muscular movements, and of which removal causes paralysis, have interpreted the phenomena differently from Fritsch and Hitzig. By one of those singular coincidences which have occurred more than once in the history of medicine—showing how public strains of thought will occasionally lead to precisely similar deductions in widely separated and differently environed individuals—Goltz in Strassburg, Munk in Berlin, Moeli in Berlin, and Tripier in Lyons, demonstrated

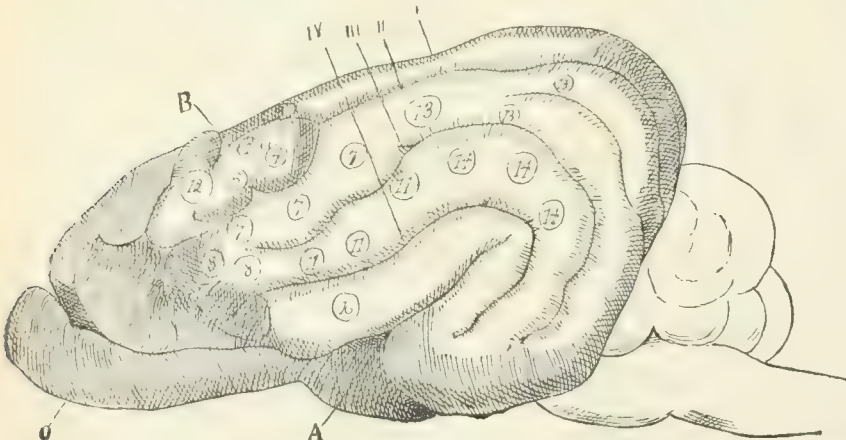


FIG. 2.—(Ferrier.) 1, opposite hind-leg advanced; 3, lateral movement of tail; 4, retraction and adduction of fore-leg; 5, elevation of shoulder and forward extension of fore-leg; 7, closure of eye through orbicularis and zygomatics; 8, retraction and elevation of mouth angle; 9, opening of mouth and tongue movements; 11, retraction of mouth angle; 12, opening of eyes, pupillary dilatation, movement of head and eyeballs to opposite side; 13, movement of eyeballs to opposite side, with slight diagonal deviation; 14, pricking or sudden retraction of ear; 15, torsion of nostril. The figures omitted indicate centers inert in the dog, though active in monkeys, according to Ferrier.

that limbs paralyzed by removal of their cortical centers showed a loss of sensation as well as of motion. To the excitable area of the cortex, therefore, which Hitzig had regarded as purely motor, Munk gave the name of "sensory sphere" (*Fühlssphäre*). (See Fig. 3.) But Munk carried his experiments still further, and showed that lesions of the occipital lobe produced peculiar disturbances of sight. If the area A (Fig. 3) were removed on both sides from the two hemispheres of a dog's brain, he would see things, would avoid objects placed in his path, but would be unable to recognize these things and objects. He would view with indifference his master, other dogs, his food; would not wink at the approach of a light or a finger to the eye; would not recognize the whip, at sight of which he had been taught to go into the corner. But if he were permitted to take cognizance of his master, his food, etc., with the other senses, he recognized them as usual—thus, he ate food after smelling it, or retreated before the whip when it was cracked. This non-recognition of objects seen was termed by Munk "soul-blindness" (*Seelenblindheit*). A better name, I think, would be "mental blindness." The removal of this same area A on one side produced mental blindness of the opposite eye. On the other hand, removal of the area A, which surrounds A, caused absolute blindness;* and Munk professes to have determined that different sections of the retina are connected with different portions of this area A. He asserts that removal of the inner medial half of this area produces absolute blindness of the inner half of the opposite retina; that removal of the inner third of this area produces absolute blindness of about one third of the inner part of the opposite retina; that the anterior half bears the same relation to the upper half of the opposite retina, while the posterior half is connected with the opposite lower retinal half. But the most curious of all that Munk professes to have demonstrated in this connection is that the fibers from the *macula lutea*, the retinal point of most distinct sight, terminate in the area A, so that the symptoms of mental blindness are associated with absolute blindness as regards distinct sight. Upon this anatomical peculiarity Munk bases an explanation of the mental blindness. Distinct sight, he says, through the fibers of the *macula lutea*, gives us usually our visual impressions. When the cortical termination of these macula-luteal fibers is removed, a certain time must elapse before we can become accustomed to receiving visual impressions through fibers from other parts of the retina, which, as we have seen, terminate in different parts of the area A; and, as a matter of fact, mental blindness is a symptom of short duration. It may be stated here at once, though, in anticipation of what should follow, that, however well this explanation may apply to dogs, it does not hold true of man, for cases have since been reported of mental blindness without accompanying impairment of distinct sight, and, contrariwise, of lesion of the *macula lutea* with-

out mental blindness. Munk also indicated the area B of the parietal lobe as the center of hearing, removal of it giving rise to mental deafness of the same nature as the mental blindness just described.

The nicety of observation, the judicial tone, the care, patience, and time evidenced by each successive communication—all combined to attract great attention to the dicta of this Berlin physiologist. Nevertheless, although he soon had many followers, he did not meet with universal confirmation. Ferrier, of London, whose experiments began in 1875, following those of Fritsch and Hitzig, and supplementing these in many matters of detail, flatly contradicted Munk in regard to the sensory nature of the excitable region, as well as concerning the optic and auditory centers and their nature.

It will be readily seen that at this stage of its evolution the subject was involved in the most inextricable confusion. It became simply a matter of bias as to what a man should believe. Each physiologist maintained that there were inherent defects in the method of experimentation of the others, and each brought forward to the support of his own views facts that had either to be denied *in toto* or else accepted, to add to the doubt (compare Figs. 1, 2, 3, 4). It is not to be wondered at, then, that Goltz, of Strassburg, afterward supplemented by his pupil, Loeb, should have voiced the sentiment of many by denying altogether the doctrine of circumscribed cortical centers. He repeated especially the experiments of Munk, and stated that he obtained entirely dissimilar results. But it may be said here, once for all, that, although Professor Goltz has been extremely useful as a censor, his experiments do not warrant his conclusions; indeed, he refutes himself, so that, in similar terms to those which Shakespeare puts into the mouth of Hamlet addressing Rosenkrantz and Guildenstern, he has fretted the advocates of cortical localization, but he has not played upon them—he has not stopped their way.

But the continuance of the study upon human beings has been rewarded by more permanent conclusions. Pathology has gone hand in hand with physiology. Each has its advantages. The skull of a dog or an ape can be trephined at will, and just as much removed of the cerebrum as the operator desires; the animal can be kept constantly under observation, and often, when there are no fatal results, for a considerable length of time, and the operation can be repeated. Focal alterations of the human brain are rarely so localized, and can not, of course, be produced at will, or kept so well under observation; so that conclusions which may rest upon a few months of physiological experiment can not be contradicted or verified except by years of widespread and isolated observations upon the human subject. On the other hand, human beings, with their superior intelligence, are infinitely better subjects for testing the manifold details of motion and sensation. It is, therefore, I think, the better proof of the truth of the doctrine of localization that the experiments of physiologists upon the dog and monkey tribe should have tallied so well with the experiments of disease upon the human being. The individual facts of the latter kind, upon which my conclusions are based, are too numerous to be considered in a work of

* This absolute blindness Munk would have us call "cortical blindness" (*Rindenblindheit*)—a perfectly meaningless and pedantic term, it seems to me, that can only serve the purpose of making the confusion of cerebral nomenclature worse confounded. Munk himself has felt obliged to attach a parenthetical explanation almost every time he has used it.

this kind. Any one who desires to review the testimony will find full references in the appended bibliography. It must suffice my purpose to indicate the conclusions.

Regarding the human brain, there are two sets of facts—one set that is indisputable, another that is still under discussion. Let us first consider the former.



FIG. 4.—(After Ecker.)

Look at Fig. 4, in which the different convolutions are indicated. The ascending frontal and parietal convolutions are divided into three equal parts. Of these, the upper third, with the adjacent portion of the base of the first and second frontal convolutions, contains the center for the lower extremities; the middle third, with the adjacent base of the second frontal convolution, contains the center for the upper extremities; the lower third, with the third frontal convolution, contains the centers for the face, neck, and speech muscles. Fig. 5 represents the medial surface of the hemispheres. The so-called "paracentral lobule" is

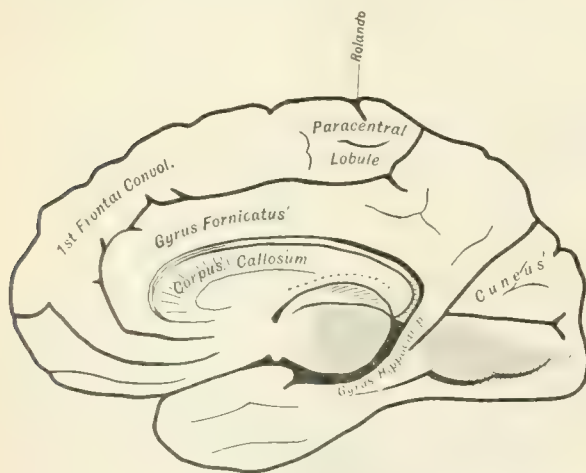


FIG. 5.—(After Ecker.)

the medial surface of the upper part of the ascending parietal and frontal convolutions, and therefore contains the center for the lower extremities, although lesions of this medial surface are comparatively rare. It will be perceived that

this paracentral lobule is the only part of the motor convolutions that reaches to the medial surface of the hemispheres. This area upon the convex and medial surfaces is that of what may be called the "facio-phonetic-skeletal region." Lesions of it produce impairment, in the manner indicated, of the upper and lower extremities, of the facial and neck muscles, and of the motor mechanism of speech. It may justly be regarded as proved that the paralysis of the limbs and the face is both motor and sensory, that the motor and sensory paralysis are not always of equal intensity, that the one may occur without the other, and that the area within which sensory paralysis may be produced is of larger extent than the motor area, inasmuch as the former embraces the two parietal convolutions (Fig. 4). It will be seen that I have mapped out these areas somewhat indefinitely.

In matters of this kind one is greatly tempted to draw precise circles for each center, and, doubtless, positivism of this kind saves much trouble to those of great faith; but I can not reconcile facts to such a sharp delimitation. In truth, the areas overlap one another, just as the convolutions pass imperceptibly into one another, and the time will never come when a man will be able to mark a line on a convolution and say that it is a precise boundary-line between two centers, so that at one one-hundredth part of an inch to one side there will be certain symptoms, and totally different ones at one one-hundredth part of an inch to the other side. The centers can only be *approximately* demarcated, not *absolutely*.

There are also good clinical reasons for believing that each different kind of sensation—the tactile, pain, temperature, and muscular senses—has a cortical center of its own; but it has as yet only been determined that the muscular sense has probably its center in the parietal convolutions.

The center of sight is to be found in the occipital lobe and the angular gyrus (Fig. 4). There has been a fierce discussion regarding this center between the followers of Munk and those of Ferrier, the former denying that the angular gyrus had any part in this center, the latter affirming that any visual impairment must implicate both angular gyrus and occipital lobe. But the experiments of Luciani and Seppilli, and the cases collected by these gentlemen, warrant the assertion that the center embraces both angular gyrus and occipital lobe, although with this distinction, that lesion of the angular gyrus alone produces mental blindness, while lesion of the occipital lobe produces absolute blindness of the same half of the two retinae (lateral *hemipia**). Brill has reported a case of color-blindness in which the lesion was in the cuneus, the medial portion of the occipital lobe; and Seguin and Hun have reported cases

* Hemipia is derived from the two Greek words "*ἡμιος*, half," and "*ὄπτομαι*, to see," meaning therefore half sight. There is another somewhat similar word, which has led to much confusion—hemianopsia, from "*ἡμιος*, half, *ἅν* (for *ἕνα*), each, and *ὄψις*, sight," meaning also half sight. It seems to be agreed at the present day that by arbitrary custom hemipia shall mean the condition of the retina, while hemianopsia shall be applied to the crossing of the rays of light in the media in front of the retina. Thus, a left *hemipia* will indicate that the left halves of both retinae are blind, so that the patient, not being able to see objects to the right of either eye, shall be said to have a right *hemianopsia*.

of hemiopia due to disease of the cuneus and the adjacent temporal convolution. It is not yet certain whether disease of the angular gyrus causes visual symptoms by implication of the optic tract, which passes just beneath it, or whether the angular gyrus is itself a true terminal center of some fibers of the optic tract.

The center of hearing may be located in the first and second temporal convolutions (Fig. 4), although this area does not seem to be so constant a center as some others in the cortex, for the writer and Kussmaul, perhaps also Westphal, have reported cases in which a lesion was located here without the expected auditory symptoms. It is curious, however, that the left lobe seems to be mainly affected, the right side seeming to be of greatly subsidiary importance, Luciani and Seppilli stating that it is never affected alone, while the lesion is very seldom in both temporal lobes. It is curious, too, that the cases have so far always presented the symptom of mental deafness analogous to the mental blindness, as described above, and never any absolute deafness.

The cases of cortical production of loss of smell or loss of taste have been too scanty to define the centers of those two special senses, although it is probable that the olfactory center is in the hippocampal convolution (Fig. 5).

As Goltz has combated the physiological advocates of cortical localization, so has the distinguished Brown-Séquard vigorously opposed the clinical defenders of the same doctrine. But Brown-Séquard's collection of cases is open to two fatal objections: Firstly, his cases antedate the period of accurate knowledge of cerebral topography; secondly, he fails to take into account the fact, which had been demonstrated by the embryological researches of Flechsig, that the motor tracts do not decussate or pass over to the opposite side in all human beings, and that consequently a paralysis may be on the same side as a cerebral lesion, and yet not militate against the doctrine of localization.

Let us now consider the facts that are still under discussion.

In some cases a lesion outside of what has been deemed the center will produce the symptoms which result from lesion of the center itself; and, again, lesions of the center that are ridiculously minute will produce as marked symptoms as if the whole center were implicated. For these reasons Exner constructed the following chart (Fig. 6), in which it will be perceived that lesions at divers points of the cortex have produced the same symptoms, although there is for each function a certain area within which the lesions are mainly grouped. This area of densest grouping of lesions Exner regards as the true center. The figures which represent the experiments on dogs and monkeys of Luciani and Seppilli tally remarkably with the pathological data collected by Exner, as will be seen by Fig. 7. What, then, is the meaning of the production of similar symptoms by lesions outside of the center? I take it to be that lesions

at a distance from the true center can inhibit the action of that center. These phenomena of inhibition are very familiar to us in the peripheral nervous system. All practi-

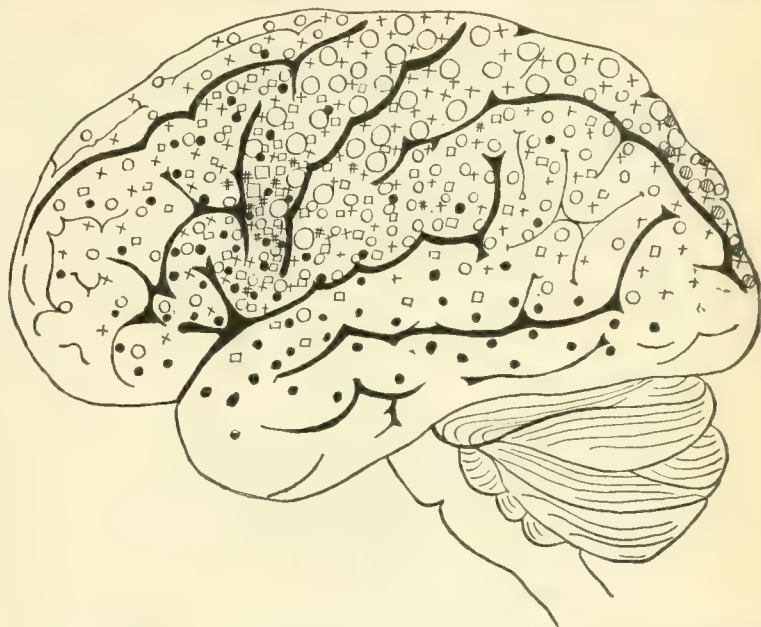


FIG. 6.—(After Exner.) ○, upper extremity; +, lower extremity; □, facial; #, hypoglossus; ●, speech; ⊙, sight.

tioners are aware of the many nervous disturbances which are removed by removal of a tight and redundant prepuce, a urethral stricture, a diseased ovary, a post-nasal catarrh, errors of ocular refraction, tumors of peripheral nerves, etc. In these instances the nerve tract to the spinal cord or the cerebrum is a comparatively long one. But in the cerebrum the commissural tracts, connecting different areas of the cortex, are far shorter and more numerous than those leading from the nervous axes to the periphery. How much more effective, then, must be the inter-cortical inhibition. But this very probability also makes evident—what has been singularly disregarded by writers upon localization—that the locality of a lesion can only be diagnosticated with *probability*, not with *certainly*.

From this review we perceive that the doctrine of cortical localization is far too well grounded upon facts of eternal verity to be flippantly sneered at, although much remains to be done in the way that has been hewn out of primeval ignorance and acquired obstinacy. Like all truths that have lurked undiscovered for centuries, except those that do not require skilled experimentation or trained observation, it has had to rely upon the testimony of a cloud of witnesses, each one varying in competency or bias, and the result has been the ordinary one of a long trial of issues of fact before an ordinary jury—a failure to convince every one. But the jurors of science can wait for all time, the trial is never closed, and no verdict, however conclusive it may seem at the time it is given, will stand for one hour in the face of a newly discovered fact. In spite, therefore, of uncertainties about minor points of detail, we must admit that we have localized the cortical centers for the motor and sensory nerves of the limbs and face, for the mechanism

of speech, for the optic nerves, and probably also for the auditory nerves.

The question now arises, What is the meaning of these centers in the cortex? It is simply that each center is the

them all; and the so-called "centers" are simply the areas of the cortex in which these different nerve-tracts terminate. These centers are the cortical stations for the great trunk-lines of the peripheral nerves. It is easy to understand that there may be regions of the cortex in which there are none of these terminal nerve-stations, none of these centers, and that lesions of these regions may therefore not produce any impairment of the peripheral nerves of sense and motion, but rather give rise to purely mental symptoms, disconnected with motion or sensation. It is also easy to understand that, as has been indicated, lesions of the cortex outside of the centers should impair the action of the center itself by inhibition along commissural nerve-fibers connecting one cortical area with another. Nor is it difficult to unravel the seeming complexity of certain symptom-groups which have puzzled clinicians until a recent date. For example, aphasia may be both motor and sensory. When the lesion is seated in the third frontal convolution (Fig. 4), the aphasia is motor, the patient's mind is unable to act upon the muscular machinery of speech, and he can not give expression to words. When the lesion is in the first and second temporal convolutions, the patient loses the memory of words, fails to recognize spoken words; he has the so-called "word-deafness," although he may hear perfectly well, and although he may be able to articulate words well enough. If both the third frontal convolution and the two temporal are diseased, the patient can necessarily neither articulate nor recollect words. If a lesion implicates the angular gyrus, he may fail to recognize objects that he sees, or, in some instances, the non-recognition of objects seen may be confined to words; and if the lesion extends into the occipital lobe, this non-recognition of objects seen may be complicated with blindness of one half of the retina (*hemioptia*). Mind itself, in all these symptoms, may be intact, left isolated, as it were, in the cortex, shut off from its motor and sensory communication with the outer world.

Note.—The writer desires it to be understood that there are many facts pointing to more localization than has been indicated in the foregoing article, and some of them seemingly quite precise too. For instance, Dr. A. Fraenkel describes (*Charité-Annalen*, 1886) a case observed in the Charité Hospital of Berlin in which, during life, a diagnosis was made of meningitis because of the retraction of the neck, and in which there was found post mortem a softening of the base of the second frontal convolution extending into the middle third of the ascending frontal (see Fig. 4), thus confirming in a remarkable manner the localization of the center for the neck muscles made by Wernicke several years ago, after careful consideration of the experiments upon apes and monkeys (see Fig. 1, Δ , and Fig. 3, H). But again and again has experience taught us, in the seventeen years that have elapsed since the original discovery of Fritsch and Hitzig, that it is not safe to locate a center upon one or two observations. The writer has, therefore, only spoken of those localizations which he believes to have been adequately settled.

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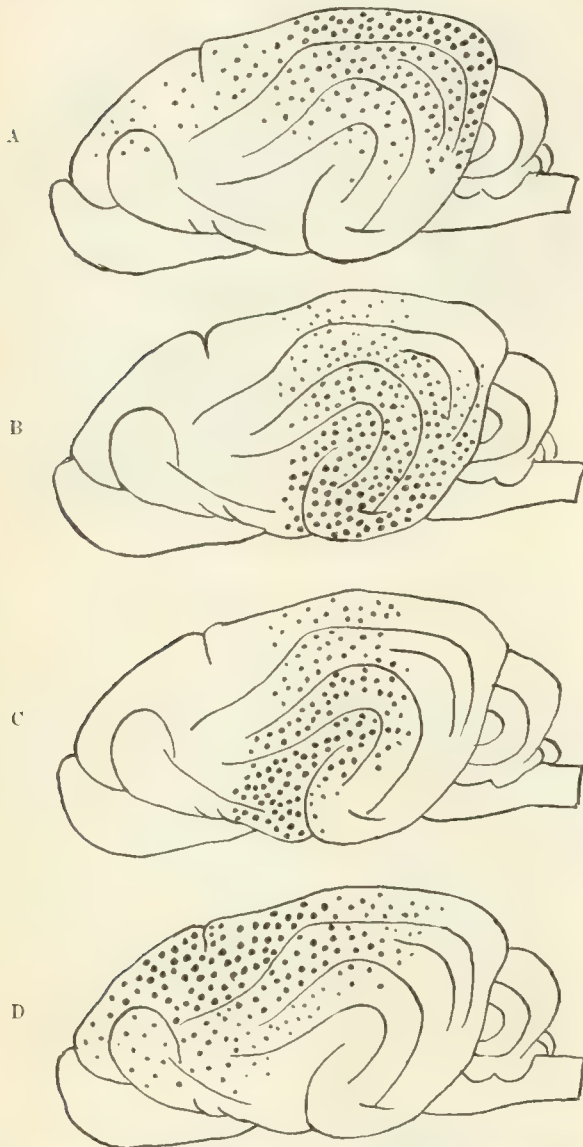


FIG. 7.—(After Luciani and Seppilli.) A, center of light; B, center of hearing; C, center of smell; D, sensory sphere.

cortical area in which certain nerve-tracts terminate. Mind is, to a certain extent, a mystery, and will probably remain so, to a certain extent, for many generations, perhaps ages, yet to come. But this mystery called mind is dependent for its healthy manifestation upon the structural integrity of the cortex, and of the whole of the cortex. Hence the cortex is justly called the organ of the mind. This mind can only come into communication with the world that lies outside of the skull-cap by the material highways of the nerves, some of which carry impressions into it, others of which carry actions out from it. Thus, mind sees by means of the optic nerves, hears by means of the auditory nerves, tastes by means of the gustatory, feels by the tactile, muscular, pain-bearing, and temperature-telling nerves, acts by means of the motor nerves, and educates itself by means of

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THE CLINICAL *VERSUS* THE MICROSCOPICAL EVIDENCES OF MALIGNANT DISEASE.*

By HENRY C. COE, M. D.

I HAVE adopted a sort of legal phraseology in the wording of this title, in order to bring out the fact that it implies a contrast, or rather an actual opposition, between two lines of investigation—the work of the clinician on the one hand, and that of the pathologist on the other. That such an opposition does exist must be evident to any impartial observer who considers the attitude which practitioners assume toward those gentlemen who are recognized as experts with the microscope. Being only a dabbler in pathology myself, I may hope to examine both sides of this question with a fair amount of impartiality. While the scientific physician has had his faith in the microscope greatly strengthened by its achievements in the field of bacteriology, there are not wanting a large number of acute diagnosticians who cherish (like old Dr. Jackson, of Harvard) boundless confidence in the powers of their unaided vision. Nothing gives one of the latter gentlemen more solid satisfaction than to catch a pathologist in a slip, and the patient worker in the laboratory derives on his part no small amount of innocent amusement from the erroneous diagnoses of his skeptical *confrère*. There seems to be an instinctive feeling of jealousy or distrust between the two, which is as deplorable as it is unwarranted. It is my purpose to examine into the causes of this want of confidence, and to see if some compromise can not be effected.

It is not uncommon in our medical societies to see a surgeon present a specimen which he has removed, the character of which he, of course, recognized clearly before the operation. A small piece of the growth was sent to

some prominent microscopist, who promptly pronounced it to be malignant and gave an unfavorable prognosis, which the patient nullified by making a permanent recovery. The surgeon naturally has a fine opportunity to reflect upon the unsatisfactory results of histological studies, of which he does not fail to take advantage. Or, to present another familiar experience: A tumor is passed around at a meeting, while the gentleman who removed it tells with great glee how he has pitted one pathologist against another by sending each a bit of the growth (without any accompanying history), and has obtained reports which were absolutely contradictory; he then pronounces his opinion as to which expert was right, and the natural impression left on the minds of the audience is that the other gentleman must have made a very bad guess. Fancy the feelings of the latter if he is so unfortunate as to be sensitive to such public criticism.

The tendency of such unfair treatment of men who give a large portion of their time to severe, exacting work, with small compensation or approbation, except that which they receive from the consciousness that they are trying to add to the sum of medical knowledge, is to bring discredit both upon their personal accuracy and upon the special branch to which they are devoted. Because we do not appreciate all the doubts and difficulties which surround pathological histology, we have no right to characterize it as an inexact science of little practical value. Some men can never understand that it is often just as unreasonable to send a minute fragment of tissue to a microscopist with a request for a prognosis regarding the patient from whom it was removed, as it would be to submit to an artist a square inch of canvas cut from a large painting in the expectation that he would be able to describe the picture from which it was taken. The marvelous acumen of the *savant* who examined the mysterious fragment from the ear of About's desiccated hero,* and promptly settled the question of his resuscitation, has unfortunately not yet been acquired by our modern experts. In short, the practicing physician and surgeon expects too much of the pathologist to whom he sends a specimen, and forgets that it is frequently impossible for the latter to give the positive information that is demanded of him. Instead of trying to afford as much assistance as possible to the microscopist in his difficult task—by furnishing ample notes of the case and describing the appearances found at the time of operation, and, above all, by allowing him to examine the *entire* specimen—the surgeon is prone to submit the case as if it were a sort of catch question, the expert being allowed only the faintest clew with which to begin.

As compared with the careful work required in bacteriology, the examination of tumors is now regarded as the A B C of pathological histology, yet how often is the pathologist compelled to return an evasive, or at least a somewhat general, answer to the question, "Is this a malignant growth, or is it not?" It is hard for those not acquainted with the inherent difficulties of the subject to understand why one can not always say "yes" or "no" to

* Read before the New York Clinical Society, April 22, 1887.

* In the ingenious novel by that author entitled "L'Homme à l'oreille cassée."

this question. I need not remind you how far-reaching may be the consequences of the pathologist's decision, since it always involves a patient's peace of mind, and often his or her life. If a case terminates unfortunately, the surgeon is only too happy to shift some of the responsibility upon the unfortunate microscopist, on whose recommendation he has performed an operation.

Admitting the importance of the pathologist's opinion in cases of suspected malignant disease, we naturally ask: Is it safe to base a diagnosis upon either the clinical data or the microscopical appearances alone? Is not the antagonism which sometimes appears to exist between the clinical and microscopical evidences of malignant disease more apparent than real? In endeavoring to reply to these questions, I shall draw my conclusions mainly from cases of disease of the female pelvic organs, since it seems to me that the gynecologist most often has occasion to seek the aid of the microscope in clearing up doubtful diagnoses. This is due to the fact that in his department the symptomatology is not varied, so that the same clinical phenomena are common to several different pathological conditions, while the physical examination is often practically negative. Unfortunately, the tendency of modern abdominal surgery is such that explorative laparotomy is too often performed in obscure cases, even before the pathologist has had an opportunity to see if he could not throw some light upon the condition. From my own experience, I can unhesitatingly affirm that in uterine pathology it is sometimes extremely embarrassing to be called upon for a positive opinion with the scanty data afforded. To cite a familiar illustration: It is a matter of every-day experience for a pathologist to receive minute fragments of tissue removed from the interior of the uterus with the curette, with a request from the sender to inform him whether they are of a malignant character, or are merely ordinary "fungosities." It seems to the practical gynecologist as if it was a very simple matter to give a definite answer, yet it is often extremely puzzling. The question is rendered still more complicated if the sender adds a brief history of the patient, describing symptoms which closely simulate those of malignant degeneration of the endometrium. Perhaps the surgeon has already formed his opinion, and confidently expects the microscopist to confirm it. So closely may isolated fragments of the hypertrophied mucosa, crowded with leucocytes, resemble rounded sarcoma, especially if one is obliged to examine the tissue in a fresh state, that not infrequently we must return an evasive answer.

I once received a uterus removed by laparotomy, the mucous membrane of which was the seat of the rare disease described by Schroeder as "diffuse malignant adenoma." There was no question about the malignancy of the growth when viewed *in situ* and the expediency of the operation, but nine men out of ten, on examining scrapings from the interior of the organ, would have entertained no doubt regarding its benignancy. Obviously, when examining such scrapings alone we can not apply the test of malignancy given by Friedlander—viz., that "the process is not confined to the mucous membrane, but also invades the muscular tissue." Goodell, in his "Lessons in Gynecology," mentions several

cases in which the pathologist was widely at fault in his prognosis of intra-uterine disease, and the special literature abounds in similar examples. But, while I have fortunately never seen a non-malignant uterus removed in accordance with the positive recommendation of the pathologist, I have examined slightly diseased organs that had been extirpated because the clinical evidences were regarded as sufficient without the assistance of the microscope. I could, however, mention many cases in which the microscopical examination of tissue removed from the uterine cavity has cleared up an obscure diagnosis in a highly satisfactory manner, but I shall confine myself to those doubtful conditions, in which it is most desirable to obtain positive information and yet it seems to be impossible to find a clew. Even where the pain, hæmorrhage, fætid discharge, and constitutional symptoms seem to indicate beyond question the presence of malignant disease of the corpus uteri, the tissue submitted to the pathologist is often so necrotic that characteristic sections can not be obtained. A sloughing fibroid may simulate cancerous ulceration both clinically and microscopically.

How often do we receive portions of a cervix with the question "Is it epithelioma?" I know of few questions that require nicer discrimination. It may be necessary to examine a number of sections before any positive information can be obtained. The gynecologist has generally made up his own mind and does not understand why the pathologist should hesitate. It is unnecessary to mention the serious consequences that may result to the patient from a hasty decision, especially in these days when vaginal hysterectomy is becoming so popular.

The subject of malignant growths of the ovaries (also of the omentum and peritonæum) is one that interests the general practitioner not less than it does the specialist, on account of the frequent occurrence of ascites and the difficulty of accounting for it. We not infrequently meet with cases that upset our previous notions regarding cachexia as an evidence of malignancy. A robust, handsome woman of thirty-five came to the Polyclinic complaining of a slight ulceration of the navel, of a few weeks' standing; it was quite sore and was occasionally the seat of shooting pains. Her general health was excellent, and she had no pelvic symptoms of any consequence. She was so stout that the vaginal examination was negative. At the umbilicus there was a reddish, sensitive nodule about as large as an English walnut; it apparently involved the skin only. A diagnosis of probable sarcoma was made, and the patient was sent to the Woman's Hospital, being told that a slight operation was necessary. Not to enter into the details of the case, I shall only add that the apparently insignificant nodule proved to be the outgrowth of a carcinomatous mass that involved the uterus, both ovaries, the omentum, and parietal peritonæum, as was more fully revealed at the autopsy.

It is by no means uncommon for the laparotomist to find at an operation that what he took for a simple ovarian cyst is a malignant growth, the character of which would never have been suspected from the age and condition of the patient. So much for the paucity of clinical evidence.

Does the microscope furnish any assistance? I am convinced that in cases of cancerous ascites, especially where there are secondary growths on the peritonæum, the examination of a drop of the fluid often gives us a valuable clew to the condition, even when characteristic symptoms are wanting. I need only refer to the significance of the sprouting cell-groups described by Foulis and Thornton. I am sure that the detection of these in large numbers enables one to state quite positively that malignant disease (sarcoma, carcinoma, or papilloma) is present, and, moreover, that it is of a peculiarly exuberant or dangerous type. Explorative incision is so commonly fatal in these patients that it is always desirable to spare them that risk if possible. Here, then, is a sphere of usefulness for the pathologist that is worth enlarging. But we can not be too cautious in basing a decided opinion on a single examination of a specimen of fluid; the statements originally urged for "Drysdale's corpuscle" have not always been substantiated. Moreover, there is no microscopist who would be willing to state decidedly that a given specimen of ovarian fluid was obtained from a proliferous cyst that had undergone malignant degeneration, since it might not be easy to tell, even after a careful examination of the entire tumor, that the papillomatous masses had passed the insensible boundary-line which separates the benign from the malignant. Clinically, surgeons are beginning to consider all proliferous cystomata as more or less malignant, but anatomically this does not hold good. But, since Doran has shown that parovarian cysts (which were formerly supposed to be so harmless) are prone to undergo papillomatous degeneration, especially after tapping, and Tait has expressed his belief that "the growth of ovarian tumors is associated with a tendency toward malignant disease," it is evident that our prognosis must be marked with caution, even where the case is apparently a simple one. Dr. Mathews Duncan expresses the prevailing opinion of laparotomists when he says: "In fact, we have, in all departments of ovarian diagnosis, more to admire in the zeal and diligence of histologists in regard to the fluids than in the exactness and reliability of the practical results they can show."

I have cited examples derived from a single branch of medicine, but the principle is susceptible of general application. The surgeon removes a suspicious nodule from the lip, which he has every reason to believe is epitheliomatous, yet the microscopist may examine a dozen sections before he finds a confirmation of the diagnosis. A so-called recurrent fibroid may be absolutely benign anatomically, yet the surgeon is justified in regarding it as on the border-line of malignancy, if it has not actually crossed it. Some curious painful nodules suddenly appeared in the skin of the abdomen in a hyperæsthetic woman who was convalescing after laparotomy. They were submitted to different gentlemen, the majority of whom pronounced them to be pseudo-neuromata; one microscopist, on the contrary, found, after examining numerous sections, appearances that, as I observed them, certainly seemed to justify the diagnosis of round-celled sarcoma of the nerves. Yet there was nothing in the clinical facts to warrant this conclusion, nor has the subsequent history of the patient served to support it. I might mul-

tiply examples, but enough has been cited to justify me in affirming that there are cases in which it is unsafe to base a diagnosis of malignant disease upon the opinion of either the pathologist or the clinical observer alone.

It remains to ask whether there is any real antagonism between the deductions of the two observers, or whether it is not due rather to a disposition on the part of each to cling tenaciously to his conclusions without admitting the possibility of an error in his premises. When we see a surgeon remove a tumor, and remark confidently to the bystanders, "I know this to be malignant, whether pathologists agree with me or not," the natural inference is that it is hopeless to expect that such a man will submit to the final arbitrament of the microscope. Conversely, when a pathologist boldly states that a small, non-characteristic fragment, removed at random from a doubtful growth and sent to him without a history, is malignant, and ventures to add a prediction regarding the ultimate termination of the case, he often lays himself open to the same liability to error as the microscopist who reads your future, "while you wait," in a single leucocyte. I think that a pathologist owes it to his own reputation to decline to give a positive opinion in a doubtful case, unless he has had an opportunity to examine the entire specimen, and to select from it such portions for examination as he thinks to be most likely to throw light upon its character. As you well know, this selection often requires no little discrimination. How often are portions of the same tumor sent to different pathologists, whose reports seem to be contradictory because their specimens are essentially different in structure! One thinks that he has to do with a fibroma, another with a myxoma, while a third has received a piece that presents evidences of malignancy.

There are certain excellent practitioners who, not understanding the inherent difficulties of the subject, can not see how the worker in the laboratory can spend an hour or two examining sections under the microscope without, after all, arriving at what they consider a definite conclusion, while they, with their less refined methods, would reach one in as many minutes. The microscope appears to them rather a scientific plaything than an actual aid to diagnosis. On the other hand, the pathologist, accustomed to the deliberate, painstaking methods of the laboratory, views with distrust the rapid, and often superficial, manner in which his practical *confrère* makes his deductions.

There is no real antagonism between the results obtained, unless truth is antagonistic to itself. It is the observers and not the observations that are in opposition. Eliminate the personal equation, and the extremes tend to meet. The practitioner ought to feel that his work is supplemented by that of the pathologist, while the latter would do well not to be above using all the clinical data that he can obtain with regard to the patient from whom a given specimen was removed. Instead of submitting questions to a microscopist as if the object was to catch him in an error, the profession ought to furnish him with all the information possible, so that he may take up the clew where it was dropped, as it were. So important is it to exhaust every means of arriving at a correct diagnosis in cases of sus-

pected malignant disease, and so weighty is the question of prognosis, that we can not afford to neglect a single aid. Continued observation of the patient, repeated physical examinations, and a frequent resort to the microscope, can alone clear up obscure points. If this course is adopted, the apparent discrepancy to which reference was made will generally be reconciled. But if "snap-diagnoses" are indulged in, either at the bedside or in the laboratory, gross errors can hardly be avoided.

If there is any lesson to be drawn from these desultory remarks, it is this: We ought not to be satisfied with a single line of investigation if it tends to dwarf our views. If it is foolish for the severely practical man to esteem lightly the revelations of the microscope, it is equally reprehensible for the special worker with that instrument to study disease through its lenses alone.

Doubtless the higher medical education of the future will evolve a physician who will combine in himself the brilliancy and dash of the accomplished diagnostician with the patience and accuracy of the microscopist.

DESCRIPTION OF A MODIFIED LARYNGECTOMY.*

BY J. SOLIS-COHEN, M. D.

IN many larynges removed entire or practically entire for carcinoma or for other disease rendering their retention perilous to the life of the individual, there has not been the slightest evidence of disease found in the thyroid cartilages. It seems barbarous to me, therefore, other things being equal, to remove these structures unnecessarily; the more that dangers from the operation, immediate and remote, are infinitely greater than when the cartilages can be left in their normal situation with the inferior constrictor muscles of the pharynx in position, and many other structures left undisturbed which, in complete laryngectomy, are necessarily injured, disturbed, and left exposed. The operation about to be described removes the entire respiratory portion of the larynx, leaving the greater portion of the protecting thyroid cartilages undisturbed to perform their function as shields. As performed on the dead subject by myself and by Dr. Edward Martin, my chief of clinic in the laryngological department of the Philadelphia Polyclinic, an exsection of the larynx, such as is shown in the specimen herewith exhibited, can be done within two minutes. The gap left in the body is insignificant in comparison to that following complete laryngectomy, and a firm support is retained for the accommodation of an artificial substitute for the parts removed. The operation will give sufficient access in many cases for removal of implicated portions of œsophagus and pharynx; and in cases of disease limited to the interior of the respiratory tube, or to the soft portions of the larynx, especially in cases not carcinomatous, it should fulfill every indication which has prompted entire laryngectomy, and without exposure to risks as great. It is applicable to the unilateral procedure as well as to the bilateral one.

* Read before the American Laryngological Association at its ninth annual congress.

After I had performed this operation on the cadaver by several methods from above and below, and was desirous of determining which was the most expeditious and the readiest, Dr. Martin kindly performed some twenty or more additional operations.

Instruments required: a cartilage knife; a scalpel, medium size; a pair of strong cutting forceps, with narrow blades; blunt and sharp-pointed scissors; two strong blunt hooks, or retractors; volsellum forceps, artery forceps, bulldogs, tenacula, dissecting and dressing forceps; director, ligatures, sutures, needles.

The following detailed steps in the operation are presented by Dr. Martin and myself as the result of these investigations:

1. Make an incision from the hyoid bone to the lower border of the cricoid cartilage, and exactly in the middle line.
2. Carefully separate the sterno-hyoid muscles.
3. Hold the soft parts aside and insert one blade of a strong cutting forceps with narrow blades from above, beneath one wing of the thyroid cartilage, one fourth of an inch from the angle of junction with its fellow, and sever the cartilage vertically its entire length through to the crico-thyroid membrane.
4. Make a similar cut on the opposite side.
5. Seize the freed angular portion of the thyroid cartilage, comprising its entire respiratory contingent, with a volsella forceps and draw it to either side, the soft parts being separated meanwhile from the inner surfaces of the detached wings of the thyroid cartilages with the handle of the scalpel.
6. Make a transverse cut to sever the cricoid cartilage from the trachea. (At this step, in the living subject a sterilized cotton plug should be inserted into the upper end of the trachea, preliminary tracheotomy having been performed previously.)
7. Lift the cricoid cartilage forward and carefully separate it with the edge of the knife from the inferior cornua of the thyroid, laterally and superiorly, and then from the œsophagus posteriorly.
8. Insert a finger into the pharynx from below and carry its tip over the epiglottis to draw that structure down.
9. Divide the thyreo-hyoid membrane and the fibrous tissues still holding.
10. Lift out the exsected respiratory portion of the larynx.

The arteries likely to require ligation will comprise small branches of the superior, middle, and inferior laryngeals.

Upon the living subject the operation should be strictly aseptic, and where practicable should have been preceded by several days by a preliminary tracheotomy. The trachea may be occluded superiorly by a small rubber bag attached to the smallest-sized soft catheter, introduced through the tracheal wound, above the cannula, and then inflated. The cannula may be temporarily removed during the introduction of the bag and its inflation.

Advantages alleged for this procedure:

1. Its rapidity, ease, and comparative safety to the patient.

2. The small size of the wound.
3. The preservation of the attachments of the thyro-hyoid ligament and the greater part of the membrane, and of the thyro-hyoid, sterno-thyroid, stylo-pharyngeus, and inferior constrictor muscles; leaving—
4. Important functional structures retained in their normal relations for deglutition; and leaving—
5. A firm, natural support for the adjustment of artificial substitutes for the larynx.

For these reasons it is submitted that this procedure should be preferred to complete laryngectomy whenever not precluded by extent of disease.

ECZEMAS AND THEIR TREATMENTS.*

By J. M. WINFIELD, M. D.,

BROOKLYN.

I CONSIDER eczema to be a catarrhal inflammation of the skin. You will see that my views coincide with the teachings of Rindfleisch, Tilbury Fox, Robinson, and many others. The most accurate definition is given by Tilbury Fox in his work on cutaneous diseases, and, as I know of no better description, I think it would be well to give it *verbatim*. He says: "Eczema is an acute or chronic catarrhal inflammation of the skin, characterized by papulation, vesiculation, and pustulation, followed by an excoriated surface, discharging a peculiar sero-albuminous fluid, which has the property of stiffening linen and drying in a yellow crust. Recovery is followed in some cases by secondary inflammatory results, such as thickening or hypertrophy of the skin, and oedema." This to my mind is the best and truest description found in any work on the disease in question. You may have the papule, vesicle, and pustule all in the same case, or only one of the three forms in different locations. Hence the various misleading nomenclature, as, for instance, naming it after its site or characteristics—thus, eczema manus, because it is situated on the hand, or eczema vesiculosum, because it is characterized by vesicles. This is often cause for mistakes and doubts in diagnosis and treatment. If the principal diagnostic points are kept in view, all the misleading names in the older works on dermatology will not cause us to make a mistake. A few words regarding the pathology of eczema will be necessary before we can intelligently discuss the treatment. Remember it is a highly inflammatory disease, undergoing rapid changes during development. Remember, also, there are a number of varieties of the same disease, or, rather, different characters of the same disease. The acute form should be separated from the chronic, for in the former the inflammation is acute, and so calls for soothing treatment, while in the chronic form there is a passive inflammation, when stimulation is required. There is, in the first place, as in all other inflammations, hyperæmia of the skin: the blood-vessels and capillaries are overloaded with blood. This may take place uniformly, as in the erythematous form, or in spots or points, as in eczema papulosum. The

important pathological process which occurs in the disease is an exudation, which may be either fluid or plastic, or of all grades between the two. In the papular or vesicular form of the disease the principal seat of the trouble is in the papillary layer of the skin; the papillæ are enlarged and infiltrated with cells and a serous fluid. The rete mucosum is altered over the affected papillæ, and the cells of the rete are crowded apart by spindle-shaped cells, which extend even to the epidermis. They form around the swollen epithelial cells a dense network, which serves for the osmotic changes seen by the exudation on the excoriated surfaces over the affected part. The development of a vesicle hastens the new cellular formation within the papillæ. The superficial cells of the mucous layer swell up perhaps even to bursting, so that the epidermis becomes raised. With this increase of cells there is at the same time a large quantity of fluid developed, often enough to raise the epidermis into bullæ. If the covering of the vesicle is removed, the fluid oozes forth upon the surface, forming the moist eczema. The exudation consists of serum and white blood-corpuscles. The multiplication of the leucocytes causes the vesicles to change into pustules. In the chronic form the inflammation is subacute, the changes taking place according to the stage of the disease. The papillæ are often so greatly enlarged that they are visible to the naked eye as red points on the denuded, exuding surface. The cell proliferation extends through the whole thickness of the skin—that is, through the corium and subcutaneous connective tissue. Pigmentation may take place in the deep layers of the rete and in the corium, and around the blood- and lymphatic vessels. The sebaceous glands and hair follicles become obliterated, the fat cells atrophied, and the sudoriparous gland and nerve fibers degenerated, their place being taken by increased connective tissue. Fox and Hebra are inclined to the view that an impaired innervation is an important element in producing the capillary congestion and cell proliferation. An explanation may be given by noting the disease following a disturbed circulation, as in varicose veins, or any other cause which interferes with the circulatory equilibrium.

The ætiology of eczema forms one of the darkest and yet one of the most hopeful chapters of practical medicine, for the elucidation of which the specialist requires all the help he can get from the experience of the general practitioner. To treat eczema intelligently, we must determine if it is a constitutional or local disease. In my opinion, there is in some a peculiar predisposition to eczema, for in many a slight chafing of the skin, or a menstrual disorder, will cause an outbreak of the disease. I think the best plan is to consider eczema an external manifestation of some internal disorder, as a dyspepsia, taken in its broadest sense, or gout, or rheumatism, which are well-known companions of eczema. In young children, as Bohn has rightly pointed out, a diet containing too much starch produces a fatty condition of the body, which is met with in a large number of eczematous children, and, with the removal of this condition and the combined sluggishness of the bowels, the eczema disappears—having, no doubt, been due to the habitual congestion of the skin and

* Read before the Medical Society of the County of Kings, April 19 1887.

the indolent bowels. Eczema in fat children is exceedingly obstinate—this obstinacy being due to the slow circulation of the blood and lymph, resembling in this condition the circulation in the legs when varicose veins are present. In both cases a sluggish circulation and indolent bowels tend to aggravate matters. Among the local causes we have an excessive secretion of the sweat-glands, where the surfaces come in contact, as in the folds of the groin, the vulva, etc., causing the eczema intertrigo. Another local cause is an excessive secretion from adjacent mucous membranes, as, for example, eczema in infants from wet napkins, of the external ear from otorrhœa, and in the neighborhood of the eyes and nose in conjunctivitis and ozæna. On the subject of heredity authors are at variance, although the majority tend to the non-hereditary side of the question. Cases have been reported as having been transmitted from mother to child, etc., but I am inclined to think they must have been mere coincidences.

The diagnosis of eczema is comparatively easy. If we except acne, it is the commonest of all the cutaneous diseases. It includes about one third of all cases of skin disease that come under treatment. It seems to be more frequent in this country than abroad, Hebra making it about 16 per cent. of all the cases treated at Vienna. Eczema is remarkably protean in its manifestations, showing itself under the most varied forms; at one time it appears as an erythema, and at another time it takes the vesicular form. Also remember it is the only weeping skin disease—not in the sense that an excoriated surface weeps, but as part of the pathological process of this disease, by an excessive exudation of liquor sanguinis, which can not be consumed in supplying loss, which remains over and infiltrates the cutaneous structure. The squamous or dry form is often mistaken for psoriasis, a squamous syphilitide, etc. Seborrhœa also is often mistaken for eczema. It is true the two diseases often present the same or similar appearances as they occur on the scalp. They do often exist together, or one is the sequel of the other. Eczema of the scalp is, as a rule, seated on a circumscribed spot, while in seborrhœa the scales cover the whole scalp. In cases of doubt care should be taken to obtain the history, etc., and then a correct diagnosis can easily be made.

In considering the treatment, only an outline can be given. To enter upon the subject more fully would be to furnish subjects for an indefinite number of meetings. Eczema is a perfectly curable disease, provided the cause is sought for and remedied. In the acute form care should be taken not to over-treat. The great tendency is to administer arsenic, and apply a stimulating ointment, and then trust to Nature for the cure. If Nature had been left alone, or, better, aided by using some bland protective ointment, and a brisk cathartic internally, she would have brought about the cure much sooner than she would when stimulated almost to the point of irritation. We often find eczema accompanying digestive troubles. In these cases the diet should be plain and nutritious, and some tonic be used. I prefer tinctura nucis vomicæ, combined with some of the simple tonics, such as gentian or cinchona. Although in direct opposition to the teachings of the books, I have seen arsenic do a great

deal of good in the eczema of dyspepsia. I think the best plan is to give small doses and very gradually increase—say, two minims of the liquor potassii arsenitis, increased to five, and then return to the original dose. Arsenic is a drug which has caused a great amount of discussion. While it is the dermatologist's sheet-anchor, it may be misused. It was pretty clearly brought out by the recent discussion, by both dermatologists and general practitioners, that arsenic was, in the majority of cases, a very successful and safe drug to employ, provided the physician took care to watch the effect, etc. The habit of prescribing arsenic in all cutaneous diseases can not be too strongly denounced, and I think the majority of text-books and lecturers are to blame for not teaching the student and doctor how to make distinctions between those cutaneous diseases which are benefited by arsenic and those which are not. In children which appear healthy, but are fat and flabby in texture, fed, as a rule, on food containing quantities of starch, and who are allowed to "drink all the tea and coffee they want," and other unwholesome food, I have seen eczema which had resisted all other treatment heal up almost by magic under a corrected diet, a brisk mercurial cathartic, and a bland protective ointment applied to the affected parts. The cure is explained by looking at the ætiology of eczema in this class of patients—namely, a congested skin produced by a sluggish circulation, or a torpid state of the bowels, which we relieve by curing the constipation and restoring tone to the circulation. After this introductory treatment, I give directions regarding food, and often give tonics—such as cod-liver oil and some form of iron, preferably the syrup. ferri iodidi. In young children, and persons having tender skin, care should be taken not to use an ointment too stimulating. I have a case in mind now where an ointment of the red oxide of mercury was used for a simple eczema, which caused a severe pustular eruption. When the ointment was changed for a simple protecting application, the eczema soon improved, and the child became well. I have seen several cases of eczema resulting from that much-advertised "skin success," which I believe is composed of the red oxide of mercury, some preparation of tar, and vaseline. For the removal of crusts in cases of eczema of the scalp, some oil should be used, either olive- or raw linseed-oil being the best. In scrofulous subjects you may use cod-liver oil with the hope of good results from the absorption. If there are pediculi along with the eczema, crude petroleum is useful for destroying the parasites.

A good application for local eczema in children is to apply the ointment in the form of a plaster. Unna, of Hamburg, uses an application called "Salbenmull," consisting of sheets of thin cotton material incorporated with various kinds of ointments; he also uses one somewhat similar, various medicaments being spread on gutta-percha tissue instead of cotton sheeting; the advantage of this over the former is that the gutta-percha plaster will adhere to the part without the use of a bandage. The most obstinate cases to treat are those of old, dry, rheumatoid eczemas found, as a rule, on the limbs of old people. My plan in these cases is to give plenty of salines, unless

the heart is weak; if such is the case, caution should be observed, for by giving too much alkali we may produce a state of superalkalinism which may assist to a fatal result. A very good plan to observe in giving salines to old people is to combine them with digitalis. I also give tonics, such as iron, quinine, etc., and if there are symptoms of rheumatism, it is well to give, in addition, iodide of potassium and colchicum. Externally, I first remove the crusts or scales, which may be done with green soap, the liquor picis alkalinus of Bulkley, or hot poultices; my preference is for the poultice. The heat and moisture seem agreeable to the hot, tense skin, and the patient will express himself well pleased with the treatment. After all the crusts are removed and we have a clean shining surface, apply an ointment, stimulating or not, as the case would suggest. An ointment which I have found well adapted when stimulation was required is composed of the following:

R Hydrarg. chlorid. mit. gr. xxv;
 Olei cadini. ℥xx;
 Unguent. zinci ox. ʒj.
 M. Ft. unguent.

Oleate of mercury may be substituted for the calomel, about a drachm of the five-per-cent. to the ounce. One of the most distressing symptoms is the intense itching, which may be relieved by the addition of iodoform to this ointment, or, if the disagreeable odor of iodoform is objected to, iodol, a new preparation from iodine, may be substituted with equally good results. I have seen the compound tincture of benzoin, prepared and applied as recommended by Professor Sherwell, of the Long Island College Hospital, allay the itching when all other applications had failed. Dr. Sherwell's directions are to evaporate the tincture to three fourths its bulk, and paint this over the eczematous spot. I am not in favor of the heroic plan of treatment, such as blistering with cantharides, carbolic acid, or iodine. I think just as good results can be attained by employing milder stimulants, and if the desired effect is slower, you will be amply repaid by not causing your patient unnecessary pain and discomfort. When eczema is complicated with varicose veins, a rubber bandage applied closely to the part has a decided curative effect, due, no doubt, to the support given to the enlarged veins, restoring, or rather correcting, the circulation in that particular part. There are many other treatments recommended which are very useful under various conditions. There are two or three questions regarding which the physician must first of all satisfy himself. One is, What is the internal cause, if any? another question, Is the disease acute or chronic? and third, What stage is it in? When these questions have been answered, the proper method of procedure will at once become apparent. The German plan of treating the external manifestations of the disease alone has many things in its favor and some against it. It is very well in cases of doubt to direct attention to the visible lesion, and await developments for light on the internal trouble. The other extreme, which the French school teaches, of attributing the disease to the so-called diathetic cause, is open to as many objections. But the unfavorable features in either system have been very successfully remedied in the English, or

more particularly the American, method of taking the safe middle ground of combination, and uniting both the internal and external plans, and so bringing about results which I think will be found to be far more brilliant than if only the method of either of the European schools is strictly adhered to. I trust that, with the ever-increasing facilities in the American medical schools for the successful study of skin diseases, the day is not far distant when the general practitioner will be able to diagnosticate and treat these troubles just as skillfully as the specialist; and eczema in its protean forms will become one of the least, as it is now the greatest, of all the cutaneous diseases.

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EPILEPSY:

ITS CLINICAL MANIFESTATIONS, PATHOLOGY, AND TREATMENT.

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IN its typical manifestations epilepsy is characterized by phenomena indicative of disordered sensation, motion, and intelligence. These derangements succeed each other in the severe forms of the disease simultaneously and suddenly; in the milder cases in a certain rhythmical succession, where, as in the least grave variety, only one class of symptoms is represented.

It is customary to divide the phenomena of the disease, according to the nature of the paroxysm, into *epilepsia gravior* or *grand mal*, and *epilepsia mitior* or *petit mal*. Besides these principal divisions, which serve to denominate the more extreme and obvious forms of the disease, recent writers have recognized certain transitional and irregular varieties of the affection, which, in their turn, have received a classification, albeit more or less arbitrary.

In the following description we shall consider the phenomena of the paroxysm under these headings:

1. Grand mal, that variety of the affection in which the seizure is characterized by coma and general convulsions.
2. Petit mal, that form of the disease in which the paroxysm is alone characterized by loss of consciousness, the convulsive condition of the voluntary muscles being absent.
3. Epilepsy characterized by partial impairment of consciousness and circumscribed muscular spasms. This group constitutes a connecting link between the first two varieties of the disorder.

4. Irregular forms of the attack.

Symptomatology.—We may divide the symptoms of epilepsy into (1) such as precede the paroxysm, (2) such as occur during the paroxysm, and (3) such as are observable during the intervals of the attacks. In the following description we shall follow in many respects the admirable classification of the phenomena of the disease adopted by Nothnagel, a writer whose clear clinical insight is only equaled by his masterly experimental researches upon the pathology of this most interesting disorder.

Premonitory Symptoms.—These may be divided into such as give warning of an impending attack some hours or days before its occurrence, and such as immediately

precede the seizure—the so-called *auræ epilepticæ*. The distant premonitions usually assume the form of mental disturbances in the form of irritability, loss of memory, confusion of ideas, and unusual depression or exaltation, vertigo, and head pains.

Symptoms which immediately precede the Attack: Aura Epileptica.—The aura may affect the sensory, vaso-motor, secretory, motor, and psychical functions.

In a considerable proportion of cases the subject is able to give from memory an account of the aura which preceded the attack. Sometimes, however, consciousness is affected so suddenly that the patient retains but a shadowy recollection of the occurrences which immediately preceded the seizure.

The immediate prodromes occur more frequently and exhibit greater variety than the remote warnings; indeed they possess such multifarious characteristics that any attempt at exhaustive enumeration of the phenomena would necessarily prove both imperfect and unnecessary.

In the following description, therefore, we shall simply aim at giving a general account of the characteristics of these premonitory symptoms, trusting to the individual experience of the reader to amplify his acquaintance with this interesting class of manifestations.

The *sensory* aura consists in tickling sensations, or burning, lacerating pains, which usually begin at the extremity of a limb, in the toes and fingers, and extend upward toward the breast and head. Sometimes, on the contrary, a loss of sensation is experienced in circumscribed localities, such as a portion of a limb, or one side of the face. This diminution of sensibility may often be recognized by the aid of the æsthesiometer, or by thermic tests. Again, in a certain percentage of cases, the subject complains of isolated pains in the head, either at the vertex or upon one side of the cranium.

Vaso-motor disturbances manifest themselves by sudden redness or pallor of the affected localities. The circulatory disturbances are often preceded by sensations of burning, numbness, or by a chill, which, beginning in the fingers and toes, creep up the spine toward the head and shoulders.

Acting upon the observation that in certain cases the vaso-motor prodromes assume an unusual degree of prominence, recent authors have sought to distinguish a separate variety of the affection, the so-called *epilepsia vasomotoria*. There is evidently, however, but scant justification for such a classification, inasmuch as, if we recognize an *epilepsia vasomotoria*, we are equally compelled to distinguish a sensory or motor variety of the affection, according to whether the prodromes are characterized by a predominance of aberrations of sensibility or of motion. It is evidently more logical, therefore, to abstain from attempting to establish further subdivisions of the disease on the score of any mere peculiarity of the aura.

The vertigo and faintness often observed as a forerunner of the paroxysm are, doubtless, often attributable to disturbances of the vaso-motor conditions of the cerebral circulation, and not, as some authors maintain, to dilatation of the abdominal vessels.

The *secretory* aura manifests itself in an inordinate se-

cretion of tears, perspiration, or saliva. Excessive flow of saliva is indeed often enough observed, whereas unusual activity of the lacrymal glands is more rarely met with. Nothnagel has frequently remarked profuse perspiration as an immediate precursor of the attack.

Auræ of the Special Senses.—The auræ of hearing consist of buzzing, roaring, barking, hissing, and ringing. Sometimes sepulchral voices are heard calling in a strange and unintelligible manner, or warning the subject of impending doom. At times also low, musical sounds are heard, which may be gay or melancholy in character. A patient of mine complained that immediately before the attack he heard the notes of a dirge, "and then all was darkness."

Where the auræ are visual, the phenomena consist in colors, flashes of light, and balls of fire. In some cases the subject finds himself surrounded by grotesque or awful shapes, which, with outstretched claws, leer at and mock him. In yet other instances he conceives himself to be in the midst of wild beasts, or hideous reptiles, prepared at any moment to devour him.

Auræ of the sense of smell are usually, though not always, of a disagreeable character. In some cases the patient declares that just previous to the attack he is overwhelmed by the odor of dead animals or cess-pools. Sometimes, however, pleasant odors, such as the perfumes of flowers, are described.

The auræ of taste are characterized by various forms of perversion. Sometimes the patient experiences a salty or metallic taste; at others a sensation of sweetness is noted, which causes him to smack his lips with pleasure.*

The *motor* aura exhibits itself in various ways. In a considerable percentage of cases, tonic, or more frequently clonic, spasms are observed affecting certain groups of muscles. Thus one side of the face is frequently affected by the spasmodic contractions, whereas in others the spasm begins in the hand and ascends to the face. Sometimes the muscles of the tongue are involved, the subject becoming suddenly speechless. In other cases, again, the muscles of the eyes are involved, giving rise to squint. These are the cases in which the subject complains of double vision.

Visceral Auræ.—These are exceedingly common and consist of sensations of heat, cold, rumbling, or straining which are usually referred to some organ contained within the abdominal cavity. The so-called epigastric aura is a sensation referred by the patient to the region of the stomach. The attack is also preceded in some cases by straining at stool and on urinating.

The *psychical* aura is of frequent occurrence, and may consist of an emotional disturbance manifesting itself in fear or disgust, or in perversion of the intellectual faculties assuming the form of confusion of ideas. It is often very difficult to classify this category of phenomena, for the reason that the description given by the patient is so imperfect as to admit of no certain conclusions. Thus, complaints are often made of a strange indescribable sensation of confusion or vacancy, to which the patient refers with evident diffi-

* Frank, cited by Nothnagel, has recounted an instance of this sort.

culty. These cerebral phenomena should always be inquired after by the physician, as they constitute an interesting and frequent type of premonitory symptoms.

THE MANIFESTATIONS OF THE EPILEPTIC PAROXYSM.

I. *Epilepsiâ Gravior, or Grand Mal.*—It is customary among most writers to divide the epileptic attack into two or even three stages. During the first stage of the attack the patient lies in an unconscious condition, and his muscles are thrown into a state of *tonic* spasm. Unconsciousness persists during the second period of the paroxysm, and at the same time the tonic contractions are succeeded by *clonic* convulsions. The third period is characterized by cessation of the spasm and final restoration of consciousness.

It will be well to consider somewhat more in detail these various stages of the paroxysm.

First Stage.—As already noted, there is entire loss of consciousness during this period of the seizure. Sometimes the loss of volitional power is so sudden that the subject falls to the ground, as if stricken by some unseen power. At others, consciousness disappears less rapidly and the patient is enabled to sink upon a chair, lounge, or bed, thus avoiding the danger of falling against some object which might cause him serious injury. It has frequently happened, where the loss of consciousness has been sudden, that patients have fallen against the stove or into the fire, and have thus sustained frightful injuries. Owing to the profound coma, they feel not even the remotest sensation of pain, and are consequently unable to rescue themselves. When the patient has been under observation, great pallor of the face has been noted, which attains a maximum degree of intensity at the moment the subject sinks into unconsciousness. Some patients utter the so-called epileptic cry immediately before falling. This cry is of so strange and piercing a character that animals and men are frequently thrown into a state of consternation upon hearing it. The feelings aroused by this cry, when heard among the wards of an insane asylum, are certainly anything but agreeable, even to those long accustomed to the sound. During or after the fall the muscular system is thrown into a condition of tonic spasm. The distribution of the latter is subject to considerable variation. Sometimes there is opisthotonus; at others but one half of the body is involved and curvature takes place in a lateral direction. In severe cases the spasm is general, involving the entire muscular system. The muscles of mastication are violently contracted, causing the jaws to close with such violence as to break the teeth or produce severe laceration of the tongue, should the latter chance to be implicated. The most varied and hideous distortions are produced; the pupils are dilated and fail to react to light; the eyeballs are deviated and the head and neck are flexed in a backward direction, or rotated where the action of certain groups of muscles prevails over that of their antagonists. The muscles of both the upper and lower extremities are also involved. The forearm is flexed or extended; the thumb and fingers are bent into the palm; the lower extremities are violently extended and the foot is incurvated. The muscles of the throat and those concerned

in respiration are also involved in the spasm, and breathing is arrested. Reflex action is impaired or absent in many cases. As already noted, the tonic contractions are not always so universal as the foregoing description would imply, and in some cases they are limited to certain groups of muscles only. Nor does the paroxysm always begin with tonic muscular contractions. Sometimes these are wholly wanting, clonic spasms setting in at once.

Second Stage.—As already noted, the prominent characteristics of this stage of the attack are the clonic spasms, which set in from two to forty-five seconds after the inception of unconsciousness. With the advent of the clonic convulsions a remarkable change takes place in the appearance of the patient. The pallid aspect of the face gives place to a dark, livid hue, while at the same time the veins are seen to be distended. If the radial pulse is examined at this time, it will be found to be feeble or quite imperceptible, though both carotids are seen to pulsate violently. The majority of the muscles of the head, trunk, and extremities are involved in the convulsive seizure. Owing to the preponderant action of certain groups of muscles over the corresponding antagonists, the most remarkable postures are produced. In a considerable number of cases, one side of the body is seen to be more affected than the other; and this is said to hold true even in those cases where the convulsions are general.* Sometimes the violence of the spasms is so great as to cause dislocations, fractures, and severe wounds of the head and extremities. The teeth are violently ground together, and the tongue, becoming implicated, is severely lacerated. In a large number of cases the patient is seen to froth at the mouth, and the saliva discharged is tinged with blood derived from wounds of the tongue and mucous membrane of the mouth. At the same time the contents of the seminal vesicles, rectum, and bladder may be evacuated, the contents of the latter being frequently ejected with great violence.

This stage of the attack usually lasts from two to four minutes; in some instances, however, the clonic spasms persist five or even ten minutes. The condition of the pupil is variable; being sometimes considerably dilated, at others contracted.

Third Stage.—Usually the cessation of the convulsions is accomplished gradually, but in exceptional cases the spasm ceases suddenly. The spasmodic contractions grow less and less and finally disappear, respiration is attended with less difficulty, the cyanotic appearance of the face is sensibly diminished, the limbs become relaxed, the pulse becomes stronger, and at length consciousness is more or less completely restored. Sometimes, however, the patient passes from a condition of semi-consciousness into a deep sleep, and does not awaken for hours.

Westphal† has arrived at the conclusion that an elevation of temperature after the attack is rare.

Williams‡ found that the temperature might rise as much as 2° F. after severe convulsions.

* Nothnagel.

† "Archiv für Psychiatric und Nervenkrankheiten," vol. i.

‡ "Medical Times," 1867, vol. ii.

The accounts given by various authors as to changes in the composition of the urine are conflicting.*

After the paroxysm has subsided the subject usually suffers from great physical exhaustion, mental confusion, derangements of memory, and in rare instances from paresis, or hemi-paresis.

II. *Epilepsia Mitior (Petit Mal)*.—This form of the disease is characterized by transitory loss of consciousness, unaccompanied by foaming at the mouth, pulsation of the carotids, marked cyanosis, or manifest spasmodic contractions of the voluntary muscles. Persons subject to attacks of *petit mal* suddenly relinquish the employment in which they may happen to be engaged, remain perfectly motionless for a few seconds, and then resume their former occupation. If engaged, for example, in speaking, such persons suddenly pause in the most unaccountable manner in the middle of a sentence; but, after an interval of a few seconds, conversation is again resumed. If walking upon the street, they suddenly stop, but do not usually fall, unless the period of unconsciousness should be unusually long. In some instances, however, automatic actions are not immediately interrupted, and the patient continues the occupation in which he may happen to be engaged. Thus, musicians have been known to continue playing during an attack of *petit mal* without the audience becoming in the slightest degree cognizant of anything unusual in their conduct.

In the majority of cases the auræ are entirely absent, or so slight in character as to escape the observation or recollection of the patient. The most common warnings consist in flashes of light, darkness before the eyes, and dizziness. Numerous sensations, already referred to as constituting auræ, may, it is true, occur in the entire absence of true epilepsy. But, when these symptoms occur with a certain periodicity, and are accompanied, moreover, by mental confusion, the suspicion of epilepsy is justified. The diagnosis becomes doubly sure if at such times an involuntary discharge of feces and urine takes place.

In a large number of cases no evil after-effects are observed, and the patient is entirely oblivious of his previous condition. Sometimes, however, even where the attack has been slight, symptoms are observed which are apparently entirely out of proportion to the magnitude of the exciting cause. The patient becomes dull and sleepy, or suffers from headache, depression, or irritability. Memory is also more or less impaired, especially for recent occurrences. These symptoms often persist for several hours; but they do not constitute the entire list of mental accidents to which these apparently insignificant attacks of epilepsy may give rise. Thus, the terrible disorder known as epileptic mania is one of the most common results of these mild attacks of epilepsy. To this point we shall have occasion to refer hereafter.

III. *Epileptic Seizures characterized by Loss of Consciousness and Local Spasm; Transition Forms*.—This variety of epilepsy constitutes a veritable connecting link between the major and the minor forms of the affection. In its general characteristics there is a pronounced resem-

blance to *petit mal*, with the addition, however, of pronounced spasmodic phenomena. It rarely happens that tonic and clonic spasms set in simultaneously, or follow each other, as in *grand mal*. In the majority of cases, on the contrary, but one or the other form of spasm is found to exist. The location and extent of the spasmodic phenomena are subject to considerable variation, and to enumerate all the clinical possibilities would be next to impossible. Sometimes the tongue is rolled about from side to side, while the jaws are alternately opened and shut, as in chewing. In some patients, on the other hand, the attack manifests itself merely by spasm of the facial muscles, strabismus, or closure of the eyelids. Again, in a not inconsiderable number of cases there may be movements of the lips, violent contortions of the muscles of the face, local spasms in the extremities, or more rarely in the trunk, and (according to some writers) arrest of respiration, owing to spasm of the respiratory muscles. Where the spasm is located in the extremities there is rigidity of the same, or some of the fingers or toes are extended or bent, or, where the convulsions are clonic in character, the affected parts are moved backward and forward with a pendulum-like motion. Sometimes there are clonic and tonic spasms which are more general in character, and which at first sight would suggest the major form of epilepsy. But, as a matter of course, an absolutely sharp demarkation between the various forms is not always easily discernible, and it is consequently necessary to bear in mind the relative value of this or, indeed, any other classification.

It has been alleged by some writers that the loss of consciousness is by no means absolute in this form of the seizure. Nothnagel, on the other hand, is of the opinion that in the great majority of cases an arrest of consciousness takes place, which, although often only very transient, is still complete.

IV. *Irregular Forms of the Attack (Larvated, or Masked, Epilepsy)*.—In this form of the disease the paroxysm is quite as well marked as in *grand mal*, the only difference being that, instead of the violent convulsive movements of the latter, certain "automatic" mental and motor phenomena are evolved, which, though often apparently systematized, take place while the subject is in a state of partial or entire unconsciousness.

The following case, which occurred in my own experience, is a good illustration of this phase of the disease:

A. V., a young unmarried woman, aged twenty-five years, was brought to my office about a year ago, suffering, as her friends imagined, from the premonitory symptoms of insanity. On inquiry, I learned that the family history on both the father's and mother's side was good so far as the existence of mental trouble was concerned, and the only neuropathic evidence discoverable was afforded by the girl herself, who complained of being "nervous" and "fidgety," and somewhat lachrymose and emotional at times. These attacks were, however, in no wise traceable to menstruation.

Upon examination, the organs of the thoracic and abdominal cavities were found to be in a healthy condition, and, having noted this fact in my case-book, I was about continuing my examination of the patient, when suddenly she arose and, without the slightest warning, spat upon the floor, at the same

* Ueber Ebstein, "Deutsches Archiv für klinische Medicin," vol. xi.

time letting her muff, which she held in her hand, fall upon the floor. For an instant after this she stood with an expression of indescribable horror, as if transfixed, her face meanwhile wearing a chalky appearance. In a moment, however, all was over, and she resumed her seat, as if nothing unusual had happened. The mother of the girl, who was present, began subsequently to reprimand the latter in the severest terms, at the same time observing, with an expression of exultation: "There, you crazy, nasty thing, the doctor has caught you now, and he will send you to an insane asylum." Upon close questioning, the patient denied in the most emphatic and convincing manner all knowledge of what had occurred, and I am thoroughly persuaded that she told the truth. From her mother I learned that she had formerly had many similar attacks, during some of which she had shown a tendency to destructiveness, breaking any object upon which she chanced to lay her hands. Several ornaments and pieces of furniture had been destroyed in this way, on account of which she had become very unpopular in her family, the members of which would gladly have seen her relegated to an asylum, as I soon ascertained.

Sometimes the acts perpetrated by persons suffering from this masked type of epilepsy are far more complicated. I can recall a case illustrative of this complex mental automatism, occurring in the family of an intimate friend. The following are the principal points of interest connected with this case:

C. E., a neurotic lad of eighteen, of delicate frame, came under my observation some two years since. The principal reason for consulting me, as his father explained, was because the boy's "memory" seemed to be affected, and because of certain other mental traits which excited the apprehension of his parents and teachers. On questioning the father of the lad, I learned that the latter was in the habit of running away from school and from his home, remaining absent sometimes for days at a time. So annoying had these frequent occurrences become that the parents of the boy had finally been induced to attach a leather placard to his coat bearing his address as well as a request to the police to return him to his home when found. Indeed, he had been returned by the police on sundry occasions; but the most singular part of the transaction was the fact that he denied in the most obstinate manner all knowledge of his singular peregrinations—a statement which he resolutely maintained in the face of the severest chastisement. This was the more remarkable since his veracity upon all other topics was unquestioned. On examining the lad, I found his back, ankles, and thighs covered with scars, which upon inquiry I learned were the result of inhuman beatings received at the hands of his guardians, who considered him to be at once a truant and a liar. With tears in his eyes he declared, with the most convincing sincerity, that he had no recollection whatever of the occurrences for which he had been punished.

Such cases as this are far more common than is generally supposed, as doubtless most practitioners of large experience can testify.

(To be continued.)

Chalk Ointment as an Application in Erysipelas.—Sir Dyce Duckworth ("Practitioner," January, 1887) speaks highly of chalk ointment in erysipelatous affections. It seems to be quite immaterial whether the *creta preparata* or the *calci carbonis precipitatus* is employed. In severe cases it may be necessary to reapply the ointment twice or oftener every twenty-four hours.

Correspondence.

LETTER FROM LONDON.

The General Medical Council.—The Apothecaries' Society.—The Death of Dr. Wilson Fox.—The Hospitals and the Jubilee.

LONDON, May 17, 1887.

THE General Medical Council is again in session, the second time this year. One result of such frequent meetings will soon make itself felt, and that will be that there will be no funds left out of which the members can be paid, and that will have, there can be no doubt, a most salutary effect on the length of the discussions. The Council meets for four hours a day, and each sitting costs at the rate of twenty-two shillings a minute. The first business on this occasion was to receive the resignation of Sir Henry Acland as president, and elect his successor. Mr. John Marshall was chosen unanimously. The Council then had to consider what it was to do with the Apothecaries' Society. By the new Medical Act, which comes into operation almost immediately, no single qualification carries with it the right to be entered on the Medical Register, but it was provided that in the event of any corporation not being able to enter into combination with another corporation so as to make its license complete, it should be in the power of the General Medical Council to appoint additional examiners in that subject which the corporation could not give a legal qualification in respect of, and that, if the Council did not do so, the Privy Council might do it. The Apothecaries' Society, not having been able to gain admittance to the conjoint board of the Colleges of Physicians and Surgeons, therefore applied to the Council for official recognition of their examiners in surgery, and succeeded in obtaining it, though not without much opposition. It is greatly to their credit that some of the Scottish members of the Council were in the majority, for there could be no doubt that the suppression of the Apothecaries' Society would be a good thing for the Scottish corporations, which give their diplomas on much easier examinations and for smaller fees than the two colleges in London.

I fancy that in America you have nothing corresponding to the General Medical Council, and you are very well off without one. Its function is to enter the names of those qualified to practice on a register, which registration gives the right to sign death certificates and to sue for fees in the law courts. But these are purely theoretical privileges. The number of uncertified deaths every year shows how easy it is to do without such certificate, while a very recent case shows that the law affords no protection to registered practitioners in the attempt to collect their fees. In the case in question a medical man had charged five hundred guineas for his services during a long attendance, and the amount had been approved by two arbitrators as reasonable and just, but the doctor could not get his money, and when he brought an action he lost his suit with costs. If he had been an unlicensed practitioner he would probably have adopted effective means long ago to enforce his claims without troubling himself about legal formalities.

The death of Dr. Wilson Fox, the other day, though rather sudden, can have taken no one by surprise; never a strong man, his health since an attack of pneumonia about a year ago had always been rather precarious, and the existence of long-standing heart disease rendered him particularly unable to withstand any severe illness. He was very popular with all University College men, not only for his untiring courtesy, in which respect he formed a striking contrast to another and greater teacher at the same school, but because they found that the

more they followed his teachings the more they learned from him. By his death the office of Physician in Ordinary to the Queen became vacant, and Sir William Gull, one of the Physicians Extraordinary, has been promoted.

The hospitals are all trying to make capital out of the Jubilee, but so far with very varying success. Guy's Hospital, to which I referred in my last letter, is still making great efforts to obtain the £100,000 originally asked for, without which, it is said, some further beds must be given up; for several years now some of the wards have been closed. Mr. J. S. Morgan gave them the £10,000 he offered, although his conditions had not been fulfilled, and this has given a fresh impetus to the fund, which, however, is still a long way from the amount named. The Children's Hospital, in Great Ormond Street, is also making capital out of the Jubilee with some success. Owing to the strenuous representations of the medical staff, the managers a few months ago decided to try to complete the building so as to provide for the better accommodation of patients with whooping-cough and diphtheria especially, as well as provide a few additional beds. The money is now being collected from the children throughout the country, and I believe the returns are thus far considered very satisfactory. There are few charities so well deserving of support as this one.

LETTER FROM BOSTON.

The One Hundred and Sixth Annual Meeting of the Massachusetts Medical Society.

BOSTON, June 8, 1887.

THE meeting was held yesterday and to-day. There was, as usual, a display of surgical instruments, mechanical appliances, drugs, etc., in the Rogers Building, adjacent to the place of meeting, but it was not up to the average—perhaps because no proprietary article was allowed to be shown. The purveyors of proprietary articles held an exhibition of their own, at the Hotel Brunswick, across the street, and I am constrained to say that it was the better attended of the two. Why such preparations as the malt extracts, beef essences, etc., which are in general use and unquestionably important agencies in the hands of the profession, should be excluded, I am unable to understand. The customary visits were made to the hospitals, and those who attended were more than ordinarily repaid for their trouble.

It is unnecessary to enumerate the papers read at the meeting, as you have already published the programme. Dr. Burrell's paper, on the immediate reduction of fractures of the spine and their fixation with the plaster-of-Paris jacket, was of a very practical character, and was fully illustrated with diagrams and other drawings. The author dwelt at length on the necessity of support in such cases. Dr. Bullard's paper, on the relation of tea-drinking to disorders of the nervous system, which was largely an elaboration of clinical histories, attributed many of the hysterical, neuralgic, and neurasthenic symptoms of women to this cause, and divided the cases into the acute and the chronic. It was excessive tea-drinking only that was deprecated, the serviceable properties of tea being frankly admitted. Dr. Vickery's paper, on pulmonary tuberculosis as a sequel to ordinary pleurisy with effusion, contained reports of ten cases, six of which had occurred under the author's own observation, and the deduction was drawn that the connection was one of cause and effect. In the discussion, Dr. Bowditch gave it as his experience, extending over half a century, that phthisis did not result from pleurisy, the latter disease being one of which patients were cured. The tubercular disease, he

said, ought not to be said to be due to the effusion unless the symptoms were continuous. Pleurisy was often followed by phthisis in tuberculous families, but it was then a constitutional disease.

It was a disappointment to many that Dr. Maurice H. Richardson's absence prevented the reading of his paper on the surgical treatment of chronic empyemas, as his experience in cases of that affection has been large. In Dr. Worcester's paper on training nurses, a point was made of the scarcity of trained nurses at present, the result of which was that only the wealthy could obtain their services. The facilities for multiplying them should be increased. Dr. Abbott's paper on the value of public-health measures to the State was a statistical and most convincing proof of the power of hygienic precautions to save life. It seemed probable, the author said, that typhoid fever would soon become unknown. In the discussion, Dr. Bowditch delivered a vigorous speech on the importance of physical training and the danger of over-stimulation of the mind in young persons. The State of Massachusetts, he said, occupied a ridiculous position in regard to these matters. Gymnastic exercises ought to be introduced into the schools.

At the meeting of the councillors, held Tuesday evening, officers for the ensuing year were chosen as follows: President, Dr. Thomas H. Gage, of Worcester; vice-president, Dr. John M. Harlow, of Woburn; treasurer, Dr. Frank W. Draper, of Boston; corresponding secretary, Dr. Charles W. Swan, of Boston; recording secretary, Dr. Francis W. Goss, of Roxbury; librarian, Dr. Edwin H. Brigham, of Boston; orator, Dr. B. Joy Jeffries, of Boston; anniversary chairman, Dr. Charles B. Porter, of Boston. The secretary's report showed that ninety-six new members had joined during the year, and twenty-six had died, making the total membership 1,661. The treasurer reported the balance on hand as \$2,315.21.

Luminous Paint in Theatres.—Herr Stehle, the Government Inspector of the Royal Bavarian Court Theatre, has, says "Iron," given high testimony to the use of luminous paint as a safeguard against panic in theatres. In the above-named theatre inscriptions in luminous paint are suspended over the exit passages, which direct the audience to the "way out." These placards, we are told, in spite of being exposed to the very poor light of the corridors in the daytime and the gaslight in the evening, are so luminous after the gas has been turned out that any one can gain the stairs in each corridor without difficulty.—*British and Colonial Druggist*.

Hepatic Erysipelas.—The Paris correspondent of the "British Medical Journal" says: "In the *France Médicale*, Dr. Louis Boucher recently described a case of hepatic erysipelas in a woman aged sixty-three. Eighteen years previously she had received a blow on the right side of the abdomen. Bilious fever, with severe jaundice, gastric disturbance, and obstinate constipation, ensued. The menopause occurred without any complications. In 1879 the patient was attacked with erysipelas, after violent hepatic pains, which lasted two days. On January 3, 1887, she was suddenly seized with fever and tremors and a recurrence of the hepatic pain. The temperature was 39.2° C. (102.4° F.), the pulse 120. The urine was deep red; the tongue white. She complained of intense pain in the region of the liver, which was hot, as if it were the seat of inflammation. No alteration of shape could be detected. An opium-poultice was applied, and a sedative given at night. The following day the patient was very restless; her sleep had been interrupted by nightmare and starts; the fever was worse. Ten centigrammes of extract of digitaline were ordered every hour. Toward night the pains in the liver disappeared, but the throat was dry, there were pains in the ear, and the face became swollen. On January 6th well-marked erysipelas showed itself, and spread from the lobe of the ear over the right side of the face; the temperature fell to 38° C. (100.4° F.). Recovery took place in a few days. . . ."

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THE QUESTION OF NATIONALITY IN SCIENTIFIC CRITICISM.

It has always rankled in the hearts of us Americans that the incredulity with which Ephraim McDowell's account of his success in the removal of cystic ovaries was received abroad rested not so much on any inherent improbability it might be supposed to involve as on the fact that it came "from the wilds of America." McDowell, it is true, has been amply vindicated, and the records of the work done by Nathan Smith and other early American ovariologists constitute abundant testimony to the American nativity of the operation; yet the arrogant spirit betrayed in the "Medico-chirurgical Review," of London, in the year 1825, has never died out, but generation after generation of Pharisees is brought forth to harbor it. Such things however, usually right themselves in the course of time, and perhaps the process will in this instance not be retarded by a recent public statement by a disinterested person to the effect that the modern Cæsarean operation was first made known to the British profession by Dr. Lusk, of New York. The June number of the "American Journal of Obstetrics" contains a letter from Dr. Säger, of Leipsic, in which he quotes as follows from a summary of Dr. Lusk's remarks before a British audience: "Cæsarean section always held out promise when performed under favorable circumstances. The weak side was always the gaping of the uterine wound. Porro's great method [merit?] consisted in doing away with this danger by the removal of the organs. But a still greater work was the re-awakening of professional interest in the Cæsarean operation. The result was the wonderful success of Leopold and other Germans with the uterine suture of Säger. This method, according to the latest reports, showed in twenty-six cases nineteen recoveries and seven deaths. In all the latter, the operation was performed under circumstances well-nigh hopeless. Cæsarean section modified by Säger, Porro's operation, and that of Dr. Thomas were not rival, but supplementary, operations," etc. The writer adds: "The further discussion betrayed very plainly that Lusk's statements were as good as unknown."

We do not bring up Säger's criticism for the purpose of exulting over our British brethren, but only to show that the importation of national feeling into the discussion of matters on which it has no bearing is likely in the long run to encounter a sharp antidote. Nor would it be fair to imply on the strength of this detached passage in Säger's letter that the British profession was at the time wholly unaware of what had been going on in Germany in the matter of the Cæsarean operation, for he himself distinctly states that Simpson and Angus Macdonald had repeatedly called attention to it in the "Edin-

burgh Medical Journal." We must add also that it is not under the influence of national feeling that Säger writes; his allusion to this matter is purely incidental to a dispute between him and Dr. Garrigues, of New York, on a subject that we have no present occasion to consider. To interpret it to the disparagement of British medicine would be quite as ungenerous and quite as foreign to the legitimate tenor of scientific writing as it was for Billroth to garnish his recent criticism of the Pasteur treatment of rabies with the remark that for the last twenty years the French had not only not made any great progress in the domain of scientific medicine and surgery, but had hobbled painfully in the path of the colossal advance of German and English science. Such a thing is unjust and unworthy of Billroth. There are periods when mental activity and achievement give prominence to a particular race, but no race towers so far or so continuously above others as to be warranted in assuming for itself any enduring leadership. The attempt to do so is as groundless as the fabled contention between the belly and the members. In the domain of science, no man's statements should be weighed with any reference to his nationality.

MINOR PARAGRAPHS.

THE CURE OF WHOOPING-COUGH BY MAGIC.

THE "British and Colonial Druggist" relates that a curious display of superstition was lately witnessed at Maryhill, where measles and whooping-cough were prevalent. A traveling candyman and rag-gatherer's cart, drawn by an ass, was standing before a row of houses a little off the highway. Two women, each the mother of a child suffering with whooping-cough, took up a position one on each side of the ass. One woman then took one of the children, and passed it under the ass's belly to the other woman, the child being held with its face toward the ground. The second woman caught the child, and, giving it a gentle somersault, handed it back to the first woman over the ass, holding its face toward the sky. Each child was so treated three times, after which the ass was allowed to eat something from the child's lap. Subsequent inquiries showed that the mothers, whose number had been increased by two others during the ceremony, were thoroughly satisfied that their children were the better for the enchantment.

PUMPKIN-SEEDS AND A SUIT FOR DAMAGES.

THE "American Journal of Pharmacy" gives an account of an action brought by a woman against a Philadelphia apothecary, based upon the allegation that her health had been impaired by taking ground pumpkin-seeds that he had sold her, at the same time telling her how to make an emulsion of the coarse powder, she having objected to the price of the ready-made emulsion, for which she had what purported to be a prescription, although it did not indicate the quantity, and was not signed. Before bringing the suit she demanded money of the apothecary, and, being refused, threatened to sue him, publish the facts, and ruin his business. It appeared in evidence that, having been directed to take half the amount, and the rest a few days afterward if necessary, she took the whole at once, and was taken with severe pains, for which she dosed herself with castor-oil and oil of turpentine: that a physician who was then called in found her suffering with fecal impaction, and observed a considerable quantity of pumpkin-seed *debris* in the

evacuations; and that she was still suffering from the after-effects of the impaction. For the defence, it was shown that pumpkin-seeds were sold unbroken, ground, or in the form of emulsion; that the seeds ground with the integument were recommended by certain physicians as superior to a fine powder; and that the woman, who admitted having had a tape-worm for several years, had now got rid of the parasite. The jury very properly returned a verdict for the defendant.

THE COMPARATIVE FREQUENCY OF CONFINEMENT BY DAY AND BY NIGHT.

THE "Journal des sciences médicales de Lille" has lately published the results of observations tending to show the correctness of the popular belief that more births take place at night than during the day. The observations related to a thousand cases of natural labor in a maternity hospital, and it appears from them (as summarized in "Lyon médical") that 450 took place between 8 A. M. and 8 P. M., and 550 during the other twelve hours. More particularly, there were 239 between 6 A. M. and 12 M., 220 between 12 M. and 6 P. M., 272 between 6 P. M. and 12 P. M., and 269 between 12 P. M. and 6 A. M. The account does not specify whether it was the onset of labor that was noted or its completion, but perhaps the latter may be inferred from the expression "*accouchements pratiques*."

A NICE MEDICO-LEGAL POINT.

THE "Deutsche Medizinal-Zeitung" summarizes from the "Munchener medicinische Wochenschrift" an account of the trial of a physician accused of homicide by negligence, in which the counsel for the prisoner set up the plea that his client had caused the death not of an independent human being—a *homo*—but of a fetus. The case was one of parturition, in which the child presented transversely with an arm prolapsed. To facilitate the performance of version, the doctor cut off this arm and then the other one, and finally tore away the lower jaw, but, after all, had to call in another practitioner to extract the head. The medical testimony was unanimous, and its purport was that the mutilations mentioned killed the child, and that they were unnecessary. The counsel for the accused maintained that a child was not an independent being until the umbilical cord had been cut, but still a part of the maternal organism; consequently, that it was only a case of mutilation of the mother. The prosecuting officer contended, however, that, according to the law, a child was an independent being so soon as any part of it was visible outside the vagina. The court adopted the latter view, and sentenced the prisoner accordingly. An appeal was taken, but unsuccessfully.

ANTISEPTICS FOR THE PRESERVATION OF THE TEETH.

At the recent meeting of the Section in Surgery of the Second Congress of Russian Physicians, at Moscow, an abstract of the proceedings of which is given in the "Centralblatt für Chirurgie," Dr. Znamensky, of Moscow, read a paper on "The Limitation of the Indications for the Extraction of Teeth," in which he maintained that, by the use of antiseptics, certain affections of the teeth heretofore considered as calling for extraction—such as general purulent destruction and gangrene of the pulp—could be treated successfully. Carbolic acid and trichlorophenyl could be employed pure, chloride of zinc in a fifty-per-cent. solution, or corrosive sublimate in a five-, ten-, or twenty-per-cent. solution. It was insisted on as of prime importance that the second molar teeth of the first dentition should, whenever it was possible, be preserved until the appearance of the first permanent molars.

"MENTEVISM."

ACCORDING to the "Progrès médical," this is the term applied to mind-reading by a Russian named Feldman, who has recently been giving exhibitions of his powers in Paris. If his hand is grasped violently by anybody, he is able to detect the individual's thoughts in a few minutes. His special exploit seems to be that of finding cards that have been secreted. When the search begins, a bystander grasps his hand firmly, and thinks intently of the spot where the cards are placed. Feldman soon appears to become the subject of an irresistible force, and marches his assistant about, jostling the spectators, until they reach the person who has the cards. There is nothing novel in the essential part of the performance, and it is said that the experiment often fails.

ANÆSTHESIA BY VIBRATION.

In the June number of the "Independent Practitioner," Dr. F. H. Brimmer, of Minneapolis, gives an interesting account of a dental operation in which he practically anesthetized the pulp of a sound tooth by holding a rapidly revolving spear-shaped drill in contact with it for fifteen or twenty seconds, so lightly as only to transmit the vibrations. The drill was then pressed against the tooth with a little more force, and, the sensibility being found diminished, was allowed to penetrate perhaps a third of the distance to the pulp, when it was used again as at first. At the third trial the drill entered the pulp. Crystals of carbolic acid were then forced to the end of the root with a probe, and in twenty-three minutes the tooth was cut off and properly shaped for a crown, which was set on the following day. Dr. Brimmer remarks that the mitigation of sensibility by means of the dental engine is not a new idea. He thinks that the reason that its employment is not more commonly successful is that the operator allows the instrument to make progress at the same time. The theory is that there is a limit to nervous conductivity, and that the conduction of the vibrations exhausts it for the time being.

THE PRESERVATION OF UTERINE TENTS IN AN ASEPTIC CONDITION.

Dr. F. FRAIPONT, writing in the "Gazette de gynécologie," calls attention to the well-known dangers from septic infection following the use of tents of sponge, laminaria, or tupelo, and to the unreliability of the so-called aseptic tents of commerce. On account of the many ways in which they may become contaminated, he says, nothing will answer but the plan of keeping them in an antiseptic liquid until the moment they are to be used. After alluding to Dirner's device of keeping them in a one-per-cent. solution of corrosive sublimate in absolute alcohol, and Porak's of preserving them in ether, he states that he himself keeps them in a ten-per-cent. ethereal solution of iodoform. Neither of the liquids mentioned materially interferes with the prompt expansion of the tent after its introduction.

THE "MEDICAL STANDARD," OF CHICAGO.

THIS new journal, of which we lately spoke in commendation, issued a daily edition during the recent meeting of the American Medical Association. In spite of the hasty work necessary for their production, the daily numbers of the "Standard" were exceedingly creditable in appearance, and they contained short comments on the affairs of the association that were at the same time judicious, dignified, and readable. One of the issues contained woodcuts of several well-known medical men, in which the likeness was remarkably close. In particular, the

portrait of the elder Dr. Byford was not only most true to life, but really an artistic picture.

DR. PAWLİK AND HIS CLINIC.

DR. GEORGE HALKET lately gave a sketch of the obstetrical and gynæcological clinics of Vienna and Berlin, at a meeting of the Glasgow Obstetrical and Gynæcological Society, which is published in the June number of the "Glasgow Medical Journal." He says that the most enjoyable and perhaps the most instructive course that he took was with Pawlik, in company with two other Glasgow men and an American. He speaks of Pawlik as an exceedingly handsome man, about forty-five years of age, who speaks English as fluently as any Englishman, and is very popular with his patients, to whom his manner is not only affable, but bordering on the affectionate. He met the four pupils three times a week, usually for three hours at a time. Patients were plentiful, the examinations were made in a thorough and leisurely manner, and the treatment was carried out under Pawlik's supervision with the utmost attention to detail. The writer adds that he believes that all the women who came to the clinic were "*bona fide* patients," but that he can not say the same of another clinic (Schlesinger's), where "the same women returned week after week, simply for the purpose of examination, nothing whatever in many cases being done in the way of treatment."

AN ANATOMICAL BASIS FOR CONSTITUTIONAL PECULIARITIES.

THE "Glasgow Medical Journal" speaks of a work by the late Professor Beneke, of Marburg, on "The Constitution and Constitutional Diseases of Mankind," published in 1881, giving an account of a long series of most accurate and careful anthropometric observations that go far to show that the groundwork of what is known as the constitution of an individual lies in the relative sizes of the different organs, and that the capacity of the organism for work depends partly on this volumetric relationship and partly on the nutrient material supplied to the body.

FULMINANT PURPURA.

LAST December, in a communication to the Berlin Medical Society, Professor Henoch reported several cases of *purpura fulminans*, meaning by that term a special form of purpura pursuing an excessively rapid course and always ending fatally. Cases were also reported by Michaelis, Baginsky, and Senator. It appears by an account given in the "Münchener medicinische Wochenschrift," an abstract of which appears in the "Revue mensuelle des maladies de l'enfance," that the fulminant form of purpura usually follows an attack of one of the acute infectious diseases.

ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Fourth Division of the Health Department for the following statement of cases and deaths reported during the two weeks ending June 14, 1887:

DISEASES	Week ending June 7.		Week ending June 14.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever.....	8	2	9	4
Scarlet fever.....	66	12	55	13
Cerebro-spinal meningitis....	6	5	10	10
Measles.....	58	3	31	3
Diphtheria.....	122	50	91	37
Small-pox.....	11	4	6	2

The Rhode Island Medical Society held its seventy-sixth annual meeting in Providence on Thursday, the 9th inst. The Fiske Fund prize of \$200 was awarded to Dr. James B. Field, of Lowell, Mass., for the best essay on "Membranous Enteritis." The subjects for next year's competition were announced to be: 1. "What Changes has the Acceptance of the Germ Theory made in Measures for the Prevention and Treatment of Consumption?" 2. "Antisepsis in Medicine and Surgery." Officers for the ensuing year were elected as follows: President, Dr. Horace G. Miller; vice-presidents, Dr. Albert Potter and Dr. John W. Mitchell; secretary, Dr. William R. White; corresponding secretary, Dr. George D. Hersey; treasurer, Dr. Charles H. Leonard. The annual address, on "The Bacteriology of the Eye," was delivered by the president, Dr. Miller. After the adjournment there was a banquet, at which brief remarks were made by visitors from other States.

The German Hospital.—Dr. A. Caillé and Dr. William Balser have been appointed visiting physicians to the hospital.

An Honor to an American Physician.—The Emperor of Japan has conferred the Decoration of the fourth class of the Order of the Rising Sun upon Dr. J. C. Cutter, of Warren, Mass., formerly house surgeon at the Boston City Hospital, in recognition of his services as professor of physiology and comparative anatomy in the College of Agriculture at Sapporo, Yezo, Japan. The order consists of eight classes, and Dr. Cutter is said to be the second American upon whom the order of the fourth class has been conferred. With but a single exception, no order above the fourth has ever been conferred upon an American.

Honorary Degrees.—At the ninety-second annual commencement of the University of North Carolina, held recently, the honorary degree of LL. D. was conferred on Dr. Hunter McGuire, of Richmond, and Dr. Morris H. Henry, of New York.

The University of Berlin.—The "Lancet" states that Professor Senator has succeeded Professor Henoch in the charge of the clinic for children's diseases.

Changes of Address.—Dr. Francis M. Weld will be at the Ocean House, Watch Hill, R. I., from July 1st to September 15th, after which date he will take up his residence permanently in Storey Place, Jamaica Plain, Boston. Dr. Edmund C. Wendt will be at "The Argyle," Babylon, L. I., after July 4th.

Society Meetings for the Coming Week:

MONDAY, *June 20th*: New York Academy of Medicine (Section in Ophthalmology and Otology); New York County Medical Association; Hartford, Conn., City Medical Association; Chicago Medical Society.

TUESDAY, *June 21st*: New York Academy of Medicine (Section in Theory and Practice of Medicine); Medical Society of the County of Kings, N. Y.; Ogdensburg, N. Y., Medical Association.

WEDNESDAY, *June 22d*: New York Pathological Society; American Microscopical Society of the City of New York; Medical Society of the County of Albany, N. Y.; Philadelphia County Medical Society (conversational).

THURSDAY, *June 23d*: New York Academy of Medicine (Section in Obstetrics and Diseases of Women and Children); New York Orthopædic Society; Pathological Society of Philadelphia.

FRIDAY, *June 24th*: New York Society of German Physicians; Philadelphia Clinical Society; Philadelphia Laryngological Society.

SATURDAY, *June 25th*: New York Medical and Surgical Society (private).

Proceedings of Societies.

OBSTETRICAL SOCIETY OF PHILADELPHIA.

Meeting of June 2, 1887.

The President, Dr. THOMAS M. DRYSDALE, in the Chair;
Dr. W. H. H. GITHENS, Secretary.

Ovariectomy, followed in Four Days by Kelotomy; the Comparative Safety of Different Anæsthetics.—Dr. JOHN C. DA COSTA related the history of the case of an unmarried woman, fifty-one years old, who had first come to him about a year before with an ovarian cystoma. As she was very much broken down in her general health, being highly malarious, anæmic, and affected with cardiac weakness, with an intermittent pulse, chronic albuminuria, degeneration of the blood-vessels, and double femoral hernia, he declined to operate at that time, thinking that she could not bear up under the shock of an operation, but tapped her, and put her under general treatment. On her return, in January last, he again declined to operate, as there had been so little improvement in her general condition. In April, however, she returned much improved from a stay at Wilmington, where she had taken a course of steam-baths and electricity. But she soon began to break down again, and on the 20th of April the speaker removed the tumor at the Jefferson College Hospital. Toward the close of the operation, profuse hæmorrhage took place from rupture of a large degenerated artery that had been tied, making it necessary to compress the aorta, enlarge the abdominal incision, and apply a second and then a third ligature, and sever the pedicle with Paquelin's cautery. The patient seemed nearly dead, and hypodermic injections of atropine and whisky were given. Vomiting continued for three days, and the herniæ came down several times and were replaced: but on the evening of the 23d it was found that the left one could not be reduced. In consultation with Dr. O. H. Allis, it was agreed that the patient was not then in a fit state to be operated on. The next afternoon she was apparently dying; the heart had almost given out, vomiting was constant, and the left hernia was strangulated. Whisky and morphine were given hypodermically, and Dr. Allis operated for the speaker, cocaine being the only anæsthetic used. The vomiting stopped at once, and the patient began to improve, and went on to recovery.

Among the points to which the speaker called attention was the value of cocaine in albuminuria. The patient was put on its use immediately after the ovariectomy, and the urine, which on the second day had fallen to seventeen ounces, went up the next day to thirty-seven ounces, and after the kelotomy to forty-nine ounces. Either ether or chloroform would have killed the patient.

Dr. LONGAKER remarked that recent observations had demonstrated the fact that ether was a dangerous anæsthetic under such circumstances as those described by Dr. Da Costa, and in such cases chloroform was considered by some much safer. Dr. Fordyce Barker considered chloroform much safer than ether during parturition, or if there was heart disease.

Dr. M. PRICE asserted that there was no danger in ether. Accidents happened because the administration was intrusted to any one who might be present, even the nurse. It should in all cases be given by one who understood its effects and who would give it his entire attention. It should never be given to saturation; even a prolonged operation required but a few ounces, and there was never occasion for the use of a pound or more, as was sometimes seen. He had no fear of ether in heart disease or any other condition, even of extreme weakness; he

considered the danger from the shock of an operation much greater than that from ether.

The PRESIDENT had employed ether from the time of its introduction, and had never seen any bad effect from it even in cases of puerperal convulsions, where the kidneys had been affected. If ether was properly administered, a few ounces only were required to produce an anæsthetic effect.

Dr. BALDY had given ether to patients suffering from weak heart and kidney troubles, and had never seen any bad effects. The diuretic effect of cocaine had been announced by Dr. Charles Penrose.

Dr. CHARLES PENROSE stated that experiments upon the effect of cocaine used internally, made by him under the direction of Dr. Da Costa at the Pennsylvania Hospital, had been described in the "Medical News" eighteen months ago.

Dr. PARISH remarked that ether was certainly not safe under all circumstances, and it was decidedly unsafe in patients suffering from diseased kidneys or weak heart, or who were in a septicæmic condition. The greatest danger was not during the time of its administration, and the observation of the patient must not cease with the rally from its effects. The harm done would be noticed subsequently. He had seen much injury result from its use after labor for the purpose of curetting the uterus to remove shreds of placenta or membrane causing septicæmia. If cocaine would assist the action of the kidneys and would answer the anæsthetic needs, it should be preferred to ether for all patients suffering from kidney disease or a weak heart.

Dr. LONGAKER remarked that Dr. Emmet had been the first to call attention to this undesirable after-effect of ether.

Dr. DA COSTA remarked that common sense was the basis of medical and surgical practice. He would not attempt an ovariectomy without ether. His patient had weak lungs and heart, an intermittent pulse, and albuminuria, and he gave her ether. Would Dr. Longaker give chloroform with such a heart? Ether was much safer as regarded the heart. As to the kidneys, chloroform would be better, but the risk from ether was the smaller. He had seen ether given to a patient who had suffered a year previously from an acute attack of nephritis, and the result was death a few days subsequently. The best man among the assistants should always be the one selected to attend to the ether. Dr. Orville Horwitz gave it in this case, and the speaker knew of no better administrator. The time of the operation was eleven minutes, between three and four ounces of ether were used, and the woman was perfectly under its influence all the time. In the second operation, with the exception of the puncture of the hypodermic needle, there was no pain. The solution of cocaine was applied by means of a brush to the cut surfaces as soon as they were incised. He did not consider ovariectomy and labor similar as regarded the choice of an anæsthetic; even if the kidneys were affected before or during labor, they recovered rapidly after the labor was over.

Pyo-salpinx.—Dr. M. PRICE reported a case of pyo-salpinx in which he had removed both ovaries and one tube, the other tube having been left on account of close adhesion to the intestine.

Dr. PARISH, founding his remark on Tait's experience, said that it was not safe to leave a sound tube if the other one was removed on account of purulent disease, as the one that was left was almost certain to become diseased subsequently and to require a second operation.

Dr. H. H. KELLY also agreed that if one tube required removal for pyo-salpinx the other should not be left, because the nidus of the disease remained in the uterine mucous membrane, and it would travel up the other tube if it was allowed to remain. The same rule applied to ovarian pain. If one ovary

was the seat of severe pain so as to require removal on that account, and the other ovary was allowed to remain, the pain would be transferred to it. There were exceptions to these rules. When an ovary was removed on account of cystic disease, the sound ovary should be left.

Dr. BALDY agreed with the previous speakers. Tait had reported twenty-six cases of unilateral operations for pyo-salpinx, and in eight of these patients he had operated a second time, and the remainder required operation. He did not agree with Dr. M. Price in considering all cases of pyo-salpinx as of gonorrhœal origin. Martin had found 70 per cent. to be of puerperal origin. Microscopic examination of the contents would show the characteristic micrococci.

Dr. HIRST remarked that Martin had found micro-organisms peculiar to puerperal sepsis alone in some cases, while others were purely of tubercular origin, and the coccus of actinomycosis also had been found to be a cause of pyo-salpingitis.

Dr. LONGAKER called attention to the fact that the prognosis of these cases was not always gloomy without an operation. The inflammation might subside and a perfect cure follow, so that the patient might become pregnant. Only 25 per cent. required operation on account of the severity of their symptoms, and it should be borne in mind that the operation did not always cure them.

Dr. M. PRICE had always operated in purulent cases, and all his patients were either absolutely well or were still under observation. In one case of abscess of the ovary, in which he had operated eighteen months ago, the sound tube was left.

Dr. PARISH remarked that but a very small minority of the women who contracted gonorrhœa ever had salpingitis. What was the determining cause? He had seen cases of gonorrhœa that were greatly aggravated by treatment at the menstrual period.

Dr. O'HARA inquired if the majority of operations were on prostitutes or on married women.

Dr. M. PRICE remarked that, according to his experience, 75 per cent. of all men had gonorrhœa, but they did not all have epididymitis. The proportion of cases of salpingitis to those of gonorrhœa in women was about the same as that of epididymitis to that of gonorrhœa in men. He had operated for salpingitis on both married women and prostitutes.

Further specimens were shown by Dr. J. Price, Dr. H. A. Kelly, and Dr. M. Price.

NEW YORK CLINICAL SOCIETY.

Meeting of April 22, 1887.

The President, Dr. ROBERT ABBE, in the Chair.

Crossed Paralysis.—Dr. WALTER MENDELSON presented a child fifteen months old that he had first seen about three months before. The mother was healthy, and there was no history of syphilis; the father's history, obtained through the mother, was somewhat doubtful regarding syphilis, but for the past two years he had been addicted to drink. The child was perfectly healthy at its birth and remained so for six months, when it had double purulent ophthalmia. Last July the mother noticed that there was loss of power over the right side, which seemed to have appeared rather suddenly. This continued without much change until December, when it was noticed that the left eye was turned in. A little later or at about the same time—the mother was not sure which—it was seen that the child smiled only with the right side of the face. It also ceased to say "Mamma," etc., and became dull and languid, in which condition it had since remained. The mother thought the child was deaf, although not wholly so, as it showed an intelligent perception of sounds. When the child was first seen she was

quiet and rather dull during the day, but was said to take some notice of other children. At night she cried and was fretful. Her appetite was poor and there had been great constipation, for which the mother had given her castor-oil. Examination showed a dull and apathetic expression of countenance, heightened, no doubt, by the existence of facial paralysis. It was almost impossible to rouse the child's attention, either by sudden noises or by presenting objects to its view, although at times it tried to follow the latter with its head. The left eye was turned in, so that the pupil lay in the internal canthus. There was purulent conjunctivitis, which disappeared under treatment. About a week before the meeting a phlyctenular keratitis appeared, with renewed conjunctivitis, which also was getting better. In the beginning there had been a red papular eruption on the left cheek, which had largely disappeared. The conjunctivitis and keratitis were doubtless traumatic in origin, being secondary to left-sided facial paralysis and anæsthesia. The paralysis of the face seemed nearly complete, the mouth being drawn to the right side and the left eye remaining open. The anæsthesia was not complete; the branches of the left trigeminal nerve supplying the forehead and the side of the head were most involved, as in those regions there was no reaction to the prick of a pin, but below a line drawn through the eye sensation was impaired but not lost. The right leg and arm were paralyzed. The child's general nutrition was so poor that it was not easy to say whether there was much atrophy or not. There was also impaired sensation on the right side of the body, and the knee-kick on that side was exaggerated. The faradaic contractility of the muscles of the right side of the body and of the left side of the face was much less pronounced than in the opposite regions; there was not much difference in the galvanic reaction. The eyes had not been examined with the ophthalmoscope. Inunctions of mercurial ointment were used, also iodide of potassium by the mouth and cod-liver oil both by the mouth and by inunction. While the general health had improved somewhat, there had been no change in the paralysis.

The speaker remarked that there were two questions to be answered: 1. As to the nature of the lesion. 2. As to its site. As to its nature, he thought it might be syphilitic, and the improvement under anti-syphilitic treatment favored this view. Tuberculosis might well be excluded. Hemorrhage in infants usually followed an injury, and there was no such history in this case. The lesion was either multiple, involving the nuclei of the trigeminal, abducens, facial, and acoustic nerves and the anterior pyramids, or it was a single large one spreading over an area including these several nuclei in the medulla and the anterior pyramids.

Dr. M. A. STARR said it was the first case of crossed paralysis that he had seen in a patient under fourteen years of age. He thought the lesion was undoubtedly syphilitic, and that it was progressive, extending along the outer side of the pons Varolii. The fact that the child had had no paralysis of the right side of the face would exclude a lesion nearer the median line. He would therefore locate the lesion in the meninges, and he did not think it necessary to suppose that there were two or more lesions. He thought the prognosis good as regarded partial recovery; the progress of the lesion would be arrested, and there might be regeneration of the nerves, but a thickening of the meninges would remain, resulting in what was known as the epileptic state. It had been stated that the prognosis was worse in congenital brain syphilis than in that of adults. In reference to the dose of potassium in children, Dr. J. Lewis Smith had recently stated, at a meeting of the Neurological Society, that he considered three grains enough for a child a year old.

Dr. V. P. GIBNEY stated that he had given as much as fifteen grains in a day.

Dr. L. B. BANGS gave children as much iodide of potassium as they could bear, but it was quite a different matter with mercury, which required close watching.

Dr. A. A. SMITH thought that iodide of potassium given in very large doses was not all absorbed. He had once had under observation a patient who was given 1,100 grains daily, but it was found that most of it passed off by the bowels.

Cardiac Aneurysm (?).—Dr. SMITH showed a man, forty-two years old, who had been admitted into Bellevue Hospital on the 3d of January. He was moderately addicted to drink and tobacco, but had always had good health, and his family history was good. He said that about two years before, he was attacked suddenly with pain in the region of the heart. A dose of morphine overcame this pain, and it never returned. A week before his admission he noticed a pulsating lump in his chest, to the left of the sternum. He had had a chancre about twenty years before, and had also had gonorrhœa and urethral stricture. There was absolutely no symptom except the pulsation. The speaker presented the patient for diagnosis. On three occasions he had tried to aspirate the swelling, but had failed to get any fluid; Dr. Janeway also had made two attempts, with the same result.

The patient having been examined by those present, Dr. H. C. COE said that he thought the tumor was an aneurysm of the auricle.

Dr. H. M. BIGGS thought it was either an aneurysm of the left auricle or one of the ascending arch of the aorta just above the site of the valves. Aneurysms within the pericardium were unattended with pain. In two or three autopsies he had found aneurysm of the auricle in cases where there had been no symptoms of aneurysm during life.

The PRESIDENT recalled a case exactly similar, except that the tumor had been situated on the right side. He and others had pronounced the case one of aneurysm, but the man had continued to perform the duties of an active occupation, and the tumor had undergone some reduction in size under the use of iodide of potassium.

Dr. SMITH thought the aneurysm could not be within the pericardium, for such aneurysms grew toward the right, and, for want of space, ruptured early.

The Clinical versus the Microscopical Evidences of Malignant Disease.—Dr. COE read a paper with this title. [See page 679.]

Dr. KELSEY mentioned a case of tumor of the anterior wall of the rectum, which had grown rapidly during a period of two weeks that it was under his observation, and had all the appearances of malignancy. After its removal, it was found on microscopical examination to be a simple fibroid growth. He was decidedly of the opinion that there were growths that were malignant clinically, but appeared benign to the microscopist.

Enlargement of the Prostate.—The PRESIDENT showed several enlarged prostates from old men, and gave brief histories of the cases. He also showed a Phillips's catheter, an instrument with which he had been very successful in cases of retention, but which he thought was not well known in New York.

MEDICAL SOCIETY OF THE COUNTY OF KINGS.

Meeting of April 19, 1887.

The President, Dr. WILLIAM WALLACE, in the Chair;

Dr. C. E. DE LA VERGNE, Secretary.

Eczemas and their Treatments.—A paper on this subject was read by Dr. J. M. WINFIELD. [See page 683.]

Dr. S. SHERWELL said that it was not necessary for him to say a great deal, for the reader had covered a fair amount of ground; it was, however, a subject upon which much might be said. A good many books had been written about it, and many more books, or at least articles, would be devoted to it. There were several things in the paper which had pleased him very much, and which he thought would be subscribed to by those who had made this disease a particular study. A point that was particularly emphasized was that eczema was essentially a catarrhal inflammation. He did not think enough stress had been laid upon that by any one except Tilbury Fox. The mucous membrane and the skin were, if not identical, analogous in character, and what would cause a catarrhal affection in one might cause a catarrhal affection in the other. It was well maintained that the diseases were essentially the same. As to the reasons for these troubles he had been glad to hear what the reader had said, because he thought eczema largely depended on diathetic causes. We certainly believed some persons were more sensitive to irritation and its perpetuation than others. In some who were chafed by riding or other means, the irritation would go away quickly. In others, an eczema, and a persistent one, would follow. The general condition of the system had much to do with the cause and the prolongation. The treatment suggested in the paper was deserving of commendation. He thought the American school's treatment might be regarded as the best, and he considered it pardonable in us to make this statement. That the combination of constitutional and local treatment was the right and proper way to treat skin diseases was its teachings; and, if he might particularize, eczemas, he thought, bore it out. We had to treat the general indications nearly as much as the local disease. There had been a time when it was heresy almost to say that—the German school was so predominant, laying down the dogma that every skin disease was a disease of the upper and outer surface and should be treated from that standpoint. The speaker thought the German school was coming around to our view. He considered this largely due to our own success—to the success of the gentlemen who had made themselves prominent and successful in the treatment of these diseases. Another point had been well made, the protective treatment of eczemas. There were a great many applications too strong for the surface given as standards in the U. S. Pharmacopœia. He believed that the zinc ointment which Wilson had given us was too strong, as it was an irritant. The speaker said that he found the general practitioner had a liking for rather stronger applications than those who had had a little more experience or practice in this class of diseases. He said this because even the dermatological books gave tremendous applications which were often very hurtful, as, for instance, chrysophanic acid. He would advise in the employment of that acid not to trust entirely to books, but to proceed with caution until it could be found what patients would bear.

Dr. BURGE said that at no period of his life would he have thought of applying in these cases any of the powerful ointments. One ointment which he had used with a great deal of efficacy in many of these cases had been unguentum gallæ, one ounce, with ten grains of bicarbonate of sodium, never neglecting internal treatment where it seemed at all called for. He would like to know of the specialists whether such an application as that would be approved of.

Dr. WINFIELD thought that it certainly would in some cases, with the internal treatment as suggested.

The PRESIDENT asked in what class of cases it would be recommended.

Dr. WINFIELD replied that it might be recommended in the milder forms, where the chronic form had not been taken on—say two or three weeks old. Dr. Winfield asked Dr. Burge in

what cases he would use it, whether indiscriminately or in particular cases.

Dr. BURGE replied, Not indiscriminately. And yet he would not be able to make as careful and exact discrimination as the specialists could on that subject. He recollected particularly two or three of the cases that had been quite close to the chronic form, which had been very extensive, and which cleared up with what seemed to him remarkable rapidity under that treatment.

Dr. HARRIGAN asked Dr. Winfield if he had had any experience with resorcin.

Dr. WINFIELD said that he had used it, but his experience with it had been quite limited. He had used it in two cases.

Dr. McCORKLE said that Dr. Sherwell, in speaking of eczema, had referred to the mucous membrane and the skin. It was known that terebinthines acted very nicely upon the mucous membrane. What would be their action in eczema?

Dr. SHERWELL replied that the turpentine might act very well in certain conditions where the skin needed a slight stimulation, but a balsam of benzoic acid was, he thought, ordinarily better. When the tincture of benzoin was evaporated down it acted almost as a rubber sheeting. The benzoic acid might not be the curative, but it was certainly a very pleasant application, and, being painted on, it acted as a protective almost as elastic as flexible collodion, as well as stimulant. He had never used turpentine *per se* in eczemas, but in some forms of psoriasis it did a great deal of good—probably by controlling capillary action—by lessening capillary dilatation. It was rubbed on with a cork with a little olive-oil. A piece of flannel was sewn over a cork, the part washed, and the scales soaked off, and turpentine and oil in equal parts rubbed on. This was non-irritating and non-offensive, and was sometimes very effective. He supposed that it had its effect in lessening the dilated condition of the vessels. That was one of the essential pathological conditions of psoriasis, as it was, doubtless, of bronchitis.

Book Notices.

A Practical Treatise on Impotence, Sterility, and Allied Disorders of the Male Sexual Organs. By SAMUEL W. GROSS, A. M., M. D., LL. D., Professor of the Principles of Surgery and Clinical Surgery in the Jefferson Medical College of Philadelphia, etc. Third Edition, thoroughly revised. With Sixteen Illustrations. Philadelphia: Lea Brothers & Co., 1887. Pp. vii-17 to 172. [Price, \$1.50.]

THE second edition of this book was noticed by us at the time of its appearance—that is, in 1883. We must congratulate its author that another edition has been made necessary. The tone of the book is healthy, and a cheerful prognosis is given of many of the conditions of which it treats. We feel confident that the book will continue to sell on its merits, and that before long we shall have the pleasure of welcoming yet another new edition.

GENERAL LITERARY NOTES.

AMONG recent foreign publications we note the following:

BUREAUX DU "PROGRÈS MÉDICAL," Paris.—F. Balzer, "Contribution à l'étude de la broncho-pneumonie." (2fr. 50.) — R. Blanchard, "De l'anesthésie par le protoxyde d'azote par la méthode du professeur P. Bert." (3fr.)

M. COHEN & SOHN, Bonn.—C. H. Stratz, "Allg. gynäkologische u. geburtshülfliche Diagnostik." (12M.)

H. COSTENOBLE, Jena.—P. Mantegazza, "Die Hygiene der Liebe." (4M.)

F. ENKE, Stuttgart.—Billroth u. Lücke, "Deutsche Chirurgie," 48th fasciculus. (9M.) — K. Chyzer, "Die namhaften Kurorte und Heilquellen Ungarns u. seiner Uebenländer." (6M.) — F. Friedberger u. E. Fröhner, "Lehrb. d. spec. Pathologie u. Therapie d. Hausthiere," 9th fasciculus. (3M.) — S. Levy, "Anleitung zur Darstellung organischer Präparate." (4M.) — H. Löhlein, "Zur Erinnerung an Carl Schroeder." (1M.) — v. Nussbaum, "Leitfaden zur antiseptischen Wundbehandlung mit Rücksicht auf ihren gegenwärtigen Standpunkt." (6M.) — A. Vogel, "Lehrbuch der Kinderkrankheiten," neu bearbeitet von Biedert. (14M.)

T. C. F. ENSLIN, Berlin.—Schuster, "Die Syphilis." (3M.)

C. GEROLD'S SOHN, Vienna.—H. Favarger, "Vortrag über chronische Tabakvergiftung." (1M.)

LIPSINS & FISCHER, Kiel.—T. Bruhn, "Beitrag zur Statistik d. Exstirpation tuberkulöser Lymphdrüsentumoren." (1M.)

F. SCHNEE, Hettstädt.—Rupperecht, "Der Trichinensucher," etc. (1M. 80.)

VANDENHOECK & RUPPRECHT, Göttingen.—G. Schaumlöffel, "Beiträge zur Lehre vom Ulcus ventriculi corrosivum." (1M.)

BOOKS AND PAMPHLETS RECEIVED.

Transactions of the American Gynecological Society. Volume XI. For the Year 1886. New York: D. Appleton & Co., 1887. Pp. 8-13 to 516.

A Practical Treatise on Diseases of the Eye. By Dr. Édouard Meyer, Professeur l'école pratique de la Faculté de Médecine de Paris, etc. Translated, with the assistance of the Author, from the Third French Edition, with additions, as contained in the Fourth German Edition, by Freeland Fergus, M. B., Ophthalmic Surgeon, Glasgow Royal Infirmary; Assistant Surgeon, Glasgow Eye Infirmary. With Two Hundred and Sixty-seven Illustrations and Three Colored Plates. Philadelphia: P. Blakiston, Son, & Co., 1887. Pp. xi-17 to 647. [Price, \$4.50.]

Lehrbuch der allgemeinen und speciellen pathologischen Anatomie für Aerzte und Studierende. Von Dr. Ernst Ziegler, Professor der pathologischen Anatomie und der allgemeinen Pathologie an der Universität Tübingen. Zwei Bände. Fünfte neu bearbeitete Auflage. Mit 703 theils schwarzen, theils bunten Abbildungen und einer Tafel in Chromo-lithographie. Erster Band. Allgemeine pathologische Anatomie und Pathogenese. Pp. xii-3 to 499. Zweiter Band. Specielle pathologische Anatomie. Mit 396 Holzschnitten und theilweise farbigen Abbildungen. Pp. x-3 to 1020. Jena: Gustav Fischer, 1887.

De la jugulation de la fièvre typhoïde au moyen de la quinine et des bains tièdes. Par le Docteur G. Péchulier, Professeur agrégé à la Faculté de Médecine du Montpellier. Montpellier: Camille Goulet. Paris: A. Delahaye & E. Leclercq, 1887. Pp. 39.

A Practical Treatise on Renal Diseases and Urinary Analysis. By William Henry Porter, M. D., Professor of Clinical Medicine and Pathology in the New York Post-graduate Medical School and Hospital, etc. Containing One Hundred Illustrations. New York: William Wood & Co., 1887. Pp. xiii to 349.

Cyclopædia of Obstetrics and Gynecology. Obstetric Operations. The Pathology of the Puerperium, being Volume IV of a Practical Treatise on Obstetrics. By Dr. A. Charpentier, Adjunct Professor at the Faculty of Medicine, Paris. Translated under the Supervision of, and with Notes and Additions by, Egbert H. Grandin, M. D., Obstetric Surgeon to the New York Maternity Hospital, etc. In Four Volumes. One Hundred and Ninety-one Wood Engravings and One Colored Plate. New York: William Wood & Co., 1887. Pp. 404.

A Manual of Treatment by Massage and Methodical Muscular Exercise. By Joseph Schreiber, M. D., Member of k. k. Gesellschaft der Aerzte of Vienna, etc. Translated, with the Author's Permission, by Walter Mendelson, M. D., of New York. Philadelphia: Lea Brothers & Co., 1887. Pp. viii-17 to 285. [Price, \$2.75.]

Anæmia. By Frederiek P. Henry, M. D., Professor of Clinical Medicine in the Philadelphia Polyclinic, etc. [Reprinted from the "Polyclinic."] Philadelphia: P. Blakiston, Son, & Co., 1887. Pp. 136. [Price, 75 cents.]

Practical Lessons in Nursing. Outlines for the Management of Diet, or, the Regulation of Food to the Requirements of Health and

the Treatment of Disease. By Edward Tunis Bruen, M. D., Assistant Professor of Physical Diagnosis, University of Pennsylvania, etc. Philadelphia: J. B. Lippincott Company, 1887. Pp. 8-9 to 138. [Price, \$1.]

Reports on the Progress of Medicine.

MATERIA MEDICA AND THERAPEUTICS.

Acetanilide.—Since the medicinal properties of this compound (the so-called antifebrine) were made public by Cohn and Hepp a short time ago, evidence has been accumulating of its therapeutic value. Its physiological action has been closely studied. Dr. Neill ("Bull. gén. de thérap.," Feb. 28, 1887), in a well-prepared and exhaustive paper, gives a critical review of the subject and adds several new observations. It is very essential that the drug be pure, and every specimen should be rejected as impure when it is odoriferous, when it does not present a whitish color, when it does not become transformed into a colorless liquid by a heated platinum wire, if it is not entirely volatile, or when it gives with hydrobromide of sodium an orange-red precipitate. The dose varies from 25 to 50 centigrammes (grs. $3\frac{3}{4}$ – $7\frac{1}{2}$), according to the effect that is desired and the nature of the illness. In small doses—*i. e.*, 2 to 4 centigrammes to every kilogramme of the weight of the animal—the drug has no apparent effect in animals or in the human being in a state of health. In larger doses it is toxic and may prove fatal. The drugged animal, in a few minutes after the administration, suffers from a general languor, stupor, hesitancy in its movements, and progressive and rapid decrease of temperature. In a short time the animal lies on its side, the respirations become irregular, and the body grows colder and colder. There is anæsthesia of the posterior part of the body; the sensibility of those parts gradually disappears even when the anterior part reacts normally to a stimulus. Then follows collapse, which grows more and more pronounced, and death comes on slowly in from twenty-four to thirty-six hours after the ingestion of the drug. After toxic doses the respirations become slower, and asphyxia may supervene. The action of the heart in a short time is increased in frequency and force, in which state it continues for quite a time, after which it grows weaker and becomes irregular. From small doses, in a state of health, no effects on the temperature are noticed. With large doses there is a rapid reduction of from 8° to 10° F. That the drug has an action on the nervous system is evident from experimental and clinical research. In non-toxic doses it has no effect upon the cerebral system, for the animal remains intelligent and notices its surroundings. It influences the excito-motor function of the bulb and medulla, diminishing its activity. It produces its effect upon the peripheral system through a vaso-motor influence. It would therefore expend its power chiefly on the vaso-motor and thermic centers. The author sums up as follows: Acetanilide exercises a marked influence on the nervous system, evidenced by collapse following a short period of excitement, by general anæsthesia and analgesia, by its modification of the functions of the heart and circulation, by lowering the central and peripheral temperature. In toxic doses it changes the normal elements of the blood, especially the oxyhæmoglobin, which rapidly becomes changed into methæmoglobin. This results in a considerable impairment of the respiratory function, which may lead to death. In its mechanical action the drug would appear to influence the cells of the bulb and medulla directly. Acetanilide is a powerful antithermic and a valuable nervine. As an antithermic it is of great utility in nearly all cases where the indication is to lower elevated temperature. As a nervine it is useful in morbid superexcitability, and it may be used also in epilepsy. It loses its effect when given for a long time uninterruptedly. The quantity of urine is often diminished, sometimes remains stationary, but is never increased.

Dr. H. Riese ("Dtsch. Med.-Ztg.," 1887, No. 11) has used this new antipyretic in 30 cases attended with fever. These comprised 10 cases of acute rheumatism, 5 of typhoid, 2 of pleuritic effusion, 4 of croupous pneumonia, and 9 of pulmonary phthisis. At first not more than 2

grammes (gr. xxx) were given daily, and, as the remedy was well borne, the dosage was increased to 3 and 4 grammes, and in one case to 6 grammes a day, without the slightest evidence of intoxication. In acute rheumatism, even in doses of 15 grains four times a day, the fever remained subfebrile; only exceptionally was the temperature reduced to the normal. The antipyretic effect of the drug was most readily obtained in typhoid, though even in this affection it was seldom that the temperature was maintained at the normal for any length of time. In croupous pneumonia the drug was given at the acme of the evening remission in hourly doses. The temperature fell 1° within an hour, continued falling for the next four or five hours, and began to ascend again in about six hours. In the cases of pleuritic effusion, no reduction of temperature was observed in one, and in the other there was a slight reduction only. The most marked effect was noticed in phthisis, in which a few doses of 0.25 gramme (gr. $3\frac{3}{4}$) produced apyrexia of twelve hours' duration, while doses of 15 grains were no more effective. Still, the large doses had a greater influence upon the ascending curves of the temperature. In general, a few doses of $7\frac{1}{2}$ grains reduced the temperature to the normal in from two to three hours, where it remained for four to ten hours. The pulse frequency corresponded, in the main, with the lowering of the temperature. Only in two cases of pneumonia and in one of relapsed typhoid did the pulse, a few days before death, become fluttering and irregular, and the patients collapsed rapidly. A complete collapse occurred in a phthisical patient after a single dose of 0.75 gramme (gr. 11); the pulse entirely disappeared, and respiration also ceased. The respiratory movements were constantly diminished, the respirations became deeper, and frequently slight cyanosis of the face and extremities, especially in consumptives, obtained. Giddiness or headache was not complained of, and continued nausea or vomiting was never experienced. There was no diarrhœa. Often the author observed an improvement of the appetite in consumptives. Irritation of the kidneys was not observed; increase of the quantity of urine occurred in only one instance. The reduction of temperature was constantly attended with profuse perspiration. In three cases the re-ascend of the fever was accompanied by chills. A specific influence on the course of the disease was witnessed only in ten cases of acute rheumatism; the pains immediately grew easier, and entirely disappeared in the course of five days. After large doses the swelling of the joints and pain vanished within three days. A slight degree of fever, as a rule, continued for the first few days. The author concludes by saying that in antifebrine we have gained a valuable remedy in acute rheumatism.

Dr. H. Eisenhart (*ibid.*) gave acetanilide in thirty cases in von Ziemssen's clinic with very gratifying results. He draws the following conclusions: 1. Acetanilide is a valuable antipyretic, which in doses of 0.25 to 0.5 gramme (grs. $3\frac{3}{4}$ to $7\frac{1}{2}$) produces a considerable reduction of the temperature; 0.25 gramme of acetanilide is equal to 1 grain of antipyrine as an antipyretic. 2. The remedy is equally efficacious *per rectum* as by the mouth. 3. It is constantly well borne. Nausea and vomiting do not occur. On the other hand, profuse sweating occurred in half of the cases, and only in one case a slight chill was experienced. 4. The action of the drug manifests itself usually in two hours after its administration, reaching its maximum in four hours. The duration of the antipyresis averaged six hours. 5. The cases of typhoid treated with acetanilide ran, for the most part, a mild course compared with cases not so treated. 6. Acetanilide does not appear to be as valuable as salicylate of sodium in acute rheumatism.

Dr. Stachiewicz (*ibid.*) employed the remedy in twelve cases of consumption in Brehmer's Hospital. In three cases in which the disease was advanced, with continued high fever, the remedy did not seem to be of any benefit. The temperature began to fall within an hour after the drug was given, and there was profuse sweating, and in one case collapse occurred. In three to four hours the temperature went up as high as ever. In five other cases in which the patient still had considerable strength, and in which the temperature was 39° C., small doses of the drug several times a day reduced the temperature to 37° C., without any marked perspiration.

Cannabine, the Active Principle of Cannabis Indica.—Pharmacologists are far from being agreed as to the active agent of *Cannabis indica*. Some hold that it resides in the essential oil, others again that

it is to be found in the resin. With a view of determining this point, Dr. F. Roux ("Bull. gén. de thérap.," Dec. 15, 1886) undertook a number of experiments, which are fully described in his paper. As a result of his experiments he makes the following conclusions: 1. The active principle of *Cannabis indica* resides in the resin, as was believed by Gastinel and Robertson, and not in the essential oil, as was held by Personne and Robiquet. 2. An oleic extract possesses excitant and convulsive properties. In doses of 1 gramme (gr. 15) it produces true coma, and is a toxic, the animal succumbing in eleven to twelve hours. 3. An alcoholic extract appears to have, in certain individuals, a narcotic effect, but the sleep produced is rarely profound. Its action is very uncertain in small doses, in which doses it must be given to avoid subsequent unpleasant disturbances of digestion. 4. An ethereal extract produces only insignificant results. 5. The other preparations—such as the tannate of cannabine, etc.—are absolutely inactive. 6. All the active extracts cause in a short time anorexia, and lead to emaciation and marked apathy. It is not necessary to continue the use of the drug for a long time to obtain this result; a few doses suffice. 7. In consequence of the variable effects, owing to the method of preparing cannabine—effects which can not be foreseen—and in consequence of the accidents which the drug is likely to cause, which may even terminate in death in susceptible persons, the author thinks that cannabine should not enter into the therapeutic armamentarium.

Oxalic Acid in Asthma.—Dr. V. Paulet (*ibid.*) explains at some length why oxalic acid, though a dangerous poison, should be employed for medicinal purposes. He lays stress upon the difference of action when the drug is given in a concentrated and when it is given in a diluted form. The considerations which are necessary to be borne in mind when administering the drug are as follows: 1. The dose should be in proportion to the weight of the body. 2. Time of administration. 3. The state of health or of the disease of the subject. 4. The idiosyncrasy of the person. The paper concludes with the report of two cases of asthma in which oxalic acid proved very beneficial.

Miscellany.

The Criminality of Abortionists.—"The practice of criminal abortion," says the "Lancet," "is a kind of villany the enormity of which we have no wish to minimize. To take away the life of an undeveloped infant, unless it be to save the more important life of the mother, is in itself an inexcusable piece of wickedness. To risk the mother's safety in doing so, clearly aggravates the crime, and there are circumstances in which such an offense may be even regarded as murder. It is rather, however, in most cases, one of those misdeeds which lie just on the borderland between homicide and murder, and its exact significance must often be difficult to define. In a case recently tried at Warwick Assizes two persons were sentenced to death, though with a recommendation to mercy, for having caused the death of a young woman by procuring an abortion. Here the evidence available seems to have amounted to proof of murder; yet it is, we confess, somewhat difficult for us to reconcile our ideas to such a supposition. Murder implies either a design to kill or the employment against the person of means capable of killing, with a reckless disregard of their worst possible effects. It is, we should say, virtually impossible that two persons desirous of hushing up a scandal by causing abortion should directly contrive the death of a third, the subject of this operation. When we come to the question of reckless procedure, the mere fact of the operation undoubtedly goes far to prove a criminal disregard of consequences, and is in itself highly illegal. Nevertheless, we have still considerable difficulty in accepting the view that this in itself is enough to prove a graver crime than culpable homicide. It is at least doubtful whether some concession should not in such cases be allowed to the criminal on the ground that, while doing wrong, he has blundered through unskillfulness beyond his intention, or even his apprehensions. He goes about his malpractices, it is true, with his eyes open both to its dangers and its illegality, yet he must in his own interest endeavor to prevent the worst

consequences. These are, as a rule, not impossible of prevention, whatever the uncertainty and difficulty of arriving at such a result. If it were otherwise, induction of abortion in any case would be impossible. Consequently, the abortionist, bad though he is, must in many cases be excused from such utter recklessness as would render him distinctly guilty of murder. We should remember, too, that the subject of his unscrupulous attempt is usually a consenting party, not a mere victim. These considerations have, doubtless, weighed with the jury in recommending the prisoners above mentioned to mercy; and, though we do not know of any injustice in the sentence, we are disposed to think that they may very fairly be urged as a plea for its commutation."

Government Health Reports.—By direction of the Secretary of the Treasury, Dr. John B. Hamilton, Surgeon-General of the Marine-Hospital Service, has issued the following abstract of sanitary reports received during the week ending June 9th:

England and Wales.—The deaths registered in twenty-eight great towns of England and Wales during the week ending May 21st corresponded to an annual rate of 20.3 in a thousand of the aggregate population, which is estimated at 9,245,099. The lowest rate was recorded in Wolverhampton, viz., 12.3, and the highest in Manchester, viz., 31.1 in a thousand.

London.—One thousand five hundred and thirty-six deaths were registered during the week ending May 21st, including 98 from measles, 11 from scarlet fever, 12 from diphtheria, 66 from whooping-cough, 4 from enteric fever, and 12 from diarrhoea and dysentery. There were 289 deaths from diseases of the respiratory organs. Different forms of violence caused 61 deaths, and 10 suicides were registered. The deaths from all causes corresponded to an annual rate of 19 in a thousand. In greater London, 1,848 deaths were registered, corresponding to an annual rate of 17.8 in a thousand of the population. In the "outer ring" 17 deaths from measles, 12 from whooping-cough, and 8 from diphtheria were registered.

Ireland.—The average annual death rate represented by the deaths registered during the week ending May 21st, in the sixteen principal town districts of Ireland, was 22.6 in a thousand of the population. The lowest rate was recorded in Lurgan, viz., 10.3, and the highest in Drogheda, viz., 50.7 in a thousand.

Dublin.—One hundred and seventy-two deaths were registered during the week ending May 21st, including 8 from measles, 5 from scarlet fever, 3 from typhus, 6 from whooping-cough, 1 from enteric fever, and 1 from cerebro-spinal fever. Diseases of the respiratory organs caused 38 deaths. In seventeen instances the causes of death were uncertified, and 4 accidental deaths and 1 homicide were registered. The deaths from all causes corresponded to an annual rate of 25.4 in a thousand.

Scotland.—The death rate in eight principal towns during the week ending May 21st was 21.3 in a thousand of the population, which is estimated at 1,299,000. The lowest mortality was recorded in Edinburgh, viz., 15.7, and the highest in Glasgow, viz., 24.5 in a thousand. The aggregate number of deaths registered from all causes was 532, including 10 from measles, 6 from scarlet fever, 3 from diphtheria, 42 from whooping-cough, and 3 from diarrhoea. The death rate during the week ending May 14th was 21.5 in a thousand. The lowest mortality was recorded in Leith, viz., 10.8 in a thousand, and the highest in Edinburgh, viz., 23.7 in a thousand. Five hundred and thirty-six deaths were registered from all causes, including 15 from measles, 12 from scarlet fever, 7 from diphtheria, 36 from whooping-cough, and 3 from diarrhoea.

Germany.—The deaths registered in fifty cities of Germany, having an aggregate population of 6,711,342, during the week ending May 7th, corresponded to an annual rate of 23.5. The lowest rate was recorded in Halle, viz., 12.8, and the highest in Munster, viz., 38.

Santiago, Cape Verde.—The United States consul, under date of April 26, 1887, reports that "there were 6 cases of small pox at St. Vincent between the 17th and 24th instant. Two of the cases have resulted in death. All vessels leaving St. Vincent for other ports in the province on arriving are put in quarantine for fourteen days and upward."

Bordeaux.—Four hundred and ninety-eight deaths were registered

during the month of April, 1887, including 1 from small-pox, 11 from enteric fever, and 1 from scarlet fever.

Havana.—Twenty-five deaths from yellow fever and 8 from small-pox were registered during the week ending May 26th. During the week ending June 2d, 25 deaths from yellow fever and 7 from small-pox were registered.

MORTALITY TABLE, FOREIGN CITIES.

CITIES.	Week ending.	Estimated population.	Total deaths from all causes.	DEATHS FROM—							
				Cholera.	Yellow fever.	Small-pox.	Typhus fever.	Enteric fever.	Scarlet fever.	Diphtheria.	
Calcutta	April 16.	433,219	246	67							
Paris	May 14.	2,200,045	1,062			14		14	6	30	
Warsaw	May 7.	439,174	177			11					
Trieste	May 7.	150,157	78			2			1	1	
Havre	May 14.	112,074	63			1					
Genoa	May 14.	179,387	97			2					
Rome	March 26.	364,511	151			5		1	1	2	
Gibraltar	May 8.	23,631	15			2					
Bordeaux	May 14.	240,582	95					1			
Munich	May 7.	320,000	183					2	1	2	
Bremen	May 7.	119,000	52							1	
Amsterdam	May 14.	378,686	13					1			
Leipsic	May 14.	170,000	61						1	3	
Mayence	May 7.	65,701	27							1	
Reims	May 14.	93,083	45							2	
Palermo	May 14.	250,000	108					1	11	5	
Pernambuco	April 26.	111,000	78				1				
Bristol	May 14.	223,695	77					1			
Glasgow	May 14.	545,678	238						6	4	
Belfast	May 14.	221,422	93							1	
Toronto	May 28.	120,000	17							2	

UNITED STATES.

Key West.—The medical officer in charge of the Marine-Hospital Service at Key West (Passed Assistant Surgeon A. H. Glennan), under date of June 4th, reports a total of 15 cases of yellow fever, including a few cases of "suspects," and 4 deaths. "Two cases have been reported from newspaper offices, 1 at the jail last night, and 1 at the hotel this morning. So far all patients have been promptly isolated by removal to the Barracks Hospital since its organization, and the board of health have done everything in their power to prevent the spread of the disease." The president of the Key West Board of Health, Dr. J. Y. Porter, reported by telegraph, under date of June 5th, that "fever has ceased to be sporadic, and absolute segregation of patients in hospital impossible, as friends conceal cases, and violently oppose removing sick; therefore, for these reasons, the board will declare the disease to be fast assuming an epidemic character. Total cases to date, 17; deaths, 5."

The Secretary of the Treasury has authorized the employment of nurses and guards to assist the board of health at the Barracks Hospital, and in guarding infected premises at Key West.*

Tampa, Fla.—Extra help has been employed at Tampa in the disinfection of mails. The requirements, as reported by the president of the board of health, Dr. J. P. Wall, are fifteen days' detention in quarantine and disinfection of baggage. He also reports that all the coast counties south of Tampa have instituted quarantine, and that mails are fumigated aboard ship.

Apalachicola, Fla.—Quarantine was opened on the 15th of May, 1887. The rules and regulations require that "all boats and vessels arriving at the port of Apalachicola on and after May 15, 1887, either foreign or domestic, upon which any contagious, infectious, or pestilential disease has occurred or existed during the voyage to said city, or within thirty days next preceding the arrival of said boat or vessel, are forbidden to approach said city nearer than as specified in the rules and regulations. . . . All vessels arriving from an infected or suspicious port will be held in quarantine not less than thirty days from date of departure from said port, and shall be cleansed or fumigated, as the physician or inspector may direct."

The rules and regulations also contain an extract from the laws of Florida, providing for the appointment of boards of health in and for the several counties in the State of Florida, as follows: "Every board of health thus created shall have full power to act in regard to all matters pertaining to quarantine, public health, vital statistics, and the

* Twenty-two cases and 8 deaths from yellow fever have been reported up to June 10th.

abatement of nuisances, to appoint and compensate a suitable port inspector, and such other officers as they may find necessary. . . . Any person who shall interfere with, or hinder, or oppose any such agent, or officer, or member of the board in his or their discharge of duty as such, shall be fined not exceeding one thousand dollars."

Every board of health may at any time establish such quarantine as in their judgment is expedient for the public welfare, and provide such rules and regulations for the same as may be needful for the proper enforcement of such quarantine against any port or place.

THERAPEUTICAL NOTES.

Acetophenetidine as an Antipyretic.—Hinsberg and Kust ("Ctrbl. f. d. med. Wissensch.," "Gaz. hebdom. de méd. et de chir.") state that this substance resembles acetanilide in its chemical composition, and crystallizes in needles sparingly soluble in water but soluble in acetic acid and in alcohol. Administered to animals, it causes acceleration of the respiratory movements, somnolence, and a paretic state of the voluntary muscles; in the dog, moreover, it produces vomiting, cyanosis, and a blood change consisting in the formation of methemoglobin. In physiological doses, however, its toxicity seems feeble. It was given to patients suffering with the fever of tuberculosis, in doses of from three to eight grains, with the result of lowering the temperature 2° C. (= 3.6° F.) in the course of four hours. The authors observed neither collapse nor cyanosis. Little is known of the mode of action of the drug.

Ignipuncture in the Treatment of Tuberculous Glands.—At the recent meeting of the German *Gesellschaft für Chirurgie* ("Dtsch. Med.-Ztg."), Dr. Genzmer, of Halle, reported excellent results from the use of Paquelin's cautery for the multiple puncture of tuberculous glands in cases unsuitable for extirpation. On small glands he used a needle-shaped cautery, and on large ones a cautery shaped like a knife. Similar results were obtained in dealing with tumors of various kinds, including goitre and tuberculous testicle. [It was a favorite practice with the late Dr. Gurdon Buck, of New York, to destroy lymphatic glands of the groin, when they had been exposed by the suppuration and loss of integument due to venereal infection, by boring into them in a number of places with a stick of nitrate of silver.]

A Modification of Kraske's Method of Treating Erysipelas.—Classen ("Ctrbl. f. Chir.," "Ctrbl. f. d. ges. Therap."), instead of scarifying the whole erysipelatous patch, like Kraske, cuts only at the border. The patient being anesthetized, incisions from 6 to 8 ctm. (2 to 3 inches) long, superficial but deep enough to draw blood, are made in such a direction that one half of each involves the diseased and the other half the healthy skin, and at a distance of about $\frac{1}{4}$ ctm. ($\frac{1}{8}$ inch) apart. Each of them is then crossed by another at an acute angle, the point of intersection coming about at the junction of the erysipelatous with the healthy skin. Cloths wet with a 1-to-1,000 solution of corrosive sublimate are applied to the scarified part, and are changed three times a day. In the cases briefly mentioned, when the treatment was employed energetically in the morning, the fever was found to have disappeared by evening. No permanent scars are left, but, in view of the possibility of their occurrence, the method is not recommended for use on the face.

Oleum Cinereum.—Dr. E. Lang ("Wien. med. Wochenschr.," "Am. Jour. of Pharm.") uses this preparation as a topical application in certain syphilitic affections, also as an injection into enlarged glands, using 0.01 or 0.02 cc. once a week or once a fortnight. It is made by triturating mercury, oil, and lard together in a cool place until the mercury is uniformly suspended. The finished product contains 20 per cent. of mercury. When it is used as an injection, it is melted by the warmth of the hand. The proportion of oil to lard, also the kind of oil, are not stated.

Asafœtida in the Treatment of Habitual Abortion.—Negri ("Spemimentale," "Ctrbl. f. Gynäköl."), having had his attention directed to the matter by Laferta's, Cazzoni's, and Giordano's publications, tried asafœtida in two cases of habitual abortion not attributable to syphilis or any other ascertainable cause; and successfully in both instances. Eighteen grains of the drug were given daily for a long period, and that amount was well borne.

Original Communications.

ON THE CLASSIFICATION OF MENTAL DISEASES.*

By RALPH L. PARSONS, M. D.,
GREENMONT, N. Y. (NEAR SING SING).

WITHIN the past few years strenuous efforts have been made to secure a uniform classification of the forms of mental diseases, for the purpose of facilitating a comparison of the statistics of these maladies throughout the civilized world. The subject has been discussed at several national and international meetings and conventions, but thus far without any decided result. An inspection of ten of the various methods suggested shows a substantial agreement in only three, although by a sort of mutual consent only the most important and fundamental varieties of insanity were included.

Systematic writers on the subject of mental diseases differ still more widely in the methods of classification they have adopted; especially the later writers, many of whom have endeavored to include specific as well as general forms in such a way as to make their classifications definitive as well as exhaustive.

That a uniform system would be of great advantage is obvious enough. A comparison of the statistics of insanity in different parts of the same country and in different countries would then become possible; the scientific study of mental diseases would be promoted, and the jurisprudence of insanity would become more intelligible and precise.

It may be premised that the difficulties experienced in making a classification which shall be acceptable to all alienists and juriconsults lie in part in the fact that the knowledge of the subject in question is limited and imperfect, and in part in the nature of the case; inasmuch as there are no natural divisions and distinctions between the different forms of mental alienation in accordance with which they can be divided or classified into orders and species in any such sense as that in which animals and plants can be thus classified. In the case of the latter there are well-marked differences of structure by means of which genera and even varieties may always be easily and surely recognized. The forms or characteristics by means of which they are distinguished have been inherited from their progenitors, and hence have that sort of uniformity or likeness which pertains to inherited characteristics. These forms and characteristics are persistent; they are neither abruptly changed for others nor are they suddenly lost. On the contrary, mental diseases sometimes have well-marked and distinctive characteristics and sometimes they have not, in the latter case having resemblances to two or more typical forms at the same time. Although the *tendency* to mental disease may be inherited, the disease itself is not. Hence mental disease may be unlike that of the progenitor from whom the tendency was inherited. Mental disease may be at one time of one type and then of another in the same individual. For instance, a patient may be at one time melancholic and

at another maniacal during the same attack of insanity. It is true that a case classified as one of syphilitic or of toxic insanity may always remain the same in so far as relates to the cause, but the type of the insanity itself will still be subject to change.

Since so many unsatisfactory attempts have already been made to formulate a system of classification which shall be universally acceptable, the inquiry may pertinently be made why still another attempt should follow so many failures, especially when the acknowledged difficulties of the problem to be solved are taken into consideration.

The answer is twofold. In the first place, the attempts heretofore made have not been failures. The subject is many-sided, and hence may advantageously be studied from different points of view. The studies which have been made and the methods which have been proposed, from the simplest to the most complex, have, almost without exception, added to our knowledge; and our knowledge of the subject is constantly widening, so that classifications are now feasible and advantageous which could not have been made a few decades ago. Of the later classifications, those by Krafft-Ebing, Hammond, Spitzka, and Kellogg may be mentioned as especially meritorious. In the second place, with continued attempts, a nearer approach to success may fairly be expected. Hence a new study, even if the conclusions reached should be in the main in accordance with some previous study, can hardly be without advantage, and may, peradventure, open the way to a more satisfactory solution of the problem than has yet been attained.

It is well at the outset to get a definite idea of what is to be expected and of what advantage is to be gained from any system of classification. Then it will become easier to choose between the different methods which may be presented. While the orderly arrangement of the facts within our knowledge can not be expected to add directly to the number of these facts, it does add to their usefulness, inasmuch as they can then be readily found when wanted. Such an orderly arrangement also serves to stimulate the ascertaining of new facts, and to a comparison and study of all the facts within our knowledge on any particular subject, and thus to an increase of knowledge. That system of classification, then, would seem to be best in which the greatest number of fundamental facts can be included, at least if this can be done without confusion and without crowding out other more important facts. Then, again, the basis upon which the classification is founded should be broad enough to include all the facts to be arranged, for otherwise the system would either be incomplete or else two or more bases would be required; and in the latter case there would be lack of unity in the system and more or less confusion of thought in its study.

In considering the facts to be recorded in a classification of diseases of the mind, the symptoms through or by which these diseases are manifested will occur at once as especially important and worthy of attention, inasmuch as in the absence of these symptoms insanity can not be said to exist at all, either in the medical or in the medico-legal sense. And since the symptoms exist in all forms of insan-

* Read before the Medical Society of the County of New York, May 23, 1887.

ity, they at least constitute a comprehensive basis for classification. In fact, all the earlier systems and the greater part of the later ones have been substantially founded upon symptoms as a basis. But there are objections to symptomatology as a basis for a system of classification. For instance, the symptoms often change during the progress of what is evidently the same attack of insanity. A case may commence with acute maniacal excitement, progress to a state of quiet mania with degenerative tendencies, and end in dementia; or a person with senile insanity may be at the same time melancholic and demented. Then, again, it may be urged that the symptoms do not sharply lead the attention to the physical causes which underlie and really constitute the disease. Still it must be admitted that the symptoms as manifested have much to do with the practical management and with the moral treatment of the patient.

The diseased condition of the brain which is the immediate cause of the symptoms—as anaemia, hyperaemia, inflammation, degeneration of nerve-substance, tumors, etc.—would form an excellent practical basis for classification if it were sufficiently well known in all cases. But, unfortunately, there are many cases of insanity in which the pathological condition of the brain can not be diagnosed. Even a careful post-mortem examination of the brains of persons who have died insane often fails in eliciting the immediate physical cause of the insanity. And this is not surprising when we consider that very sudden recoveries sometimes occur in the case of persons who have been a long time insane, showing that in some cases, at least, the pathological condition of the brain must have been very slight and fugitive in character. So, although the condition of the brain is a very important consideration and should constitute an element in any system of classification, it can not serve as a satisfactory basis.

The physical diseases which constitute a more remote cause of mental aberration are almost if not quite of equal importance with the above-mentioned class of cerebral diseases, as phthisis pulmonalis, syphilis, malaria, rheumatism, the puerperal state, lactation, the post-febrile state, diabetes, gout, etc. Dr. Skae, following Morel, formulated a system of classification based on the immediate and more remote physical causes of insanity. He maintained that each of these varieties, as anæmic or puerperal insanity, had important characteristics which distinguished it from all other forms of the disease, and the recognition of which was of especial service in its treatment. Dr. Skae thought he could even diagnose the physical cause of most cases of insanity from a study of the mental symptoms alone. This is open to serious doubt. At all events, it would seem that he was unable to transmit this ability to his successors, since his mode of classification is only given as an alternative in the reports of the asylum of which he was in charge. But, as was remarked in connection with the cerebral pathology of insanity, all somatic causes which can be ascertained should be included as factors in a classification of the disease, although they can not serve as a satisfactory basis. Dr. Skae himself was obliged to adopt a symptomatic basis as supplementary to the somato-ætiological basis of which he was so strenuous an advocate. Hence his system was really founded upon a twofold basis.

A psychological basis for classification has been adopted by several authors of eminence. Hammond's earlier classification was on this basis, as also is his later method, for the most part. Since insanity is disease of the mind, it might naturally be taken for granted that the different faculties—as the intellect, the emotions, and the will—would form a sufficiently inclusive and comprehensive basis on which to build up a systematic enumeration of all the possible varieties of the disease. This is really so, but there are some practical difficulties to be encountered. In some cases all the mental faculties appear to be involved in a well-marked degree, while in others only a limited number of the mental operations are very evidently deranged. It would be difficult to arrange all these different varieties on a psychological basis without making the system too complicated for practical use. If an attempt were made also to include important physical causes or concomitants, the complication would be still further increased.

Although such characteristics as homicidal or suicidal tendencies can have only an incidental relation in any system of classification, they are yet of sufficient importance to demand a subordinate place.

It would appear, then, that, for the present at least, the basis for the classification of mental diseases first and most extensively used is the best. It now remains to be seen whether a system of classification on a symptomatological basis can be so arranged as to be an improvement on the systems heretofore in use. Even if this should not be accomplished at the present time, it may fairly be anticipated that a new discussion of the subject may open the way to a more successful attempt hereafter.

On the broad basis of symptoms, then, an attempt will be made to accomplish the following objects: First, to construct a method so elastic and so comprehensive, on the one hand, that any variety of insanity which may be differentiated can be included and readily arranged in its natural relation to other varieties, while, on the other, all the varieties and sub-varieties can readily be reduced to a few fundamental symptomatological types; in the second place, to make it capable of including all other systems and modes, so that they can be harmonized for purposes of comparison; in the third place, to include as many important related facts as possible; and, in the fourth place, to arrange the system in a tabular form, so that the different types and varieties of the disease may be readily enumerated for comparison or for statistical purposes.

Since the symptomatological plan will be strictly adhered to as a basis, such designations as epilepsy, general paresis, and hebephrenia will not be included.

Reference may now be made to the accompanying tabular arrangement and classification of the various types and varieties of mental disease.

The term monomania and its analogue paranoia are replaced by the term oligomania, for reasons which were fully set forth in a paper entitled "Nomenclature in Psychiatry," recently read before the Neurological Society.

The varieties of oligomania are placed in the first column, as a matter of convenience, since they do not often

A PROPOSED FORM FOR THE CLASSIFICATION AND TABULATION OF THE TYPES AND VARIETIES OF INSANITY.

[illegible]

change to other forms, as is the case with the varieties of mania and melancholia.

The meanings of the terms mania and dementia are so well understood as not to require a definition in this connection. The term oligomania, however, may need an explanation or definition. By oligomania is meant "*a form of insanity which, although potentially affecting all the mental faculties and operations, apparently involves only a part as the emotions, the intellect, or the will, or certain manifestations only of a faculty of the mind; the depression sometimes attending which originates in the intellectual faculties rather than in the feelings, and the manifestations of which are well defined, persistent, dominant, and systematic in character.*"

This type of insanity is not enumerated either by name or under any of its synonyms in some systems of the classification of mental diseases, nor in the statistical tables of the reports of many asylums for the insane. The reason of this omission is believed to be the want of a suitable term to designate the idea expressed in the above definition. Any physician who has had much experience with the insane must certainly have met with patients who could not be classed with either maniacs, melancholics, or demented, but who were undoubtedly insane, and who were really oligomania in the sense above explained.

Although the emotions are generally expansive in cases of oligomania, mental depression exists in some cases to a degree as well marked as in some cases of melancholia. But in oligomania the depression depends upon and is caused by the intellectual aberration, as by delusions of a depressing nature, while in melancholia the depression arises immediately from and depends upon the disordered state of the feelings.

It is proper to mention in this connection that nearly all the varieties of insanity which have been differentiated have been included in the tabular arrangement, and space has been indicated for the names of such other varieties as may hereafter be differentiated. This is done to illustrate the elasticity and adaptability of the system. But names of varieties not included in any statistical report should be omitted from that report.

Amentia, with its subdivisions of idiocy, imbecility, and cretinism, has been omitted from the table. If included, amentia should precede oligomania in the arrangement.

The forms of insanity classified have been arranged in a tabular form in order to show how the system can be practically utilized in making out reports of institutions for the insane, or in general statistical reports on the subject, the tabular statement not only showing the number of cases of each of the great types of insanity, but also the number of cases of each variety. If found desirable, a separate enumeration of the subdivisions can be readily made, thus showing the number of cases of idiopathic insanity, of those having gross brain lesions, etc.

It may be objected that under this system many individual cases require to be classified under different types—at one time as maniacal and at another as melancholic, or as demented during the same attack of insanity. This is true of all classifications on either a symptomatological or a

psychological basis; but this disadvantage may be considered as more than compensated for by the greater definiteness gained, especially when individual cases are in question. Even this disadvantage pertains only to idiopathic forms, for in all the others the qualifying adjective remains the same whatever the type of the insanity may be—as alcoholic mania, alcoholic melancholia, or alcoholic dementia. However, if any one should find the objection insurmountable, he would only need to use the term insanity wherever either oligomania, mania, melancholia, or dementia occurs. In fact, Dr. Skae adopted this plan in his classification.

In addition to oligomania one other new term has been introduced. The terms limopsoitas and limopsoitosis have been used to designate a variety of insanity caused by abstinence from food. The more significant and more euphonious term limoserie (λιμοξήρος—wasted with hunger) has been substituted, as limoserie mania, limoserie melancholia.

The terms paresis and epilepsy, as designating forms of insanity, have been discarded. They are used as adjectives in connection with the type of insanity with which the parietic or epileptic may be affected, as parietic mania, parietic dementia, or epileptic mania.

The terms alternating mania and alternating melancholia are used instead of the more usual term, circular insanity. A case of circular insanity should be tabulated as one of alternating mania or of alternating melancholia, according as the one or the other type might predominate.

The system of classification proposed in this paper has been constructed on the following plan: In the first place, a single basis has been adopted, and that the symptomatological. In the second place, all the varieties of insanity which have been differentiated have been or may be included, and provision has been made for any other varieties that may hereafter be differentiated. Students of mental disease may follow a system which gives perfect freedom for expansion, but they certainly will not follow a system which is narrow and restrictive. In the third place, the varieties have been arranged in groups in such a way as to include forms which are allied in some important particular in the same group, as the idiopathic insanities, those occurring at certain crises, those depending upon gross brain lesions, etc. In the fourth place, the various types and varieties are so arranged in a tabular form as to be easy of comparison.

The classifications of mental diseases are so numerous and so diverse that a comparison of the various systems and methods can not well be undertaken in this connection. Since, however, the method herein submitted includes or may include all the varieties of insanity, all other methods can evidently be included in this. So, too, any classification of cases made in accordance with a comprehensive method may with little difficulty be reduced to any of the less inclusive systems. At all events, it may fairly be said that the most efficacious means of securing a substantially uniform method of classification would be the adoption of a method so comprehensive and so elastic as to include all the forms of mental disease now known or likely to be differentiated.

DUTY OF THE STATE IN PUBLIC HEALTH.*

By F. B. STEPHENSON, A. M., M. D., U. S. NAVY,
MEMBRE TITULAIRE DE LA SOCIÉTÉ D'ANTHROPOLOGIE DE PARIS.

ALTHOUGH the original † of a part of this paper was written having especially in view the people and government of Italy, it is hoped that what follows may be of interest to the economists of America.

The great innovations—those which should be very advantageous to humanity—are, more than others, opposed from the first, objections being sometimes strong enough to arrest them for years, occasionally for centuries. This may be brought about through malevolence, or by the mere dislike of anything new. In medicine, particularly, obstacles to free progress of the truth appear to be more numerous than in any other branch of science.‡ One of the greatest difficulties with which surgery has to struggle is represented by some of the most malignant diseases well known. These attack persons who have recently undergone some operation, occurring in a frequency disproportionate to the gravity of the cases. Many instances of this kind took place under the old regime. The mortality records of some former hospitals are dire enough. With the now recognized precautions of asepsis a surgeon may approach in confidence the most formidable operations, most if not all of which would be impossible without them. Pyæmia and septicæmia from such sources are now known only (or should be) from descriptions given of them.*

It is calculated || that in Italy, during the year 1883, eighteen thousand women died *in partu*—that is, in the flower of their age. Other losses would indirectly flow from this, first to individuals and families, ultimately to the state. Puerperal fever has been produced by experiments on animals, through injection of the septic discharges. Our author makes the surprising statement that, even in this age of enlightenment, many Italian midwives, and some physicians, too, forbid lying-in women to be washed or have linen changed for quite a number of days after labor. During the same year there were about sixty-two thousand deaths from other contagious diseases. We read that five thousand deaths annually are caused by diarrhoea and dysentery, owing, doubtless, to bad local hygienic conditions, as seen by Professor Ruata. The modes of transmission of disease-germs in typhoid fever, and the ease with which it may be prevented, are referred to. Many cases, foci of infection, pass unperceived, probably through ignorance; such ought to be noticed by medical officers, whose special business it should be to look after them. Tuberculous phthisis† is con-

sidered to be infectious and preventible; reference is made to the good results one may expect from applying antiseptics to the lungs by inhalation. The breath of individuals may spread the disease; milk from tuberculous cows* may cause it in those otherwise healthy.

Professor Ruata refers briefly to cholera and the bacillus† of Koch, with the remark, "What practical utility results? Little, if any."

Thus much, as illustrations, for the multitudes that died. But what has been the effect on those who have indeed escaped with their lives? "The expense of sickness, time lost from work,‡ deterioration of health, misery, desolation—malediction on society!" How much more destruction of life and happiness is due to these causes than to war and other violence! And what does the government do against them? Drugs are shown to be powerless to cure any of the infectious diseases.§ Our author says: "I have no hope to ever be able to cure them by such means. This is my hypothesis, but sustained by facts that leave no doubt of its correctness." The difficulty of destroying the *Acarus scabiei* (so easy of access, relatively) is compared with that of even reaching the alleged peccant microbes, which, we are told, have more vital resistance than the itch-insect. How, then, is it possible to come at and kill these germs in the blood and tissue without great harm to health? "Specific treatment of disease seems to be unreasonable." || We know that in these and like kinds of sickness there is a question of poisoning merely, and that it is within our power—the power of the government—to stop infection. We have police for crimes, why not for the detection and annihilation of such poisons, far more dangerous and destructive certainly than many an open foe? Every citizen has a right to expect that the state should guarantee his life against these terrible enemies, from which he can not be made safe unless by the intervention of a force able to absolutely impede their progress. We can, by barricading our houses, guard ourselves from thieves and murderers, but for these diseases we have no means of defense save those that the central authority should give; its responsibility in such things is so great as not to admit of any half way measures. Deaths from these sources, and the consequences thereof, are to be laid at the door of the general govern-

* Epidemics of pleuro-pneumonia and epizootic furnish examples of loss among the lower animals, to say nothing of inconvenience and danger therefrom to man; as, for instance, ailments due to impure meat and milk.

† *Vide* "Microbes," by E. L. Trouessart, in Appleton's "International Scientific Series."

‡ Aucune de ces vibrations ou de ces bactéries ne peut être considérée comme caractéristique de telle ou telle maladie ou comme la produisant. On ne les trouve pas dans les liquides des animaux vivants et sains." J. Pelletan, "Le microscope."

§ "En France, la maladie, avec ses chômages et ses frais, emporte 708 millions des francs chaque année." Congrès d'hygiène à la Haye, août, 1884; conférence de M. Rochard sur "La valeur économique de la vie humaine," "Jour. de méd. et de chir. prat.," Sept., 1884, p. 386.

|| This idea is worth consideration by those who believe with Hahnemann that "drugs are the real curative agents" of disease.

¶ Is not the supposed cure in such cases due entirely to the physiological action of the drug, rather than to any specific effect against the cause of disease?

* Read before the United States Naval Medical Society, April 7, 1887.

† "La Responsabilità del Governo nella Salute Pubblica," by Professor C. Ruata ("Estratto dalla Gazzetta degli Ospedali").

‡ The history of pseudo schools of medicine and of patent remedies may be studied for illustrations.

§ "Tutti questi avvelenamenti del sangue, così comuni altri volti, sono ormai scomparsi, e non è molto tempo che un giovane medico inglese mi diceva ch'egli non conosceva che cosa fosse piemia o setticæmia se non dalle descrizioni che i trattati ne fanno."—C. Ruata.

|| Official statistics published by the Italian Government.

△ Lions have phthisis and elephants Bright's disease.—Gerard.

ment in its duty to public health. Public health is made up of the health of individuals. The need of enforced legal sanitation is apparent, nay, urgent! Why not apply Listerism (asepsis), which consists not only in mere phar-maceutical antiseptics, but in the use of all the means within the power of society to prevent the formation of nests (*nidus*) or centers of disease that may become poisonous to persons about? Formerly epidemics were rare because means of intercourse were few.

Places of public resort or of private gathering may be points of diffusion.* Have we not an example of this in the epidemic of small-pox in Montreal, Canada, during 1885, where the disease was evidently spread by processions in the streets and the crowds in churches, seeking aid through ceremonial and prayer?

What is the duty of the government in such a condition of popular intelligence? The government's most productive act is to educate in the widest sense; that is, to show the people how to best use their own abilities in accordance with the laws of nature about them, from which, indeed, human life is not free. Why are there these sixty-two thousand deaths from contagious diseases? Why allow one person or family to poison another without restraint? Why is disease communicated in churches, theatres, hotels, railway-trains, and so forth?

Isolation of original cases and the endeavor to stamp out the disease in the start† would prove to be much more effective than the usual quarantine or sanitary cordon, which are, ordinarily, difficult of application and imperfect in result. England escaped cholera (1883) through the very prompt attention of her sanitary officials to the first imported cases, infection being thus hindered. The history of cholera in Naples shows how neglect may allow contagion, and a wise use of energy stop it. The inconvenience and difficulty of isolation have been objected. But which is the worse trouble, such temporary interference, or a ravaging epidemic? Shall the benefits of commerce, the profits of present trade, be held of more value than the great practical and future good of saving alive adult citizens?‡

With one properly qualified and authorized agent (the strong arm of the law duly sustaining him) to a certain number of inhabitants, epidemics might be avoided through separation (isolation) of the first single cases. When the disease occurred elsewhere, the health officer of that district should be there to thwart its progress.* Our Italian con-

* "Pensai che il focolajo d'infezione comune fosse la chiesa, dove tutti accorrevano, e che la pia madre che lasciava per pochi istanti il suo bambino ammalato per recarsi al tempio a pregare il Signore per la salvezza del figlio, seminasse in quel luogo stesso la morte per qualche altro."—C. Ruata.

† Disease in cattle, fowls, etc., may also be cut short by isolation and proper care in the beginning. This is done to some extent in America at present, but there is yet need of officials duly informed, so that infectious cases may be recognized without delay from ignorance.

‡ For the action, in this connection, of those in control of Egypt during 1883, we refer to "Cholera," by J. A. S. Grant (Bey), M. D., in the "New York Medical Journal" for February 27, 1886.

* Isolation of cases of infectious diseases is yet so imperfect in the United States that, during the year 1886, there was a discussion before the Massachusetts Medical Society as to the means of getting better results therefrom.

frère thinks that it would not be hard to obtain the requisite number of fit medical men for this purpose, at least in his country; such physicians could also attend the poor. One great advantage of appointing doctors* for this work might be the giving to the populace right ideas on hygiene.

Laws and regulation exist *cui bono*? An enlightened public opinion only can bring about a thorough carrying out of the most perfect legal plans,† and this public opinion must be made through knowledge, *instruction*, EDUCATION! The following remark applies particularly, perhaps, to the smaller officials of some European countries, yet the "mustard-seed" of truth may be found for use in the New World: "In the eyes of the local authorities, a fine road or a monument to those who died from such diseases is of more importance than good drinking-water for the people—the people in whose health and prosperity consists the welfare of the state."

An organized body of capable sanitary officials, under the central direction of a board of public health, would be a most beneficent institution among many of which this age may wisely be proud.‡

The public health is endangered in a peculiarly insidious way by adulteration of food and drink.*

A healthy population or people—healthy in body and in mind—is the strength and riches of a nation. As a matter of wise conservation, the government or commonwealth should protect the ignorant from disease; the ignorant in such cases are not, necessarily, in the lowest rank of social life. Security—physical, hygienic, and mental—is better than material wealth. Natural liberty of the individual should not prevent the State giving medical assistance.

In all schemes of government aid the question is not as to the effect upon highly cultured or ideal men, but as to what, profitably to all, can be done for men in general, what may be expected from people as they are.¶ We can not deal with them as we would with figures on a slate.▲ Reasoning, to be of value, must give deductions from observed facts of nature (including human nature), verified by general experience.

It is written of a renowned Russian general: "He listened to all told him, and gave the requisite orders without

* Using "doctor" in the sense also of the original Latin—"a teacher."

† Witness the power of religious and of race prejudice to nullify law.

‡ For an interesting, vivid, and impressive presentation of some important details of this question (touching Italy), see "Cholera, and the Duties of Governments and Countries during Epidemics," by Professor E. Albanese, Palermo, in the "New York Medical Journal" of January 8, 1887.

* See "Modern Adulteration in Foods and their Relation to Disease," by E. H. Bartley, M. D., in the "New York Medical Journal" for July 17, 1886.

¶ In the by-laws of the International Workingmen's Association (1864) it is stated that the association recognizes "truth, right, and morality as the basis of their conduct toward one another and their fellow-men, without respect to color, creed, or nationality. . . . No rights without duties, no duties without rights."

▲ However this may be in theory, we dare say that few men have capabilities of mind so unlimited as to be able to base anything practical thereon at present. "Le plus grand instrument de l'homme est l'homme."

seeming to take any interest in what was said, though, in fact, alive to every tone and every change of expression in the speaker." To do otherwise than treat men and things as they are would be as futile as to expect anything real from Napoleon's plan for the government of his Europe made peaceful by conquest. An economist, besides educating himself, has much to observe.

The great influence of the Government appears in the following testimony by Malthus in 1827: "The Government of Ireland has, upon the whole, . . . tended to degrade the general mass of the people, and consequently to prevent them from looking forward and acquiring habits of prudence." Another phase is presented by R. B. Brough: "To the institution of aristocracy in this country (England) is mainly attributable all the political injustice, and more especially the groveling moral debasement we have to deplore." Malthus further says: "If the Government would remove hindrances to agriculture, and spread knowledge about it,* it would do more for the population of the country than by establishing five hundred foundling hospitals." Recent legislation in France, offering a premium for the seventh child, is quite opposed to the views of this philosopher as to the wisest way of increasing the population, and thus conducing to national prosperity. Population increases when means of sustenance increase. Removals give space for new-comers, from marriages becoming possible.

The cause of poverty? Poverty exists wherever two persons try to live on the food (everything necessary) nature has designed for one—accidents apart. Whose fault brings two beings into the world where one only can find perfect life?

The effect of character on actions and of actions on character are of great economic importance. The clear consciousness of personal responsibility is the soul and center of every healthy advance. Enlightened self-interest is a wise and potent motive in social betterment. "The language of experience owes much of its meaning to the interpreter." The ways, more or less direct, in which general knowledge aids in procuring and retaining physical well-being are very many; oftentimes they are not easy to find. A learned and strong guide is most valuable. Advice, teaching, example are better than positive aid, which has often caused feelings of dependence and selfishness antagonistic to the desired individual development. The hope and effort to improve their condition are fruitful in all classes, but most frequent and constant in the grades above the wretchedly poor. As an example, where there is evident ignorance, the people should be taught how best to utilize waste of unoccupied lands.†

The man who commits the crime may not be the most guilty, but he who causes or, being able to dispel, permits the darkness of ignorance. "Man shall not live by bread alone, but by every word that proceedeth out of the mouth of God"—that is, being interpreted, by the highest wisdom. Much disease and years of misery might be avoided if some judicious forethought—sometimes called worldly

wisdom or common sense—were used in forming marriages and in the conduct of life afterward, especially in regard to offspring. Truth is weakened by any addition of error.

A wise government will care for the temporarily weak and needy portions of the community, they being on that account not less essential to public welfare than those who are able to provide for themselves in all things.

One important duty of the state is to require registration of deaths, with satisfactory evidence that it is due to natural causes—that is, not from crime.* The result of such action tends to educate the people so as to procure for the community at large physicians worthy of confidence, as is now attempted by the examination of men for the public service.

Whether laws (so easily and widely evaded) to regulate the practice of medicine that reduce good and bad to the same low level are a benefit, is a question upon which legislators may well bestow serious thought. Would it not be better to instruct the people so that they might judge with reason? Education for the raising of man's physical and mental condition "is rarely absolute, but relative, and should be conducted in language used by ordinary, clear-thinking men." Thorough informing of the people in regard to the laws that control mental and moral being (if, indeed, they are not identical) is needful in order to complete the work of customary education. Does not the highest education find its best use in making wise laws for social rule? The more freedom citizens have, so much the more profound must be their knowledge—knowledge of things concerning both body and mind—to prevent liberty becoming license and to attain the best results possible.†

Although some of the ideas herein presented may seem to have little relation to public health, the philosophic student knows that remote causes are often of greater influence than the proximate, usually deemed most important by the *vulgus*.

INSANITY AND OOPHORECTOMY.‡

By WILLIAM M. LESZYNSKY, M. D.,

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In only a small percentage of the insane can we discover a somatic basis for the mental derangement, although a multitude of abnormal physical conditions have been credited with a causative influence in the production of insanity.

Insanity at times occurs in persons who are the subjects of phthisis, chronic nephritis, alcoholism, syphilis, and numerous other morbid conditions.

That the existence of any of these diseases does not render such individuals exempt from the development of men-

* Billings, "Medicine in the United States," 1886.

† An outline of this broad education is given in the address of Carroll D. Wright, President of the American Social Science Association, under title, "Popular Instruction in Social Science." See Boston "Evening Transcript," September 7, 1886.

‡ Read before the Clinical Society of the New York Post-graduate Medical School and Hospital, May 7, 1887, in connection with a discussion on "The Indications and Contra-indications for Laparotomy."

* This idea might be fruitfully applied to the life of modern Greece.

† See "Russians of To-Day," chap. ii, on the condition of the lower classes.

tal symptoms is unnecessary to mention. If they do not act as an exciting cause, they are usually contributory elements in aggravating or increasing the gravity of the situation.

As is well known, the psychical causes are generally the predominating factors in the production of insanity, the constitutional predisposition and an unstable nervous organization being the fertile soil for its development.

The fact that the exciting cause of an attack of insanity can occasionally be justly attributed to reflex irritation arising from uterine or ovarian disease, can not be questioned.

The premature and indiscriminate removal of the ovaries in cases of insanity and other neuroses has of late become so frequent and flagrant a procedure as to demand an emphatic protest against such reprehensible measures and such illegitimate practice.

Disclaiming all intentions of making any invidious distinctions, but at the risk of accusations of dogmatism, although much has been written upon this subject, I venture to present the history of two cases that have come under my personal observation, which may prove both instructive and interesting:

CASE I.—Mary M., aged twenty-eight, single, occupation paper-folder, was admitted to the City Lunatic Asylum, during my term of service as resident physician, on October 21, 1879, with the following history:

This is her first attack of insanity, and began four weeks before admission, manifesting itself by utter neglect of her person, refusal to eat or speak, and gradually developing into a condition of profound depression. Previous to this she was invariably healthy, and of a pleasant and amiable disposition. She always applied herself very closely to religion. No hereditary history of physical or mental disease. As her parents are very illiterate people, no more satisfactory statement could be obtained.

She is in good physical condition, is bright and intelligent. No signs of mental depression. Answers questions in a rational manner readily and accurately.

October 23d.—Ideas of religion very much exalted. Religious delusions with ecstasy. Seeks seclusion and prays.

November 14th.—Since last note patient's mental condition has remained about the same. Physically she is deteriorating. Frequent hysterical manifestations.

18th.—Hysterical coma(?). Cataleptic rigidity of muscles.

December 1st.—Unchanged. Transferred to hospital ward. Body well nourished. Capillary circulation feeble. Pulse 84, full and regular. Temperature in axilla, 98.5° F. She lies abed in dorsal decubitus with closed eyelids, and is motionless. Her face is without expression, and no movement of the alae nasi is noticeable. The respiratory act is almost imperceptible, and can only be recognized upon very close examination. She is apparently completely insensible to any form of irritation. All reflex action is abolished, and she can not be aroused. When food is placed in her mouth it remains without exciting the act of deglutition. Various irritants have been applied to the nasal mucous membrane without any perceptible effect. Pupils are equal, but do not react to light. Corneæ and conjunctivæ are insensitive to irritation. Ocular fundus is normal. Her muscular system seems relaxed, but her extremities may be placed in any awkward or unnatural position, and will remain in a state of rigidity for an almost indefinite time. Heart, lungs, and abdominal organs normal. The bladder and rectum are evacuated by mechanical means. Examination of urine nega-

tive. She receives concentrated nourishment by means of stomach-tube.

January 3, 1880.—To-day she recognized and answered the nurse with a monosyllable. This is the first time she has exhibited any sign of consciousness or motion since her admission to this ward.

6th.—Pulse getting weaker and body emaciating. Alimentation by stomach-pump in conjunction with nutritive enemata. To have brandy, cod-liver oil, iron, and quinine with her food.

14th.—Still in an unconscious condition, with cataleptic rigidity of muscles. Lies abed with closed eyelids and contracted pupils. Electro-contraction of muscles very much diminished. Knee-jerk absent. She can not be aroused. Strong faradaic and galvanic current ineffectual. At the suggestion of Dr. Allan McLane Hamilton, the inhalation of nitrous oxide was resorted to with the following result: Before inhalation—Temperature in rectum, 99.5° F. Pulse 108, feeble, full, regular, and very compressible. Respiration 24, and feeble. After inhaling for one hour—Temperature, 100.2° F. Pulse unchanged. Respiration 24, but stronger. No other perceptible effect.

February 7th.—Unchanged since last note. Although patient continues to be unconscious to external impressions, she sometimes laughs or cries, and indicates by her facial expressions the presence of pleasing or painful impressions. The respiratory movements are more perceptible than they were three weeks ago. The beat of the heart and pulse is weak, but easily discerned. Temperature (taken in rectum) during the past week has varied between 99.6° and 101.5° F. Urine removed by catheter (analysis negative). Body is somewhat emaciated. Everything is being done which is calculated to increase nutrition. She has been receiving (by aid of stomach-pump) six eggs, three pints of milk, and nine ounces of cream daily in conjunction with iron and cod-liver oil. Occasional laxatives and alcoholic stimulants when necessary. Entire surface of body is anointed with olive-oil daily, and the muscles are exercised by the daily application of the faradaic current. During the night she receives from twelve to sixteen ounces of defibrinated blood *per anum*.

23d.—Record of temperature since last note, from 99° to 101.6° F. Pulse 84 to 120. Patient has been in condition of catalepsy since November 18, 1879 (a period extending beyond three months). During that time she has received artificial alimentation either by aid of stomach-tube or enemata. She has not menstruated since her admission to the asylum.

24th.—At about 4 p. m. both ovaries were removed by laparotomy. The operation, which lasted twenty minutes, was performed under ether, and was attended with very little hæmorrhage. The ovaries were examined by Professor William H. Welch and found normal.

To complete the history of this remarkable case, it may prove of interest to report the results of the operation:

Coincidentally with the development of septic peritonitis, which supervened within twelve hours, she opened her eyes, moved her arms and hands, and exhibited symptoms of severe pain. The peritonitis and septicæmia rapidly advanced, and the patient's chance of recovery became more and more hopeless. At about 10.30 p. m. on the 26th, her temperature being 105.5° and pulse about 144 and feeble, the following was noted: She is rambling in her remarks, but occasionally speaks quite rationally. She complains of severe burning in the abdomen, and begs to have the iced applications made colder, speaking in a religious strain and quoting passages from Scripture. Says she would like to die, and has exalted ideas of the future. "I know you will do everything for me because I am dying, and you will

do anything for a dying person. I do not want to live." She is talking incessantly, and has visual hallucinations.

27th, 1 A. M.—She has a vivid recollection of events which transpired during the prolonged period of her apparent unconsciousness. She recites in detail the circumstance of my feeding her by force, and says: "I always wanted to move, but was powerless and felt as though a heavy weight was holding me down. I refused food because I wanted to die. People used to look at me and say, 'She doesn't move,' 'She just moved,' 'She opened her eyes,'" etc. Cataleptic rigidity of muscles has almost completely disappeared.

28th.—At 1 A. M. in condition of collapse. Temperature 105.5°, pulse 150. She speaks at short intervals in a rational manner. She fully appreciates her condition, asks, "What time is it?" and says, "I know I am going to die and I am resigned."

She died at 2.12 A. M. on the 28th day of February, three days and twenty-two hours after the operation.

The fact that this patient returned to consciousness, and that of the disappearance of the cataleptic condition, merely add another case to the list of insane individuals who have become restored to rationality shortly before dissolution.

CASE II.—Mrs. E. T. consulted me at my clinic in the Demilt Dispensary, December 18, 1883, the following history being given by her husband and a female friend who accompanied her:

Patient was born in England, is twenty-seven years of age, and married. Her father is living and in good health. Her mother died of phthisis. Eight years ago, after an attack of "brain fever," she attempted suicide by taking a large dose of laudanum. She received prompt attention, which resulted in recovery. Seven years ago she married her cousin, whose (their) uncle was insane. She has had two children; youngest child was born three months ago. She has never had a miscarriage. She is unable to suckle her infant, owing to the suppression of lacteal secretion. Symptoms of mental depression began about three weeks ago, having been preceded by slight headache and a few nights of restless sleep. She is very despondent, neglects her household duties, and cries frequently. Has visual hallucinations and numerous delusions of a depressive nature. Insomnia is a prominent symptom. There is absolute loss of appetite for food, and constipation is well marked. She still has considerable and constant vaginal discharge. The foregoing description of her mental condition is corroborated upon examination. Upon further investigation I find her capillary circulation deficient and extremities cold. Heart and lungs normal. Vaginal examination, made by Dr. Charles D. Seudder, the attending gynecologist at the dispensary, reveals the following condition: Lacerated perinæum and cervix, subinvolution, retroflexion of the uterus, and slight ovarian hyperæsthesia. Her environment and domestic relations being of such an unfavorable character as to preclude the possibility of any satisfactory relief under "home treatment," I advised her immediate removal to the asylum, believing that to be the most suitable place where she could receive the necessary attention that her condition demanded.

She did not reappear at the Demilt Dispensary, but a few days later I met her at another neurological clinic where her melancholia was receiving attention. Within a few weeks after her consultation with Dr. Seudder and myself her "ovaries and tubes" were removed and the melancholy trophies presented at a meeting of the Pathological Society with the encouraging statement that "the change in her mental condition was very marked, and at the end of twenty-four hours after the operation a very noticeable improvement was manifest which had

steadily increased." The patient made a good recovery from the effects of the operation.

Having had the opportunity of visiting her within a few days after the operation, I found her mental condition to be the same as when she first consulted me. Subsequently her melancholia progressed and became more pronounced, until ultimately she was committed to the lunatic asylum, where she now remains an "incurable case," having reached the condition of terminal dementia.

These two cases that have been under my immediate supervision amply demonstrate the fact that the removal of the ovaries was an illegitimate and unjustifiable operation, and wholly unwarranted under the circumstances.

Practical utility and conservative principles should never be sacrificed on the altar of presumable brilliancy and self-glorification. The jeopardizing of human life and the nullification of physiological functions should never be instituted through irrational enthusiasm.

Physicians who are dominated by their specialistic proclivities, thereby being frequently misled into irrationality in their procedures and methods, are, fortunately, not a preponderating element in the ranks of the medical profession.

If in any case of insanity the existence of a pathological condition of the uterus or its appendages can be unequivocally demonstrated, and such morbid state be by logical process and clinical evidence indubitably proved to be either the exciting cause or a preponderating contributory influence in the production of the mental derangement, then, *and only under such circumstances*, after all other methods of treatment have been exhausted, can surgical interference such as oophorectomy be considered a legitimate procedure.

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THE PROGNOSIS OF ACUTE LOBAR PNEUMONIA.

By W. D. SCHUYLER, M. D.

(Continued from page 544.)

WHAT is the fatality from pneumonia in the second age-class—the age of vigor? As it occurs, what is its most apparent cause? The mortality of acute lobar pneumonia in patients from puberty and through early adult life, during the age of vigor, it must be observed, is very slight, except when complications or asthenia are present; then it is correspondingly high. Authorities are quite unanimous upon this point, as shown by the following: "Acute simple lobar pneumonia happening between the ages of fifteen and forty, when uncomplicated except by a limited pleurisy, is not a perilous disorder; recovery is the rule" (Aitken). "During this period pneumonia is not a dangerous affection. It is uncommon for an uncomplicated pneumonia in a person who has been previously healthy to prove fatal" (Jurgensen). "Occurring as a primary disease limited to a lower lobe, remaining uncomplicated, and the person affected having a good constitution, the immediate tendency is to recovery; indeed, recovery is not only the rule, but the exceptions are exceedingly infrequent" (Flint). Speaking of a limited

pneumonia in a person of good constitution and uncomplicated, Wood ("Practice of Medicine," vol. ii, p. 20) says: "Cases of this kind almost always end in recovery under proper treatment, and not infrequently even without remedies, or with such as are improper." And Bennett ("Clinical Lectures on Medicine," p. 275), from a careful analysis of seventy-eight cases that occurred in the Royal Infirmary of Edinburgh during eight years of his dictatorship, in patients of the age we are considering, averaging thirty and one third years, says: "It follows from these facts that uncomplicated pneumonia, especially in young and vigorous constitutions, always gets well if, instead of being lowered, the vital powers are supported, and the excretion of effete products is assisted."

This testimony strongly affirms that acute lobar pneumonia, in itself and uncomplicated, occurring in patients of adult life, *is not a fatal malady*, but, on the contrary, that it naturally tends to recovery. Furthermore, according to Wood's statement, this tendency to recovery is so strong that it not infrequently prevails where no, or even improper, remedies are given.

On the other hand, and from the exceptions noted, we must conclude that the effects of complications upon prognosis are to make it doubtful or bad. It will have been observed that each author quoted above and throughout, in setting forth the grounds of a favorable prognosis, excluded complications.

The inference from the fact of such general exclusion—and all authorities make the same—is that complications, more than any other single fact or condition, render the prognosis unfavorable or fatal.

The prominence thus given to complications as a prognostic element—a prominence fully justified by statistics, especially as regards the result of the disease in the age-class we are now considering—leads me to take up their systematic study at this point before proceeding further with age considerations, which I shall return to afterward.

Therefore, let us inquire here what are the influences in complications of pneumonia that so seriously affect recovery from that disease? As foreshadowing their importance and influence, we may refer to the following statements:

"The existence of complications forms the most serious element in the prognosis" (Wilson Fox). And this statement he supports by reference to "Huss's collected results, where the mortality from the uncomplicated cases was 5.79 per cent., while that from the complicated was 19.29 per cent." Loomis ("Causes of Death in Acute Pneumonia," "Medical Record," vol. xix, p. 701) upon this point says: "In my analysis of 255 cases treated in Bellevue Hospital during a period of four years, of which 131 were uncomplicated and 124 complicated, I find that 168 terminated in recovery and 87 in death. Of these 87 deaths, 12 occurred in the uncomplicated cases, equaling 9.16 per cent, while 75 occurred in the complicated, equaling 60.4 per cent." In the same connection this author refers to Lebert's statistical report on pneumonia, who states that he lost only 5½ per cent. of his uncomplicated, while he lost all of his complicated; to the statistics of Huss, of Stockholm, who lost 6 per cent. of his uncomplicated and 20 per cent.

of his complicated; and to Brundes's cases, which show that in 120 uncomplicated cases he lost only 6⅔ per cent., while in 22 complicated cases he lost all—100 per cent.

Although these numerical results, as given from the various sources, do not closely agree as to the mortality of pneumonia on account of complications, but vary from 19.1 to 100 per cent., yet they denote the very grave influence that such conditions exert upon its termination; from which I may remark here that the relatively greater fatality of pneumonia shown by these statements to occur when complications are present or develop, taken in connection with the fact that the natural tendency of the disease in uncomplicated cases is to recovery, strongly suggests the idea that, possibly always, or at least as a rule, when death occurs from pneumonia, a complication, or like influence or condition, is its true cause. Such suggestion has the support of a previous conclusion, namely, that, when death occurs from pneumonia in the infant-age class, it is due to complications or asthenia, and also of the general evidence given that the malady in the young adult when uncomplicated is not dangerous; and I premise it will receive further support still in our study of complications, and finally be wholly justified on the ground of a rational theory and its elucidation as to the essential action and course of the local anatomical process of the disease.

In order to develop the correctness of this suggestion as regards the complications of pneumonia, I shall now proceed to examine them collectively and severally, and to determine thereby (1) what are the most frequent complications, (2) what complications cause the greatest per cent. of fatality, and (3) what specific influence, cause, quality, or resultant of complications promotes fatality.

What are the most frequent complications? An answer to this question is afforded by Loomis, in the statistics referred to above, where he gives the order of frequency as they occurred in Bellevue Hospital, as follows: In 124 complicated cases alcoholism was most frequent, being the complication in 30, pleurisy was present in 17, Bright's disease in 13, pericarditis in 9, hypertrophy and dilatation of the heart in 3, peritonitis in 2, rubeola in 1, and fibrinous bronchitis in 1.

An answer to the second question is given by Wilson Fox (*l. c.*, p. 207), who states that, according to the English physicians, the greatest mortality occurs in the presence of endocarditis, death occurring in 75 per cent. of the cases it complicates; next in order he gives pericarditis, causing death in 54.5 per cent. of the cases it complicates; Bright's disease proves fatal in 50 per cent., tubercle in 33.3 per cent., emphysema of the lungs in 23 per cent., chlorosis in 20 per cent., and acute alcoholism and drunkenness in 25 to 20 per cent. of the cases they complicate.

If these figures are correct, and if it can be shown that these different complications or their anatomical results, acting severally and in degree comparable to the frequency of their occurrence and their fatality, tend to cause death in the same manner by a like cause of action, influence, or resultant, though varying in manner of application; then such common cause or resultant, rather than the apparent compli-

cation itself, should be regarded, essentially at least, as the immediate and real complication to be met.

Such common resultant I think can be disclosed as the cause of death in all complications, and I would suggest, at this place, that it is *in actu* a present or developed asthenia, and that it promotes death by contributing to a fatal insufficiency of either or both of the respiratory or the circulatory functions, or of the general vital processes.

This brings us to the third question—How do complications act to promote death in this disease?—an answer to which will necessitate a study of the several prognostic conditions given, which I shall take up in the order of their importance, as already denoted.

Alcoholism is one of the most important. According to Loomis's statistics, it occurred most frequently in the Bellevue Hospital cases, and according to Wilson Fox, it is a cause of death in England in 25 per cent. of the cases it complicates. How does alcoholism complicate acute pneumonia? Although the primary physiological effect of alcohol taken into the system in proportionally small and well-diluted doses is to stimulate it generally, to quicken the heart's action and increase the pulse, to excite nervous reflex action and to stimulate thought, to promote an appetite in a torpid stomach, and for a time, apparently, to increase the general strength and endurance; although alcohol is given medicinally, in the form of diluted liquors, by physicians in this country, in England, and throughout continental Europe, to relieve temporary exhaustion and to revive the system in conditions of shock, and is largely prescribed for its accredited sustaining action—namely, for its supposed inhibitory effect in delaying tissue change—in exhausting fevers; and although, according to Ringer ("Hand-book on Therapeutics," p. 325), it "strengthens the contractions of the heart, especially when it is weakened by debilitating disease, . . . strengthens the pulse and reduces its frequency," and therefore, according to this author, "must be considered one of the most powerful cardiac tonics"—yet (and besides the fact that it must still be considered a moot question whether alcohol is of any real tonic value as above set forth, even in its primary action) it must be admitted that its secondary and prolonged effects in the economy depress the vital tone, and that, as a further consequence of such prolonged use, structural organic impairment and a corresponding physical and general debility and asthenia occur.

The depressing or debilitating effects of long-continued alcoholic ingestion occur very generally throughout the entire organism. They result from its action (1) upon the gastric mucous membrane and gastric digestion; (2) upon the nutritive histological processes in the blood and throughout the system generally; (3) upon the nervous organism, and especially upon the organic system of nerves; (4) upon pulmonary respiration, physically and chemically considered, and, lastly, upon the general organic functions and nutritive actions.

Upon the gastric mucous membrane alcohol acts as a powerful stimulus and irritant, causing immediate and intense congestion; and if its ingestion is unduly prolonged, this congestion becomes chronic, and to that degree pro-

motes morbid organic changes not only in the mucous membrane, but throughout the entire organ. In the former it leads to an increased development of epithelium, a hypertrophy and thickening of its fibrous structure, and a consequent atrophy of its glandular and secreting elements, while its nervous elements are rendered morbidly irritable, and thereby made readily susceptible to an irregular action; and in the submucous and muscular structures of the organ, thickening and histological impairment occur. In consequence of these changes there result a lessened production of the gastric digestive ferment and a lessened motory action (digestive) of the entire organ. There is, as a consequence, also a loss of appetite; less food is taken, and what is taken is less perfectly digested and converted into albuminose. Upon the remainder of the digestive tract these results, though less direct and extensive, are not less marked; and consequently, as a whole, in an alcoholic subject a nutritive juice deficient in quantity and in elaborated quality results to be furnished to the system, with which to replace the destructive waste continually going on. From such an imperfect pabulum good structures and sthenic conditions are naturally not developed. When taken into the stomach, alcohol passes quickly into the blood, where its presence acts to prevent those necessary hæmic and trophic changes required to constitute that fluid in itself an efficient source and medium of reparative supply and of interchange (chemico-vital) to and for the general tissues. Furthermore, as will be shown, alcohol taken into the blood circulates for a considerable time in that fluid unchanged, and thereby is brought into direct or close contact with every organ, tissue, and cell of the body; and hence its general inhibitory action also extends to and affects injuriously, besides digestion and the higher elaboration of the digestive juices, assimilation, disassimilation, and excretion, all of which are rendered imperfect; and hence, in the most profound sense, chronic alcoholism promotes an effete organic histotrophic state and an asthenic organic condition.

A further special effect of alcohol in the circulating blood is an inhibition of that normal interchange of the respiratory gases in the lungs which conduces to perfect hæmatosis.

On account of this inhibitory action, carbonic acid is not perfectly discharged from the system, and sufficient oxygen is not taken into it to enable the nutritive forces of the body to promote the maintenance of structural vigor; but such imperfect results directly favor instead a fatty degenerate state of the tissues. Again, by directly depressing nervous action in general, alcohol depresses the nutritive sense, lowers reflex action throughout the body, and thereby also the maintenance of tonic and sthenic results.

General organic alcoholic depression may be acute or chronic. Acute alcoholic depression is clearly evident in a person who has recently indulged in a drunken debauch—in his inability to sustain a prolonged or even a slight muscular effort, in his uncertain speech and posture and unsteady gait, in his deficient mental grip, weakened power of attention, deficient mental scope, uncertain judgment, and feebly controlled will-power; these symptoms, only more

profound, also denote the asthenia which results from chronic over-indulgence.

That this depression especially enfeebls vaso-motor action is evident from the phenomena of acute drunkenness; in the relaxed condition of the cutaneous vessels and the depressed state of the general circulation; in the pulse, which, though full, is soft and uncertain; and in the heart's action, which is atonic. It is manifest again in the respiratory action by a delayed, short, catchy, or wavy inspiration—denoting the necessity for a culminative and abnormal stimulus; by a passive, blowing, or stertorous expiration—denoting a loss of organic contractile power in the pulmonary tissues; and by consequent imperfect respiratory results, namely, venous fullness and cyanosis. The relaxed sphincters and insensitive pharynx and conjunctivæ especially manifest a condition of depressed nervous tone. Furthermore, that there may result a grave condition of organic and nervous depression in the sedative stage of acute alcoholism after large quantities of liquor have been taken, is attested by Ringer (*l. c.*, p. 319), who, in reference to this fact, says: "Danger of death is imminent from paralysis of the heart and of the movements of respiration"; and also by Stillé ("Therapeutics and Materia Medica," vol. i, p. 691), who cites several cases where death occurred in that state.

As alcoholic organic depression affects in a special manner the structures, tone, and functions of the circulatory and respiratory organs, and not less the sufficiency of the vaso-motor nerves, such depression assumes particular importance with respect to the prognosis of acute pneumonia, as it is upon these organs and their functions that the stress and danger of that malady, by reason of the site of its local process, mainly fall; while, on the contrary, it is upon the maintenance of tonic conditions in these organs and of their adequate functional action, and of vaso-motor sufficiency, that recovery depends.

The inhibitory action of alcohol in the blood upon hæmatosis has been alluded to. According to Harley, as quoted by Ringer, the effect of alcohol on blood withdrawn from the body is to lessen its capacity for discharging carbonic acid and for absorbing oxygen. These effects being true out of the body, and the effect upon the blood circulating through the lungs being the same within the body, they are of special importance with regard to the prognosis of pneumonia, from both a pathological and a therapeutical standpoint. Pathologically, they are important as serving to explain the occurrence of sudden death from the disease which is often otherwise unaccountable. When the respiratory function is in part wholly inhibited by the presence of a local pneumonic process, and more or less completely inhibited by congestion in collateral areas and throughout the entire remaining pulmonary structures, and is, furthermore, impaired by the morbid pressure which is acting within and against the lung—if then to these conditions and the dangerous and oppressive dyspnœa they give rise to alcohol is added as still another cause of dyspnœa, a fatal apnœa may readily result.

Therapeutically, the fact is no less important, as it affords a strong contra-indication to the use of alcohol as a cardiac stimulant in all cases of pneumonia where the tend-

ency to a dangerous dyspnœa, especially from pulmonary causes, is present.

That alcohol maintains its integrity for a considerable time in the blood and in the body is evident from the saturation the systems of drunkards may undergo, and from the occurrence of the so-called spontaneous combustion referred to by Stillé (vol. i, p. 696); and that it may circulate in the blood for some time after being taken, before it is eliminated or loses its identity, is shown by Dr. Massey ("Transactions of the American Medical Association," vol. viii, p. 595), who states that alcohol may be detected in the blood for some days after it has been freely drank. Evidence of its prolonged sojourn in the blood is afforded also by the persistence of its odor in the breath for hours after it has been taken. These facts further serve to sustain the position herein rendered apparent that alcohol in the blood, in pneumonia, favors asphyxia; and, therefore, its therapeutic use is contra-indicated under the conditions noticed.

Injurious Effects from Alcohol upon the Lung Stroma, and especially upon the Pulmonary Capillaries.—When alcohol is taken into the system it is mainly consumed there, or, if it escapes as such, it does so principally through the lungs with respiration. Except after it has been taken in large quantities, it is not excreted by the bowel or kidneys; and, while some may pass off in the perspiration when that function is active, yet very little does so. It does pass off through the lungs, and, judging by the odor of the breath, in large or comparatively large quantities. Its elimination from the blood through these organs naturally is through the pulmonary capillaries and the air-cells, and, thus coming into direct contact with them, it must permeate the entire vascular and vesicular structures of the lungs. Such contact, as has been shown, seriously inhibits the necessary nutritive, reparative process of these structures, and when continued for a considerable time, as in chronic alcoholism, must develop in them degenerate trophic conditions which, as regards the pulmonary capillaries, predispose to their atonic insufficiency: such resulting whenever a sufficient cause—either an overpowering blood-pressure within them on the one hand, or a temporary debility, may be paresis due to vaso-motor insufficiency, of the capillaries themselves on the other—may occur. This resulting vascular insufficiency, I hold, as previously set forth, is the initial step or lesion, and the essential cause, first, of the development of the pneumonic process, and, second, through it of the entire phenomena of acute pneumonia. Furthermore, the asthenia thus developed, besides predisposing to the occurrence of a pneumonic attack, also favors the occurrence of œdema of the lung in the course of this disease in alcoholic subjects; and thereby is explained the great tendency to its occurrence in alcoholism referred to by Stillé. It is evident from the foregoing that, while alcohol may fatally complicate pneumonia by rendering an oppressed hæmatosis more difficult, yet that mainly it does so indirectly by the asthenia it occasions. The asthenia resulting from alcohol may be local and fatally complicate pneumonia by promoting failure of the lungs or of the heart; or it may be general and prove a fatal complication

by promoting insufficiency of vaso-motor nerves, or again of general organic action.

Inasmuch as *asthenia* is the principal result of alcoholism, that resulting state must be accepted as the true element of complication in connection with that condition. Therapeutically this fact indicates an early resort in alcoholic cases to a tonic and supporting (non-alcoholic) treatment.

The complication occurring second in the order of frequency, in the statistics referred to, is *pleurisy*. How does pleurisy in conjunction with acute pneumonia promote a fatal termination? It is evident that a pleurisy may complicate pneumonia in either of two ways. First, by the presence of an extensive exudate. To the extent that a pleuritic effusion increases in amount and fills the pulmonary space within the chest, so far it limits the possible expansion of the lungs and inhibits their capacity for functional action; and such limitation of action, added to the functional limitation caused by the presence of a pneumonic consolidate in the organs, may readily cause a dangerous *apnoea*. Again, to the extent the lungs are compressed by the presence of a pleuritic exudate, the pulmonary vessels are compressed; this adds to the obstruction to the circulation, already great by reason of the consolidate, and *pari passu* increases the burden suddenly thrown upon the right heart, and thereby the insufficiency of that organ is further promoted. Second, a pleurisy may complicate pneumonia by its adhesions. So far as a pleuritic effusion is adhesive and binds together the opposing pleural surfaces—or, not binding them together, serves to retard their free action one upon the other—it cripples the already dangerously embarrassed and overworked respiratory action, and to that degree promotes respiratory (motor) failure. Again, as respiratory action is retarded, circulation through the lungs is impeded, the tax upon the right heart is increased, and its exhaustion and failure are promoted. Clearly, therefore, while a pleurisy may directly complicate pneumonia by filling the chest and causing *apnoea*, yet it mainly does so by developing an *asthenia* which predisposes to either pulmonary or cardiac insufficiency and failure. The therapeutic indications arising from this complication are: *a*. Where a pleuritic effusion is so great that it dangerously cripples either or both the respiratory or the cardiac actions, *paracentesis thoracis* is clearly indicated. *b*. Where a large effusion exists conjointly with adhesions, or where for any reason relief from the pulmonary stricture (due to compression) can not be effected by *paracentesis*, and a large blood-volume exists to render such pulmonary stricture (obstruction) to the circulation hazardous to life, then *venesection* to diminish such blood-volume is a rational procedure. *c*. When a pleurisy, either by an effusion or an adhesion, promotes or denotes a condition of grave *asthenia*, jeopardizing a pneumonic patient, the indication is for the early administration of tonics and support.

Endocarditis, the presence of which, according to Huss's statistics, causes death in 75 per cent. of the cases of pneumonia it complicates; and *pericarditis*, which, according to the same authority, is the cause of death in 45.5 per cent. of the cases it complicates—like pleurisy, promotes death by causing additional resistance to a vitally necessary func-

tion suddenly taxed to its utmost energy; only with these complications the injurious effects are directly upon the heart. So far as an *endocarditis* impairs the action and sufficiency of the tricuspid or the semilunar valves, or more remotely causes hypertrophy of the right ventricular walls, and, afterward, their dilatation, it weakens the heart's functional power; and so far as a *pericarditis* causes adhesions between the heart and the pericardium, it increases the total resistance to its action, and equally its functional tax; and to such extent these affections complicating pneumonia promote right cardiac *asthenia* and the occurrence of death from cardiac insufficiency. The therapeutic indications arising from these complications are an early exhibition of cardiac tonics.

Bright's disease, according to the statistics given, is the next important complication. It ranks third in frequency in Loomis's Bellevue Hospital cases, and fourth as a cause of death in Huss's table. It is evident that Bright's disease must complicate pneumonia by reason of the organic general and local *asthenia* it promotes. General *asthenia*, especially of the organic nerves, is a most marked feature of chronic degeneration of the kidneys. It is natural, considering the loss of albumin (in some cases), the retention of waste excrementitious matters, derangement of nervous action, loss of appetite, imperfect digestion, assimilation, disassimilation, and excretion which the system suffers in this disease, that such a result should occur.

As a result of Bright's disease, the muscular structures of the body undergo degenerative changes, become smaller, softer, and less able to withstand a prolonged and suddenly increased functional strain. The fibrous tissues become relaxed, they undergo softening, absorb water, become swollen, lose their natural smoothness, lose in strength and ability to withstand the transudation of fluids, and (hence) their functional movements are attended with increased friction and resistance. The vascular structures suffer throughout, especially the arteries, from thickening and degeneration of their coats, notably of the internal, which, in addition, becomes roughened and therefore abnormally resisting to the circulating current, necessitating the expenditure of an increase of circulatory energy. The arteries also lose in elastic and contractile motor energy, and therefore not only resist the pulse wave, but do not normally supplement the cardiac and circulatory forces.

In Bright's disease the blood also, by reason of the lessened amount of food taken and the digestive and assimilative derangements that it occasions, and the further impairment of nutrition it suffers from loss of albumin on the one hand, and the undue amount of water and excrementitious substances it retains on the other, is rendered chemically and nutritively incompetent as a circulating medium for taking up and conveying adequate amounts of oxygen to the system, and for removing carbonic acid and effete excrementitious materials from it; and, naturally, general debility from impaired nutrition results. Lastly, it is not necessary to more than allude to the *neurasthenia* of the cerebro-spinal and the organic nerves, particularly of the vaso-motor, which constitutes a marked feature of the debility of this malady.

(To be continued.)

LOCAL TREATMENT OF SCROFULOUS GLANDS, WITH A NOTICE OF COMPOUND SYRUP OF TRIFOLIUM AS A THERAPEUTIC AGENT.

By H. C. ROGERS, M.D.,
BROOKLYN.

ALL surgeons are familiar with the class of cases to which I would draw attention, and probably there are few of them who have not wished such cases removed from their care. I allude to the large number of strumous children with slowly suppurating cervical and other lymphatic glands, tedious and insidious in their course, and generally, after months and, it may be, years of suffering, ending at the best in elevated or depressed cicatrices and unsightly scars. Under the most careful and judicious treatment the surgeon is liable to bring disgust to his patient and friends and discredit on himself. The old practice by free incisions, blisters, valvular openings, and other means which were in use ten years ago, or have been introduced within that period. I have had recourse to with varying results, a few cases healing kindly, while others (the majority), in every respect favorable, have tried my skill and patience for weeks and even months.

During the past two years I have pursued one of two lines of treatment: 1. Teal's method of dissecting out the enlarged and inflamed glands and scraping old sinuses. I have resorted to this method in three cases, with results which were all that could be desired. The one objection to it is that it is quite an operation and can not be adopted without an anæsthetic. To this the parents and friends of the children frequently object, remarking that they would rather take a longer time than to have any operation performed on their little ones. 2. In the "Annals of Surgery" for December, 1885, p. 493, will be found an editorial by Dr. L. S. Pilcher reviewing an article in the "Revue de chirurgie" for May, 1885, by Professor Verneuil, of Paris, on the treatment of cold abscess by drawing off the pus and injecting an ethereal solution of iodoform.

CASE I.—A short time (January 3, 1886) after reading the article referred to I was asked to see a young lady who was suffering from cervical abscess on the left side. She had had a similar abscess on the right side three years before, which had healed, but had left an unsightly scar. Her general condition at this time was poor; she was anemic, and her occupation (that of school-teacher) kept her closely confined to the house. She told me she could not afford to lose any time, and asked if there was not some way of treating the abscess by which to avoid leaving such an ugly scar. I stated to her that I knew of no operation other than dissecting out and scraping the cavity that would give her any relief, but that I would try and devise some form of treatment whereby she would lose no time. She reported at my office the following morning, when I drew off the pus in the abscess with the finest needle in my aspirating case. After the fluid had ceased running I slowly injected 250 minims of a five-per-cent. solution of iodoform in ether. The patient complained of some heat and smarting at the commencement of the injection, but this all passed off before I had completed the operation. The small wound made by the needle was closed with collodion, and the patient was given a tonic containing arsenic, iron, and iodide of potassium.

January 5th.—Patient called at my house. The seat of

yesterday's injection is quite swollen, but has lost its soreness and redness and causes her no annoyance.

6th.—Swelling much smaller, free from pain. On the opposite side, just below the old scar, I find a small enlarged gland, which feels soft in its center, but does not fluctuate. With the smallest needle I injected between 20 and 30 minims of a five-per-cent. ethereal solution of iodoform. The injection aroused some pain, which passed away in the course of an hour.

10th.—On account of death in the family the patient was called out of town, and I had not seen her for the past four days. She returned this morning, and came to the office during the afternoon. She says she has suffered no pain nor any inconvenience in or about her neck. The swelling over the site of the first operation is nearly gone, and the skin has resumed its natural color. The seat of the last injection is still quite hard, but the gland is much smaller.

April 3d.—Patient's condition good. All glandular swelling is well gone. There is no evidence on the former site of operation.

The patient passed through a moderately severe attack of typhoid fever during the autumn of 1886. She is now feeling quite well, and is able to attend to her duties as school-teacher. She has had no further trouble with the glands on her neck.

CASE II.—Kate B., school-girl, aged twelve, of strumous appearance, applied to me (March, 1886) at the Long Island College Dispensary, suffering from an abscess of the cervical glands on the left side of the neck of about the size of a hen's egg. There was only slight redness of the skin, but fluctuation was well marked. By means of a fine aspirating needle I gave exit to a small quantity of thin pus. I then slowly injected into the cavity between 200 and 300 minims of a five-per-cent. ethereal solution of iodoform. She complained of some heat and pain at first, but both had entirely passed away before she left the dispensary. She was ordered arsenic, iron, and iodide of potassium.

Six days later the patient called with her mother, who stated that her daughter had been at school regularly since; had not complained of any pain. The swelling was of about half the size it was when I injected it. Over the site of the injection a small spot of induration could be felt. The mother called my attention to the child's tonsils, which were enlarged. I directed her to paint them with tincture of iron three times daily, and to keep on with the medicine. At the end of the ninth day the swelling was fully two thirds smaller; no pain, redness, or heat; appetite good; and the patient said that she felt better.

I did not see this patient again until October, 1886, when the mother called to have me attend to her son, who had received a fracture of the humerus. She said that her daughter had had no more trouble with her neck since the operation, a statement which I was able to confirm a few days later, when I had an opportunity to examine the daughter.

CASE III.—July 1, 1886. Robert J., aged ten, in poor health. He had a swelling on the right side of his neck of about the size of an English walnut, bluish-red, evidently about to break. The case was an unfavorable one for injection; but, at the earnest request of the father, who had seen the effect in the first case cited above, I consented to operate. I drew off the pus, which was thin and watery, and contained small pieces of cheesy matter, and injected the cavity with a five-per-cent. ethereal solution of iodoform. The operation was performed

with great care, but just before I applied the bandage I noticed a small space where the solution was oozing out. The case progressed fairly well for the next two or three days, when (July 4th) the patient went on an excursion contrary to my wishes. On the way back a severe thunder-storm broke over the grove. The party that my patient was in got thoroughly wet, and, having no means of drying themselves, had to remain in damp clothing the rest of that day (about eight hours). That night I was sent for to see my patient. When I reached the hotel where he was staying I learned that a short time before they sent for me he had had a chill, and was complaining of a severe pain and burning over the left side of his neck and face, which were much inflamed. He was ordered quinine and iron, and his face and neck were bathed with a solution of biniodide of mercury, 1 to 3,000. The following morning I found him much better, the pain and redness nearly gone. The abscess which I had injected was about the same in size, but had lost its red, angry look. At the end of three weeks the swelling was entirely gone, leaving a very trifling scar, in marked contrast with the scar on the opposite side of his neck, where he had suffered from another abscess some time before.

I have treated by the method now mentioned nine cases in all. The swelling has gradually disappeared, taking from three weeks to two months.

Professor Verneuil's plan is, first to evacuate the abscess by aspiration. To do this he makes use of a large-sized trocar, handling the parts as little as possible. As soon as the liquid becomes slightly blood-stained he injects the cavity with the solution, which is one of five per cent. The largest quantity used is one hundred grammes; generally fifty or sixty grammes suffice. The amount of iodoform remaining in the abscess cavity to be absorbed rarely exceeds four to five grammes. He has never seen any bad effects from the absorption of ether.

My experience has been that generally one injection will be sufficient. In only three cases have I found it necessary to repeat the injection into the same swelling. In four cases I injected glands where I could not find pus, but where the center of the swelling was soft and in a condition to break down. In such cases my plan is to inject from ten to twenty minims of a two-per-cent. to three-per-cent. solution. In all cases the swelling is gradually reduced, so that in from four weeks to three months it has entirely disappeared. In all my cases I have employed internal treatment, as all the patients were more or less anæmic. Up to some six months ago I had been using a tonic containing arsenic, iron, and iodide of potassium; but, on account of the difficulty apothecaries have in making up a pleasant mixture that children would take, I have had some trouble in keeping up the treatment with the regularity I would like.

About six months ago I received a sample bottle of compound syrup of trifolium, which is a mixture containing iodide of potassium, combined with the vegetable alteratives red clover, burdock-root, prickly-ash bark, stiltingia, poke-root, and *Berberis aquifolium*, each ounce containing eight grains of the iodide of potassium. The skill of the manufacturers, Parke, Davis, & Co., has succeeded in so combining these drugs as to render the finished preparation very palatable—a property most essential to a preparation which is designed for prolonged administration.

I am in the habit of using the iodide of arsenic, bichlo-

ride of mercury, sulphide of calcium, or iron, with the compound syrup of trifolium. Children will take this combination for a long time and not be troubled with nausea or any derangement of the stomach. I have a patient, a child suffering from congenital syphilis, who has taken it since its first introduction, six or seven months ago. She is taking one fiftieth of a grain of bichloride in half an ounce of the compound syrup of trifolium, and has improved in every way while under its influence.

From my experience with this syrup in a great variety of cases, and from the very satisfactory results which I have obtained from its use, I am of the opinion that it is destined to occupy a high position among our therapeutic resources.

Since preparing the foregoing paper, I have learned that Professor Verneuil has substituted glycerin for ether, using fifteen to twenty grammes of iodoform in sufficient glycerin to make a thin paste.* I learn also that Professor Billroth, at his clinic, uses a solution of ten parts of iodoform to one hundred parts of glycerin, for the same purpose, and speaks very highly of it.†

Correspondence.

LETTER FROM PARIS.

The Treatment of Intestinal Obstruction. — The Green Diarrhoea of Infants; its Treatment with Lactic Acid and its Microbe. — Emulsions made with Milk Casein.

PARIS, June 3, 1887.

WHAT should one do when called to attend a patient who presents symptoms of intestinal obstruction? This is a question that has occupied several sittings of the *Société de chirurgie*, its consideration having been opened with a communication by Professor Verneuil. The practical conclusions that seem to have been arrived at in the discussion are about as follows: If the manifestations are not very rapid in their progress, we should first try such measures as purgatives, rectal injections, etc., as well as electricity. All these have given a certain amount of success, and they all deserve a trial at the outset, but it is not safe to persevere with them very long, as thereby we should only fatigue the intestine and be losing valuable time. It is true that M. Marc Sée has made known the case of a patient cured with rectal douches forty-five days after the onset of the obstruction, but such cases are very rare—far too rare to warrant protracted temporizing. All there is left to do when the means alluded to have failed is to resort to surgical procedures, of which there are these two: Opening the abdomen, searching for the obstruction, and relieving it; and opening the intestine above the obstruction, so as to allow of the free escape of feces. But what are the indications for each operation? First, a division of the cases must be made into the acute and the chronic—those in which the obstruction is easy to remove and those in which we know nothing about it. When the cause is known and, like cancer of the rectum, is incurable, the formation of an artificial anus is the rule, and it may be made on the right side, as practiced by M. Le Dentu, or on the left side, in the sigmoid flexure, as advocated by Verneuil, Reclus, and others. Paris surgeons are divided into two camps—those who follow Ver-

* "New York Medical Journal," vol. xl, p. 596.

† *Ibid.*, vol. xli, p. 56.

neuil and those who prefer Professor Trélat's methods. Trélat favors lumbar colotomy. Those of one party hold up as the advantages of inguinal colotomy the facility with which it is performed and the ease with which the artificial anus thus brought about may be kept in good condition; the others maintain that the site of the lumbar operation is better, and that it has the great advantage of not opening the peritoneal cavity. In any case, with modern antisepticism, either operation is benign, and the patient is relieved at once. M. Kirmisson gives seven recent cases, all cures, and, curious to say, the relief was immediate, occurring even before fecal matter came away. When, on the other hand, the accidents following intestinal obstruction are acute, and when we think we know that the difficulty can be readily relieved, laparotomy is the operation indicated. Internal hernia, volvulus, etc., come under this head. It is true that this is a very serious operation, but the obstacle to the free passage of the feces is not the only feature, the constriction of the intestine itself is the most important; besides, there are cases in which an artificial anus can be of no use whatever. Such a case was lately mentioned by Trélat, in which the trouble was a twisted intestinal coil. There are cases also in which no diagnosis is possible, and, unfortunately, they are the most numerous. In such instances M. Verneuil advises the immediate formation of an artificial anus, but M. Trélat and M. Le Fort prefer laparotomy. The opinion that seemed to prevail at the last meeting of the society was that a small opening might be made into the abdominal cavity, but that, if the cause of the obstruction was not soon discovered, it was better to proceed to enterotomy at once than to prolong the search. In this discussion, considerable attention was given to the work of American surgeons.

Professor Hayem, who holds the chair of therapeutics at the Paris faculty, has a children's service at the St. Antoine, and there his attention was lately directed to the frequency and gravity of gastro-intestinal troubles among the little patients, for which he at first tried all the various remedies usually recommended, but without much success. He then began the use of lactic acid, and noticed that it was often followed by great benefit, but that when it was discontinued the trouble would return in some patients, and that with others, after producing the happiest results, it would suddenly cease to be of use. It was then observed that, when several children were attacked with green diarrhœa in the service, a sort of epidemic of it would break out among the greater portion of the children. Struck with the frequent repetition of this occurrence, M. Hayem began to look upon the disease as infectious, and he gave orders that strict antiseptic measures should be adopted—all the affected infants' soiled linen was to be taken from the ward at once and plunged into a large tub containing a ten-per-cent. solution of corrosive sublimate. Soon after the adoption of this system, the green diarrhœa disappeared entirely from the wards, and has not returned. In the use of lactic acid, a teaspoonful of a two-per-cent. solution was given to the infant a quarter of an hour after nursing, from five to eight teaspoonfuls being given in the course of twenty-four hours. Under this treatment, all vomiting ceased, the passages diminished in number, their greenish color turned to yellow, and a cure generally resulted in from three to five days. M. Lesage, M. Hayem's interne, then undertook a series of investigations to ascertain the cause of these troubles, and he found a certain form of bacillus agglomerated in large masses in the stools; that explained the infectiousness. M. Hayem thinks that this microbe penetrates into the stomach with the food in the ordinary way, but does not find a favorable place for its pullulation unless the gastric secretions are altered as the accompaniment of the dyspepsia, when the bacilli can pass on into the intestine

without having lost their vegetative power; once in the intestine, they find a neutral or alkaline medium in which they can go on in their development. The lactic acid probably acts by increasing the acidity of the gastric juice, enough at least to produce sterilization of the germs of the bacilli; hydrochloric acid did not act so well. Probably there are other substances, such as naphthaline, iodoform, calomel, etc., that may serve as well as disinfectants or to neutralize the microbes. Professor Damaschino, through his former interne, M. Clado, professes to have discovered this special microbe some two years ago, and says that it was afterward spoken of and experimented upon in America, but M. Hayem says that nothing more was done about it, and that he did not know of these facts. At any rate, M. Lesage has gone farther, and has shown that this microbe causes green diarrhœa in children, as its introduction into the digestive tract proves.

M. Léger has made a communication to the *Société de pharmacie* that is of considerable therapeutical interest. It relates to milk casein as an emulsifying agent. Emulsions made with it seem to be much more perfect and stable than any of the preparations made with the various gums, and they have the very great advantage of being supported by the most delicate stomachs, which, as we all know, can not be said of the emulsions made with mucilages. M. Cadet de Gassicourt has tried it with children at the Trousseau, and finds that with castor-oil it forms an emulsion which the children take without the slightest disgust, and which is better tolerated than any other form. Certainly, if we can approach the natural emulsions, it is an achievement much to be desired. In milk, the oily part is held in suspension by an albuminoid—casein—which can be precipitated from it by acetic acid, so that an emulsion prepared with this substance would be a sort of milk having the butter replaced by a medicinal substance. It is well known that not only castor-oil but cod-liver oil and other oils are best tolerated in this form. To prepare milk casein, shake together four litres (about five pints) of milk and sixty grammes (about two ounces) of ammonia-water, and let the mixture stand for twenty-four hours, when it will be found to have separated into two layers, the upper one containing the oily matters, and the lower one consisting of whey. The liquid is now decanted, and crystallization is effected with acetic acid, as before mentioned. The magma is compressed, and ten grammes (about one hundred and fifty grains) of sodium bicarbonate are added. The casein dissolves, and, if a certain quantity of sugar is added, the saccharate of casein can be isolated in the form of a powder which will contain 10 per cent. of soluble casein. This keeps well, and has a slight odor like that of pastry. As to its use: emulsions of all substances that dissolve readily in alcohol—such as balsams, resins, etc.—can be made in the bottle itself, so that a physician may prescribe it by ordering the substance to be dissolved in the smallest quantity of alcohol, the saccharate of casein to be added dissolved in its weight of water, and syrup or water added as may be desired. For an emulsion of one hundred and twenty-five parts, add ten parts of the saccharate of casein. For the insoluble oils, the emulsion must be made in a mortar, the gums ordinarily used being replaced by the same quantity of the casein saccharate.

Antiseptic Dressings.—The dressings which Roser describes ("Centrbl. f. Chir.," 1887, No. 16) differ little from those commonly in use in the hospitals in New York. He is accustomed to cover the dressing of antiseptic absorbent mull with a thick layer of non-absorbent mull, to prevent the penetration of the secretions of a wound. When a plaster splint is placed over this, as in resections of the knee, on its removal, after ten or fourteen days, no discharge is found to have reached the plaster.

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THE THERAPEUTICAL VALUE OF BLOODLETTING.

BUT a few years ago it was customary to bleed too frequently, and almost every morbid condition was thought to demand bloodletting. Practically, we never resort to the measure now, perhaps because we do not consider to their full extent the advantages to be derived from it. From one excess we have fallen into the other. The disciples of the lancet bled according to a system; it was a formula. Their adversaries abstained by convention, not always by conviction; that, too, was a formula. There was error on either side. Therapeutical truth does not lie in a mere formula; it is to be found in facts proved clinically and experimentally, not in mere systems. It is in some such strain as this that M. Eloy calls attention, in a recent number of the "*Gazette hebdomadaire de médecine et de chirurgie*," to an important essay presented to the Belgian Academy by M. Fredericq, of Liège. The essay is a compendious summary of our knowledge of the physiological action of bloodletting, and embraces an attempt to establish definitely all the indications and contra-indications of this powerful therapeutical agent. Incomplete as it is, and as all such efforts must ever be, it nevertheless abounds in proofs that we ought to throw aside the prejudice occasioned by the abuse of bloodletting in the past, and once more avail ourselves of a measure capable of rendering such valuable aid. What there is still to condemn, in spite of the efforts made at times to re-establish it, is the bleeding in hæmorrhagic proportions resorted to by those enthusiasts who have been styled ironically "the great bleeders of past times."

As was said by Marshall Hall and some of his contemporaries, bleeding modifies more or less lastingly the respiration, the temperature, and the circulation, and affects the nutritive changes still more profoundly. The relaxation of the respiratory movements that occurs on opening a vein has been accounted for in many different ways. A hæmorrhage, provided it is not excessive, does not notably diminish the quantity of blood in either the general or the pulmonary circulation, the withdrawal of from half a pint to a pint causing on an average the loss of from one two-hundred-and-fortieth to one one-hundred-and-twentieth of the weight of the body. It does, however, change the functional relation between the lungs and the heart, as has been proved by the elaborate researches of Embrodt and more recently those of Fredericq. The last-named observer has shown that a fall of pressure amounting to the relation of 1 to 2, or even 1 to 3, takes place after a loss of blood hardly equivalent to one one-hundredth of the weight of the animal; and Arloing and Vinay have not only confirmed this, but have proved in addition the permanence of the effect, as shown by

the persistence of this lowered tension after the closure of the vessel.

As regards the influence of bloodletting on the temperature, putting aside the incontestable fact that great hæmorrhages produce a very considerable lessening of the heat of the body, we have Heidenhain's demonstration that the fall and rise of the thermometric column are synchronous with the corresponding changes in the mercury of the hæmodynamometer. A plausible deduction from this would be that bloodletting is justifiable in sthenic inflammations attended with hyperpyrexia, but a little reflection will show that it is not a deduction fully borne out. What we have most to fear from fever is its pernicious effect on nutrition, but bleeding also deprives the body of its tissue-forming elements; hence the ultimate results of both are the same. As has been said by Lorain, the fall of temperature following hæmorrhage is only temporary; it is a mere peripheral cooling. A remedy truly worthy to be called antipyretic, however, should be capable of affecting the heat-producing function, not merely the axillary, vaginal, rectal, or buccal temperature—since the danger of the hyperpyrexia does not lie so much in the high temperature *per se* as in the nutritive changes of which it is merely the outward expression.

Bleeding modifies respiration. Is it indicated in pulmonary affections? Depletive bleeding should, according to the theory of those who employ it, diminish the initial hyperæmia of inflammation of the lungs by enabling the pulmonary to profit by a lessening of the general circulation—a bald hope, in the face of the fact, experimentally proved, that bleeding, within therapeutic limits, does not sensibly lessen the quantity of the blood. On this assumption, nevertheless, rests M. Buequoy's recommendation to bleed in the initial stage of pericarditis accompanied by grave phenomena—always, however, on the condition of its early employment in sufficient abundance, the fact being at the same time borne in mind of the danger incurred by the inherent feebleness of the cardiac muscle in this disease. On the same ground, too, M. Peter advises bleeding in cerebral congestion in robust and vigorous individuals, and M. Bouveret insists on the good results to be obtained by bleeding in capillary bronchitis and in emphysema. If we take this view, we can readily appreciate the value of bloodletting in the treatment of cardiac affections; indeed, the results obtained with it by some modern clinicians, such as Buequoy, Jaccoud, Peter, Henri Huchard, and others, have at times resembled resurrections. In cardiac affections accompanied by extreme feebleness of the heart's action, bloodletting enables us to relieve the organ of a surcharge of blood exceeding its motive power. It is thus, as has been shown by Huchard, in the "*Union médicale*," that digitalis finds its full action when its administration has been preceded by copious bleeding; the aim being to diminish the resistance of the peripheral portion of the circulatory apparatus and the embarrassment of the right heart. It re-establishes the equilibrium between the motive power and the mass to be moved. The therapeutic action of heart tonics consists in augmenting the contractile force of the heart and in reducing the volume of the blood by setting up diuresis. Dras-

tics accomplish the latter part by increasing the intestinal secretion; bloodletting does it in a more direct way. Its employment is therefore rational in the treatment of cardiac affections accompanied by insufficient contractions of the heart; and, according to Bucquoy, it is never in this way the cause of anæmia or of irremediable cachexia.

What are the indications for bloodletting in over-action of the heart? In these cases, the heart's action surpasses its aim; the vascular pressure is augmented, and the patient is in danger of congestion, cerebral or pulmonary. The indications are to re-establish the circulatory equipoise. A vein is opened, and the symptoms are mitigated, to return after the renewed filling of the vessels by interstitial absorption. Shall we repeat the bleeding? Yes, if the general nutrition permits, and if other remedies fail. There is another class of cases—affections of the aorta, including aortitis and aneurysm—in which excessive vascular tension plays a part. Here conservatism is demanded, but there is no particular stage when the measure is specially applicable.

To sum up: Bloodletting should not fall into utter disuse. Weighty accusations have been brought against it, but let us allow only what is confirmed by modern scientific research—namely, its powerlessness in inflammations and in fevers, its dangers in chronic affections, and the obscure rôle it plays in neuroses and in eclampsia; while physiology, in spite of its gaps, teaches the therapist that the blood is always being renewed, that the stability of the circulation is not hindered by a moderate bloodletting, and that, although a powerful modifier of the circulatory equilibrium, this agent has no other dangers than those that arise from its over-abundant employment, its excessive repetition, and its inopportune use. Physiology teaches us also that the philosophy of this therapeutical measure, around which too much majesty and solemnity have gathered, is found not in systems, but in the modest aphorism: "Use, do not abuse!"

MINOR PARAGRAPHS.

THE INFLUENCE OF THE BERGEON TREATMENT ON THE INFECTIONOUSNESS OF PHTHISIS.

At the recent *Congrès des délégués des sociétés savantes*, as we learn from our Paris correspondent, M. Lamallée, after giving it as his opinion that the Bergeon method of treatment was inefficient in the cavernous stage of phthisis, although very useful in other stages, made the important statement that, whereas he had succeeded in communicating tuberculosis to chickens by making them swallow the sputa of phthisical patients, he had not been able to infect them when he used sputa from persons who were under the Bergeon treatment at the time.

THE INCUBATION OF RABIES.

DR. G. SCHLEMMER has furnished the "Union médicale" with an abstract of an article contributed by Dr. Bauer to the "Münchener medicinische Wochenschrift" giving an analysis of 510 cases of rabies, with special reference to the duration of the period of incubation. It was from 1 day to 19 days in 8.24 per cent., from 20 to 39 days in 28.43 per cent., from 40 to 59

in 21.17 per cent., from 60 to 79 in 15.30 per cent., from 80 to 99 in 9.22 per cent., from 100 to 149 in 7.65 per cent., from 150 to 199 in 5.69 per cent., from 200 to 249 in 0.98 per cent., from 250 to 330 in 2.35 per cent., and from 370 to 460 in 1.18 per cent. The mean duration was 80 days in men, 65 in women, and 37 in children. That of multiple wounds and wounds of the head was 55 days; that of wounds of the lower limbs, 74 days; and that of wounds of the upper limbs, 81.5 days. That of wolf-bites was 39 days; that of dog-bites, 73.5 days; and that of cat-bites, 80 days.

THE KENTUCKY STATE MEDICAL SOCIETY.

At the thirty-second annual meeting, lately held in Paducah, a number of practical papers were read, there was a satisfactory attendance, and twenty-one new members were elected. It appears that one of the members, Dr. Dudley S. Reynolds, a gentleman who is widely known and esteemed in the profession, had shortly before been subjected to a public attack upon his personal and professional character; and it is gratifying to observe that one of the acts of the meeting was the passage of certain resolutions, offered by Dr. McMurtrie, testifying to Dr. Reynolds's high professional and social standing and to the fact of his having ranked for fifteen years among the society's foremost members. The annual address by the president, Dr. W. M. Wathe, was a learned and judicious exposition of the true status of specialism in medical study and practice.

A COMMUNITY OF SPITTERS.

MORE and more do the streets of New York flow, not with blood, but with saliva. Its ejaculation, variously tintured with tobacco, etc., seems to be a favorite manifestation of vulgarity and offensiveness. In a memorial lately addressed to the mayor by the Ladies' Health Protective Association—a document that has already borne fruit in the matter of garbage collection—it is modestly asked if it would be objectionable for the association to place signs about the city "requesting the avoidance of expectoration on the sidewalks." We do not know what answer Mr. Hewitt made to the question, or whether he made any, but we earnestly hope that this characteristic American nuisance may be mitigated in some way.

BUCK TAYLOR'S BROKEN THIGH.

BUCK TAYLOR is attracting attention in London at the present time, not only from his being the "King of the Cowboys" and, as the "British Medical Journal" says, an "unsophisticated child of nature," but also by reason of his having recently sustained a fracture of the femur of a character that, as described in the journal mentioned, is noteworthy from several points of view. It was caused by direct violence, and that not severe enough to injure the soft parts, and is completely transverse, so that the shortening is as trifling as that which follows Macewen's operation. It is interesting to learn, too, that, together with the use of a long splint and weight-and-pulley extension, "a kettle-holder splint was fitted to the anterior aspect of the thigh."

THE AMERICAN ORTHOPÆDIC ASSOCIATION.

It will be seen by the summary of the proceedings of the first annual meeting of this new society, which we give in this number of the Journal, that it has begun under favorable auspices a career which we hope will be long and successful. Orthopædies is one of the branches in which American surgeons have won distinction, and the statement was made at the as-

sociation's dinner that the elder Sayre, who was present, had been the first to hold a professorship in that branch. This is not only creditable to him and to the college in which he holds the chair, but no inconsiderable earnest of the prosperity and usefulness of an organization in which he takes part. It was made to appear very plainly that the assembled orthopædists did not look upon their art as limited or primarily devoted to the devising of apparatus, but as the application of every medical and surgical resource to the prevention and correction of deformities. So broad a view having been taken at the start, it is difficult to see that the new society is not destined to become a most efficient one.

ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Fourth Division of the Health Department for the following statement of cases and deaths reported during the two weeks ending June 21, 1887:

DISEASES.	Week ending June 14.		Week ending June 21.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever.....	9	4	3	3
Scarlet fever.....	55	13	63	11
Cerebro-spinal meningitis...	10	10	6	7
Measles.....	31	3	37	5
Diphtheria.....	91	37	136	53
Small-pox.....	6	2	3	2

The Health of New York City.—During the six months ending Tuesday, June 21st, there were reported to the Sanitary Bureau of the Fourth Division of the Health Department 229 cases of typhoid fever and 97 deaths; 1,355 cases of scarlet fever and 267 deaths; 116 cases of cerebro-spinal meningitis and 108 deaths; 5,998 cases of measles and 747 deaths; 2,666 cases of diphtheria and 1,124 deaths; 271 cases of small-pox and 73 deaths; and 2 cases of typhus.

The New York Post-graduate Medical School and Hospital.—Dr. Seneca D. Powell has been elected professor of clinical surgery in the school.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from June 5, 1887, to June 18, 1887:*

FRYER, B. E., Major and Surgeon. Granted sick leave for one month. S. O. 28, current series, Division of the Pacific, amended by S. O. 29, Division of the Pacific, June 2, 1887.

TREMAINE, W. S., Major and Surgeon. Sick leave still further extended two months on account of sickness. S. O. 129, A. G. O., June 6, 1887.

APPEL, A. H., Captain and Assistant Surgeon. Granted leave of absence, on surgeon's certificate of disability, six months. S. O. 127, A. G. O., June 3, 1887.

BAXTER, J. H., Colonel and Chief Medical Purveyor. To proceed to New York city for the purpose of inspecting the medical purveying depot at that place. S. O. 133, A. G. O., June 10, 1887.

Par. 15, S. O. 52, A. G. O., March 5, 1887, is so amended by Par. 9, S. O. 133, A. G. O., June 10, 1887, as to direct that CHARLES H. ALDEN, Major and Surgeon, be relieved from duty in the Department of Dakota about June 20, 1887, and he is granted leave of absence from the date when so relieved, to include August 27, 1887.

FRYER, B. E., Major and Surgeon. Found incapacitated for active service by an Army Retiring Board, and granted leave of absence until further orders on account of disability. S. O. 133, A. G. O., June 10, 1887.

HALL, JOHN D., Captain and Assistant Surgeon. Leave of absence extended one month. S. O. 136, A. G. O., June 14, 1887.

BORDEN, W. C., First Lieutenant and Assistant Surgeon. Granted leave of absence for one month. S. O. 138, A. G. O., June 16, 1887.

Naval Intelligence.—*Official List of Changes in the Medical Corps of the United States Navy for the two weeks ending June 18, 1887:*

BURNSFORD, JOHN F., Surgeon. Ordered to the Smithsonian Institution at Washington, D. C.

TRYON, J. RUFUS, Surgeon. Detached from the U. S. Steamer Quinnebaug, and ordered home.

SIEGFRIED, CHARLES A., Surgeon. Ordered to the U. S. Steamer Quinnebaug.

MARTIN, WILLIAM, Assistant Surgeon. Detached from the U. S. Steamer Pinta, and ordered home.

FITTS, HENRY B., Passed Assistant Surgeon. Detached from the Receiving-ship Vermont, and ordered to the U. S. Steamer Pinta.

FIELD, JAMES G., Assistant Surgeon. Ordered to the Receiving-ship Vermont.

VAN REYPEN, W. K., Surgeon. Ordered June 8th for examination preliminary to promotion as Medical Inspector.

ROBINSON, SOMERSET, Medical Inspector. Ordered June 20th before a Retiring Board convened at Mare Island, Cal.

WALTON, THOMAS C., Surgeon. Ordered June 15th for examination preliminary to promotion as Medical Inspector.

PRICE, A. F., Surgeon. Detached from medical duty, Annapolis, Md., and to proceed home and wait orders.

FLINT, JAMES M., Surgeon. Detached from the Albatross and ordered to the Smithsonian Institution.

WILLSON, W. G. G., Passed Assistant Surgeon. Ordered to the Receiving-ship Independence, Mare Island, Cal.

Marine-Hospital Service.—*Official List of Changes of Stations and Duties of Medical Officers of the United States Marine-Hospital Service for the three weeks ending June 18, 1887:*

GOLDSBOROUGH, C. B., Surgeon. Detailed to represent the service at the meeting of the American Medical Association at Chicago, Ill., June 6, 1887. June 1, 1887.

BANKS, C. E., Passed Assistant Surgeon. When relieved, to rejoin station at Boston, Mass. May 23, 1887.

NORMAN, SEATON, Assistant Surgeon. When relieved, to rejoin station at Cape Charles, Quarantine. May 26, 1887.

BRATTON, W. D., Assistant Surgeon. To proceed to Seattle, W. T., on special duty. June 8, 1887. When relieved, to rejoin station at San Francisco, Cal. June 11, 1887.

WATKINS, R. B., Assistant Surgeon. Granted leave of absence for thirty days. June 8, 1887.

HEATH, F. C., Assistant Surgeon. To proceed to Marine Hospital, Detroit, Mich., for temporary duty. June 17, 1887.

Society Meetings for the Coming Week:

MONDAY, *June 27th:* Medical Society of the County of New York; Boston Society for Medical Improvement; Cambridge, Mass., Society for Medical Improvement.

TUESDAY, *June 28th:* New York Academy of Medicine (Section in Laryngology and Rhinology); Buffalo, N. Y., Obstetrical Society (private); Medical Societies of the Counties of Essex (annual—Elizabethtown) and Lewis (annual), N. Y.

WEDNESDAY, *June 29th:* Auburn, N. Y., City Medical Association; Berkshire, Mass., District Medical Society (Pittsfield).

THURSDAY, *June 30th*: Cumberland, Me., County Medical Society (Portland).

SATURDAY, *July 2d*: Clinical Society of the New York Post-graduate Medical School and Hospital; Miller's River, Mass., Medical Society.

OBITUARY NOTES.

Woolsey Johnson, M. D., one of the physicians to the New York Hospital and a member of the City Board of Health, died on Tuesday, the 21st instant, after a lingering illness, in the forty-sixth year of his age. The deceased was a graduate of the College of Physicians and Surgeons of the class of 1863. He was a native of Stratford, Conn., at which place his remains have been interred. Dr. Johnson was an exceedingly amiable man and very popular socially—so popular, in fact, that it is highly to his credit that he continued to devote himself to his professional work.

Proceedings of Societies.

AMERICAN ORTHOPÆDIC ASSOCIATION.

First Annual Meeting, held in New York, June 15 and 16, 1887.

DR. VIRGIL P. GIBNEY, of New York, was elected temporary chairman, and Dr. LEWIS HALL SAYRE, of New York, temporary secretary.

Hypertrophic Elongation and Enlargement of the Lower Extremity.—Dr. PACKARD, of Hartford, read the history of a case of enlargement and elongation of one lower extremity in a boy whom he first saw six years ago. There was a family history of phthisis, but no evidence of syphilis in the parents or child. At this time the affected leg was three fourths of an inch longer than the other. The hypertrophic condition seemed to involve all the tissues of the limb, and extended a little distance up on the body. The skin, however, appeared normal. The motions of the limb were natural. The speaker applied a rubber bandage, but the limb continued to develop in length and size, and at a recent date it was three inches longer than the other limb, the thigh two inches larger than its fellow, and the calf an inch and a half larger than its fellow. Lately the patient was seen in consultation by Dr. Gibney. Amputation of the affected member, taking off fourteen inches below the knee, was performed on account of the disparity in the length of the limbs. The points of interest as distinguishing the case from those of elephantiasis seemed to be the length of the limb and the comparatively healthy condition of the skin.

Dr. MORTON, of Philadelphia, had seen one case similar to that described by Dr. Packard, excepting that there was not so much increase in the length of the limb. He thought it would be well to cut off the nutrition of the limb, and with that object in view stretched the sciatic nerve. The limb grew pale, and diminished much in size. He had been led to adopt this procedure from experience in two cases of elephantiasis of the leg, in one of which he took out a piece of the sciatic nerve, and in the other simply divided the nerve, with the result of diminution in the size of the leg. He thought the stretching operation should be preferred, as it did not entirely destroy the function of the member.

Instruments for the Forcible Correction of Club-foot.—Dr. MORTON made some general remarks upon club-foot, and presented two instruments for the correction of the deformity

by mechanical force. There were few cases of congenital club-foot which, if seen very early, could not be corrected by manipulation without apparatus. But when the condition occurred in robust children from eight to fourteen years of age, we might have to resort to severer methods. Even the division of tendons might not be sufficient. At any rate, subsequent constant manual or instrumental effort might be required to prevent recurrence of the deformity. Much more could be done, and in a much shorter time, by an apparatus which he had employed a number of years, consisting of a block of wood for a foot-rest, braces, leather girdles, and screws by which the foot could be forced into the desired position. In the adult, for instance, the tarsus was exceedingly unyielding, and it was almost impossible to bring the foot into position without an operation on the tarsus; but, since the introduction of perfected antiseptic methods, excision of the bones was preferable in adults, as it enabled one to accomplish in a short time what other methods could do only after months. In certain cases, however, he had resorted to a second instrument which he presented, with which great force could be exerted upon the tarsus by means of a screw, breaking the foot into position. The foot could be brought into exaggerated correction, resolving an equino-varus into an equino-valgus. Photographs illustrating the excellent results from excision of the tarsus were shown. Every tendon or band which interfered with the proper rectification of the foot should be divided; then the foot should be placed in one or the other of the apparatuses shown, and forced into position at one sitting. Afterward it should be put into a carefully fitted tin splint.

Dr. SHAEFER, of New York, had many years ago felt very much as Dr. Morton did regarding the inveterate character of certain cases of club-foot, but he was becoming more and more surprised every day at the adaptability of traction to the very class of cases described by the author. Not that every case which came under his care was cured by traction, but the large majority were, quite a number of them being cases in which other surgeons had deemed tenotomy or osteotomy necessary. He maintained that the apparent loss of time was more than compensated for by the symmetry and functional capacity of the foot which followed traction treatment. It was remarkable to what a degree the contracted tissues became elongated under persistent traction force.

Division of the Tendo Achillis in Club-foot.—Dr. L. H. SAYRE presented a boy whose tendo Achillis he had recently divided for talipes equinus, with the result of being able to bring the foot fully to a right angle. He first saw the patient four years ago, when, as a result of infantile paralysis, there was extension of the foot, from loss of power in the anterior group of muscles. He saw him again two years ago, when the tendo Achillis was contracted, and advised division of the tendon and the plantar fascia, but it was not permitted. Afterward the patient was treated about seven months by traction apparatus at the hands of another surgeon, but unsuccessfully. Three weeks ago the speaker divided the tendon and the plantar fascia, and now the boy could flex the foot to a right angle. The tendo Achillis had united.

Dr. STILLMAN, of New York, spoke of the preparatory treatment of club-foot. He softened the parts by applying a thick poultice, composed of bran and marsh-mallow; this rendered both the immediate and the after-treatment much easier. The operative treatment was less important than the after-treatment. Formerly he had held the view that every case of club-foot could be cured by mechanical means, but he had changed his opinion. Certain cases could not be cured by any amount of stretching.

Chronic Osteitis of the Shoulder Joint.—Dr. GIBNEY pre-

sented two young women, and gave their further history since presenting them at the Orthopædic Section of the Academy of Medicine in 1886. In the first, since 1886, an abscess near the axilla, which had been several months in forming, finally opened spontaneously. It continued to discharge two or three months, and then closed. This patient had improved decidedly during the past year; the affected arm and shoulder had increased in size and become fairly mobile, constituting a useful member. In the second case, in which *brisement forcé* had been formerly employed, the further history was that a small abscess had formed, and the pus had been withdrawn. The arm had continued to atrophy, and there was now a very marked difference between the two members.

Dr. RIDLON related the case of a girl whom he had treated about two years for ankle-joint disease. When she had about recovered, disease appeared at the shoulder joint. He became convinced that hereditary syphilis had something to do with it, and rubbed in blue ointment, and eight months later the shoulder, which had been immovable and to some extent atrophied, admitted of considerable motion.

Pott's Disease.—Dr. H. L. TAYLOR related a case of Pott's disease, the interesting points in which were extreme lateral distortion at two points, and prompt rectification by giving antero-posterior support.

Remarks upon the case, relating to the question of the diagnosis of Pott's disease at a time when marked lateral deformity was the principal symptom, and to the decided benefit derived from an antero-posterior support, were made by Dr. Ridlon, Dr. Ketch, Dr. Shaffer, Dr. Stillman, and Dr. Hodgson.

An Ischiadic Crutch.—Dr. JUDSON, of New York, presented an inexpensive ischiadic crutch, for use in cases of disease of the knee or ankle joint, or conditions in which otherwise an axillary crutch would be required.

On Tying the Tibia and Femur together in Excision of the Knee.—Dr. MORTON made some remarks upon the use of the largest catgut ligature for tying the femur and tibia together in excision of the knee. He had employed this method in several cases, and had found that union resulted much more quickly than when the limb was put up simply in a fracture-box or plaster-of-Paris dressing. The surfaces were much more closely approximated, favoring early union. To hold the knee rigid it was necessary, further, only to apply a posterior splint and a bandage. Pain, delayed union, suppuration, and high temperature, which often followed excision of the knee joint, were avoided by this method. He had also applied this principle to fracture of the patella. Three or four days after the fracture he drilled holes through the separated pieces, and drew them together by means of catgut. No other treatment was necessary. In this connection he made some remarks upon one cause of non-union in fracture of the patella—namely, the intervention of fragments of the tendon between the bony surfaces.

Dr. SHAFFER referred to a case in which, some time after excision of the knee, increasing deformity at that joint took place. It was difficult to decide whether there had been imperfect coaptation of the parts, or whether some of the diseased tissue had been left. Careful examination revealed slight motion in the joint.

A Plantar Spring for Flat-foot.—Dr. ROBERTS, of Philadelphia, presented a plantar spring for use in flat-foot, which was a modification by Mr. Lee of the plantar spring devised by Dr. Knight. In addition to the spring corresponding to the arch of the foot, the instrument turned upward at its inner border, presenting flange-like projections, to prevent the rotation of the foot inward. The weight of the body coming upon this spring, the normal rhythm of walking was permitted, during which suc-

cessive concussions took place upon the os calcis, the fifth metatarsal bone, and the first metatarsal bone.

Dr. KETCH had used this instrument, and said that one advantage which it possessed over similar instruments was that it could be taken out of one shoe and readily placed in another.

Dr. SHAFFER had noticed in a number of cases of flat-foot, or non-deforming club-foot, that there was shortening of the gastrocnemius muscle, and it had been a question in his mind whether this shortening had occurred first, or whether it had followed a giving way of the plantar arch. He was disposed to think that this shortening of the gastrocnemius, in lifting the os calcis from the ground, assisted in the development of flat-foot, for the weight was thrown upon the metatarsus. There was increased antero-posterior mobility at the metatarsal joint, with limited motion of the os calcis in a direction downward and forward. He thought that recovery was much enhanced by division of the tendo Achillis.

Dr. L. H. SAYRE related a case seeming to support Dr. Shaffer's view, and Dr. STILLMAN described his method of treating flat-foot, which seemed also to owe its advantages partly to the fact that during the treatment tension was made upon the gastrocnemius.

Dr. ROBERTS had seen a considerable number of cases of flat-foot, but in none had he observed marked shortening of the tendo Achillis. Nor was this deformity of the plantar arch encouraged by the abominable fashion among ladies of wearing high heels, which tended to shorten the tendon.

Dr. GIBNEY remembered having read an article in the "Lancet" within a year, in which the writer advocated raising the heel for the cure of flat-foot, and said that ballet dancers, who had shortening of the gastrocnemii, had anything else than flat-foot. The speaker had had one or two young lady patients study the ballet somewhat, and they had not been under the necessity of wearing the spring for flat-foot.

Hip-joint Disease persisting after Apparent Cure.—Dr. BRADFORD, of Boston, gave the history of a case of hip-joint disease. The patient had been considered well for six years, the only evidence of the old disease being ankylosis of the joint. He then died of tetanus, and at the autopsy caries of the acetabulum and an inflammatory deposit in the pelvis were found. There was a small sequestrum on the head of the femur, but the head had become solidified and was strong, so that the patient had been able to walk well with a stiff joint.

Excision of the Hip Joint.—Dr. L. H. SAYRE related the history of a case of hip-joint disease in a boy twelve years of age, who, two years before he excised the joint, had consulted Dr. H. L. Taylor for supposed disease of the hip joint. Dr. Sayre operated in February last, first making an exploratory incision over a fluctuating tumor in the gluteal region. He thought the abscess was connected with disease of the ilium, and that the joint was not implicated. The difficulty in diagnosis was not cleared up after letting out the pus until, on manipulation, gelatiniform material exuded, which he always regarded as evidence of implication of the joint. Disease of the femur and acetabulum was found, and excision was performed. He thought the case was in line with that presented by Dr. Bradford, going to show that hip-joint disease might be present a long time after an apparent cure. The patient had done well since the operation. The boy's sister thought he had always walked as if he had a wooden leg.

Dr. SHAFFER thought that the propriety of resorting to excision in disease of the hip joint in cases presumably ending for it was less evident than in disease of the knee joint and other joints where excision was really practicable. Scraping of the acetabulum was not really excision.

Dr. BRADFORD said that it was not customary to perform complete excision of the hip joint in this country, but that he had seen it done in Europe.

Two Cases of Pott's Disease in Children; Difficulty of Precise Diagnosis.—Dr. RIDLON recited the history of the two cases, which during the first months pointed to disease of the vertebrae in the cervical region, although no knuckle had yet appeared; but after eight months' treatment in one case and five months' treatment in the other, the error in locating the disease became apparent; the vertebrae really affected were the first dorsal.

Dr. KETCH referred to similar cases.

The Treatment of Psoas Abscess from Caries of the Spine.—Dr. HODGEN, of St. Louis, gave the history of five cases of psoas abscess consequent on caries of the spine, treated by early aspiration of the abscess. The treatment, although not new, had not, he thought, received the attention it merited. The three methods of treating such abscesses were: The expectant, the operative with drainage, and aspiration as soon as the diagnosis of vertebral disease could be made and the presence of pus detected. The objections to allowing the abscess to take care of itself were that there was destruction of tissue, that there was interference with function, and that there was inconvenience if not pain to the patient. The uncertainty as to where the abscess would burrow was also an objection to the expectant plan; it might burrow under Poupart's ligament, or point in the gluteal region and do no harm, yet it might enter the bladder or the intestine. In one of his cases he believed it had opened into the hip joint of the same side with the abscess. In each of his five cases the result, after from two to five aspirations, had been good. No evidence was left of there ever having been psoas abscess. He would not aspirate more than four, five, or seven times; after that he would put on the plaster-of-Paris jacket and let the abscess alone.

Dr. SHAFFER said that Dr. Hodgen's results with aspiration had been much better than his own. In many cases he had found that repeated aspiration resulted in the withdrawal of but a small quantity of the pus. He had seen several cases of rupture into the rectum, and if he could have his choice he would always let the abscess open into the rectum. A valvular opening formed, and bad results had not followed. He also had seen several cases in which the abscess had opened into the bladder without serious results.

Dr. RIDLON had had an extensive experience with such abscesses. He had repeatedly seen large abscesses dry up without any known cause. He believed in letting the abscesses alone. The fact that they might dry up after aspiration did not prove that aspiration was the cause of it.

Dr. KETCH said that Dr. Ridlon's remarks were in accord with those of the orthopaedic surgeons of New York, as shown in a recent discussion on the treatment of abscess connected with hip-joint disease. The two conditions were similar, and the speakers then generally held that the non-interference plan was the best. On the contrary, the general surgeons present had advocated active procedures. What had struck the speaker was the fact that patients with abscess connected with joint or spine disease did much better when wearing a comprehensive support than without it; the abscess seemed to pursue a much more benign course.

An Antero-posterior Splint for Pott's Disease was presented by Dr. H. L. TAYLOR. It was a modification of the old Taylor splint, and had been used with satisfaction for ten years.

An Abduction Apparatus.—Dr. TAYLOR also presented an instrument intended to overcome adduction from false ankylosis in hip disease, or adduction resulting from old dislocation. An abduction force could be applied which was absolutely irresisti-

ble. It was surprising to see how much corrective force the patient could bear without much discomfort. Adduction of the most rigid character had given way under it in one or two days. Afterward a retentive apparatus was applied.

Constant Traction with the Long Hip Splint.—Dr. KETCH presented a simple apparatus for producing constant traction by the long hip splint, which, as ordinarily worn, exerted intermittent traction.

A Round-shoulder Apparatus.—Dr. STILLMAN presented an apparatus for correcting round shoulders. The general principle, that of a V-lever, could be applied in connection with the use of ordinary braces for the correction of various deformities.

Osteoclasis.—Dr. DILLON BROWN presented a lad on whom he had performed osteoclasis. There was a very marked anterior curve, which some surgeons thought made the osteoclast inapplicable. This was the only case out of a series of fifteen in which there had been any return of the deformity, although all the limbs had been kept in plaster for only six weeks, and then allowed to go without a support. Photographs were presented.

Psoas Abscess.—Dr. BRADFORD gave the histories of five cases in which he had performed Koenig's operation, cutting down and removing caseous matter and fragments of sequestra. All the patients had done well. When there was a large collection of pus which could not be absorbed, he thought an incision should be made, and the abscess drained thoroughly. He related a case of double iliac abscess so treated.

Torticollis due to an Anomaly of Vision.—Dr. BRADFORD related the case of a boy, twelve years of age, referred to him on account of supposed torticollis. On examination, he found none of the muscles contracted, and no apparent reason for the boy's carrying his head on one side. It was observed that in order to secure binocular vision he had to turn his head to one side in the position of one having torticollis. An oculist to whom he had sent the patient thought he would be able to cure him.

An Abduction Apparatus.—Dr. KNICKERBOCKER gave an illustration of a means of overcoming adduction in hip disorders.

Officers were elected as follows: President, Dr. Newton M. Shaffer, of New York; vice-presidents, Dr. E. H. Bradford, of Boston, and Dr. A. S. Roberts, of Philadelphia; secretary and treasurer, Dr. L. H. Sayre, of New York; corresponding secretary, Dr. Samuel Ketch, of New York.

The time and place of meeting in 1888 were left with the Executive Committee.

CLINICAL SOCIETY OF THE NEW YORK POST-GRADUATE MEDICAL SCHOOL AND HOSPITAL.

Meeting of May 7, 1887.

Dr. CHARLES H. BROWN, Chairman.

Indications and Contra-indications for Laparotomy.—Dr. J. R. NILSEN read a paper with this title. [To be published hereafter.]

Insanity and Oophorectomy.—Dr. W. M. LESZYNSKY read a paper on this subject. [See page 707.]

The CHAIRMAN had seen the last case twenty-four hours after the operation. The patient had then been bright and apparently relieved of her mental disorder, and she had remained thus for a week. It might be urged in excuse for this operation that both the ovaries and tubes were diseased, and that the woman had suffered agony during her menstrual periods.

Dr. R. W. WILCOX felt obliged to Dr. Nilsen for his frank and manly statement of his views. The cases reported by Dr. Nilsen and Dr. Leszynsky could be reproduced by almost any one who had watched the results of laparotomies during the last few years. One operator had recently stated that he had removed the ovaries from 74 patients during the last four years. It would be difficult to find in New York the surgeon who would own to having removed the testicles from 74 men during the same period. The speaker had during his service examined every specimen obtained by abdominal section both macroscopically and microscopically, and he had a jar of ovaries removed as cystic in which he could find nothing abnormal. Since removal of the tubes had been begun he had examined specimens of these also, and had found the cilia not only undisturbed, but often even in motion where the diagnosis of catarrhal salpingitis had been made. In laparotomy the word cure had assumed a new meaning; it meant leaving the surgeon's hands alive, nothing more nor less. The patient was entered in the case-book as cured, but if followed up would probably be found suffering just as before. Very recently an important paper was read before the Academy of Medicine upon this persistence of pain after abdominal operations. The question as to what was right in relation to the patient had been here further complicated by the question, What was it right to teach in this connection? The speaker was not afraid that any of the sound-headed men who formed the classes in the Post-graduate College would be misled by the journals of the day and imagine that they could open the abdomen as they would a pocket—the "if you don't know what you have, open and find out" sentiment—but there were those who could be thus misled. Public and emphatic disapproval was called for.

Dr. HANKS was pleased to have heard the paper and the remarks. All such discussion must be beneficial. Laparotomy should unquestionably be performed for all large and small ovarian cysts, and probably tubal cysts, although it was possible sometimes to draw off the contents of a tubal cyst through the vagina, and in such a manner that it would not return. All ovarian cysts, however, tended to grow, and, especially where a twisted pedicle occurred and peritonitis was threatened, an operation was necessary. In the case operated upon the day of the meeting there had been every evidence of threatened dissolution. The patient, sent from the country the day before, had been seen by Dr. Nilsen and himself, and it had been apparent that she had an abdominal tumor which threatened life. She had failed markedly during the last two weeks. On opening the abdomen, it was supposed that the cyst was twisted upon its pedicle on account of its dark appearance, but this proved to be due to the mixture of its own fluid with blood. The tumor had doubled in size during the fortnight. There was also no question in regard to operation in recurring pyosalpinx, in bleeding fibroid, nor in painful fibroid, in the speaker's opinion. Indications in regard to laparotomy for nephritic, splenic, and hepatic diseases were all thoroughly understood. In referring to the contra-indications, he was glad that Dr. Nilsen had taken such decided ground. Surgeons should take no one's statement that everything had been previously done. The speaker would never operate solely because some one else had told him that an operation was necessary. If even that most conservative and best of physicians, Dr. T. A. Emmet, should give him this assurance, still he would not depend upon it, but would himself question the patient, and take the evidence of his fingers. Many times an operation was done too quickly because some one else had considered that nothing more could be done. In regard to Dr. Leszynsky's cases, he believed that Mr. Tait had come to the same conclu-

sion as to the futility of removing the ovaries for insanity or epilepsy. He recalled a case in which the patient had been epileptic since infancy, in which an operation had been performed, but, of course, without relief. In the report it had been said that one ovary was badly diseased.

Dr. CURRIER referred to a very suggestive editorial in the "New York Medical Journal" in regard to this furor for operations. The assistant of the late lamented Schröder, commenting upon a series of 16 hysterectomies, had stated that 5 of these only had been done for cancer, and the remainder for endometritis, retroflexion, and other minor affections. Both the critic of the first article and the editor of the "Journal" had expressed a disapproval which could be equally well applied to the rage for abdominal section at the present time. Undoubtedly many cases demanded laparotomy, but these cases should first have been carefully and conscientiously treated whenever possible by other and simpler means. Laparotomy must always be a capital operation. This surgeon or the other might reduce his mortality to five per cent. or even lower, still there was the chance that the patient would die from the operation. The utmost conservatism was therefore justifiable. In the main the speaker agreed with the paper of the evening, but from one suggestion he would venture to dissent. He did not think laparotomy justifiable for such a condition as retroflexion. Where the uterus could not be lifted from the vagina, it must be so bound down that laparotomy also would fail. He knew that Kelly, of Philadelphia, had in obstinate retroflexions attached the uterus to the abdominal wall, but he scarcely thought that this procedure would come into general use. Insanity *per se* was not an indication for operation. The center of the organism was not in the ovaries and not in the tubes; the removal of these could not be expected to relieve affections of the central nervous system. He would not agree, however, with the speaker who had argued that similar rules applied to operations upon the ovaries and to operations upon the analogous organs in the male. These organs were external and very susceptible to treatment, while the ovaries were not. Among the contra-indications for laparotomy might be added morbid conditions in the liver. Through Dr. Porter he had become convinced that where there was decided degeneration of the liver an operation was often unsuccessful. The condition of the liver should therefore receive consideration.

Dr. PORTER stated that, while he could not be called a laparotomist, he was in the habit of opening abdomens after the surgeons had got through with them, and he believed that the success of an operation was largely dependent upon the condition of the liver. In fifteen or twenty surgical cases which had ended fatally after the operation, he had found either interlobular or intralobular disease, or else fatty degeneration. Where the conjunctiva was colored and there was a muddy complexion, with a small quantity of urine loaded with urates or uric acid, the case was apt to progress badly. He believed further that this condition of the liver had a great deal to do with the symptoms for which the operation was performed. He recalled the case of a young woman having persistent pain in the back and in the region of the ovaries and also scalding urine. Examination had shown the liver and the kidneys inactive, the patient passing but twelve ounces of urine in twenty-four hours, heavily loaded with uric acid. Leaving the uterus and ovaries alone, he had directed his treatment to this condition, and to-day the patient was passing from fifty to sixty ounces and was excreting *uræa* instead of uric acid, and her pains had disappeared. He would also like to ask what constituted a diseased ovary. If cystic and fibroid changes could be so denominated, then every woman who had menstruated had diseased ovaries, because these changes were inseparable from the physiological hæmorrhage

and repair. During the past ten years he had examined many specimens of ovaries—those taken from the child of five weeks to those from the woman of eighty or ninety years of age—and he had never seen an ovary which was not cystic. In his opinion, an operation was not indicated except where the cyst commenced to grow rapidly and pressure symptoms appeared.

Dr. ABBOTT asked what Dr. Porter would do with small cysts of the ovary and of other organs.

Dr. PORTER said that he would not operate upon a cyst until pressure symptoms appeared, even if it were as large as his fist.

Dr. McNETT had had a gynæcological clinic at the Woman's College for ten years. The gynæcological clinics at this college had an attendance ranging between thirty and fifty; they were said to be the largest in the country. It was not uncommon to see here very serious ovarian hyperæmia and prolapsus in patients who had left other clinics because an operation had been proposed. The speaker had seen but very few such patients who could not be relieved by padding in the knee-chest posture. Such treatment required patience, on the part of both the physician and the patient. It was much easier to perform laparotomy than to persist for weeks or months with this treatment, yet, if it was persisted in, the suffering was often soon relieved, and after a time a cure was effected. The speaker could even recall cases in which the woman had afterward become pregnant and the happiness of a home had thus been completed. She thought that laparotomy was seldom indicated, and should in no case be done until the physician had exhausted all other means which the experience of others as well as his own could present.

Dr. S. E. POSE stated that in her opinion also the pain and the reflex symptoms connected with diseased ovaries and tubes were due to pressure upon the diseased part—in salpingitis, pressure upon the fimbriated extremity of the tube. When congested, the Fallopian tube folded backward and the extremity lay behind the uterus. This extremity might become hypertrophied and nodulated, and was often undoubtedly mistaken for an ovary in this position. It was, as a rule, extremely sensitive, even a slight examination giving rise to a persistent aching pain, but seldom or never causing the nausea and the disturbances of vision which appeared where the ovaries were concerned. Lying between the uterus and the rectum, this body was subjected to a good deal of friction and pressure, the latter being in the long-standing case aggravated by a matting of lymph or even inflammatory adhesions. The shortening of the posterior *cul-de-sac* was often a consequence of this condition. In cases of prolapsed tubes, as well as in those of prolapsed ovaries, the elevation and protection of the sensitive part had been the object of treatment. In some cases simply stretching the *cul-de-sac* had relieved the pain without altering the relations of the tube, while in others the extremity of the tube had been apparently liberated so that it spontaneously rose to its proper place. Also after elevation a discharge had sometimes been noted, suggesting the drainage of the tube through the uterus. In three cases a pronounced inflammation of the vulva had been the result; in others the discharge had not irritated the parts. In the opinion of the speaker, catarrhal salpingitis could often be traced to puerperal conditions; it was very common; it included the greater part of the cases classed as cellulitis in the books, and its symptoms could, as a rule, be relieved by protection, rest, and the hot douche. It would be as rational to perform hysterectomy for endometritis as to do Tait's operation for this disease.

Dr. NILSEN thought with Dr. Porter that tumors often existed without giving rise to symptoms, but he had never found those cases. Patients were brought to him on account of their symptoms, in the absence of which he did not find occasion to perform

laparotomy. Of course, he would not remove cystic ovaries if symptoms had not appeared. In reply to Dr. Currier, he said that he certainly wished to be called conservative, if anything, and would not think of resorting to laparotomy for the cure of retroflexion until all other available means had been exhausted. This operation did, however, appeal to him as a rational last resort in a certain number of cases, which he thought he had made clear in his paper. A great deal of patience, ingenuity, and skill was required in their treatment, and, if his predictions about laparotomy were ever fulfilled, the frequency of its use would be determined by the degree in which the attributes of such men as Fritsch become attainable by the general practitioner or the specialist.



A Uterine Tent Forceps.—Dr. WILCOX said that when he was house surgeon of the Woman's Hospital, following the example of his predecessors, he had been accustomed to use the Emmet curette forceps for the insertion of tents into the uterus. That instrument, although well adapted to the purpose for which it had been originally intended, had not been suited for the introduction of tents, but it had been the best instrument at his disposal. Its faults were: First, the jaws were too long and too smooth; second, the scissor-handles were awkward to manage; third, the whole instrument was too long. In the instrument presented these faults had been remedied; the proper length of the jaws had been determined by experiment; they were made rough so that the tent, once within their grasp, was firmly held; they were curved so that a full view of the tent and cervix was obtained. The handle was modeled after those now in use on the Collier needle-holders, and the instrument was readily taken apart to insure cleanliness.

The forceps could be obtained of Hazard, Hazard, & Co., of Fifth Avenue and Twenty-fourth Street, whose work upon this instrument was in keeping with their high reputation.

Book Notices.

The Diseases of the Ear and their Treatment. By ARTHUR HARTMANN, M. D., Berlin. Translated from the Third German Edition by JAMES ERSKINE, M. A., M. B., Surgeon for Diseases of the Ear to Anderson's College Dispensary, Glasgow, etc. With Forty-two Illustrations. New York: G. P. Putnam's Sons, 1887. Pp. xiv+285. [Price, \$2.75.]

This book consists of an historical preface on aural surgery, and eleven chapters treating of diagnosis, symptomatology, etiology and prophylaxis, general therapeutics, diseases of the auricle, external meatus, membrana tympani, middle ear, internal ear, traumatic lesions, neoplasms and malformations, and deaf-mutism. There are a large number of therapeutic formulæ, a full list of instruments employed, and an excellent index. In the article on testing the hearing, the subdivision on testing with tuning-forks is most admirable. The diagnostic and therapeutic application of the air-douche is very thoroughly discussed, and the author speaks in high terms of the application of medicated fluids to the mucous membrane of the tympanic cavity. In the chapter on acute purulent inflammation of the middle ear, the author has found the combined application of warmth and cold

to be of great service in many cases. The region below the auricle is covered with cold compresses or an ice-bag, and at the same time warm fluids are instilled into the external meatus, or warm sponges are placed upon its orifice. For the nightly exacerbations of pain, solutions of potassium iodide (from 7 to 15 grains) are very useful, as is also a half-per-cent. solution of atropine. In the chapter on opening the mastoid process, the author recommends that the opening in the bone be made in a forward direction, parallel to the axis of the meatus. The operation is performed by chipping off layers of bone with a grooved chisel, giving the canal the shape of a funnel. It ought not to be made deeper than 16 mm., as otherwise there is danger of opening the canal of the facial nerve, or the semicircular canals. In the chapter upon diseases of the internal ear, the section on disease of the cerebral tracts of the auditory nerve and center is particularly worthy of perusal. Due credit is given to Munk and Wernicke for their labors in this field. The making of the book, so far as the printer and publishers are concerned, deserves the highest praise. The illustrations are not numerous, but they are all good, and there is a very complete index both of subjects and of authors.

Medical Electricity: a Practical Treatise on the Applications of Electricity to Medicine and Surgery. By ROBERTS BARTHOLOW, A. M., M. D., LL. D., Professor of Materia Medica, General Therapeutics, and Hygiene in the Jefferson Medical College of Philadelphia, etc. Third Edition, enlarged and improved. With One Hundred and Ten Illustrations. Philadelphia: Lea Brothers & Co., 1887. Pp. xxiv-17 to 304. [Price, \$3.50.]

THE good things said of the earlier editions of this work are fully justified by the third edition, which is even better than its predecessors. Dr. Bartholow's literary methods are very attractive, and his books are all readable. In this volume the subject-matter is extended by the introduction of chapters upon the electric light and electric surgery generally, and he has greatly amplified his consideration of the uses of the galvanic and faradaic currents. Although he commends the use of static electricity, he does so with evident reserve.

L'amputation du membre supérieur dans la contiguité du tronc (amputation interseapulo-thoracique). Par PAUL BERGER, chirurgien de l'hôpital Tenon; professeur agrégé à la Faculté de médecine, etc. Avec figures dans le texte, et 2 planches en chromolithographie. Paris: G. Masson, 1887. Pp. 371.

THIS is one of those beautifully printed monographs in which the French excel. The subject is carefully arranged in subdivisions, each subdivision is given the greatest possible importance, and, after the reader has gone from preface to index, he is convinced that no minute detail connected even in the most remote way with amputation at the shoulder joint can have been omitted. For example, a separate chapter is devoted to the section of the muscles connecting the scapula and the separation of the limb, another to the resection of the clavicle, a third to the preliminary incisions, etc. This makes a very complete book; but a very busy man and concise writer would put it all into much less space.

The author has collected fifty-one cases, and has found quite a number by American surgeons, though not one in twenty of those actually performed here. He then analyzes the results, and studies the causes of death. A chapter is devoted to the remote results, and another to the indications for the operation. The latter are divided into tumors, gunshot wounds, and crushing and tearing off of the limb. The illustrations are exceedingly good, especially the two chromo-lithographs representing

the anatomical points in the operation. On the whole, the book is very readable, but almost all that is in it was pretty well understood before.

Earth as a Topical Application in Surgery. Being a full Exposition of its Uses in all the Cases requiring Topical Applications admitted in the Men's and Women's Surgical Wards of the Pennsylvania Hospital during a Period of Six Months in 1869. By ADDINELL HEWSON, M. D. Second Edition. With Four Photo-relief Illustrations. Philadelphia: The Medical Register Co., 1887. Pp. xx-25 to 309.

THE title of this practical and useful monograph explains pretty fully its nature. The greater part of it consists of clinical reports of cases in which a dressing of dry earth was used, and the remainder is an elaborate exposition of the chemical constituents of different earths and the mode of their action. The former is the better, as the cases are carefully studied and reported, while the latter is too prolix for the practical reader. The results obtained by the author were in some instances remarkably good, and the book as a whole is a valuable one for the working surgeon.

A Compend of Surgery for Students and Physicians. By ORVILLE HORWITZ, B. S., M. D., Demonstrator of Anatomy in Jefferson Medical College, etc. Third Edition, thoroughly revised, enlarged, and improved. With Ninety-one Illustrations. Philadelphia: P. Blakiston, Son, & Co., 1887. Pp. viii-9 to 210.

EVERY attempt to compress the surgery of the present day into a small quiz-book must of necessity be a failure. This is, perhaps, a less dismal failure than some others of the same class; but, if the author's aim had been to make the study of surgical literature as near akin to the perusal of a dictionary as possible, he would have gone about it in some such way as this. Believing, as we do, that quiz-books are calculated to do harm instead of good, it is useless to attempt a criticism of this particular one.

BOOKS AND PAMPHLETS RECEIVED.

Abdominal Surgery. By J. Greig Smith, M. A., F. R. S. E., Surgeon to the Bristol Royal Infirmary; Late Examiner in Surgery, University of Aberdeen, etc. Philadelphia: P. Blakiston, Son, & Co., 1887. Pp. xii-606. [Price, \$5.]

The Sixty-third Annual Report of the Officers of the Retreat for the Insane at Hartford, Conn., April, 1887.

Note on the Treatment of Amenorrhœa with Permanganate of Potash. By Thomas A. Ashby, M. D., of Baltimore. [Reprinted from the "Maryland Medical Journal."]

The Climatic Treatment of Consumption. A Contribution to Medical Climatology. By James Alex. Lindsay, M. A., M. D., Physician to the Consumptive Hospital, Thronemount, Belfast, etc. London and New York: Macmillan & Co., 1887. Pp. xii-228. [Price, \$1.75.]

Ichthyol and Resorcin. A Clinical Study of their Effects. By George Thomas Jackson, M. D., Assistant Visiting Physician, New York Skin and Cancer Hospital.

Congenital Occlusion of the Posterior Nares. By Alvin A. Hubbell, M. D., Buffalo, N. Y. [Reprinted from the "Buffalo Medical and Surgical Journal."]

Cuneiform Osteotomy for Anterior Curvature of both Tibia and both Fibula. By Milton Josiah Roberts, M. D., etc. [Reprinted from the "Therapeutic Gazette."]

A New Series of Berlin Wools for the Scientific Detection of Subnormal Color-perception (Color Blindness). By Charles A. Oliver, M. D., etc. [Reprinted from the "Medical News."]

A New Series of Metric Test Letters and Words for Determining the Amount and Range of Accommodation. By Charles A. Oliver, M. D., etc. [Reprinted from the "Medical News."]

Reports on the Progress of Medicine.

SURGERY.

By M. L. FOSTER, M. D.

Operations on Diabetic Patients.—König ("*Centbl. f. Chir.*," 1887, No. 13) reviews the points usually taken into consideration regarding the performance of major operations, especially amputations, on diabetic patients. They are as follows: 1. There is a marked predisposition on the part of diabetic patients to the reception and propagation of microbes and to the sloughing of the tissues. Very frequently an atheromatous degeneration of the arteries is found. 2. Necrotic processes are met with not only in old, broken-down subjects very ill with diabetes, but also in patients in middle life in apparently good condition, who have never had any marked thirst or polyuria. Hence, when a suppurative or gangrenous process appears, idiopathically or complicating a slight wound, the urine should be examined for sugar. 3. The treatment of inflammation and gangrene occurring in diabetics must be directed to the diabetes. 4. The major operations, such as amputations, are to be avoided as long as the constitutional and local symptoms of diabetes persist, the urine contains sugar, the patient is in a low condition, comatose, or in a suppurative fever, or as long as the presence of a diabetic dyscrasia is manifested by extension of the necrotic process.

But König is of the opinion that this method of treatment is not infrequently continued until the patient dies from the combination of severe local and constitutional trouble, when a departure from this rule might have saved his life. During the past year he has amputated at the lower part of the thigh, for gangrene spreading from the foot, in two patients very ill with diabetes. Previous to the operation, in spite of energetic antiseptic and antidiabetic treatment, in each case the sickness took on daily a more threatening character. In one case the sugar increased, and the patient became comatose and greatly emaciated, while the local trouble did not decline. In the other the sugar became less, but the local trouble increased, and a secondary abscess appeared in the thigh, with high fever and emaciation. After the operation the bad symptoms in both cases disappeared at once, the excretion of sugar was reduced to a minimum, and the wounds healed under strict antiseptic precautions without accident, and as readily as similar wounds heal in healthy persons. This shows that there are certain cases in which diabetes and local gangrene by their mutual reaction grow steadily worse, so that antidiabetic treatment will produce no effect until the local lesion is removed. Hence, the following amendment is proposed to the fourth position usually taken: If, in a case of diabetic gangrene, in spite of antidiabetic treatment and antiseptic dressings, the constitutional disease and the local lesion do not improve, and longer delay is fraught with danger to the patient, the preservation of life should be sought for by a radical operation, usually an amputation, undertaken with the most careful antiseptic precautions.

Umbilical Cysts.—Roser (*ibid.*, No. 14) indorses Tillmann's view that cysts of the umbilicus having an acid secretion can be traced back to a cutting off at this point of a portion of the stomach near the pyloric extremity during foetal life. In Roser's case the cyst had been repeatedly opened as an abscess until a fistula finally remained. From this flowed a very acid secretion, which excoriated the surrounding parts. He excised the cyst, which presented microscopically the appearance of the mucous membrane of the stomach, thickly studded with mucous glands, covering a layer of smooth muscle fibers, very similar to those of the wall of the stomach. He suggests that the formation of these cysts can be more easily understood if we remember that in early foetal life the stomach occupies a perpendicular position, and the pylorus is near the navel. If, then, a particle of the stomach-wall becomes attached at the navel, holding the pylorus, when it withdraws from that position it is easily understood how diverticula, and cysts from the cutting off of the diverticula, may be formed.

Fractures of the Lower End of the Radius.—Lesser maintains

(*ibid.*, No. 15) that, with the usual methods of treating fractures of the lower end of the radius, there is quite a number which present considerable difficulty in the restoration of the normal movements of the hand, wrist, and forearm, so that massage, electricity, passive motion, forced motion under anaesthesia, and sometimes operative procedures are necessary. He believes that this fracture is usually accompanied by more or less injury of the lower end of the ulna, and that this must be considered, though it may seem to be of small account. He states that he has not failed to restore the normal movements since he adopted his present method of treatment. The same dressing is indicated as in fractures higher up the forearm, and he recommends the application of a plaster-of-Paris splint from the middle of the arm to the metacarpus, holding the elbow at a right angle, the forearm fully supinated, and the hand in ulnar abduction. This dressing is to be left on two weeks or two weeks and a half. He prefers plaster of Paris, but considers it unimportant whether this or any other form of splint which meets the indications is used. In any case the splint should not extend farther than the metacarpus, leaving the fingers as free as possible. He agrees with Volkmann that the interference with pronation and supination after recovery from this fracture is often to be found in the contraction of the interosseous membrane when it is not fully extended, and to an adhesion of the fragments of the radius and ulna with one another. These mishaps occur when the axis of the ulna crosses that of the radius, which is the case when the forearm is fixed in a semiprone, and still more when in a prone position. Hence the forearm should be placed in complete supination, with the thumb parallel with the body, as in that position the interosseous membrane is extended and the bones are most nearly parallel.

Lesser narrates two interesting cases in which he operated for ankylosis following this fracture. In the first case, that of a boy thirteen years old, not only the wrist joint, but nearly all the finger joints, were rigid, the flexor tendons were involved in the callus, and the muscles of the hand were atrophied. The radius was divided at the seat of fracture, the first phalanx of the thumb was chiseled free from the metacarpal bone, and the flexor tendons were cut free from the callus. Long-continued passive motion, electricity, and massage finally gave the boy a useful hand. In the second case, that of a boy nineteen years old, six weeks after a compound fracture pronation and supination were possible, but the patient noticed a rubbing as of bones in the middle of the forearm. From this time on these motions became less until, twenty-five weeks after the accident, the arm appeared atrophied, the muscles flabby and shrunken, and the skin wrinkled, cool, and marbled with cyanotic spots. Active flexion and extension of the wrist was feeble, passive motion was practicable to about half the normal extent, but supination was impossible. The nails were claw-shaped and thickened; the fingers could be spread but little; the grip was weak. An irregular scar on the volar surface of the wrist was tender on pressure over the lower ends of both radius and ulna, which were very prominent. An exostosis as large as the end of the little finger was found extending from the radius, pressing against the ulna. This was removed and a bony ankylosis in the radio-ulnar joint was broken up. The capitulum of the ulna was also resected. After eleven days, active and passive motion of the wrist were begun. Two months after the operation, the patient was able to resume work.

Iodoform as an Antiseptic.—Heyn and Roosing ("Fortschritte der Medicin," v; "*Centbl. f. Chir.*," 1887, No. 16) have made several experiments to determine the antiseptic value of iodoform. They find that mold fungi, the *Staphylococcus pyogenes aureus*, pneumococci, and other bacteria in serum, gelatin, and agar-agar live and grow equally well after the admixture of iodoform or iodoformized oil. The *Staphylococcus pyogenes aureus* remained alive more than a month in dry iodoform powder. The introduction of iodoform into sterilized gelatin by means of a blower or a brush was followed in a few days by flourishing colonies of bacteria. They quote Johann Olsen as having found that the cocci of osteomyelitis grew abundantly on a slice of potato covered with a layer of iodoform a millimetre deep.

The Surgical Treatment of Pulmonary Cavities.—Mr. R. J. Godlee ("*Lancet*," Mar. 5, 12, Apr. 2, 9, 1887) classifies the cases in which surgery may be of benefit as: 1. Tubercular cavities. 2. Cavities resulting from gangrene of the lung. 3. Cavities resulting from the

bursting into the lung of abscesses or other collections of irritating matter from without. 4. Bronchiectases, from whatever cause arising, including those which depend on the presence of a foreign body in the air-passages. When the lung contains many tubercular cavities or many foci of gangrene, no benefit can be hoped for from surgical procedures. Tubercular cavities should be opened only when the cough is harassing and the cavity single. Injections may be used to palliate symptoms, but can not be expected to be curative. He considers that the majority of gangrenous abscesses of the lung result from acute pneumonia and are situated at the base of the lung. Upon these he recommends an operation soon after the position of the abscess has been definitely ascertained, although some cases end in spontaneous recovery, because, if the opening into the bronchus is too small or unsuitably placed, the sac is always more or less full of foetid, highly septic, and irritating pus, and the abscess grows larger instead of smaller. The presence of this foetid pus in the bronchi may also produce serious consequences in the sound lung as well as in the diseased one. Before making an incision, the situation of the abscess should be definitely ascertained with an exploring needle or trocar. If this impinges on a firm substance it has probably struck a bronchus, and it is preferable to make a fresh puncture or to work around the bronchus rather than to penetrate it, because such a wound might cause sufficient hæmorrhage to suffocate an anæsthetized patient, although not of dangerous amount in itself. The wall of a gangrenous or bronchiectatic abscess does not give this sense of resistance. From a consideration of the cases in which he has operated for gangrene of the lung, he concludes: 1. The cavity should be well opened up and explored by the finger, and a long drainage-tube inserted. 2. The tube must be kept in until the discharge has almost, and the expectoration quite, ceased, while the temperature remains low, for the cavity is probably intricate, and it is likely the walls will have to throw off sloughs and can not immediately assume the healthy condition met with in most empyemata. The prognosis is not bad if the operation is successful. The same may be said regarding rupture of abscesses into the lung. Foreign bodies in the bronchi are liable to cause bronchiectatic abscesses, which should in like manner be opened. He considers that, if possible, early attempts should be made to remove the foreign body by methodical inversion of the patient, and if this fails he favors tracheotomy and an attempt to remove it with a loop of silver wire or a delicate curved forceps. Bronchiectatic cavities from other causes can be cured by free incision and drainage if single, but this condition is rarely found. When they are multiple, if a large main cavity can be made out, it should be freely opened to prevent the secretion passing through the bronchi or being drawn into other parts of the lung, and to diminish the cough, because, unless this is done, a considerable number soon become affected with blood poisoning. Mr. Godlee emphasizes the necessity of care in the use of an anæsthetic in these cases. He usually prefers chloroform on account of the danger of blocking the tubes by the copious secretion of mucus during ether administration, or by the cough suddenly emptying the abscess.

Hallux Flexus.—Mr. Davies-Colley (*ibid.*, April 2, 1887) calls attention to a condition which he says he has not found described in surgical writings. He has had five cases within the last nine years. The disease consists of flexion of the first phalanx of the great toe at an angle of from 30° to 60°, with extension of the second phalanx and some swelling and stiffness of the metatarso-phalangeal joint. There was no paralysis of the extensor proprius hallucis. The flexors of the first phalanx and the plantar fascia were not primarily affected. Walking was painful, the patients resting their weight on the outer border of the foot. He gives two causes: 1. An injury to the joint, followed by contracture, as at the knee joint. 2. The pressure of short rigid boots on an abnormally long great toe. He has excised the proximal half of the first phalanx in two cases, and tenotomized the tense bands in the others. All the patients did well except one, who returned two years after tenotomy with the toe flexed to a greater degree, and having some outward displacement. A good result was then obtained by resection of the metatarso-phalangeal joint. All the cases were in young men. He judges that later in life the deformity may change to hallux valgus, and suggests that it be called hallux flexus. Treatment should be first attempted with rest and a splint.

Cystic Disease of the Testicle.—Mr. Eve (*ibid.*, March 19, 1887) bases on a microscopic examination of twelve selected specimens and twenty-eight recorded cases in which microscopic examination had been made, the following conclusions: 1. No specific difference exists between innocent and malignant cystic tumors. 2. They originate in the hilum testis. 3. There is probably a new formation of epithelium, or an adenomatous growth. 4. The prototype of this is found in the tubules of the vasa efferentia, the rete testis, and the coni vasculosi.

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use of the tracheal canula. In 28 cases in which attempts by the usual methods had been perseveringly made, in two for more than a year and a half. In two cases the chief cause was laryngeal spasm, in the third a genuine stricture. The catheters in the last case served as a means of continuous dilatation. They were kept in until the tracheotomy wounds were healed.

Myxœdema.—Mr. Shelswell asks (*ibid.*, April 2, 1887) if there is any special tendency to hæmorrhage in myxœdema. He cites two cases in which severe hæmorrhage followed extraction of teeth in patients suffering from this disease. The teeth were loose, and the gums spongy but very adherent to the teeth. In neither case was there any history of hæmophilia. Menorrhagia, ecchymoses from slight causes, bleeding from the gums, and purpuric patches have been reported at various times as occurring with myxœdema. The amplification of connective tissue, combined with mucous infiltration, developed most, perhaps, in the outer coats of the arteries, interferes with their muscular contraction, and forms a condition favorable for the production of excessive hæmorrhage. The sympathetic, through the vaso-motor system, may also be at fault. He mentions that six ounces of the blood from the gum of one of his patients was kept some time, but only a very imperfect clot formed on the surface. This he refers to the large amount of saliva mixed with the blood. Too few cases are yet reported to determine whether there exists any special tendency to hæmorrhage in myxœdema or not.

Subglottic Growth.—Mr. Carpenter (*ibid.*, March 12, 1887) reports a successful removal of a subglottic growth from a patient aged eighteen years. She had never been able to speak aloud, and her cry, when a baby, had been peculiar. On laryngoscopic examination, a pedunculated tumor of about the size of a split pea, with a somewhat elongated pedicle, of a pink color and lobulated surface, was seen at the anterior commissure. The pedicle disappeared under the right vocal band, and seemed attached just below it to the thyroid cartilage. It moved backward and forward in the current of air, appearing above the bands and then descending almost out of sight. The breathing-space was diminished about a fifth during expiration. There was no dyspnoea. During attempts at phonation the tumor wedged itself between the anterior attachments of the bands. The tumor was removed under cocaine anesthesia with a Mackenzie's tube-forceps. The following day the patient spoke in a natural voice.

Digital Exploration for Tumors of the Bladder.—Guyon maintains that digital exploration of the bladder for tumors by way of the perineum is rarely if ever necessary, and cites fifteen cases in which the diagnosis was made by the *toucher rectal*. In reply, Sir Henry Thompson calls attention ("Ann. des mal. des organes génit. urin.," Feb., 1887) to the fact that in thirteen of the cases the tumor was carcinomatous or epitheliomatous, and in only two papillomatous. He maintains that they have been treating of two wholly different subjects, for, while he acknowledges the diagnostic value of rectal examination in cases of cancerous tumors of the bladder, these are cases in which he refuses to operate, except in certain instances to relieve pain. Papillomata, unless very large, he does not believe can be felt *per rectum*, or with the exploring sound. When the history is evidently that of a vesical growth, and no proof can be obtained by microscopical examination of *discharges*

washed from the bladder, or by the introduction of a flat-bladed lithotrite, he advises a little *boutonnure* to be made and the finger introduced into the bladder. The diagnosis can then usually be made and the tumor removed, if small, at once. For large tumors he advises the suprapubic operation. He suggests that Professor Guyon has not yet begun to deal surgically with papillomata of the bladder.

Cocaine Poisoning.—Mannheim reports these symptoms to have followed a subcutaneous injection of a grain and a half of cocaine in a patient fifty-seven years old ("Dtsch. med. Woch.," 1886, No. 28; "Ctbl. f. Chir.," 1887, No. 1). Usually taken into consideration regarding the performance of major operations, especially amputations, on diabetic patients. They are as follows: 1. There is a marked predisposition on the part of diabetic patients to the reception and propagation of microbes and to the sloughing of the tissues. Very frequently an atheromatous degeneration of the arteries is found. 2. Necrotic processes are met with not only in old, broken-down subjects very ill with diabetes, but also in patients in middle life in apparently good condition, who have never had any marked thirst or polyuria. Hence, when a suppurative or gangrenous process appears, idiopathic.

Miscellany.

The Long Island College Hospital.—The reading and recitation term, which began in March, has lately closed. During the three months' session the students have had the advantages of the new maternity wards of the hospital, and have attended two abortions and seventeen confinements. In attendance upon these cases they witnessed the following complications and operations: Complete inversion of the uterus and its reduction, 1; placenta prævia, 2; transverse presentations, 3; twins, 1; hydrorrhœa (post partum), 1; forceps deliveries, 2; breech deliveries, 2; external version, 2; internal version, 1; restoration of the perineum, 3; curetting after abortion, 2.

The Health of Boston.—During the week ending Saturday, June 18th, the following numbers of cases and deaths from infectious diseases were reported to the Board of Health: Diphtheria, 12 cases and 6 deaths; scarlet fever, 12 cases and 1 death; typhoid fever, 15 cases and 3 deaths; measles, 86 cases and 2 deaths. There were also 29 deaths from consumption, 8 from pneumonia, 4 from whooping-cough, 7 from heart disease, 3 from bronchitis, and 4 from marasmus. The total number of deaths was 138 as against 143 in the corresponding week last year. The death rate was 17.9 in a thousand, that for the week ending June 4th having been 17.16 in a thousand, which was said to have been the lowest for five years.

Government Health Reports.—By direction of the Secretary of the Treasury, Dr. John B. Hamilton, Surgeon-General of the Marine-Hospital Service, has issued the following abstract of sanitary reports received during the week ending June 16th:

England and Wales.—The deaths registered in twenty-eight great towns of England and Wales during the week ending May 28th corresponded to an annual rate of 20.4 in a thousand of the aggregate population, which is estimated at 9,245,099. The lowest rate was recorded in Sunderland, viz., 15.7, and the highest in Manchester, viz., 32.3 in a thousand. During the quarter ending March 31, 1887, there were 143,346 deaths registered in England and Wales, corresponding to an annual rate of 20.6 in a thousand of the estimated population.

London.—One thousand five hundred and thirty-four deaths were registered during the week ending May 28th, including 112 from measles, 22 from scarlet fever, 14 from diphtheria, 73 from whooping-cough, 5 from enteric fever, and 10 from diarrhœa and dysentery. There were 333 deaths from diseases of the respiratory organs. Different forms of violence caused 56 deaths, and 10 suicides were registered. The deaths from all causes corresponded to an annual rate of 19 in a thousand. In greater London, 1,878 deaths were registered, corresponding to an annual rate of 18.1 in a thousand of the population. In the "outer ring" 21 deaths from measles, 12 from whooping-cough, and 9 from diphtheria were registered.

Ireland.—The average annual death rate represented by the deaths registered during the week ending May 28th, in the sixteen principal town districts of Ireland, was 23.8 in a thousand of the population. The lowest rate was recorded in Lurgan, viz., 10.3, and the highest in Limerick, viz., 36.7 in a thousand.

Dublin.—One hundred and sixty-three deaths were registered during the week ending May 28th, including 17 from measles, 1 from typhus, 3 from whooping-cough, 1 from enteric fever, and 2 from diphtheria. Diseases of the respiratory organs caused 22 deaths. In twenty-five instances the causes of death were uncertified, and 3 accidental deaths were registered. The deaths from all causes corresponded to an annual rate of 24.1 in a thousand.

Scotland.—The death rate in eight principal towns during the week ending May 28th was 22.6 in a thousand of the population, which is estimated at 1,299,000. The lowest mortality was recorded in Leith, viz., 18, and the highest in Greenock, viz., 27.4 in a thousand. The aggregate number of deaths registered from all causes was 564, including 19 from measles, 6 from scarlet fever, 43 from whooping-cough, and 10 from diarrhœa. During the quarter ending March 31, 1887, there were 20,036 deaths registered in Scotland, corresponding to an annual rate of 20.4 in a thousand of the estimated population.

During the month of April there were registered in eight principal towns 2,403 deaths from all causes. Allowing for the increase of population, this number is 258 below the average for April during the last ten years. One thousand one hundred and six, or 46 per cent., were of children under five years of age.

Germany.—The deaths registered in fifty-one cities of Germany, having an aggregate population of 6,749,522, during the week ending May 21st, corresponded to an annual rate of 24.7. The lowest rate was recorded in Stuttgart, viz., 10.7, and the highest in Augsburg, viz., 50.2.

Calcutta.—Two thousand nine hundred and thirty-six deaths were registered during the quarter ending March 31st, including 376 from cholera (77 in January, 83 in February, and 216 in March).

Buenos Ayres.—Seven hundred and ninety-seven deaths were registered during the month of March, 1887, including 23 from cholera, 10 from small-pox, 28 from enteric fever, 3 from scarlet fever, and 46 from diphtheria. The United States consul, under date of April 25th, reports that "cholera has about disappeared, and diphtheria is epidemic in this city."

MORTALITY TABLE, FOREIGN CITIES.

CITIES.	Week ending—	Estimated popu- lation.	Total deaths from all causes.	DEATHS FROM—							
				Cholera.	Yellow fever.	Small- pox.	Typhus fever.	Euton fever.	Scarlet fever.	Diphtheria.	
Calcutta	April 23.	433,219	246	77							1
Calcutta	April 30.	433,219	262	60							
Warsaw.	May 14.	439,174	191			12					
Warsaw.	May 21.	439,174	188			14					
Paris	May 21.	2,350,045	1,093			10		15	4	36	
Paris	May 28.	2,350,045	1,114			13		16	2	43	
Havre	May 21.	112,074	54			5		1	1	1	
Havre	May 28.	112,074	62			4		1		1	
Reims	May 21.	97,903	43					1			
Bremen	May 21.	119,000	60								1
Leipzig	May 21.	170,000	61								5
Munich.	May 21.	239,000	222							1	1
Stuttgart.	May 21.	125,510	27								1
Trieste.	May 21.	150,137	61			5					1
Amsterdam	May 28.	378,686	170			1	2				5
Copenhagen.	May 17.	200,000	108					1			4
Palermo	May 21.	250,000	90			1		1	11	1	
Palermo	May 28.	250,000	99				1	1	15	5	
Genoa	May 21.	179,362	118					2			
Rome	April 16.	69,214	147			4		5	1	3	
Pernambuco	May 17.	111,000	87				1	2			
Guayaquil	May 13.	35,000	37				4		7		
Bristol	May 28.	223,635	78							3	
Glasgow	May 28.	545,678	232							2	
Belfast	May 21.	224,432	101							2	3
Edinburgh	May 28.	258,629	100							2	
Toronto.	June 4.	120,000	33							1	

UNITED STATES.

Key West—Yellow Fever.—The president of the board of health reports 26 cases and 9 deaths up to June 14th.

Subsistence supplies and medicines are being furnished the yellow-fever hospital from the Marine-Hospital stores at Key West.

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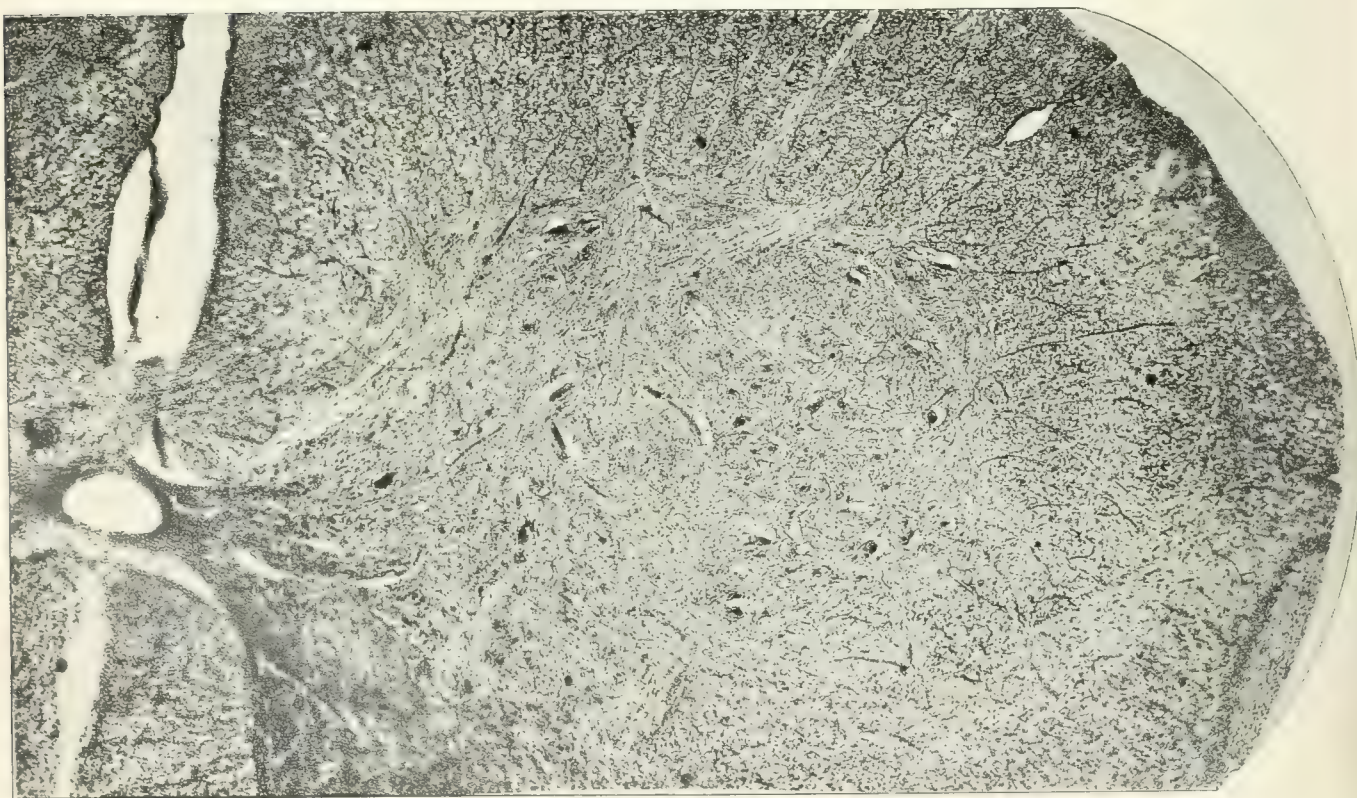
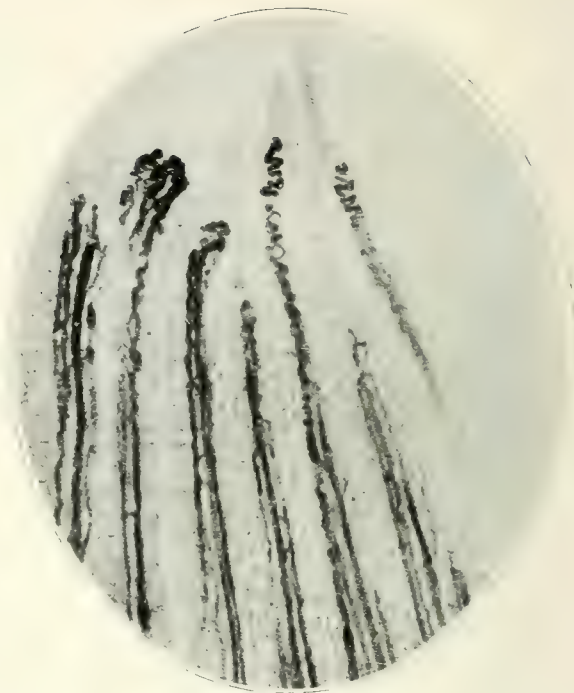
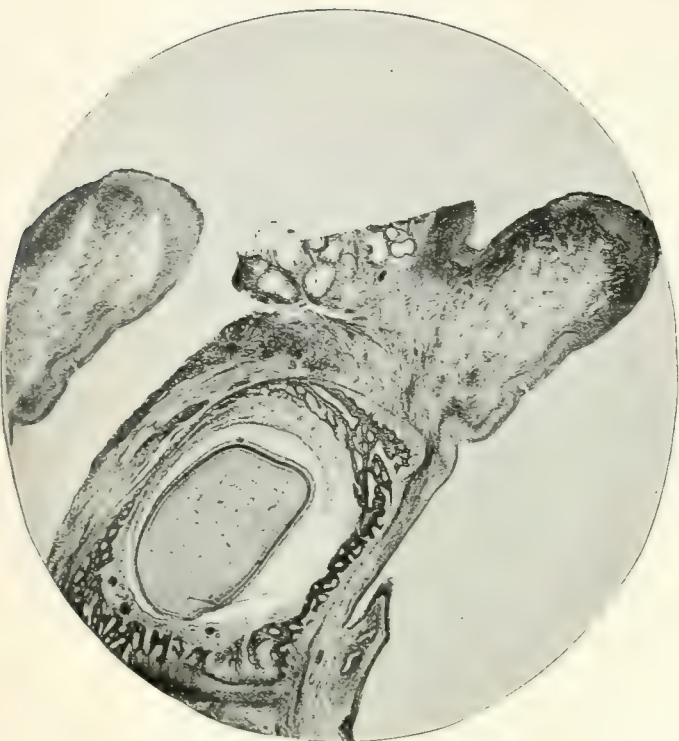
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FRANK P. FOSTER, M.D.

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Lectures and Addresses.

THE GERM THEORY AND ADVANCES IN ABDOMINAL SURGERY.

*The Presidential Address delivered before the Birmingham and
Midland Counties Branch of the British Medical Association,
June 16, 1887.*

By LAWSON TAIT, F. R. C. S.,
BIRMINGHAM, ENGLAND.

GENTLEMEN: Your kindness in placing me in this position of distinction brings with it for all of us the burden of an address. I tried hard to find some new line for this, but I have failed, and I have to fall back on the retrospect inevitable in all such efforts, and, more serious still, the retrospect must be personal.

I am reminded that it is twenty-seven years since I entered the University of Edinburgh as a medical student, and I have been trying to recall to mind as accurately as I can my impressions of what I then saw to contrast them with what I see now; to recall the teaching and practice of 1860 and compare them with those of 1887, and to see wherein and how far we have improved.

In such a retrospect there will be this advantage, that I shall speak of events and contrasts which most of you have witnessed, and which can be, therefore, in no way regarded as ancient history.

My earliest surgical recollection is still very vivid. The operating theatre of the old infirmary was crowded; every seat, even of the top gallery, was occupied. There were probably seven or eight hundred spectators, for Syme was to operate on a gluteal aneurysm. He was then in the zenith of his fame and in the very best of his powers, his hand as steady and his eye as true as it had ever been—incomparably the greatest surgeon I have ever seen. He entered the theatre with the recognized procession of assistants, house surgeon, and dressers, and was greeted with a subdued murmur of applause. The spectators included men of all ages and ranks in the profession, very many who had come from great distances to see the great feat—like Bickersteth, of Liverpool, who came specially to assist, if I remember rightly, and of course there were many boys like myself from fifteen upward. The patient was put to sleep, Syme buttoned up his dress-coat, turned up his sleeve, I saw a rush of blood, and in a few minutes the placing of the patient in the carrying-basket, and a round of applause, announced the conclusion of the operation.

I have often wondered since, and now I wonder still more deeply, why we gathered in such numbers to see that operation. The boys did so from curiosity and in ignorance—I am sure I did, and my ignorance was in no way lessened, for I saw little of the operation and I understood less. The older and more experienced spectators went mostly from curiosity, and perhaps to be able to say that they had seen the great surgeon do this great deed. Some six or eight men were there, like Bickersteth, who might some day be called upon to operate for a gluteal aneurysm, and

they were the only legitimate spectators. All the others had far better have been away.

In those days the first-year students were turned into the operating-room, and I believe this practice is still continued, to learn how operations are done before they know the names, far less the relations, of the structures concerned. In the dissecting-rooms our greatest feats were to display skillfully the fancifully numerous layers of fascia, which, if we had been really operating for hernia, we certainly should never have troubled about; or to remember the varieties of troublesome perineal arteries with which not one per cent. of us would ever have any practical anxiety.

The strange thing was that this nonsense was encouraged by our teachers, nay, it was carried into the examination hall. At that time, as now, the College of Surgeons was the great manufacturing agency for those practitioners in England and Wales who had the care of all the ordinary ailments of British humanity, as well as the smaller number who operated on gluteal aneurysms. In order to receive a certificate which enabled the candidate to deal with scarlet fever and pneumonia, he had to answer questions about the internal iliac artery and how it might be tied. Such a trifling accident as that upon which many of you depend for your night work, the process of parturition, had not been regarded as of nearly as much importance as the relations of the pelvic fascia.

Now all this is greatly changed, but it is not changed enough, and there is still room for improvement. It is perfectly true that a great bulk of surgical work, with which for precision and brilliancy of result, as well as for difficulty of detail, even Syme's gluteal aneurysm can not for a moment compare, is now done in small rooms before audiences restricted to a few post-graduate pupils. All this, a quarter of a century ago, even if it had been possible, would have been the object of spectacle. Now two facts are recognized that were apparently hidden from our fathers—that the great bulk of human ailments are such as do not require operative interference, and that the acquisition of a surgical diploma is no guarantee of the possession of the manipulative skill necessary to be an operating surgeon. In my youth, the great object of the schools seemed to be to turn out men able to cut for stone and tie arteries, and the more solid and more frequently exercised qualities of the general practitioner were neglected. To some extent the reason of this was that the great bulk of the students went to the university with so large an amount of experience gained by the old-fashioned apprenticeship system, that many of them could really profess to be already accomplished practitioners. But the changes of the last quarter of a century have almost ended that most excellent method of training, and I find now that our young men leave the schools in large numbers in just such a state that they are ready to begin to learn the profession they have to follow. My business at present is not so much with the process of medical education as with some of its results, but I can not help joining my voice in the wail which is getting pretty general concerning the destruction of the old method of education by apprenticeship, and I most emphatically condemn the atti

tude taken by the two Royal Colleges in relation to the Apothecaries' Company, to which, whatever may be said to its detriment, we owe most assuredly the more solid and useful elements of medical education for very many past generations. During the time occupied by my retrospect, some of the changes effected have resulted undoubtedly in making our students more learned, but I sometimes wish that the coming generation had less about them of the savant and more of the doctor.

In 1860 the battle of anaesthetics was nearly ended, and no one ever thought of performing a surgical operation without chloroform, though its application to midwifery practice was still stubbornly resisted by some of the old folk. But the traditions of the old surgeons of the days before chloroform still survived, centering chiefly round the memory of Liston, who must have been a man fulfilling the requirements of the operative surgery of his day more fully than any other of modern times. In those terrible days, when the operation had to be done in spite of the shrieks and struggles of the poor sufferer, rapidity was everything and accuracy had sometimes to be sacrificed to speed. But Liston seemed to excel every one in his lightning-like movements with all the accuracy of Syme. Thus he made a reputation and leaves a memory more like those of an actor than a man of science, as he really was. Nowadays, when accuracy is everything and speed a matter of little moment, advantaged as we are by our slumbering patient, we can form no notion of the work of such a man as Liston. As boys we always spoke of him as of a hero. All the stories of him were treasured and handed down, and he formed the standard of comparison to the detriment of all his successors. We then spoke of a lithotomy, not in relation to its results, but by the number of seconds it took to finish. Nowadays the man who hurries an operation for the show is no credit to his art. By this, however, I do not mean that men with slow minds and shaky hands are to be encouraged to engage in operative work.

In a retrospect such as this it is an easy matter to speak of the wonderful advances made by the discovery of the anaesthetic properties of certain volatile drugs, as contrasted with the horrors of the days before this greatest blessing to mankind. But we do not as yet fully recognize the indirect advantages it has conferred upon ourselves. It is like mercy, twice blessed; it blesses the surgeon as well as the sufferer, and it has made possible operations which no surgeon could have faced without it. The whole realm of abdominal surgery gives an illustration of what I say. It is true that a few abdominal operations were done before the days of chloroform, but in this country, at least, they were nearly all removals of simple parovarian cysts; the first ovariectomy, by Charles Clay, did not occur till September 27, 1842. Baker Brown had slumbering patients, and without the unconsciousness to which we now so safely reduce them, not one of those many advances with which the name of Birmingham will ever be closely associated could have been possible. It is true that the deep sleep was first cast upon man in the Massachusetts General Hospital, but the battle was fought in this island, and the victories which have followed it are due to the pluck and pugnacity of James

Young Simpson. "It is not," says Sydney Smith, "the man who first says a thing who deserves the credit, but he who says it so loud and so long that at last he persuades the world it is true."

Having thus been able to do something more than snatch an occasional victory by sleight of hand, like Liston's, the art of the surgeon made rapid progress, and about 1862 Simpson began to insist that we should know something about surgical results, that we should know indeed not only whether we were doing as much as we could do for the welfare of patients upon whom we had to operate, but whether the results obtained were at all in proportion to the labor, expense, and suffering involved. Curiously enough, the research was at first not made on the main line, but on a side issue—that of inquiry as to the best method of closing bleeding points. Simpson collected a mass of statistics which excited amazement at the terrible mortality of such simple operations as amputation of the leg and forearm. He blamed the old method of ligature, and he led us astray about acupressure. But even that mistaken divergence was of infinite use, for it led us to discontinue the long ligature—an advance which has never been acknowledged and never accredited to Simpson's work, as it ought to have been long ago. It was an advance as great as Ambroise Paré's introduction of the thread itself.

In my youth every stump was left with a number of threads hanging out of it, and after a week they were pulled by the house surgeon or dresser day by day till they came away; sometimes they never came. Simpson's attack led to a reconsideration of the whole question; in fact, we owe to him an enormous debt for the whole advance of modern surgery in the three directions which I have indicated—anaesthetics, statistical research, and the arrest of bleeding. For all of these rich fields were lying ready. Baker Brown showed that we had no need to fear that for which we had all such a mortal dread—a little piece of dead stump inside the abdomen. The rivalry between Baker Brown and Spencer Wells induced the latter to adopt a method of recording his cases which has been followed ever since, and the method of proper statistical research was begun. Finally the battle of torsion and ligature was decided in favor of short ligatures of animal tissue, and our present perfect methods were established.

But this was not all. Simpson's research on the mortality of amputations and hospitalism showed that enormous advances might be made in our hospitals, and the conclusion was established that, just as in a town, the larger and more crowded the population, the greater the factors of danger, the greater need for precautions of many kinds. Vast improvements in our hospital systems have followed, the old careless nursing has been banished, and where dirt and untidiness reigned supreme all is now care and cleanliness.

Here, again, I am carried back to the memorable day when I saw Syme operate on the gluteal aneurysm. One of his assistants was his son-in-law, the recently appointed professor of surgery in the University of Glasgow, Joseph Lister, a man who has exercised an enormous influence for good on the progress of surgery during the last twenty

years—a verdict which will be accepted the more readily from me, as one known to be hostile alike to his doctrines and his practice.

Let me remind you again that just then the great battle of biogenesis was being fought, the leaders of the two sides being Pouchet and Pasteur. The former died early, and his work—almost his name—is forgotten. But on my own mind an indelible impression was made by his wonderful little book “*L’origine de la vie*,” which fell into my hands in 1868, and which has remained a landmark in my life ever since. I now know that many of his conclusions were incomplete and many of his observations inaccurate by reason of his faulty apparatus, but his book kept me out of the errors of the school of Pasteur, and freed me from the dreams of Lister, into which so many have fallen.

Shortly after I had finished my curriculum I was fortunate enough to be appointed house surgeon to a small hospital in Yorkshire, little known outside its own district, but ever likely to keep a strong hold on my affections, founded by John Clayton, in the city of Wakefield. There I had an enormous mass of surgical material at my disposal, and a kindly and indulgent staff, under whose direction I was permitted to make full use of it. Lister had just published his first papers, and had hardly grasped, certainly had not fully formulated, his splendid idea of antiseptic surgery. From 1867 till 1870 Lister had no more faithful disciple, no more devoted follower, than the unknown house surgeon of the Clayton Hospital. I spent my days with my hands soaked in carbolic oil, making carbolic putty, and securing carbolic lac-plaster. Compound fractures were saved which in Edinburgh would have been condemned to amputation, and I did operations successfully which astonished others as much as they gratified me. Years after, when I had fallen away from the faith, the argument against me which alone caused me grief was the assertion that I had never seen and did not understand Listerism. I had been to Glasgow to see it, I had carried it out more scrupulously than the master himself, I had suffered painful attacks of hæmaturia from my misguided enthusiasm years before my metropolitan critics had known what carbolic acid was. But with all my success there occurred the old troubles—death from pyæmia, loss of cases which I could not understand if Lister’s doctrines were true. I thought a royal road to surgical success had been opened to me, yet every now and then I found myself floundering out of it, and I began to fear that it was a science falsely so called.

In 1870 I came to Birmingham in search of a wider field, and my present happy line of life was opened to me. For some years I had little to do in the way of practice, and I devoted myself to the following of the researches of Bastian, Tyndal, and Pasteur, all my work, however, being tinged by the strongest belief in the faith of Darwin. To such a mental attitude the ultimate doctrines of Listerism are an impossibility. This has been completely established by some of our most recent and best English workers, and the wildly extravagant speculations of German observers, whose powers are far more in the direction of metaphysical invention than of actual biological record, are blown to the winds by such a man as Dallinger. Büchner,

for instance, carries his cultivating experiments of the *Bacillus anthracis* to an absolute *reductio ad absurdum* when he tells us that he can by successive cultivations change it into the *Bacillus subtilis*; and, again, that he can change the harmless *Bacillus subtilis* into the deadly *Bacillus anthracis* by a similar process. Dallinger disposes of this briefly in two sentences: “To one who has fully comprehended the meaning and operation of the Darwinian law it will be at once apparent that there must be error somewhere in this matter.” “If the law of actual variation, with all that is involved in survival of the fittest, could be so readily brought into complete operation and yield so pronounced a result, where would be the stability of the organic world? Nothing would be at one stay. There could be no permanence in anything living.”

I could grant, at their first appearance, the conclusions of Tyndal, that the lowly organisms which are associated with, and which doubtless cause, decomposition, do not, and can not, arise save from pre-existing germs. Dallinger’s observations completely establish this, even if it wanted anything more than an *a priori* proof. I followed Bastian’s work, and soon found enough to persuade myself that his conclusions were based on incomplete experiments. Abiogenesis, as Bastian and Pouchet before him had proclaimed it, was to me as an evolutionist a doctrine which could not be adopted. I read with delight Mantagazza’s dramatic description when he said: “*Je dus me lever, brisé de fatigue, mais enchanté d’avoir surpris la vie à son berceau*.” But I could not bring myself to believe it. To me that was incredible, for the theory of Darwin—amply verified by every fact in nature—has, as a corollary, the conclusion that changes are slow in a geometrical proportion to their primitive character. The curve of progress in civilized life is rapid. In the primitive forms of life the biological record clearly shows that, during that epoch, the curve of progress is so slow that the human mind can devise no scheme for appreciating its direction at all—no conceivable measure of time can be stated for the period which must have passed during which the simplest chemical combinations existed without form of life, and that in which the simplest forms of life were changed into more complex. To assert, therefore, that out of a mere chemical combination life would be developed in a laboratory experiment, was to try to get us to believe in the reality of the juggler’s deception.

And yet the followers of the opposite school, with absolutely ascertained facts to guide them, went as far astray on the other side, and absolutely misinterpreted the truths before them. The fact that sterilized beef-tea can be kept indefinitely in an hermetically closed vessel has been known to the housekeeper for generations. Tyndal showed that cotton wool could so filter air, and so completely sterilize it, that it might be freely and harmlessly admitted to the said beef-tea. That also can not be doubted, and the conclusion is inevitable that, if you keep away the germs of the minute organisms, the growth and life of which alone determine decomposition, you keep your beef-tea sweet. But they did not give sufficient prominence to certain other facts. I don’t say they did not know them, or that they

forgot them, but the overwhelming importance of these increasing discoveries dwarfed to the biologists the importance of those old-fashioned facts. Thus, the housekeeper also knows that the chemical constitution of the beef-tea has a great deal to do with its keeping sweet—that, in fact, the beef-tea may be put in such a condition as to defy the germs. Such a simple chemical process as putting a great deal of salt in it, or depriving it of its water, will effect this. Similarly, the presence of life in tissue will prevent decomposition, and not only in tissue, but in non-organized material which is in association with tissue. Thus, in an egg there is a very minute, a microscopical mass of tissue, the germinal vesicle, which, when living, seems to possess the most extraordinary powers, not only of resisting decomposition itself, but of preserving from decomposition the non-organized mass of albumin with which it is associated. Try a very simple experiment with four eggs, and you will see the force of what I mean.

The first egg shall be one laid by a hen to which the male bird has never had access, so that the egg is absolutely sterile. The second egg shall be one completely fertilized. If you put both of these eggs into an incubator, and keep them under precisely the same circumstances, in a week the non-fertilized or dead egg will be putrid, and will swarm with all sorts of bacteria and spores, while the fertilized egg contents will be quite sweet and the chick well formed.

The second part of the experiment is as follows: Another and precisely similar pair of eggs are to be dipped together for about twenty seconds in boiling water so as to form a thin film of coagulated albumin immediately within the shell. They may then be put on the shelf of the store-room for six months, and opened at the same time. They will then be found both quite sweet and fit to eat. This is the rough-and-ready method of the housekeeper to preserve eggs from the attacks of germs. Of this second pair of eggs, one had life in it and the other had not. The life in the former is destroyed by exactly the same process as that which prevents the access of germs to it and to the egg which never had life.

Of the first pair of eggs not protected in this way, the presence of life protected the egg from decomposition, the absence of it allowed rapid and complete decomposition to be effected. There is not a henwife in the kingdom that does not know that, unless the access of the male bird is permitted in proper ratio, not only will the eggs not set, but they will not keep, and that such proper access will enable eggs to be kept for nearly three weeks. After that the embryo loses its life, there is no further protection, and decomposition at once sets in.

If these scientific workers had known as much as the henwife they would have known that to apply the conclusions derived from beef-tea in the flasks of the chemist's laboratory to the phenomena of living tissue is nonsense. The phenomena of decomposition must therefore not be taken for those of disease.

We do not in the least know what life is. We call it vital power, and talk glibly about it, though of late our men of science seem to have neglected it. But let us sup-

pose for a moment that when life ceases some chemical change takes place—until that change does take place the phenomenon of putrefaction is an impossibility. Take a drop of fluid in which amœbæ exist, put it on a warm slide, and watch the marvelous phenomena, as I have often done, for two or three hours at a stretch. The field swarms with bacteria and micrococci and bacilli of numerous breeds, as well as amœbæ. Pick out an amœba and watch him. Allman used to call him the “all-devouring,” and he well deserves the title. So long as his sloth-like movements go on he is avoided by his neighbors. But his movements get feeble and very slow, and you will see a paramecium go at him. The movements cease altogether, and soon you will find him riddled with bacteria and bacilli, and soon all trace of him will be lost. Why did his enemies avoid him while he was alive? Why could they so easily attack him when dead? I can not tell, but it shows that there is an enormous difference between tissue living and tissue dead.

The reasons which may be urged to show the futility of the arguments of the German school of bacteriologists are endless, but I must not be tempted into a discussion of any of them, for I have to deal with a much wider question. Let me only say that the best of all proofs of the fallacy of their assertions is the fact that every attempt to elevate the germ-facts of putrefaction into a germ theory of disease has miserably failed, and has failed nowhere so conspicuously as when obtruded into the realms of the treatment of diseases.

Let me continue my retrospect on this subject. Increasing engagements gradually withdrew me from the practical study of these interesting questions, and I have not, therefore, closely followed the researches into the new field of work—the cultivation of germs and cognate lines of research—chiefly because they have trenched very little on surgical work. They have been practically confined to the class of diseases dealt with by the physician. They have unearthed many strange and striking facts, and have explained many occurrences of the utmost importance. I do not, therefore, either despise or deride them. I believe I estimate them at their proper value, and all I wish is that they should be kept in their proper places. I believe that John Law was really a philanthropist, and that his Darien project was a very good thing in its way, yet the South Sea scheme did not make everybody's fortune. Neither will the germ theory of disease explain all the facts of pathology, nor will it enable us to deal effectually with every disease, as its disciples want us to believe.

Yet it has had some splendid successes; no one can dispute that who knows the story of the mortality of women in child-bed. Many horrible tales have been told illustrative of this. Let me add another. A few weeks ago I made some visits to La Maternité with my friend, Professor Tarnier. He directed my attention to a linear chart on the wall of his room, showing the total death-rate of the women confined in the hospital from 1792 till 1886.

He divides this marvelous record into three periods, the first of which he calls the period of inaction, during which the mortality was 9·3 per cent.; in some years it was as high as 20 per cent., a perfectly murderous mortality. The second

period he calls that of the battle against the causes of infection and contagion without antiseptics—that is, by mere general hygiene—and he shows that by this an abrupt descent to a mortality of 2·3 per cent. was secured. In his third period, by the employment of antiseptics, chiefly and now entirely by solutions of corrosive sublimate of about 1 in 3,000, the mortality was reduced to 1·1 per cent., and in 1885 and 1886 it was under 1 per cent.

Finally, the conclusion is this: When antiseptic precautions were used, the mortality almost disappeared, so that we now know that the raid against lying-in hospitals was a mistake; I have taken an active share in it myself, and therefore am bound to make this recantation. Destroy the germs on the hands of those who attend parturient women, and the women are safe. Women attended in their confinements by midwives have a greater chance of escape, because those midwives are but little likely to come across the deadly germs which excite the fatal diseases. But let the physicians and students of tumble-down and not over-clean buildings like *La Maternité* (a convent but little altered from the sixteenth century) wash their hands and instruments in a solution of corrosive sublimate each time before touching the patients, and these women seem to be absolutely free from danger. I need not say that after this true infective puerperal fever ought to be banished from practice. It ought to be heard of no more.

Well, you say, this proves the germ theory of disease. Certainly, for this one instance; but the case is only the exception which indicates the real road for inquiry. The puerperal woman is in a condition wholly different from that of any other patient; her very blood is wholly different in chemical constitution from the blood of any other human being. I believe that the very germs which are so disastrous to her might be, and often are, smeared over wounds in men and non-puerperal women without any harm. That there is a difference of this kind is proved by many illustrations, such as scarlet fever. No one can doubt that this disease is due to a specific germ, which generally breeds true. I do not know what has been done in the way of cultivating it, but we know that it does sport when grown in abundance, for in epidemics the poison-results vary from slight sore throats to malignant non-eruptive attacks fatal in twenty-four hours. But look at the natural history of the disease. Each child goes through a period of danger, having its maximum period between five and seven years of age, and just in proportion as the individual approaches a period of life more and more remote from that age, so does the likelihood of becoming affected by the disease diminish, as well as does diminish the severity and fatality of the attack, if it occurs. Yet the germs are the same; it is the vital condition of the *nidus* which changes. So the curious fact of the immunity generally conferred by one attack against a second proves that we are expecting too much from our knowledge of germs, and that we are neglecting too much researches into the condition of the nest in which they breed. What is the chemical or physical change effected in the individual constitution which enables it for an indefinite time to resist the attacks of the germs which at one time it was so ripe for, and which it cultivated so freely?

Not any known method of research can show us the difference in the soil; but there is a difference, whilst the germs float about exactly the same.

You will see, therefore, that I accept the germ theory of decomposition—its facts are indisputable—and the germ theory of disease concerning certain diseases. The facts there are equally beyond cavil. But it is when Lister comes in with his royal road to surgical success, still more when his German disciples, full of enthusiasm and quite empty of discrimination, appear on the scene, that I am in doubt, and equally in fear. What I predicted in a paper read before the Royal Medical and Chirurgical Society in 1880 has come to be only too well fulfilled. This failure in logic, this rushing to extremes, this undue haste to unravel all the mysteries of nature, and that greatest mystery of all, human disease, by every new little fact discovered by us, is no new thing.

No sooner had Schleiden and Schwann made out the rough outlines of cell-growth than we got a full-blown system of cellular pathology about which the fights were bitter, just at the time when my retrospect begins. Then bigger and better microscopes enabled Bennett to see molecules, and a molecular pathology swept the cellular out of the field. Now our lenses enable us to study bacilli and their spores, and the bacillary pathology takes the cake.

But Dallinger has beaten the bacillus, and now our savants will have to give up their jellies and their soups on which they feed their nasty beasts, for Dallinger has found a lesser flea.

“So naturalists observe a flea
Has smaller fleas that on him prey;
And these have smaller still to bite ’em,
And so proceed *ad infinitum*.”

Let me go back again to my retrospect to show what I mean by two illustrations taken from my own surgical work, in which I can speak strongly from a very abundant experience. I have argued this question very fully elsewhere from the view of abdominal surgery, and I shall speak in a few moments of that subject again. But we are told now that abdominal surgery is a thing by itself, apart altogether from the surgery of the rest of the body, and not governed by the same laws. That, of course, is nonsense—simply a repetition of the school-boy proposal, “Heads I win, tails you lose.”

Let me speak of the only bit of general surgery which comes my way, the removal of tumors of the breast—operations of which I perform some scores every year. When I was a follower of Lister I used his every method, every detail recommended by him in turn, and they were endless in variety, and I rarely got anything like such satisfactory results as I get now without them. I used the carbolic oil and the putty, and the iodo-plaster and the carbolic spray, thymol, absolute phenol, corrosive sublimate, boro-glyceride, etc., etc., *usque ad nauseam*. But the moment I gave all that up, and used a little piece of Chassaignac’s drainage-tube and plenty of Gamgee’s absorbent wool, my results became uniformly satisfactory, and they remain so. Union by first intention is the rule, suppuration is the exception. The reason is simple. The drainage-tube re-

moves the likelihood of any nest for the germs to breed in, and the absorbent cotton-wool makes their existence impossible. It removes the dead fluids. Therefore I care not a fig for the germs, and the advance in surgery in the direction of this success is due not to Lister but to Chassaignac and Gangee. It was my custom long before his death to ascribe on all fit occasions this merit to the labors of our late townsman, and, now that he has gone from amongst us, it is my duty to claim for him a full recognition of his great discovery. Titular honors and weighty pensions have often been bestowed for far less important services to humanity, and I am strongly of opinion that the state should be moved to recognize to his widow in some substantial form the merit of his invention.

Let me now speak briefly of the arguments derived from the recent advancements of abdominal surgery, and, as that is a field on which I must inevitably become wearisomely discursive, unless I exercise great care, let me confine myself rigidly to one case, that of inflammatory disease of the Fallopian tubes. I am induced to select this because I have been savagely attacked recently by several German authorities, notably by Dr. Sanger, of Leipsic, and by others, at the recent Surgical Congress. Dr. Sanger's style of language is such that I could not emulate it, and should be sorry to attempt an imitation of it. Dr. Sanger has such a low opinion of my abilities and my work that he goes so far as to recommend me to learn to read German, and to read the works of German gynecologists. Unfortunately for me, that is just what I did some twenty years ago, with infinite labor, for the language is neither simple nor easy. I have long since been convinced that my time in this respect was thrown away. The German mind, at least the German medical mind, is essentially different from the mind of the Briton. It not only evolves from its own consciousness descriptions of things other than the proverbial camel, but it so wraps up its grain of wheat in such a bushel of chaff that the labor of getting a meal is intolerable. Nothing pleases it so much as metaphysical speculation, while we, on the contrary, are eminently pragmatic. From my early experience of German hospitals, and the methods of work therein, I never wondered at the necessity for some such reform among them as was offered by Listerism. But I thought and even said more than that. A very eminent German surgeon once cross-examined me as to my own notions concerning my exceptional success in abdominal operations. I evaded the real answer as long as I could, but at last, driven into a corner, I replied that I paid a great deal of attention to the cleansing of my finger-nails. He looked at his own and turned away. I do not know if he was a wiser, he certainly was an angrier man. I have had no more German visitors, and I am being continually attacked in German medical papers.

To return to the Fallopian tube and Dr. Sanger. His chief trouble about me is that I will not recognize his subdivision of pyosalpinx into varieties based on the peculiar kind of low organizations to be found in the contents of the tubes. He desires to establish three such varieties—the salpingitis gonorrhoeica, due to the gonococcus of Neisser; the salpingitis tuberculosa, produced by the *Bacillus*

tuberculosis of Koch; and the salpingitis actinomycotica, produced by the *Actinomyces bovis* of Bollinger.

My reason for refusing to follow Dr. Sanger is simple, and my argument easy. Dr. Sanger is putting the cart before the horse. These organisms are the result of the inflammatory exudation, not its cause. When Dr. Sanger is as accomplished in the use of the microscope as Dallinger is, he will probably find in the contents of these tubes the still smaller beast which, by repeated buttings against the fragments of dead tissue, prepares the food on which the bacteria live. The bacteria are the phenomena of decomposition and not the cause of the disease. If it were not so, how could we explain the familiar fact of rapid recovery after the opening of a superficial abscess in a person otherwise healthy? The evacuated pus swarms with bacteria. The pus is dead tissue. The bacteria do not attack the living tissue. The moment their food is removed they are starved into subjection, the abscess cavity heals, and the patient recovers. But put this germ theory of disease into the position of power, which its German advocates claim for it, and recovery is theoretically impossible. The whole economy must become an addled egg. Given the access of the *Bacillus tuberculosis* to the Fallopian tubes, the infection of the peritonæum is a logical sequence. But I have opened the abdomen and removed chronically inflamed Fallopian tubes distended with dead matter infected by this bacillus, and with the infundibula not occluded, and the patient is now well and healthy, nearly three years after the operation. I have opened the abdomen, in many cases packed full of tubercular matter, and drained it like a common abscess, and have cured the patients. The same thing has been done by Esmarch, who has identified the bacillus in the orthodox German fashion. Does any one believe that either of us removed every bacillus and every spore? I know I did not, for the tubercular masses in several of my cases kept coming out for weeks afterward, yet the patients recovered. What I really did was to enable my patients to get rid of the dead or dying exudation on which the bacilli live, of the decomposition of which they are probably the means and wholly the result.

Apply this German notion of the germ theory of disease to the facts of clinical medicine and surgery and see how irreconcilable with the facts it is. If true, the amputation of a finger ought to be as fatal as the loss of the thigh at the hip joint. But it is not so in the same hospital and under precisely similar circumstances. Amputations have an increasing mortality everywhere just as the point of severance approaches the trunk. Why? Clearly on account of the "diminished vitality" of the general tissues due to the "shock." These two good old-fashioned terms are sneered at by our modern savants because they serve only to express our ignorance. The reproach is true—we are ignorant. But it is better to be ignorant and to confess it than to parade a lot of inaccurate conclusions in the name of science.

If the germ theory of tubercle that it is the result of the existence of the bacillus tuberculosis were correct, none of us were safe from consumption, for we must meet these deadly brutes at every cab-stand and at every gathering in

the town hall. If it were true, Bennett's fact that multitudes of people recover from consumption could not be sustained, yet every physician knows it is true.

We do not know exactly what we mean when we speak of diminished vitality any more than we know exactly what we mean when we speak of an earthquake. But there is such a thing. A man's toes remain healthy until the deposit of lime-salts in the walls of his arteries deprive them of nutrition and diminish their vitality till they can no longer resist the attacks of the ever-present germ. The germ attacks the dead and nearly dead tissue. Drysdale's flagellating monad probably begins the deadly work of senile gangrene, and the bacteria finish it. But there is a line of demarkation beyond which the little beasts are powerless by reason of the resisting vitality. Some indiscreet surgeon interferes, makes a clot in the artery, the clot runs up, nutrition stops, vitality is destroyed, and the germs wreak their evil wills.

In conclusion, let me again say that, as the wrecks of the cellular pathology remain to us most valuable contributions toward the solution of the mysteries of disease, as the construction by Bennett of a scheme of molecular pathology did much to help us, so has the germ theory rendered us great service. But, as a final answer, it is insufficient, and its wholesale and reckless application is alike mischievous and misleading.

Original Communications.

THE

PHOTO-MICROGRAPHY OF HISTOLOGICAL SUBJECTS.*

By Y. MAY KING, M. D.,

AMOI, CHINA.

THE idea of utilizing photography as a means of recording scientific investigations with the microscope presents so many attractions that it undoubtedly has occurred to many microscopists. But as yet comparatively few appear to have availed themselves of this method of obtaining an indisputably exact reproduction of what is shown by the microscope. And even these few have given their chief attention to diatoms, of which they have made very beautiful photo-micrographs. Practical pathologists, as a rule, I think, have been deterred from attempting to use photography by the mistaken apprehension that the process was too long and wearisome for one with but little spare time, and also that the results to be obtained in the case of histological subjects would not sufficiently recompense for the labor bestowed. But in reality it is not any more tedious, nor does it require any more time, to make a photo-micrograph than it does to make a photograph of any other kind. There is no reason why an objective which will project a clear image upon the eye will not do the same upon a sensitive plate, nor why such impressions should not be

treated like the impressions from other kinds of lines. The measure of success I have met with in the photo-micrography of histological subjects, while pursuing it for my own benefit as a welcome alternative to camera-lucida drawing, has induced some of my friends to suggest that I might perhaps be able to give some practical hints which would be useful to others, toiling over camera-lucida reflections, who would like to experiment in this interesting branch of photography.

It does not require a great amount of skill, nor is it nearly as laborious as drawing, and, I think, will be found far more satisfactory in the end.

I would here acknowledge my great indebtedness to Professor T. W. Smillie, chief of the photographic department of the National Museum in Washington, D. C., for valuable advice and instruction, which his rare comprehension of the difficulties to be overcome enabled him to give me, and for the facilities afforded me in the laboratory under his charge. I am also indebted to Dr. I. Berman for some fine slides, from which the negatives were taken of the accompanying prints of the spinal cord and the tooth of a kitten.

The limits of this paper will not permit of my describing minutely the details which belong to ordinary photography, and so many are already accustomed to the treatment of usual subjects that it would be needless to do so. I shall therefore only endeavor to indicate the points of special interest and the necessary apparatus.

For those practically unacquainted with photography I would suggest that a few lessons from a professional photographer will be of immense value, saving much time and mental perturbation in ascertaining the best manner of working.

The necessary parts of the apparatus are not numerous, and need be but very simple. They consist of a microscope, a light, a condensing lens, a photographic camera with a plate-holder, plates and a few chemicals, and a room to work in. The microscope should have good objectives, for they will be subjected to a very severe trial, and the most judicious treatment fails to get good results with poor objectives. The qualities specially desirable are achromatism, good definition, penetration, and a flat field. The two latter have been the most difficult to obtain, in my experience. The penetration may be improved by inserting a diaphragm behind the posterior combination of the objective at the point of the greatest convergence of the rays. This point is most easily ascertained by sliding the diaphragm up and down until the proper spot is reached. The use of a diaphragm diminishes the amount of light; but, with low powers where the greatest penetration is necessary, the amount of light admitted into the objective is so large that this loss is of no consequence. It would, doubtless, be convenient to have apochromatic glass; but the difference between the chemical and visual foci may be remedied by the use of a blue cell. In working without an eye-piece, the objective should be screwed to the end of a short, wide tube—say, about six inches long and two inches wide, well blackened in its interior.

As to the relative merits of working with or without an

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eye-piece I am not now prepared to speak; most of my work has been done without one. The eye-piece has, or should have, the merit of rendering the field aplanatic.

For light, kerosene lamps, such as are used with magic lanterns, etc., furnish sufficient for low powers, if the object presents strong contrasts and sharp outlines, so that the definition is not taxed too much. The flat wicks are preferable, although a round one answers pretty well. With high powers, or where fine definition of delicate details is needed, the oil-lamp is not sufficient, and a stronger light must be used—such as an arc electric light, or sunlight. The strong, clear, white light of these two gives the best definition, and also enables one to focus much more accurately. Sunlight I have found all that could be desired. It is the most available for general use, and in the United States National Museum, after many trials of various other kinds of light, it is considered the best for photo-micrographic purposes. The only apparatus necessary in using it is a heliostat to reflect the rays upon a condenser. The condensing lens should be about three inches in diameter, and should have a focal length of from six to eight inches. A slight variation in the size of the condenser makes no material difference, provided it is not too convex, as the rays entering the objective should be as nearly parallel as possible in order to secure more accurate definition.

A substage condenser is not necessary for tissue photography, except with very high powers. The size of the camera may be left to individual choice. In the National Museum the one which I used was suited for an eight-by-ten plate, and had a bellows arrangement five feet long. If the eye-piece is used, two feet of bellows will be sufficient. The plate-holder should be capable of carrying a collodion plate, and also be provided with mats for holding smaller sizes, if an eight-by-ten plate is generally used.

If sunlight is used, the work-room should have one window facing the south, the lower sash replaced by wooden shutters and the upper one supplied with orange-colored glass, and a thick roller shade, by means of which the room may be darkened while an exposure is being made, so that no actinic light will enter the objective, except that which passes through the condenser.

The different parts of the apparatus are conveniently arranged and secured upon a stout, smooth board, resting on a firm table near the window. Fasten the camera-bed to one end of the board. In front of it place the microscope screwed upon a block of sufficient height to bring the tube opposite to the center of the camera-lens aperture, leaving a few inches of space intervening, in order to permit of focusing the objective up and down, or rather backward and forward, as the microscope tube is now horizontal. The intervening space referred to may be bridged over by a sleeve of black velvet, or anything pliable, which is at the same time opaque and has a non-reflecting surface. The wrist end of a lady's black undressed kid *mousquetaire* glove, turned wrong side out, will answer very well by tacking the larger end around the camera-lens aperture, and securing the other end around the tube by means of an elastic band.

Next comes the condenser, which must be fastened to

the end of a tube which slides smoothly in a collar fitted around a hole cut in the window shutter. By this arrangement the condenser may be moved back or forth as circumstances require without throwing it out of line. The position of the hole should be carefully regulated so that the optical axis of the condenser will be in the same line with the optical axis of the objective.

The heliostat is placed outside of the window, either on a separate shelf or on the end of the same board which carries the rest of the apparatus, in which case the shutter with the condenser must be notched at the bottom to fit over the board, and lifted out while it is being pushed out of the window to a sufficient distance. When once regulated for the latitude and the time of day, the heliostat moves by clock-work and requires no further attention.

If artificial light is used, it should be inclosed in something to prevent the rays from being diffused in the room. [When using my kerosene lamp, I had a piece of stove-pipe in which a hole had been cut opposite the flame for inserting the tube of the condenser.] Having arranged all carefully in line, adjust the condenser so that its focus will pretty nearly coincide with the focus of the objective, or until the cone of light upon the object and the field of the objective are of about the same size, and test the apparatus with some slide requiring fine definition and a low power. Focus down with the coarse adjustment until the usual working distance is reached. Slide the bellows back and forth until the image is vaguely seen upon the ground glass, and then use the fine adjustment until the image is perfect. It may be necessary to throw a focusing cloth over the head and camera, in order to see the fine details clearly.

Sometimes one or more bright spots appear in the field, interfering greatly with the definition. These are due to reflections within the objective, or in some other part. By taking away the ground glass and looking in with eyes almost shut, so as not to be dazzled, one may generally detect where the reflections occur. Sometimes the sleeve is not light-proof, or has become detached and admits stray beams of light, which make confusion. When the eye-piece is used the objective may be focused as usual, and the stand bent horizontally. Then slip the sleeve over the end of the tube, being careful not to disturb the adjustment; and focus the image upon the ground glass by moving the bellows.

A more trying difficulty is curvature of the field. This increases with the higher powers, so that often, out of a field five inches in diameter upon the ground glass, not more than half an inch can be brought into focus at one time.

The best general effect is obtained by selecting some point to focus upon, midway between the center and periphery. This gives a field with moderately good definition throughout, and no great contrasts between well-defined and blurred lines.

If there is any special detail to be demonstrated, that of course must be placed in the center of the field and focused without regard to the rest. As objectives are now constructed, the only remedy that I am aware of is to make use of an eye-piece or amplifier suited to the particular objective used.

Lack of penetration may be somewhat obviated by a diaphragm, as I have said before.

The difference between the chemical and visual foci is ascertained by interposing between the stage and the condenser a deep violet-colored solution (about 8 per cent.) of pure cupric oxide in ammonia. If the cell is made of glass strips, this fluid, which is exceedingly corrosive, soon acts upon the cement and destroys it. When not in use it is advisable to pour the solution out, unless it is contained in a blown glass cell, such as is used for holding fluid in spectrum analysis.

This blue medium practically stops all except the violet rays, and leaves only the chemical focus. If now the image is as well defined as before, the two foci are coincident; if not, the distance which the objective must be moved, to restore the definition, is equal to the difference. In low powers this is apt to be marked. With good modern objectives, the higher powers do not generally present any difference.

Often a dark edge appears, or the field is lighter in one part than another. This is due to the heliostat being out of proper relation to the condenser, so that it is not uniformly illuminated. Unless this is corrected, the negative will not be of uniform density. When all is satisfactory upon the ground glass, a sensitive plate may be substituted and the exposure made by intercepting the light between the condenser and the stage with a bit of blackened card-board, while the slide is being drawn out; then lifting the card-board for the necessary time, then replacing it while the slide is being drawn back. If the exposure should occupy several minutes, the card-board will not be necessary, since the time taken up in pulling out and returning the slide is comparatively so short as to be unimportant.

The table upon which the apparatus stands should be very firm, as any disturbance during exposure shows by blurred lines.

The photographic treatment is a little different from that of usual subjects. The chief aim in photo-micrography is to get definition. The negative must be sufficiently dense to give a strong print, in which the lights are high, and the shadows deep, clear, and sharply outlined. To this end the exposure must be short—barely long enough to get the details and yet to keep the shadows clear—and the development excessive. This does away with the soft middle tones and gradations between the lights and shadows so essential to the beauty of landscape or portrait photography, but so disastrous to photo-micrographs.

Dry plates are useful with kerosene light; the length of exposure varies greatly, and must be ascertained for each particular case.

With sunlight, low powers generally require two blue cells a quarter of an inch thick, and an exposure as short as it can be made by hand. If the specimen is of rather a deep-red color, and covers the field pretty thoroughly, one cell may be sufficient, or none at all may be necessary for tempering the light.

Collodion plates with the same objectives require but one cell if the specimen is very thin and delicately colored, and the same exposure—about one third to three quarters

of a second. Powers from one fifth of an inch and upward do not require any blue cell, unless there is a difference between the chemical and visual foci. For collodion plates one and a half seconds are sufficient for the exposure with ordinary carmine-stained sections; then the time lengthens rapidly as the powers increase.

The advantages of the short exposure are, that the middle tones do not have time to be reproduced, only the marked lights and shadows are impressed, and there is much less danger of jarring the apparatus than when the exposure occupies several minutes. In a city, where vehicles are constantly passing, it is impossible to get a perfectly quiet five minutes as even what is not a very perceptible jar will mar the clearness of the outlines. Moreover, in the case of the short exposure, less time is allowed for the occurrence of unforeseen accidents.

Dry plates must be handled, as usual, under ruby light alone. Ferrous oxalate is the best developer, giving perfectly clear, white shadows; eight parts of a saturated solution of potassic oxalate, acidulated with oxalic acid, to one part of a saturated solution of ferrous sulphate, acidulated with sulphuric acid, is the usual formula. It is advantageous to add two or three drops of a saturated potassium-bromide solution. Or the development may be commenced in a normal developer, and then transferred to one containing bromide. Should the image begin to appear in a normal developer under fifteen seconds, the plate has been more than fully exposed, and very decidedly too much so for microscopical purposes. It might perhaps be saved by promptly adding bromide; probably another plate must be taken. Develop until the back is quite gray in the shadows. With the ferrous oxalate developer and a properly exposed plate there is scarcely any danger of over-development. If, after fixing, the negative appears a little too heavy in the fine details, returning it for an hour or more to a strong hyposulphite solution may restore it. If that does not bleach it sufficiently, wash and pour on and off the plate a very weak solution of potassium iodide, watching carefully all the while that the process of changing the reduced silver to an iodide does not go too far. Then replace for a few moments in the hyposulphite solution, to dissolve out the new iodide of silver, before giving the final washing. If under-developed, no intensifications permitted by the dry-plate film will make up for it in this class of work.

Collodion plates are to be preferred, since, in addition to the possibility of making use of under-exposure and full development, certain intensifying processes may be used which take away the soft edge of the lines (caused by a slight halo around the edge of the object), and thus sharpening the outlines greatly. The dry-plate film does not permit of these processes being used; hence in these the definition is not so good.

If the window-glass of the room in which the exposure is made is of a pretty deep orange-color, and the room long enough or so arranged that one may work where there is not too much light, the same room may be used for developing collodion plates. In the dark room an orange shade over the gas-jet gives a perfectly safe light.

Plates are prepared by thoroughly cleansing them in

nitric acid, since with this former images are less likely to reappear than when caustic alkali is used for cleansing. Then flow upon the concave side the following solution of albumin:

Take the white of one egg beaten a little, and dissolve it in twenty ounces of water; add a drop of strong ammonia.

The plates are then set up in a rack to dry, care being taken to shield them from dust, after which they may be set away in the dark room on some convenient shelf to keep clean until needed. If they are put in regular order, albuminized surface to the wall, it prevents confusion if one happens to be in a hurry.

The albumin coat is too thin to be visible, yet it covers any little imperfection in the glass plate, and prevents it from appearing in the picture. It also makes the collodion flow more smoothly.

The usual medium negative collodion of the portrait photographer has given me quite satisfactory results. It should be filtered and then allowed to stand several hours, and decanted off the deposit before using it. Occasionally, collodion used for line work may be obtained. This works more slowly but gives greater contrasts. Where it is desirable to make one's own collodion, the following formula has been recommended to me:

Pure ether and strong alcohol, equal parts; for each ounce of this mixture weigh out five grains of ammonium iodide, two grains of potassium bromide, and five grains of photographic pyroxylin. Dissolve the salts in the smallest possible amount of water, and add to the alcohol. Dissolve the pyroxylin in the ether. Put the two solutions together, and filter. The collodion is now ready for immediate use. It should be made in small quantities, since it can not be relied on to keep longer than three weeks.

The sensitizing bath is, as usual, forty grains of silver nitrate to the ounce of water.

Ferrous sulphate developer works well, and is easily prepared: Saturated solution of ferrous sulphate (not acidulated with sulphuric acid), four ounces; glacial acetic acid, one ounce and a half, to sixteen ounces of water.

After fixing in potassium cyanide, the negatives may be set aside for a more convenient time, or intensified at once. The plate must be either entirely wet or perfectly dry before commencing, otherwise the action will be uneven. There are several methods of intensifying negatives which are useful for photo-micrographs.

A. Lay the negative in a tray containing a watery solution of iodine and iodide of potassium, or, what is more convenient, pour on and off a strong watery solution of a deep wine-color, until the negative assumes throughout a delicate straw-color. Then wash very thoroughly to eliminate the iodine. This process may be hastened by pouring on a very dilute solution of potassium iodide. The fixing agent (cyanide) should have been carefully washed out, otherwise as fast as the deposited silver is changed into an iodide it will be dissolved as a cyanide of silver, and the image is lost. If the iodine is not washed out, it reacts with the sulphur next used, and produces a disagreeable yellowish-green color, which interferes with the printing qualities of

the negative. Finally, treat the plate with a soluble sulphide; Schlippe's salt has been used, but ammonium sulphide is the most satisfactory. Pour this on and off until the film is gray to the back; this insures that all the deposited silver is changed to a sulphide. When the negative is dried and varnished, it is ready to be printed from.

This process gives a good deal of density, and is adapted to negatives from objectives of one fifth of an inch and upward, where the exposure, being so short in order to give good definition, necessarily produces rather thin negatives.

With lower powers there is apt to be so much very fine detail, and a longer exposure in proportion to the amount of light, that the deposit of silver is greater, and this process gives too much density, effacing some of the details.

B. Pour over the plate a saturated solution of the red iodide of mercury and potassium iodide, and then treat with potassium sulphide. This process is perhaps the best for very thin negatives.

C. Where the negative does not need very much more density, treating the plate with potassium sulphide alone until the film is gray to the back will be sufficient.

The accompanying plates of the spinal cord and tooth of a kitten were intensified in this manner.

The lower-power objectives I have found more useful in histological demonstrations than the higher, on account of their possessing far more penetration and a flatter field. They also allow of a greater length of bellows, equivalent to deeper eye-piecing, which makes the details larger, and thus the field. To a certain extent the size of the field is a matter of choice. I like to have it as large as possible without straining the objective, so that the details are easily seen. Objectives, being made to work at a particular distance from the object, are more or less at a disadvantage when that distance is increased or lessened. The longer the bellows, the nearer the lens must approach the object, and there are limits to this procedure which are soon reached. But the low powers bear a long bellows without being at a great disadvantage much better than the higher. This is sometimes convenient to make use of. For example, by using a one-inch-and-a-half objective and three feet twenty-six inches of camera bellows, a field, including four times as much, and of the same degree of magnification, and as clear as that from a quarter-inch objective, was gained. The specimen was not one that tried the definition much—a carmine injection of the blood-vessels in a rabbit's tongue.

High powers allow of very slight or no departure from their normal working distance, just as they do not bear deep eye-piecing. But the chief disadvantage is in the lack of penetration and in the great curvature of the field.

For the above-mentioned reasons I think it will be found best, with tissues, to use the lowest power compatible with the resolution of the necessary details, and to keep as near as possible to the normal working distance of the objective. A good negative may be enlarged, to bring the details of a convenient size, without losing definition.

The high-power objectives are absolutely essential for bacteria, but in this case a large field is not especially necessary, nor is the same amount of penetration required

as in a section of tissue, with a variety of details to be clearly defined.

The sections used in photo-micrography must be cut with a microtome, and must be thoroughly good in every respect if it is desired to obtain a good picture.

My experience with the different stains is limited. Carmine seems to work well, from a very delicate pink to a deep-red color. Hæmatoxylin, glycerin, and nitrate of silver have all proved satisfactory. The only case that gave me any trouble was a rather thick section, deeply stained with a dark Bismarck-brown. The cell bodies were of a very brown-yellow, and obstructed the light effectually with both collodion and dry plates, so that there was no differentiation of the nuclei or other details.

Polarized light with crystals gives most brilliant photo-micrographs. The alkaloids are easily prepared, and, perhaps, present fewer difficulties for one to begin with than tissues. The polariscope is put upon the substage as usual, and the analyzer screwed into the tube just above the objective. The blue cell is not necessary.

Positives or prints may be taken on albuminized paper, or on the non-albuminized. The latter, if well done, gives very pretty effects in gray and white. The paper should be freshly sensitized as it is needed, and, when dried, put into a box over fumes of strong ammonia (to counteract any acidity which may be developed during the toning) for twenty minutes, and then laid away smoothly in a paper bag in a cool, dry, and perfectly dark place until required.

The printing should be carried on until the details are well marked, and a little darker than they are desired to be after the photograph is finished. The ordinary toning and fixing baths may be used. The prints on albuminized paper, when mounted, should be burnished in order to secure the best result. Prints on non-albuminized paper do not need to be burnished, but afford an easy surface for the application of water-colors. Bromide paper of the finer qualities give excellent prints. It is also very convenient, since the same chemicals that are used for negatives are used in developing them, and the exposure can be made at any time in the dark room by gas-light.

The toning processes require a little practice in order to be successful, and need to be practically learned. Perhaps it would be more convenient for those who have but little spare time to send the negatives to one accustomed to printing line work, and who has all the appliances and chemicals at hand.

INTUBATION OF THE LARYNX.*

By E. FLETCHER INGALS, M. D.,
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In 1858 an attempt was made by M. Bouchut, of Paris, to treat stenosis of the larynx by intubation. As the result of his experiments he reported seven cases to the Academy of Medicine, of which five were fatal and but two ended in recovery after the subsequent performance of tracheotomy. Although these results were unsatisfactory, had M. Bouchut

displayed the perseverance, patience, and moderation which have characterized the author of more recent experiments, he might then have demonstrated the practical utility of the method; but, in his zeal for the new operation, he unfortunately attacked tracheotomy and brought upon himself and his method the severe criticisms of those who had seen much good accomplished by opening the trachea. Trousseau, as secretary of the commission appointed to investigate the new operation, reported:

1. Tubage of the larynx in certain cases of acute laryngitis can, by retarding asphyxia, prove of curative value.

2. In certain chronic diseases of the larynx it may allow one to delay tracheotomy, and may sometimes relieve or cure the patient.

3. In the treatment of croup it delays asphyxia and allows an easier introduction of air, and the administration of agents capable of modifying the diphtheritic inflammation.

4. It can only very rarely supplant tracheotomy, which is the principal means of opposing croup when medical measures fail.

The last declaration proved the text for a discussion which was "an extinguishment of M. Bouchut's views and methods," and intubation of the larynx was condemned as an impracticable procedure.

In M. Bouchut's experiments a tube was used from 18 to 24 millimetres long, and from 6 to 8 millimetres wide, narrowed at one end. This was pressed into the larynx on the end of a hollow sound, a thread having first been attached to it to prevent its passage into the trachea, and to facilitate its removal. This thread was brought out through the mouth, and seems to have been the cause of much irritation; but the larynx was tolerant of the tube. Previous to Bouchut's experiments and since that date, catheters have been frequently used to prevent suffocation from closure of the glottis. As early as 1801 Desault accidentally learned of the tolerance of the larynx and trachea for a foreign body of this sort by passing a tube through the nose into the trachea, instead of into the œsophagus, as he had intended. The tube remained in that position for several hours, and he only became aware of its situation upon attempting to introduce food.

This accident suggested the possibility of treating laryngeal stenosis similarly. He experimented and reported two cases. The first patient was relieved temporarily, but died the same day the catheter was introduced. His second, who had œdema of the glottis, recovered, the catheter having been retained in the trachea for a day and a half.

Within the last few years Schroetter has successfully treated chronic stenosis of the larynx by the use of hollow three-sided bougies.

In 1880 Dr. William McLean, of Glasgow, reported three cases in which he had used a catheter in the larynx, one end of which protruded from the mouth. In one case the catheter was used during a surgical operation to prevent blood from flowing into the trachea. In the second case a No. 12 catheter was retained thirty hours, and in the third thirty-six hours.

Numerous other physicians have practiced catheterization of the larynx, but with no great success.

* Read before the American Laryngological Association at its ninth annual congress.

Dr. Joseph O'Dwyer, of New York, in 1880 began a series of experiments with intubation, which have resulted in giving to the profession one of the most useful operations of modern times. He first tried a bivalve elliptical tube with narrow transverse diameter, and having a head to prevent it from slipping into the trachea. But the membrane soon protruded between the blades, and there was a consequent return of dyspnoea. Retaining the head, he next made plain tubes about an inch in length. These were employed in three cases which he reported: The first was that of an infant, aged two months and twenty-four days, suffering from suffocative diphtheritic croup; relief was promptly obtained, but the child died in seventeen hours. The second case was that of a girl aged three years and a half, who was suffering from urgent dyspnoea. She made a rapid recovery. The third case was that of a boy aged four years; he died in twenty-four hours. At the autopsy the lower end of the cannula was found obstructed by a thick deposit of membrane. This showed the necessity for longer tubes. They were made and tried, but in a large proportion of the cases they were soon coughed out. A tube was then tried having a wedge-shaped piece of metal on either side to make it self-retaining, but it was held so firmly in the larynx that it could only be removed with great difficulty. Dr. O'Dwyer then conceived the idea of fusiform tubes which, with slight modifications, were like those in use at the present time. His present set of instruments consists of a gag, five laryngeal tubes, an applicator, an extractor, and a gauge. The tubes vary in length from an inch and a half to two inches and a half, the caliber of the largest being about one eighth by one quarter inch, that of the smallest about one half that size. At the upper end of the tube is a diamond-shaped head, with rounded angles, which rests upon the ventricular bands and prevents the tube from slipping into the trachea. The anterior aspect of the head is beveled off where it rests against the base of the epiglottis, and at its anterior part is a small eye through which a double thread is passed during its introduction. About the middle of the tube is a fusiform enlargement, designed to make it self-retaining. Jointed obturators accompany each tube, the distal end of which is rounded and of a size to close the caliber of the tube. At the proximal end also the obturator is enlarged to accurately fit the tube, and in its base is a small hole into which the end of the applicator is screwed when the tube is to be introduced. The stem of the applicator is covered by a sliding tube, which may be crowded forward by a thumb-piece to release the obturator from the laryngeal tube when the latter is in position in the glottis. The extractor is constructed on the principle of a dilator. When in use the closed blades are passed into the end of the laryngeal tube; a lever on the handle is then pressed down to open the blades, which impinge against the inner aspect of the tube and hold it firmly so that it may be withdrawn. The gauge is used in determining the size of tube necessary for a child of any given age.

You will find no difficulty in doing intubation; but those not familiar with laryngology will find it profitable to practice on the cadaver before attempting it on the living subject.

The Operation.—The child should be wrapped in a shawl and held in the nurse's lap, with the head thrown slightly backward against her left shoulder. The gag is then placed between the jaws on the left side of the patient's mouth, and intrusted to a competent assistant, who should hold it carefully in position.*

With the gag in position, the index finger of the left hand is carried over the base of the tongue behind the epiglottis to the opening of the larynx. At this point great difficulty is sometimes experienced in recognizing the epiglottis, which in young children is so soft that it can hardly be felt, though in patients over three years of age there is usually no difficulty. In very young patients the larynx is so small and soft that its outlines are indistinct to the tactile sense. To me it feels much like the end of my ring finger. I avoid trouble with the epiglottis by carrying my finger first behind the arytenoids and then slightly forward. With the finger resting on the larynx, the tube is glided quickly along the palmar surface until its end is lodged in the larynx; it is then gently forced through the glottis until its head rests upon the ventricular bands, where it is held by the index finger of the left hand while the applicator with the obturator is disengaged and withdrawn. If any difficulty is experienced in introducing the tube, the instrument should be withdrawn after a few seconds to allow the child to catch its breath; then the attempt may be repeated. The double thread attached to the tube before its introduction is allowed to remain for a few minutes until the child has partially cleared the trachea, and respiration has become fairly easy. Then the index finger of the left hand is again introduced for a moment upon the head of the tube, and the thread is cut and withdrawn. The whole time occupied after the gag is in position until the tube is safely lodged in the larynx is seldom more than a minute. Within five or ten minutes more the patient is usually breathing with perfect ease, and falls into a quiet sleep. No anæsthetic is used, and little if any pain is complained of by the patient. Subsequently the child requires no more than the ordinary care for a patient with the same malady who had not required surgical interference, excepting as to nourishment.

The patients should be fed on soft solids, and I believe that fluids must be absolutely forbidden, excepting by enemata. Most of these patients might swallow half a drachm of liquid without harm, if at the time they were always careful to bend the head well forward and a little to one side, with the chin pressed firmly against the neck. Some will swallow without any difficulty even without this precaution, and others will swallow readily a part of the time; however, the entrance of a small amount of fluid into the trachea may be sufficient to excite a fatal bronchitis or pneumonia. The best plan is to forbid the use of fluids entirely, for the child

* The gag which goes with this set is too small, and, unless very carefully watched, is liable to become displaced, so that the operator may be bitten. A friend of mine lost his life the past winter from diphtheria caused by a bite which occurred in this way.

I have used latterly Goodwillie's gag, which is easily retained in position; but, as an additional precaution, I usually use a broad steel band on the first finger.

on the second day will beg so for water that the attendants are nearly sure to give it unless they have been told that it will kill the patient. After the second day the thirst seems to be much less troublesome. At the time, this direction seems almost cruel, but there is some reason to believe that withholding fluids has a decided effect in limiting the amount of diphtheritic deposit in the air-passages, as well as preventing the excitation of bronchitis or pneumonia. At most, the suffering of the patient can not be long, and, in view of the evils to be avoided, I hope those who use intubation will bear in mind the danger from the ingestion of fluids.

The tube in the larynx is cleared by the ordinary respiratory efforts, or, if it becomes clogged, it will usually be coughed out. Not infrequently it will be coughed out during the course of the treatment; but this does not occur in more than one fourth of the cases, and then it is not apt to be more than once. The largest tube that can be used is most likely to be retained. After from four to six days in many favorable cases, the swelling and false membrane will have so much diminished that the tube may be coughed out finally, and need not be reintroduced. If not expelled, it is removed with the instrument designed for the purpose. In removing the tube, the gag should be inserted, and the extractor guided into the tube by the finger of the left hand, when, by opening its blades, the tube is caught and may be extracted. If at the same time the trachea is grasped just below the cricoid cartilage and crowded slightly upward and backward, the liability of forcing the tube into the trachea is diminished. Dr. F. E. Waxham, of Chicago, who, I think, was first after O'Dwyer to adopt this method of relieving the dyspnea of pseudo-membranous laryngitis, has, I think, done more than any one else, excepting the originator, to popularize this operation. He has experimented quite extensively with tubes of various forms. Recently he had constructed tubes with a very small head, and a rubber collar, fitted with an artificial rubber epiglottis, designed to prevent the entrance of foreign substances into the air-passages during deglutition. He has used these with fair success, but has not yet overcome this objection to intubation.

Dr. A. E. Hoadley, also of Chicago, by accident introduced one of O'Dwyer's tubes wrong end foremost, and the patient did well for a time. Subsequently he and others employed this method of seating the tube. It was maintained that, instead of resting with its head on the ventricular bands, it could thus be crowded down so that it rested on the true cords, where it did not so much interfere with closure of the epiglottis, and therefore deglutition was more easily accomplished. Cases treated in this way did just about as well as those treated by O'Dwyer's method, I think, neither better nor worse.

Dr. Hoadley has had tubes constructed much shorter than O'Dwyer's, and with somewhat modified heads, designed to rest on the true cords. He thinks they will be more satisfactory than the longer tubes, but he has not used them. None of these are very different from some of O'Dwyer's patterns. Dr. J. Tascher, an eclectic physician of Chicago, has recently been experimenting with a short

tube quite different from O'Dwyer's, with which he has had good success, having treated six patients, of whom three recovered, though in one of these the lower end of the tube became filled with false membrane, and the child nearly suffocated before it could be removed. It will be remembered that it was the liability to this accident which caused Dr. O'Dwyer to adopt the long tube. Dr. Tascher's tubes are made of German silver and are very light, with a comparatively large caliber. There are six in a set, varying in length from $\frac{3}{4}$ to $1\frac{1}{4}$ inch. They are of uniform size from the slight collar which forms the head to the lower end, and have no bulging upon the side to secure more perfect retention, which he maintains is unnecessary, on account of the position which the head occupies below the ventricular bands. These tubes are flattened at the sides and have an oval aperture measuring from $\frac{1}{8}$ by $\frac{1}{4}$ inch to $\frac{1}{4}$ by $\frac{3}{8}$ inch. The collar which forms the head is only about $\frac{1}{16}$ of an inch in width. The outer edge of its lower surface, which is designed to rest directly upon the vocal cords, projects a trifle below its attached border to prevent it from slipping off the cords.

On a wet preparation of a child's larynx it has been demonstrated that this collar catches so firmly on the vocal cords that the tube can not be forced into the trachea even by using considerable force.

While this is true with this particular larynx, and although the doctor states that there is no danger whatever that the tube will be crowded into the trachea, there remains a fear that this accident may occur at times, and this fear becomes the more real from a knowledge of the fact that, at least in one case,* even O'Dwyer's tube, with its large head, has been crowded down into the trachea and caused death. With the small tubes of Dr. Tascher's it would seem that, even if they were crowded into the trachea, they would not greatly obstruct it and might be easily removed by tracheotomy, or possibly with a long tracheal forceps. The advantages of these small tubes, if they were only longer, are at once apparent, if it is a fact that there is no danger of their passing into the trachea. They are small and light, and may be so deeply seated that they do not greatly interfere with deglutition; but it remains to be seen whether they are more likely to cause ulceration of the vocal cords, and whether subsequent cases will average better than those treated by O'Dwyer's tubes. These, like the other modifications of the laryngeal tube, are introduced and removed with Dr. O'Dwyer's instruments.

I have treated twelve cases of diphtheritic laryngitis by intubation, none of which occurred in my own practice. In only three of these cases had I the subsequent care of the patient, and by a strange coincidence these were the only ones that recovered; however, one other lived for eight days and then died suddenly, an hour after the tube had been removed, either of paralysis or of spasm; and another lived eight days, but then died of pneumonia said to

* It is hardly necessary to state that this case has not been reported. The knowledge of it came to me through a physician for whom I had performed intubation. He told me that the child had recovered from diphtheria, and that, on attempting to remove the tube, the accident occurred with the result stated.

have resulted from exposure after the tube had been removed.

Of these cases, Nos. I to V, inclusive, have been reported elsewhere, but, as two of them illustrate what I wish to say of treatment, I shall be obliged to give abstracts of them here.

CASE I.—Consultation with Dr. A. M. Stout. A little girl two years of age. Diphtheritic laryngitis, with great lividity, dyspnoea, and stridor. Intubation; immediate relief. Death from constitutional results of diphtheria forty hours later.

CASE II.—Consultation with Dr. J. F. Todd. A strong boy five years of age. This was termed membranous croup. There was considerable lividity of the lips, with recession of the chest-walls during inspiration. Intubation; complete relief of dyspnoea. The patient did well for about twenty hours. Bronchitis then developed, and the child died about thirty-nine hours after the operation.

CASE III.—Consultation with Dr. C. J. Creighton. A girl five and a half years of age. Diphtheritic laryngitis, with great dyspnoea. Intubation; complete relief, but death from bronchitis in thirty-six hours.

CASE IV.—Consultation with Dr. E. Garrott. Girl four years of age. Diphtheritic laryngitis, but no membrane in the fauces. Great difficulty in respiration, with recession of chest-walls. Intubation. Very soon after the tube was introduced the child coughed up a large piece of false membrane, after which dyspnoea was entirely relieved. Prescribed the mild chloride of mercury, gr. $\frac{1}{2}$ to gr. j, every two or three hours. Directed that soft solids be given, but fluids withheld as far as possible. Ice was allowed freely. A little water and milk were given this patient, but she soon learned to swallow half a teaspoonful at a time, when lying on the side, without cough, which would have occurred if it had entered the trachea. However, before this, fluids had been frequently taken which had caused paroxysm of cough. Bronchitis developed, and the second or third day after the intubation there was high fever with numerous mucous râles over the entire chest. The mild chloride was continued during this time, and in addition tincture of nux vomica and carbonate of ammonium, with syrup of ipecac, were given. The fourth day the patient was better. During the latter part of this day the patient managed to get the tube out without cough, but it was not necessary to reinsert it. She made a rapid and complete recovery.

CASE V.—Dr. Lilly's patient, a girl, aged four years and eight months. Diphtheritic laryngitis, lividity, great dyspnoea, and recession of chest-walls. Intubation, with immediate relief. I directed that the child should be fed on soft solids and allowed to suck bits of ice, but that very little fluid be given, and this never in greater quantities than half a teaspoonful. Unfortunately, these directions were not carried out thoroughly, but considerable fluid was given, each draught of which caused severe cough, showing that more or less of it went into the trachea. Twenty hours after the tube was introduced I found the temperature 104° F., patient extremely restless, face becoming livid, pulse irregular, rapid, and feeble, urine scanty, and respiration sighing and imperfect. All over the chest were numerous sonorous and sibilant râles; indeed, the patient presented all the symptoms of the last stage of diphtheritic bronchitis. Such symptoms I have often seen, but have never before seen the patient survive more than two or three hours. When the child was first seen I had ordered hydrarg. chlor. mite in doses of two grains every two hours, which was still continued; but at this time I ordered tinct. nucis vom., ℥j; amm. carb., gr. j; syr. ipecac. ℥ xij; and potass. acetat., gr. iv, in syrup of licorice, to be given every two hours alternately with the mild

chloride. The following morning the patient had slightly improved, the temperature being only 104°. I then discontinued the mild chloride and ordered the above-mentioned remedies to be given every hour. The relief was most marked, and I have no doubt that the comparatively large and frequently repeated doses of the cardiac and respiratory stimulants saved the child's life. The tube was coughed out and reinserted on the second day, and was again coughed out on the fourth day, but was not needed subsequently. The child recovered slowly, and it was three or four weeks before the signs of laryngitis and bronchitis had entirely disappeared.

CASE VI.—Seen in consultation with Dr. B. A little girl, two and a half years of age, suffering with diphtheritic laryngitis; serious dyspnoea, with recession of chest-walls during each inspiration. Introduction of the laryngeal tube gave immediate relief, but she died about twenty-four hours later with symptoms of diphtheritic bronchitis.

CASE VII.—Consultation with Dr. R. J. Price. Girl, two and a half years of age, suffering from diphtheritic laryngitis, there being no membrane in the fauces. There was great dyspnoea, which must have terminated fatally in a few hours but for the operation. Intubation; perfect relief. Patient did well for six days. Seventh day, peevish and irritable, and looking poorly. The eighth day, better. The attending physician removed the tube, and after half an hour, during which time respiration had been natural, he left the patient. He was called back in about half an hour, and found the child dying, but could not determine the cause. However, he opened the trachea, but without avail.

The cause of death in this case was inexplicable, but it seemed to have been much the same as that in two cases reported to me by Dr. O'Shea, and one of which I had verbal reports from Dr. Waxham. At the time I thought it to have been heart failure. Dr. O'Shea attributed the death in his cases to spasm. Dr. Waxham could not account for the one of which he told me, but thought it must have been from occlusion of the glottis by partially loosened membrane. It is probable that laryngeal paralysis or spasm was the cause of the fatal termination of these cases, for it is not likely that cardiac failure would have happened to occur at that particular time—half an hour to an hour after removal of the tube—when there had been no evidence of it immediately before.

CASE VIII.—Consultation with Dr. G. V. Bachele. A girl seven years of age had been suffering from diphtheritic croup for five days, and at the time of operation was livid and laboring for breath, with marked recession of the chest-walls. Intubation; complete relief; did well for six days, when the tube was removed. The parents were very careless, and allowed the child to expose herself shortly afterward, whereby she contracted a pneumonia from which she died three days later.

This case I have not counted among the recoveries, though, so far as the operation was concerned, it was entirely successful.

CASE IX.—Consultation with Dr. F. A. Lilly. Boy aged four years and four months. Diphtheritic laryngitis of severe form, severe dyspnoea, the child having already passed into that listless stage which precedes a fatal termination. Intubation; great relief, but the child was so low as to be unable to cough up the mucus from the trachea. Death in twenty hours.

CASE X.—Consultation with Dr. C. J. Creighton. Boy aged

four years and three months. Child in almost exactly the same condition as that in the preceding case. Intubation; complete relief from dyspnoea, but the child died in about twenty-one hours.

CASE XI.—Consultation with Dr. B. Girl aged three and a half years. Diphtheritic laryngitis, urgent dyspnoea, and impending death. Intubation; perfect relief. In this case the child ceased to breathe before the tube was inserted, but it was introduced quickly and artificial respiration was instituted, whereby the patient was resuscitated. Here I had urged the necessity of withholding all fluids, but about fifteen hours after the tube had been inserted I was told that the child had learned to swallow easily, though how long it had been practicing with fluids was not stated. I at once mentally affixed to its record the word dead. The patient died at the end of about twenty-four hours of diphtheritic bronchitis.

CASE XII.—Consultation with Dr. P. Matthei. Boy aged four years. Had been sick five days. Diphtheritic laryngitis, with labored respiration and recession of the chest-walls. Intubation; perfect relief of dyspnoea, and the child, as usual in such cases, soon fell into a quiet sleep. Directed that soft solids be given and ice to quench thirst, but forbade a drop of fluid in any other way. Ordered hydrarg. chlor. mite, gr. j, every hour. The next morning (twenty-four hours later) pulse 132, temperature 100°, a little cough, and easy expectoration, but no signs of bronchitis. The child was now begging for water, but I impressed the friends with the danger, and water was still forbidden excepting by enemata. The child was very restless during the day, apparently on account of thirst, and begged piteously for water, milk, wine, beer, or anything that it might drink. The friends thought he was becoming delirious for want of water. Fearing they would yield, I told them that they would kill the child if they gave it anything to drink. Even the physician, kind-hearted man that he is, interceded in behalf of the child, but I was so strongly impressed with the necessity for the measure that I still firmly refused; and, as the family had just lost one little one from diphtheritic laryngitis after tracheotomy, they were sufficiently frightened to follow my orders, excepting that they gave fluids *per rectum* but once. The second day the pulse was 130, respiration 28, temperature 99.5°. The child had rested quietly through the night and asked very little for water. The mild chloride was now given less frequently—only once in four hours—and alternately with it a grain of quinine. No râles over the chest. The morning of the third day pulse 136, respiration 24, temperature 98°. The patient had rested well, but had eaten little since the operation, and had had only two nutritive enemata during the whole time, instead of three or four daily, as had been ordered. A very few bronchial râles could be heard at this time. The child had ceased to ask for water. Early the following morning (fourth day), with a slight cough the tube was expelled. Breathing remained easy, so that it was not necessary to reintroduce the tube. Pulse 132, temperature 96.2°. After the tube had been removed milk was given, but some of it found its way into the trachea and excited cough. However, very little trouble was subsequently experienced from this source, and the child made a complete recovery.

Of these cases, those numbered IV, V, and XII indicate the course of treatment which I believe to be most efficient after intubation for diphtheritic laryngitis: 1. Prohibit all fluids excepting by enemata, and insist upon this so forcibly that your orders will be obeyed. 2. As another safeguard, give some preparation of mercury in comparatively large and in frequent doses. 3. In case of the development of

bronchitis or pneumonia, give respiratory and cardiac stimulants freely but judiciously.

In Case IV my directions were followed very well, but I allowed water or milk to be given in small quantities, hence the bronchitis.

In Case V fluids were given far too freely, hence the bare escape from death.

In Case XII I told the friends they would kill the child if they gave a teaspoonful of fluid, hence the recovery with but little bronchitis. There may be too small ground for these conclusions, but I am fully convinced of the necessity of withholding fluids excepting when given in such manner that they can not possibly enter the larynx.

(To be concluded.)

LIGATURE OF THE INTERNAL JUGULAR VEIN FOR A KNIFE-CUT.

By F. TIPTON, M. D.,
SELMA, ALA.

I WAS standing in the door of a drug-store one afternoon when I saw a young man suddenly burst from a neighboring barber-shop and rush directly toward me. He was covered with blood and held his hands to a huge gaping wound in the neck, from which the blood ran in spouts (no other word can express this deluge of blood, as he reeled and fell into my arms, pulseless and fainting). He gasped out, "The damned scoundrel has murdered me with a razor," and sank to the floor, covering me with a torrent of blood. I instinctively pressed my thumbs into the gaping wound and checked further loss of blood until I could get help. I found upon removing my thumbs that the internal jugular had been cut about half way across, and the external completely severed, and saw at once that a ligature was the only hope in this tragic extremity. Fortunately, my buggy was near, containing my surgical case, which I always kept ready for such emergencies, and, more fortunately still, the doctor who happened to be near to aid me was fresh from his service as an interne in one of our large hospitals, and needed, of course, no "telling what to do." Getting him to relieve my thumbs from their position over the wound, I slipped an aneurysm needle around the vessel on the distal side of the wound, tightened the ligature, and, to my delight, saw the bleeding checked at once. By this time the man was cold, pulseless, and livid beyond recognition, having lost, it seemed to me, all the blood in him, but by degrees he rallied and soon became quite well and strong again. When he was taken home, I had the foot of his couch raised, hoping thereby to keep blood enough in his head to sustain life, but he soon began to bleed again, and I was greatly troubled, thinking that I should have to open the wound and ligate on the proximal side of the cut; but in my trouble it suddenly flashed over me that the blood would not run *up hill*, so that, instead of keeping his head lowered, thus favoring bleeding by gravitation, I raised his head and neck so as to prevent this, and, presto! the bleeding was done with for ever. Being wealthy, he was watched by relays of physicians, day and night, until out of danger. The ligature hung on for several months before coming away. Nothing saved this young man's life but celerity of action, both on his part and on the part of his surgeons. I think, even then, had I not had the help of Dr. King, the hospital interne, he might have been lost by inexperienced assistance.

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WESTERN MEDICINE AMONG THE ORIENTALS.

THE article entitled "The Photo-micrography of Histological Subjects," which we publish in this issue of the Journal, is of a character to command attention, we think, under any circumstances. The reproductions of photographs that accompany it will doubtless be admitted by our readers as proving that the author has to a remarkable degree mastered technical details which, if not in themselves difficult, are at least such as call for the exercise of those mental qualities that lie at the very foundation of aptitude for experimental work. The article itself points to more than mere technical achievement; it indicates a good working knowledge of the science of optics, and, by its incidental allusions, it reveals its author's familiarity with science in general. Its simple, descriptive style does not rob it of these characteristics; perhaps it makes them stand out all the more prominent, for the natural, unaffected portrayal of art is quite as telling as its artful concealment. We repeat, then, that the article is one that would be noticeable without regard to anything which might pertain to its author. The fact that the author is a lady will hardly be looked upon nowadays as materially heightening the interest attaching to the article, for of late the world has grown accustomed to scientific attainments by women, and has ceased to wonder at them. When we add, however, that the lady in question is a native of China—and by that we mean, not that she was born of western parents resident for the time in China, but that she is of the pure Chinese race—we give what we regard as ample reason for viewing her work as something more than creditable. To us it is wonderful.

Trusting that we may avoid doing injury to Miss King's modesty, we will allude to some of the incidents of her career. She is the granddaughter of a Chinese physician of the native regime, and her good friend Dr. McCarty playfully speaks of her fondness for medicine as a manifestation of atavism. Her parents were converted to Christianity by the efforts of American missionaries, and her father became an assistant to Dr. McCarty, who was then doing duty as a medical missionary in China. During Miss King's childhood her father died, and Dr. McCarty adopted her. Seven years ago he brought her to this country. She learned the English language before she left China, and she may also at that time have begun to give some attention to scientific study, for Dr. McCarty was for several years a professor of natural history in Japan. On this point, however, we have no positive information, but we infer that her preliminary education must have been largely carried on before she came here, for it can not have been long after her arrival in this country that she entered the Woman's Medical

College of the New York Infirmary for Women and Children. Since receiving her degree in medicine from that institution she has devoted her time to post-graduation courses, to laboratory work, and to clinical observation in the hospitals. She is now on her way back to China, where she intends to practice medicine.

We have frequently commended the work of our medical missionaries in China, but never before has there come to our knowledge so striking a manifestation of the beneficence of the missionary's task as the rescue of such a mind as Miss King's from the doldrums of Chinese life and its promising start on an active scientific and humanitarian career. Were it the only achievement that our missionaries could point to, their labor would still have shown its title to the utmost support and encouragement that our people can give it. As to how far it is desirable, in general, that women should embark in the study and practice of medicine, opinions vary widely; without entering upon that question, we may say without qualification, and with no fear of rousing dissent, that, if there is anywhere a real need of women as physicians, it is in those communities where, as in Asiatic countries, an inexorable social system practically denies to sick women the access of other practitioners than those of their own sex. To have contributed to meeting this state of things so efficiently as has been done in the present instance by the Woman's Medical College of the New York Infirmary gives that most worthy institution an additional title to the support and confidence of the medical profession and the community.

MINOR PARAGRAPHS.

A PHARMACIST'S NEGLIGENCE.

"*LYON médical*" quotes from one of the French newspapers an account of a lady's sudden death after taking a potion prepared by a pharmacist. At the inquest it was shown that death must have resulted from poisoning with strychnine, and, although suspicion was at first directed to a servant in the family, an action was brought against the pharmacist, the ground taken being, not that he erred in putting up the prescription, but that he gave the lady the medicine in a bottle that had been used for strychnine, and neglected to cleanse it. He was convicted, mainly on the strength of his extraordinary efforts to dispose of the bottle after the lady's death, and sentenced to three months' imprisonment, and to pay a fine of 100 francs and damages to the same amount.

MR. TAIT'S ADDRESS.

It is proper that we should state that Mr. Tait is not responsible for the title of his presidential address as it appears in this issue of the Journal. In his manuscript the address had no title; we have taken the liberty of giving it one, and we trust that it will not prove either misleading to the reader or unsatisfactory to the author. Mr. Tait's reminiscences are exceedingly interesting, like everything else that he writes, and his account of his early work with the Listerian system of antisepticism will have the charm of novelty for most of our readers. For our part, we do not feel the force of the considerations that appear to have led Mr. Tait to the abandonment of Listerism, although the point he makes of the resisting power

of living tissue is remarkably well put. In the interest of the catholic spirit that should always characterize scientific inquiry, it is pleasant to note the appreciative way in which Mr. Tait speaks of the work of Sir Joseph Lister and Sir Spencer Wells, but it is equally a subject of regret that he should have displayed an anti-German feeling, and especially that he should have gone to the extreme length of intimating that the time which he spent in learning the German language was wasted. We have lately commented on the injuriousness of allowing considerations of nationality to influence one's opinions in science. Whatever may be the prevailing feeling on that general question, German research is certainly so much in the ascendant at the present time that the remark referred to will not, we think, be widely assented to.

OROYA FEVER AND VERRUGA.

A RECENT article by Dr. Cucca, published in the "Morgagni" and summarized in the "Gazette hebdomadaire de médecine et de chirurgie," gives a succinct account of certain inquiries into the nature and behavior of the verruga of the Peruvians, a disease that derives a melancholy interest from the fact that Dr. Carrion, of Lima, lost his life, not long ago, in an heroic attempt to demonstrate its lack of contagiousness. Verruga, the author says, has been shown to be nothing else than an infectious sort of fibroma, and its bacillus has been studied by Professor Izquierdo, of Santiago, although by some it is still thought to be of telluric origin. The Oroya fever is simply a febrile phase of verruga.

THE MEDICAL SOCIETY OF THE COUNTY OF ERIE.

WE are glad to see, by an account given in the "Buffalo Express" of a recent meeting of the society, that that body is making a vigorous effort to rid itself of certain members who, if the allegations brought against them are sustained, are certainly of no credit to the organization. The charges include that of advertising and selling nostrums and that of circulating documents comparable only to those commonly emanating from quacks. The society can not act too decisively or too promptly in this matter, provided it is sure of the facts.

THE REMOVAL OF A TUMOR FROM THE SPINAL CANAL.

THE "Lancet" gives a brief account of a case in which, on the 9th of June, Mr. Victor Horsley successfully removed a pinkish, elastic, vascular growth, of about the size of the tip of the little finger, from within the spinal meninges on the posterior root of a nerve at about the level of the third dorsal vertebra. The spinous processes were removed with a bone forceps, and then the laminae were trephined. The incision through the membranes was at least three inches long. The patient was paraplegic, and the diagnosis of a growth pressing on the spinal cord was made by Dr. Gowers and confirmed by Sir William Jenner. Certain painful and spasmodic manifestations in the lower limbs were diminished after the operation, but the paraplegia still continued.

INTUBATION OF THE LARYNX IN ENGLAND.

IN the course of some remarks appended to a report of three cases of intubation, in the Bristol Royal Infirmary, published in the "Lancet," Dr. Shingleton Smith and Dr. Waldo state that in each of the cases they would have been obliged to perform tracheotomy had not intubation been substituted. Upon the question of the comparative advantages of the two operations they do not enter, but their publication is intended to show that in some cases intubation is attended with perfectly satisfactory

results, but that there are dangers connected with it that are somewhat more serious than some recent writers would lead us to suppose. Two of their three patients recovered. The one that died swallowed a tube, but that seems to have had nothing to do with the death.

CERTAIN TROPHIC SEQUELÆ OF RHEUMATISM.

AT a recent meeting of the *Société médicale des hôpitaux*, an account of which is given in the "Union médicale," M. Renaut related a case of exceptional trophic manifestations imputed to rheumatism, consisting in a shedding of the hair and the nails. The author gave a brief sketch of the literature of trophic disturbances attributable to rheumatism, beginning with Hunter's reports of certain muscular atrophies due to articular rheumatism. Such occurrences, he thinks, argue in favor of the nervous theory of rheumatism.

THE PECULIAR ODORS OF CERTAIN DISEASES.

IN the concluding portion of a continued article on "Fever," published in the "Medical Chronicle," James Niven, M. B., alludes to the diagnostic interest of the special odors attendant upon some of the infectious diseases. The odor of small-pox, he says, occurs only in the worst cases, and is probably due to a ptomaine generated in the process of necrosis. He then speaks of a peculiar sweet, almost aromatic odor of the breath that he has noticed in scarlet-fever patients, most marked in the early stages of the disease. A case is mentioned in which a nurse to whom he had pointed out the odor diagnosed scarlet fever by means of it, in a patient at the height of an attack of small-pox, a whole day before any other scarlatinal symptoms were recognized. Somewhat similar odors are noticed in typhoid fever and measles, but the author says that they can readily be distinguished.

A SCHOOL FOR TRAINING MEN AS NURSES.

IN all our large cities there are now very fair facilities for training young women as nurses for the sick, and the graduates have borne a part in ameliorating the condition of the sick that can hardly be over-estimated. But the lady-nurse is sometimes out of place, and the lack of a corps of men at all fitted to attend upon the sick is one that has been seriously felt. The want is likely soon to be provided for by the Charity Hospital Training School for Male Nurses, under the direction of the Commissioners of Public Charities and Correction, and under the immediate management of four members of the medical board of the hospital. The course of instruction announced in the circular is such as is likely to make the men careful and docile nurses rather than pretentious and ambitious supplementary advisers.

THE COMMUNICABILITY OF LEPROSY BY VACCINATION.

IN a recent issue of the "British Medical Journal" the melancholy story is told of the transmission of leprosy from one child to another by vaccination. Not the least harrowing part of the unfortunate chain of events is the fact that the vaccinator was the child of the physician who performed the vaccination. The inoculation happened many years ago, but the facts are now publicly stated for the first time by Professor Gairdner, of the University of Glasgow, the unfortunate vaccinator having died. Cases have before been published in which leprosy was supposed to have been conveyed in vaccination; but the one in question shows a clearer sequence of cause and effect than we remember to have seen in any of the other accounts. Such occurrences serve as an additional argument in

favor of dropping the practice of arm-to-arm vaccination, and more generally resorting to the use of calf-lymph.

"THE DEADLY TOY-PISTOL."

DR. JOHN HOMANS has lately made certain pointed statements concerning the damage done by this infernal contrivance, in the form of a letter to the editor of the Boston "Transcript." He says he has now two boys under his care whose hands have been injured by the toy-pistol, and that four years ago he had five patients whose injuries were due to the same implement, all of whom died of tetanus. He thinks the wound is generally produced by the cartridge exploding in the hand, either by coming back through the breech or in some other way.

ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Fourth Division of the Health Department for the following statement of cases and deaths reported during the two weeks ending June 28, 1887:

DISEASES.	Week ending June 21.		Week ending June 28.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever.....	3	3	11	5
Scarlet fever.....	63	11	58	12
Cerebro-spinal meningitis....	6	7	4	3
Measles.....	37	5	30	5
Diphtheria.....	136	53	124	53
Small-pox.....	3	2	1	1

Change of Address.—During the months of July and August, Dr. Andrew F. Currier will be at the Fort Griswold Hotel, New London, Conn.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from June 19, 1887, to June 25, 1887:*

SUTHERLAND, CHARLES, Colonel and Surgeon. Granted one month's leave of absence, with permission to apply for an extension of one month. S. O. 126, Division of the Atlantic, June 23, 1887.

SMITH, A. K., Lieutenant-Colonel and Surgeon. Will be relieved from duty at West Point, N. Y., on September 30, 1887, instead of on August 28, 1887. S. O. 144, A. G. O., June 23, 1887.

ALDEN, C. H., Major and Surgeon. Leave of absence extended to include September 29, 1887. S. O. 144, A. G. O., June 23, 1887.

BARTHOLF, J. H., Major and Surgeon. Granted leave of absence for two months, to take effect about July 5, 1887. S. O. 141, A. G. O., June 20, 1887.

RICHARD, CHARLES, Captain and Assistant Surgeon. Sick leave extended two months on surgeon's certificate of disability. S. O. 139, A. G. O., June 17, 1887.

COCHRAN, JOHN J., Captain and Assistant Surgeon. Granted leave of absence for one month. S. O. 143, A. G. O., June 22, 1887.

SITER, WILLIAM N., First Lieutenant and Assistant Surgeon. Designated as medical officer for the Rifle Camp at Creedmoor, N. Y., July 5, 1887. S. O. 124, Division of the Atlantic, June 21, 1887.

Naval Intelligence.—*Official List of Changes in the Medical Corps of the United States Navy for the week ending June 25, 1887:*

CLEBORNE, C. J., Medical Inspector. Ordered for examination preliminary to promotion as Medical Director.

LUMSDEN, G. P., Passed Assistant Surgeon. Ordered to Receiving-ship Franklin, Norfolk, Va.

HORWITZ, P. J., Medical Director. Permission to leave the United States for six months.

HARRIS, H. N. T., Assistant Surgeon. Commissioned Assistant Surgeon in the Navy, June 13, 1887.

SPEAR, J. C., Medical Inspector. Detached from Naval Laboratory and granted three months' leave.

BLOODGOOD, DELAVAN, Medical Director. Detached from Naval Hospital, Norfolk, Va., and ordered to the Naval Laboratory.

BRADLEY, MICHAEL, Medical Inspector. Ordered to Naval Hospital, Norfolk, Va.

BEYER, H. G., Passed Assistant Surgeon. To remain on present duty until September 1, 1887.

HERNDON, C. G., Passed Assistant Surgeon. To remain on present duty until June 17, 1888.

Marine-Hospital Service.—*Official List of Changes of Stations and Duties of Medical Officers of the United States Marine-Hospital Service for the week ending June 25, 1887:*

GUITÉRAS, JOHN, Passed Assistant Surgeon. Detailed for temporary duty at Key West, Fla. June 23, 1887.

WASDIN, EUGENE, Passed Assistant Surgeon. Relieved from duty at Marine Hospital, New York, N. Y.; ordered to Marine Hospital, Chicago, Ill. June 23, 1887.

NORMAN, SEATON, Assistant Surgeon. To proceed to Charleston, S. C., for temporary duty. June 23, 1887.

HEATH, F. C., Assistant Surgeon. Relieved from duty at Chicago, Ill. June 23, 1887.

Society Meetings for the Coming Week:

TUESDAY, July 5th: Elmira, N. Y., Academy of Medicine; Buffalo, N. Y., Medical and Surgical Association; Ogdensburg, N. Y., Medical Association; Medical Society of the County of Broome, N. Y. (quarterly); Medical Societies of Hudson (Jersey City) and Union (quarterly) Counties, N. J.; Androscoggin, Me., County Medical Association (Lewiston); Chittenden, Vt., County Medical Society.

WEDNESDAY, July 6th: Medical Society of the County of Richmond, N. Y. (annual—Stapleton); Bridgeport, Conn., Medical Association.

THURSDAY, July 7th: Society of Physicians of the Village of Canandaigua, N. Y.; Washington, Vt., County Medical Society.

FRIDAY, July 8th: Medical Society of the Town of Sangerties, N. Y.

SATURDAY, July 9th: Worcester, Mass., North District Medical Society.

OBITUARY NOTES.

Edgar F. Peck, M. D., of Brooklyn, died on Tuesday, June 21st, in the eighty-first year of his age. The deceased was a native of Amenia, N. Y., and was graduated from the College of Physicians and Surgeons of New York in 1833, having been licensed to practice, in 1830, by the College of Physicians and Surgeons of the Western District of New York, at Fairfield, an institution which was organized in 1812, and became extinct in 1840. He settled in New York in 1831, and in 1832, when the city was threatened with the Asiatic cholera, he was appointed by the medical council, who recognized his abilities, to take charge of the medical stations in the Twelfth Ward and of the hospital in Twelfth Street; he also had the care of several other medical stations in the upper portion of the city. Dr. Peck's professional career was long, honorable, and useful, and his retirement from active work was enforced by the infirmities

of age, as he was confined to his house for the past six months. The immediate cause of his death is said to have been paralysis, with which he was stricken about two weeks before his death. He was a member of the Medical Society of the County of Kings.

Lewis B. Hunter, M.D., medical director on the retired list of the navy, died in Philadelphia on Friday, June 24th, at the age of eighty-three. He was a native of New Jersey, and was appointed an assistant surgeon in the navy in January, 1828. In February, 1837, he was commissioned as surgeon, and, after twenty-nine years of active service in the Mediterranean Sea, on the coast of Africa, the west coast of Europe, the Pacific coast, the coast of Brazil, and in the North Atlantic squadron, he was placed on the retired list, October 9, 1866. In March, 1871, he was commissioned as medical director.

John A. Stevens, M.D., of Hartford, Conn., died on Saturday, June 25th, at the age of forty-six. The deceased was a graduate of the Medical Department of the University of the City of New York in the class of 1872. He was a member of the Hartford City and County Medical Association, of the Connecticut State Medical Society, and of the American Medical Association.

Proceedings of Societies.

PHILADELPHIA COUNTY MEDICAL SOCIETY.

Meeting of June 22, 1887.

Dr. H. AUGUSTUS WILSON in the Chair.

The Relation of Pyosalpinx to Puerperal Fever.—Dr. J. M. BALDY read a paper with this title. Until within a few years the term "puerperal fever" had been applied to certain conditions of the parturient woman without conveying any very definite idea as to the exact pathological lesion involved. As in microscopy we designated everything that we were unable to recognize by the general term "molecular débris," so in the parturient woman we had been in the habit of applying the meaningless term "puerperal fever" to a set of symptoms the origin and source of which we knew not. As usual in such a condition of ignorance, innumerable theories had sprung up on the subject—the most widely accepted of which was probably that advocated by Fordyce Barker, viz., that it was a specific febrile disease.

Thanks to the zeal of bacteriologists, we had now conquered our ignorance and could state, without hesitation or fear of successful contradiction, that the disease under discussion was of undoubted septic origin. We were therefore justified in dropping the ambiguous term of the darker ages and applying terms more in accordance with our advanced knowledge of the pathological lesion. The author had no intention of entering into an exhaustive discussion of all the phases of puerperal septicæmia, but would briefly try to add something to our knowledge of the particular subdivision which, for want of a better name, he would call puerperal pyosalpinx.

The belief that a certain proportion of our so-called puerperal fever cases were simply cases of salpingitis septica was by no means a new one, nor was it original with himself. Martin, in a recent investigation, had found the micro-organisms of puerperal septicæmia in as many as seventy out of a series of two hundred and eighty-seven cases of inflammatory tubal trouble.

Schröder had held that septic endometritis did not extend to

the tubes, as a rule; but he had qualified this opinion by following it up closely with the remark that *occasionally* the endometritis did go on to a purulent salpingitis. Nor was Säger silent on this subject, for he had only recently stated, in a letter read before the Chicago Gynecological Society, in answer to one from Mr. Tait, that salpingitis septica co existing with severe puerperal septicæmia had never as yet given the surgeon an opportunity to remove the principal focus of disease by extirpation of the tubes. It is possible, however, that under certain circumstances such a procedure might be indicated. Even before these words of Säger's were in print the opportunity to remove the principal focus, and, he might say, in this case the only focus, of disease, *had* occurred and been taken advantage of. [The history of the case was then given.]

That these cases existed much more frequently than we had any idea of was certain, and that oftentimes a life, otherwise doomed, could be saved by operative interference, was but a natural conclusion. Mr. Tait had mentioned four deaths from this cause in Queen Charlotte's Hospital, as verified by post-mortem examinations, and said that "these cases during life were all regarded as puerperal fever." Säger had come forward with two cases which had come to his knowledge, in which the overdistended tubes had burst and discharged pus into the abdominal cavity, with death on the fourth day after confinement in one case, and on the twenty-first day in the second case. Who could doubt that, in the light of our present surgical knowledge, if these cases had been recognized and operated on, the women would have all survived? The day had passed, he hoped, in which we should allow a woman to die of pus in her abdomen without at least proposing an abdominal section, not merely as a last resort, but as an early means of relief and safety. It was by no means to be held that, because a parturient woman had an inflammation of her tubes, she was to be rashly submitted to the knife of the surgeon. He had, within the past few months, seen a woman who presented an elevated temperature, with anorexia, restless nights, and other general symptoms, and whose tubes, on examination, he had found enlarged and painful. Under careful treatment this local trouble all subsided, and with it the general symptoms disappeared, and the patient made a satisfactory recovery. These mild cases, however, often went on to a chronic condition when unrecognized and neglected, and the woman eventually fell into the surgeon's hands to be relieved of a pus tube, and then generally got the credit of having had a gonorrhœa at some period of her life, or else dragged out a miserable existence until she died of her trouble, or some other disease put an end to her suffering. [An illustrative case was cited.]

The only regret he had in regard to either of these cases was that he had not removed both appendages. One of the patients had recently had an inflammatory attack in the remaining tube, from which she had recovered, but he feared the time would come when another operation would be required. He thought that, where pus was found, both tubes should be removed always, whether one was apparently healthy or not, the patient being willing, of course.

Whether or not this disease arose *de novo*, or, having already existed from other causes, had simply a new inflammation added by the puerperal condition, must be determined by careful investigation in each case. Hecker, as early as 1878, had mentioned two cases in which an old pyosalpinx was lighted up by the puerperal state, and Säger had added another from his own practice in which the salpingitis had a prior existence. In the case first cited in the paper, the patient had been apparently perfectly well up to the time of her last confinement, but the adhesions were of such a firm character that it was safe to presume that there was an old inflammatory trouble prior to this

time. It was impossible to imagine the formation of such organized bands in so short a space of time. At her first confinement she had "an inflammation in her stomach," and that was the probable beginning of her trouble. She undoubtedly had had tubal disease ever since (probably pyosalpinx), and had not suffered enough inconvenience from it to seek advice. This was often the history of these women; they complained of pain and general ill-health, loss of flesh, anorexia, sleepless nights, etc., but oftentimes they did not even suspect the real origin of all their trouble. The result in the case of this particular patient was a valuable lesson of the dangers of such a neglect, and an additional reason why the disease should always be removed when recognized.

Of course, the possible contagion of gonorrhœa could never be eliminated excepting by a microscopical examination. In both his cases, although the trouble seemed very clearly to have arisen at the time of confinement, yet the chances of gonorrhœal infection both before and after pregnancy were not to be denied; however, in the absence of a microscopical examination, the chances were all in favor of a purely puerperal origin. But, whatever the source, the results were the same, and it was only by prompt measures we could hope to save some of these patients. It was no longer surprising that, even under the most careful antiseptic treatment of the uterus, vagina, and person of the patient, as well as the person of the attendants, still patients were lost from septic poison. This disease had been recognized and operated on at least four times in Philadelphia; one case just two weeks previous to his, by Dr. Longaker, in which a pyosalpinx was removed, the patient dying on the second day. This operation had been delayed three or four days after an abdominal section had been urged. Dr. Joseph Price had since operated twice, and in one case had found more than a quart of pus in the abdominal cavity; the case, unfortunately, had come into his hands too late, and the patient survived only two days.

These cases, though few in number, certainly taught that the work done in this direction was encouraging, and, although a large percentage of the patients had died, it only warned us of the extreme importance of an early diagnosis, and prompt surgical interference. It became our imperative duty in every case of post-puerperal trouble to make a thorough investigation on the appearance of the first symptoms, and, should a fullness be found on either or both sides of the uterus, accompanied with pain on touch and with constitutional symptoms of gravity, there should be no hesitation as to the course to pursue. This being secured, our present high mortality of one woman out of every hundred delivered in large cities, as recently stated in a statistical paper on lying-in charities in the United States, must be very largely diminished, and the fatal results now surrounding our parturient women must become infinitely less.

NEW YORK PATHOLOGICAL SOCIETY.

Meeting of February 9, 1887.

The President, Dr. T. MITCHELL PRUDEN, in the Chair.

On Staining Elastic Tissues.—Dr. FREEBORN showed specimens illustrating two new methods of staining elastic tissues, one known as Lustgarten's and the other as Herxheimer's. The elastic tissues were made to stand out very sharply by each of these methods.

Pott's Disease of the Spine.—Dr. RIDLON presented a part of the spinal cord of the upper dorsal region of a girl, aged six years, who had been treated in the orthopædic department at St. Luke's Hospital in 1883. There was then a curve in the upper dorsal spine, first noticed in 1881. When she was ad-

mitted there was a decided kyphosis in the upper dorsal region; the patient was unable to stand, and had very little voluntary motion in the lower extremities. The tendon reflexes were greatly exaggerated. From October 24, 1883, to January 29, 1885, there was no treatment except rest in bed. In the mean time the paralysis in the lower extremities had become complete. From the latter date there was gradual improvement, and finally the patient was able to walk the length of the ward, the spine being supported. On January 27, 1887, she began to have difficulty in breathing. She died about February 7th. The post-mortem, by Dr. Frank Ferguson, showed pulmonary and cardiac disease, also caries of the seventh cervical and the first five dorsal vertebræ. The angle of the curve was sharp, the lower surface of the sixth cervical and the upper surface of the sixth dorsal vertebræ being not more than an inch and a half apart. The space between was filled with cheesy material. The cord was flat at this point, and the gray substance was not distinguishable. Below and above the angle the cord was normal. The case suggested the following remarks: In the beginning of a case of paraplegic kyphosis, how could it be determined whether three months or three years, six months or six years, would be required for recovery? What treatment should be adopted? The speaker had used iodide of potassium, and had concluded that it was of no benefit unless there was syphilis. Absolute rest in bed from three months to several years was followed by recovery from paralytic symptoms in most cases. Dr. Ferguson had said that in a number of cases in which the prominence was in the upper dorsal region he had found dilatation of the right side of the heart and resultant lung symptoms. The specimen was referred for examination, to determine particularly whether there was entire absence of the gray matter of the cord at the point of pressure.

Dr. VAN SANTVOORD referred to a case of paraplegia from kyphosis in the middle dorsal region in which, when he was an interne at Bellevue Hospital, he had applied the actual cautery, shortly after which the patient was able to walk about the wards.

Dr. IRA VAN GIESON suggested that the re-establishment of motor function might have been by way of collateral tracts.

Dr. CARPENTER related a case of Pott's disease in which paraplegia was recovered from after three or four years' duration.

Meningitis.—Dr. H. J. BOLDT presented the lungs of a child, nine months old, which had been quite healthy to all outward appearances until four or five days before its death, when symptoms of meningitis developed. There had been no symptoms directing attention to the lungs, yet at the autopsy, besides the lesions of simple meningitis, he found pleuritic adhesions, and a pus-cavity in one lung surrounded by fibrous tissue.

Inflammation of the Uterine Appendages.—Dr. BOLDT also presented a uterus with diseased appendages removed post-mortem from a woman in whom a small ovarian cyst had been diagnosticated and an operation for its removal proposed, but declined. The uterine extremities of the tubes were closed; an inflammatory mass in which the tube and ovary were not distinguishable occupied the left side; an ovarian cyst was present in the inflammatory mass on the right side. In the retroperitoneal glands there were little tumors, apparently sarcomatous. The speaker thought the case illustrated the importance of early operation, although the pelvic tumor was small.

Anthraxotic Pneumonia.—Dr. W. H. PORTER presented a pair of lungs illustrating a condition which he had observed in a number of cases this winter. The patients were men who had been at work in the new aqueduct, and gave a history of having had a chill, followed by a rise of temperature to 103° or

104° F.; after a week the symptoms abated, and they became pretty comfortable. But a persistent dyspnoea remained, and most of them died with œdema of the lungs. The lungs presented were deeply pigmented, and showed lobar pneumonia. He had not completed the examination for bacteria.

Dilated Ureters.—Dr. THATCHER presented a ureter dilated by several small polypi developed from the lining membrane. He also presented the ureter of a fœtus of six months, dilated to the size of its thigh.

Panophthalmitis from Injury.—Dr. VAN GIESON presented specimens showing penetration of the sclera one cm. behind the sclero-corneal junction by a thorn passing through the globe as far as the ciliary body. Enucleation was performed three weeks after the accident.

Tubercular Disease of the Pharynx.—Dr. R. VAN SANTVOORD presented specimens from a child which, some months before its death, had had fever, cough, and râles over the chest. The diagnosis of pulmonary tuberculosis was made. A few days before death the nurse called attention to the fact that the patient had difficulty in swallowing, but, no trouble in the throat being discovered, the symptom attracted little further attention. One large ulcer and others not so large were found in the pharynx after death. There was broncho-pneumonia. Such cases were of considerable interest on account of their rarity, but they might be more frequent than the books would indicate, as the pharynx was seldom examined.

Vaginal Hysterectomy.—Dr. DUDLEY presented a uterus removed by the vagina from a woman, aged forty-eight years, on account of carcinoma. After the *cul-de-sac* was opened, a small fibroid of the uterus was found, and the speaker was obliged, after passing an elastic ligature around the uterus, to remove it piecemeal. This method of operating made the use of ether necessary for three hours. The patient rallied well, but the next day there was suppression of urine, which caused death thirty-eight hours after the operation.

Sloughing Fibroid of the Uterus.—Dr. DUDLEY also presented a sloughing fibroid removed from the interior of the uterus, which had given rise to hæmorrhage and pain. The patient had an intermittent heart beat and also an aortic murmur. There was also albumin in the urine, which disappeared under the use of digitalis and potassium acetate. Notwithstanding the condition of the heart and urine, he gave ether. It was given a second time yesterday for closure of a double laceration of the cervix, and it would be given a third time for an operation for laceration of the perinæum extending into the rectum.

Polypus of the Uterus.—Dr. DUDLEY presented a third specimen, a small polypus of the uterus, of interest from the fact that it was removed two years after the menopause, and at that time the uterus was found not diminished in size, but rather enlarged. The cervix was small.

MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

Meeting of February 28, 1887.

The President, Dr. LAURENCE JOHNSON, in the Chair.

The Duration of the Syphilogenic Capacity in Relation to Marriage.—Dr. P. A. MORROW read a paper with this title. Two facts distinguished syphilis from other contagious diseases—viz., prolonged virulence and capacity of hereditary transmission. What, he asked, was the duration of the contagious stage of syphilis? Less than a generation ago there would have been little difficulty in obtaining a definite answer to this question, for the majority of physicians would have said that it began and ended with the chancre. Yet the older writers thought that all the elements of the body in one affected with

syphilis were capable of conveying the contagion. The author thought the general impression that secondary syphilis was contagious, while tertiary syphilis was not, had not a good basis, for there might be precocious tertiary lesions, occurring as early as secondary lesions usually did, and no one would dare inoculate himself from such lesions lest he should be infected. Moreover, secondary lesions might occur late, at a time when tertiary lesions usually made their appearance; while it had not been proved by experiment that these late secondary lesions were capable of causing infection, yet there was clinical evidence, direct and conclusive, going to establish their contagiousness. Instances were cited from Fournier and other authors in which a syphilitic lesion, after five or six years' duration of the disease, had given rise to infection. A second question related to the limit of the period during which syphilis might be transmitted from parent to offspring. The teachings of science upon this point were by no means fixed and definite. It was well agreed, however, that after a variable time the syphilitic taint ceased to be manifest in the offspring, and subsequent pregnancies resulted in healthy children; but this period could not be fixed with anything like mathematical certainty. A further question arose as to whether both parents were capable of transmitting the disease, and an investigation of facts bearing on this point showed agreement among most authorities that the influence upon the offspring of syphilis in the mother was much more pronounced, and of much longer duration, than that of the father. Some authors, however, maintained that the transmission was always through a syphilitic mother. But there were many well-observed cases in which the mother had not for years manifested any signs of syphilis, which had been transmitted from her syphilitic husband to her offspring, thus proving conclusively, the author thought, that the disease could be inherited from the father. He then quoted from a paper written by Dr. Otis, giving expression to views which he thought should be refuted, as they would, if accepted, prove dangerous to the community. Dr. Otis, he said, maintained that the father was incapable of transmitting syphilis except by infection of the mother; and after three years the manifestations of syphilis in the male could not produce infection. The testimony offered by Dr. Otis was of a negative kind, while opposed thereto was testimony of a positive nature by numerous responsible persons whose observations could not be rejected as erroneous. The conclusions of Fournier regarding the admissibility of marriage after one had had syphilis were much safer and more broadly stated than those of Dr. Otis.

Dr. F. A. OTIS said that the number and magnitude of the questions raised in Dr. Morrow's elaborate paper rendered the task of considering any one of them thoroughly in the brief space likely to be allotted in a discussion like the present simply impossible. Little more could be done than to enumerate the chief points at issue, and reply to the statements which had been made, evidently with the intention of controverting the argument made by himself in a paper read before the Medical Society of the State of New York more than a year ago, which had been intended to show a possible limitation of the contagious stage of syphilis to three or four years. In the first place, he would oppose the statement made by Dr. Morrow that superficial secondary manifestations might continue to recur for months and years after the chronological completion of the secondary stage, with all the contagious property of that stage, and would maintain that syphilis, as usually understood, was clearly divided into two distinct stages—one, the active, including the so-called primary and secondary stages, in which a contagium had been proved, maintained always to be present, and equally shown to lose the contagious property within a few years. The exact time was not definitely fixed, but an approxi-

mation to it, he believed, might, by careful clinical observation, be more nearly arrived at than was generally accepted. The so-called tertiary stage of syphilis differed wholly from the active, or secondary, stage, in that it lacked the contagious element. This stage was always and of necessity but a sequel of the active stage, and these stages of the disease could not be transposed in any case, so that the tertiary should precede the secondary, any more than the fruit of a plant could be made to precede the flower. There were, it was true, so-called precocious syphilides, where an ulcerative eruption was presented, simulating, often closely, the so-called impetiginous tertiary eruption, developed in place of the typical papular eruption; when superficial ulcers, as large possibly as one's hand, might be present. But such eruptions yielded to mercury and not to iodide of potassium, and were never of the depth or gravity of true tertiary lesions. The late lesions were, again, clearly distinguished by the presence of the so-called gummy material or its derivatives, while these had never yet been found associated with the typical secondary manifestations. It was not denied that lesions, especially those of the tongue and papular eruptions, might sometimes be difficult to place. Either in the active or the late stage, when proved to be contagious, they belonged to the former; when not contagious, to the latter. The speaker maintained that they had not been proved to be contagious after the third year from the date of infection; also that, wherever syphilis had been apparently communicated or had been alleged to have been communicated by a person whose syphilis dated back more than three or four years, if the facts of such case were submitted to thorough expert scrutiny they would be shown to have been erroneously interpreted, and the true source of the disease supposed to have been so communicated would be found in a lesion less than three years old. Dr. Morrow had stated that the direct paternal transmission of syphilis, without preliminary infection of the mother, could be classed among the most conclusively established facts of medical science.

In point of fact, such cases were not so common as one would be led to fear by Dr. Morrow's statistics. Fournier said (page 38 of Dr. Morrow's translation): "We have seen that children are born syphilitic through the agency of their father, their mother remaining exempt from all contamination." He then cited various authors who confirmed this, and then said: "I myself have observed *some* cases, although relatively few I confess." And in a note he said: "I find in my notes eight cases of this kind. *Even some of these I admit are wanting in the guarantee of authenticity which would be required in a matter so delicate and so disputed.*" He did not tell us how many had that guarantee.

The speaker then cited several authorities and adduced cases in proof of his statement that the infection of syphilis was through the mother alone, she having always been first contaminated; and that, when evidences of infection did not appear in the mother, it was simply because they were so slight as to have escaped observation. The arbitrary designation of a limit of three, or at most four, years as one beyond which it was perfectly safe for a syphilitic man to marry, with or without treatment and inspection of the actual existence of specific lesions, Dr. Morrow had stated was unwarranted by science or the teachings of experience. Inasmuch as the speaker had never designated such a limit as safe, or advised persons to marry under such circumstances, he could only account for this position, which was thus broadly condemned, by assuming that Dr. Morrow had misunderstood the object and scope of his paper. Its avowed object had been to discuss the possibility of arriving at some *definite limitation* of the contagious stage of syphilis through a careful analysis and discussion of facts which could

be gathered bearing on this point. The speaker's conviction was strongly expressed, as, in view of his own experience and the other evidence he could reach, that this stage did not last more than three years. Marriage he did not advise, and did not now, until after a thorough treatment of two to three years, and an immunity from subsequent lesions for a year longer at least, and not then if any lesions of the tertiary stage were present.

Dr. R. W. TAYLOR thought the more important questions brought up in the paper and the discussion related to the treatment. If a patient with syphilis was put under treatment from the beginning of the secondary lesions, he believed that in ninety-nine out of one hundred cases the contagious element would disappear within two years, or two years and a half. But patients did not always undergo treatment from the beginning. He would be unwilling to be inoculated with the secretions from a papillary syphilide even after the fifth or sixth year. He did not believe that any law on the subject of the duration of the contagiousness of syphilis ever could be laid down with certainty. But we knew that the contagious principle did gradually wear itself out—faster in some patients than in others. He never gave consent to marriage to syphilitics under two years. If they got married in opposition to his advice, he then insisted that they should seek to prevent conception until the contagiousness of the syphilis had ceased. He knew religious people would say that was not right; but religious people often were not intelligent sanitarians, while it was the duty of every physician to be such.

Dr. E. B. BRONSON said the contagious and hereditary power of syphilis was uncertain as to duration. He certainly was unwilling to believe that the disease should be regarded as extinct because its manifest virulence had ceased. The syphilitic were not infrequently seen to procreate healthy children, and afterward to beget those which had the disease, but there was gradual diminution in the virulence of the syphilitic poison. Regarding paternal influence in its transmission there was no question; but he maintained that the apparent freedom of the mother from the disease did not prove necessarily that it had not been transmitted through her, for, while she might not have lesions, she still had immunity from inoculation, which went to show that her system had been infected.

On the Supposed Virus of Chancroid.—Dr. F. R. STURGIS, in a paper on this subject, stated three propositions in the form of interrogatories: 1. What is the virus of chancroid? 2. Is not this virus really the result of an acute inflammation? 3. What are the sources of this virus? The term "virus" as applied to chancroid should be considered only one of convenience, to explain the existence of certain symptoms; he undertook to show that it was not in the true sense of the word a virus. Positive experiments were cited to show that chancroid did not depend upon a specific virus, but that it could be generated *de novo*, and by an acute inflammation. A chief source of the chancroid at the present day was contact with the secretions of another chancroid, but various irritative principles applied to sores would produce it, although chancroids of this nature possessed less power of auto-inoculation.

Dr. R. W. TAYLOR was glad to see that Dr. Sturgis had come to practically retract views which he had formerly expressed, and accept those which the late Dr. Bumstead had advocated in a paper before the International Medical Congress in 1876, and which the speaker had himself then arrived at by independent investigation.

Dr. STURGIS maintained that this paper went further than his article which had been quoted by Dr. Taylor. The possibilities of this subject were not new to him, and he had years ago discussed them with Dr. Bumstead.

Book Notices.

The Science and Art of Obstetrics. By THEOPHILUS PARVIN, M. D., LL. D., Professor of Obstetrics and Diseases of Women and Children in Jefferson Medical College, Philadelphia, etc. Illustrated with Two Hundred and Fourteen Woodcuts and a Colored Plate. Philadelphia: Lea Brothers & Co., 1886. Pp. xvi-17 to 701.

THE learned professor of obstetrics in the Jefferson Medical College is to be congratulated on having made a substantial addition to our list of text-books. The book bears evidence that the time which elapsed between its announcement and its publication was well spent. Within a moderate compass Dr. Parvin has given a judicious digest of the obstetrical knowledge of the present time; but not that alone, for his personal views are stated clearly and argumentatively, and they are sufficiently distinctive to make the book a material factor in the exposition of American obstetrics. Yet the author is not the partisan of any peculiar ideas, either doctrinal or practical, but displays an eclecticism and a conservatism that make the work not only creditable to him, but a safe and satisfactory guide for the student and the practitioner. In one respect it is of exceptional value—in the scholarly and careful way in which matters that throw light on the history of obstetrics are presented. We do not doubt that the book will prove very popular with the profession.

A System of Obstetric Medicine and Surgery, Theoretical and Clinical. For the Student and Practitioner. By ROBERT BARNES, M. D., Obstetric Physician to St. George's Hospital, etc.; and FANCOURT BARNES, M. D., Physician to the Royal Maternity Charity and to the British Lying-in Hospital, etc. Illustrated with Two Hundred and Thirty-one Woodcuts. Philadelphia: Lea Brothers & Co., 1885. Pp. xxiv-33 to 884.

As is stated in the preface to this book, the senior author's well-known work on "Obstetric Operations" needed revision, and we think it was judicious to amplify it into a general text-book of midwifery, rather than that Dr. Robert Barnes's career as a practitioner and teacher should have no more complete record than is contained in the monograph, strikingly meritorious and original as it was. It was to be expected, however, that the mechanical aspect of obstetrics would be the best handled of all the subjects treated of in a text-book by these authors; and that expectation, it seems to us, is borne out by the book. But the obstetric art is largely mechanical, and a work which deals with it satisfactorily from that point of view is *ipso facto* one of sterling worth. We would not be understood as implying that the authors have failed to present their subject acceptably in other respects. The fact is, they have made a text-book which is in every way quite worthy to take a place by the side of the best treatises of the period.

BOOKS AND PAMPHLETS RECEIVED.

Anatomische Untersuchungen am menschlichen Rectum und eine neue Methode der Mastdarminspektion. Von Walter J. Otis, M. D., aus Boston. Erster Theil. Die Sacculi des Rectums. Mit einem Holzschnitt im Texte und acht Tafeln (aus dem anatomischen Institut der Universität Leipzig). Leipzig: Veit & Co. Pp. 5 to 18.

Memorial of the New York Ladies' Health Protective Association to the Hon. Abram S. Hewitt, Mayor of New York, on the Subject of Street-cleaning.

L'année médicale. Neuvième année (1886). Résumé des progrès réalisés dans les sciences médicales. Publiée sous la direction du Docteur Bourneville, Médecin de l'hospice de Bicêtre, etc., avec la collabora-

tion de: MM. Aigre, G. Ballet, Barataux, R. Blanchard, F. Bottey, Brissaud, Cöttinger, P. Budin, Capitan, Comby, L. Cruet, Delfaux, Dianoux, Gilles de la Tourette, Guinon, Isch-Wall, A. Josias, Kéraval, P. Loye, A. Malherbe, P. Marie, Mannoury, Maygrier, R. Picquet, Poirier, F. Raymond, A. Sevestre, Tavernier, R. Vigouroux. Paris: V. A. Delahaye et cie., 1887. Pp. vi-402.

Leçons sur la thérapeutique de la métrite. Par le Docteur L. Martineau, Médecin de l'hôpital de Lourcine, etc. [Clinique gynécologique et syphilitique de l'hôpital de Lourcine.] Paris: A. Lanier, 1887. Pp. 3 to 122.

A Theoretical and Practical Treatise on Astigmatism. By Swan M. Burnett, M. D., Professor of Ophthalmology and Otology in the University of Georgetown, etc. With Fifty-nine Diagrams and Illustrations. St. Louis: J. H. Chambers & Co., 1887. Pp. viii-245.

The Treatment of Hemorrhoids, with General Rules as to the Examination of Rectal Diseases. By Charles B. Kelsey, M. D., etc. Detroit: George S. Davis, 1887. ["The Physician's Leisure Library."] Pp. 3 to 122.

Treatment of Disease in Children, including the Outlines of Diagnosis and the Chief Pathological Differences between Children and Adults. By Angel Money, M. D., M. R. C. P., Assistant Physician to the Hospital for Sick Children, Great Ormond Street, etc. Philadelphia: P. Blakiston, Son, & Co., 1887. Pp. xiii-560. [Price, \$3.]

Electricity and Life; or, the Electro-vital Theory of Nature. By Edward C. Towne, B. A., Cambridge, Mass.

Reports on the Progress of Medicine.

DISEASES OF CHILDREN.

By L. EMMETT HOLT, M. D.

Nervous Affections of Children, and their Treatment with Cod-liver Oil.—Andrews ("Practitioner") discusses the following propositions: 1. Much nerve power is expended in the process of growth, and heat disappears, assuming the form of vital energy. 2. The exhaustion which such expenditure occasions shows itself during the first few months of life by cerebral symptoms which may be easily mistaken for meningitis in its early stages; during dentition, laryngismus stridulus develops from the same cause, and in still older children a form of nervous asthma from exhaustion of the pneumogastric and respiratory tract, which is sometimes called "rickets of the chest." 3. The symptoms of nerve exhaustion arise especially during developmental periods. 4. Cod-liver oil best meets the indications, both as a prophylactic and as a curative agent, by raising the tone of the whole nervous system.

Early Tracheotomy in Diphtheria.—W. W. Cheyne ("Brit. Med. Jour.") approaches this subject from its pathological side. The micro-organism of this disease grows upon the mucous membrane of the throat and produces the membranous exudation, which spreads as the bacilli grow and extend. The disease is from first to last a local one, the general symptoms being produced by toxic promaines which are evolved by the bacillus in the throat. The whole object of treatment should be to destroy the bacilli *in situ*, and prevent their spreading, thus controlling the formation of false membrane. This is accomplished by the thorough use of antiseptics in the local treatment. After removing as much of the membrane as possible with a forceps, he applies to the denuded surface a sublimate solution (1 to 1,000) with a brush, very carefully, lest some of the fluid be swallowed. This is repeated every two hours, special attention being given to the margins of the diseased patches. In the interval a gargle of sublimate solution (1 to 2,000) is used. He argues that tracheotomy should be done in every case as soon as it is certain that the larynx has become implicated, chiefly with a view of preventing the downward spread of the disease. The object of the operation is removal of system, and thorough local treatment of the disease in the larynx. The results given of clinical experience with this method are so few that no conclusions can be drawn as to its practical working.

Diphtheria in the Children's Hospital at St. Petersburg.—Lunin ("Arch. f. Kinderh.") gives the results of 296 cases. The general mor-

tality was 55.8 per cent. The cases were nearly all severe, the milder ones being in out-patients. The hospital cases were divided into two classes: the *fibrinous* form, with more or less extensive membranous exudation, and the *gangrenous*, or *septic*, form, in which there was often not much membrane, but extensive phlegmonous swelling of the tonsils, palate, cellular tissue, etc. The following were the results obtained:

Corrosive sublimate, applied in a 1-to-1,000 solution every two hours by means of a brush, and irrigation with a syringe with a 1-to-5,000 solution. Number of cases treated, 57; mortality, 30.2 per cent. in fibrinous cases, 93 per cent. in the gangrenous form.

Chloride of iron, used in two-drop doses of the tincture every half-hour, the throat being irrigated with a 3-per-cent. solution of boric acid—94 cases; mortality, 32 per cent. in the fibrinous, 78 per cent. in the gangrenous variety.

Quinoline, a 5-per-cent. solution in weak alcohol used locally with a brush, and a 2-per-cent. solution for irrigation—28 cases treated; mortality, 31 per cent. in the fibrinous, and 100 per cent. in the gangrenous variety.

Resorcin, a 10-per-cent. solution being used for painting, every two hours, and a 1-per-cent. solution for irrigation—29 cases treated; mortality, 20 per cent. in the fibrinous, and 89 per cent. in the gangrenous variety.

Bromine, a half-per-cent. solution in potassium bromide and water being used to paint the fauces with inhalations of a 1-to-300 solution of the same ingredients, being used half-hourly—33 cases treated; mortality, 47 per cent. in the fibrinous, and 83 per cent. in the gangrenous variety.

Oil of turpentine, used in ten-drop doses every two hours, boric acid being employed locally—23 cases treated; mortality, 8 per cent. in the fibrinous, and 81 per cent. in the gangrenous variety.

The conclusion drawn was that liquor ferri chloridi gave the best results in the septic or gangrenous cases, and turpentine in the fibrinous form. Of the entire number of cases, 95 per cent. were complicated with diphtheria of the air-passages, of which 72 per cent. proved fatal. Tracheotomy was done in 35 cases with 5 recoveries, although 1 patient died of cardiac paralysis after the tube was removed. The examination of the urine in 217 cases showed albumin in 161, or 74 per cent., of which 86 were fatal. Paralysis of the soft palate followed in 22 cases, and general paralysis in 1 case.

An Epidemic of Exudative Amygdalitis in Children.—Raven ("Practitioner") reports eighty cases as having occurred in an institution where the epidemic was clearly traced to bad drainage. There were no cases in the neighborhood. Sixty of the cases occurred during the months of August and September. The symptoms were extremely uniform—an initial high temperature, often as high as 105° F.; flushed face; and membranous patches upon one or both tonsils. The duration of the pyrexia was from five to seven days. Convalescence was frequently interrupted by a relapse (almost certainly due to reinfection). All the patients recovered. There were no paralytic sequelæ, no loss of reflexes, no albuminuria, and no glandular enlargements. In three cases rheumatism, with cardiac complications, occurred. It was evident that these cases were not diphtheria, but infectious amygdalitis with membranous deposit.

Acute Laryngitis in Children.—Foxwell ("Birmingham Med. Review") remarks that there are two forms of inflammation which may affect the larynx—the catarrhal and the membranous. The histological conditions found give no information regarding the ætiology. The membranous form has many varieties, but neither the presence nor the absence of membrane points to any particular cause. The form accompanying diphtheria may be purely catarrhal, while membranous laryngitis may come from many diseases. We can only differentiate the various acute inflammations of the larynx by specific germs. The causes in the order of their importance are cold, diphtheria, measles, scarlatina, typhoid fever, and traumatism. Special stress is laid upon the catarrhal laryngitis occurring with diphtheria, which may be as dangerous as the membranous form, or even more so, as it seems to have a greater tendency to extend downward to the bronchi. The author's routine treatment for acute laryngitis is as follows: An enema of castor-oil, one eighth of a grain of tartar emetic every ten minutes till free emesis

occurs, and one grain of calomel every four hours. The child is placed in a steam-tent, and hot sponges are applied over the larynx. If these measures fail to control the inflammation, tracheotomy is called for in cases of the membranous variety, but the author has never seen a non-membranous case which required it.

Miscellany.

To Contributors and Correspondents.—*The attention of all who purpose favoring us with communications is respectfully called to the following:*

Authors of articles intended for publication under the head of "original contributions" are respectfully informed that, in accepting such articles, we always do so with the understanding that the following conditions are to be observed: (1) when a manuscript is sent to this journal, a similar manuscript or any abstract thereof must not be or have been sent to any other periodical, unless we are specially notified of the fact at the time the article is sent to us; (2) accepted articles are subject to the customary rules of editorial revision, and will be published as promptly as our other engagements will admit of—we can not engage to publish an article in any specified issue; (3) any conditions which an author wishes complied with must be distinctly stated in a communication accompanying the manuscript, and no new conditions can be considered after the manuscript has been put into the type-setters' hands. We are often constrained to decline articles which, although they may be creditable to their authors, are not suitable for publication in this journal, either because they are too long, or are loaded with tabular matter or prolix histories of cases, or deal with subjects of little interest to the medical profession at large. We can not enter into any correspondence concerning our reasons for declining an article.

All letters, whether intended for publication or not, must contain the writer's name and address, not necessarily for publication. No attention will be paid to anonymous communications. Hereafter, correspondents asking for information that we are capable of giving, and that can properly be given in this journal, will be answered by number, a private communication being previously sent to each correspondent informing him under what number the answer to his note is to be looked for. All communications not intended for publication under the author's name are treated as strictly confidential. We can not give advice to laymen as to particular cases or recommend individual practitioners.

Secretaries of medical societies will confer a favor by keeping us informed of the dates of their societies' regular meetings. Brief notifications of matters that are expected to come up at particular meetings will be inserted when they are received in time.

Newspapers and other publications containing matter which the person sending them desires to bring to our notice should be marked. Members of the profession who send us information of matters of interest to our readers will be considered as doing them and us a favor, and, if the space at our command admits of it, we shall take pleasure in inserting the substance of such communications.

All communications intended for the editor should be addressed to him in care of the publishers.

All communications relating to the business of the journal should be addressed to the publishers.

The Meeting of the British Medical Association in Dublin in August.—There is every reason to anticipate that the annual meeting of the association, which will be held in Dublin, on Tuesday, Wednesday, Thursday, and Friday, August 2d, 3d, 4th, and 5th, will be one of the most successful which the association has ever known. Apart from the inducements to pay a holiday visit to Ireland which are held out by the association having its next meeting in Dublin, there are few places so well adapted as that city is as a meeting place for a large association. It is most accessible from all parts of England and Scotland by a splen-

did line of mail steamers, which make the passage from Holyhead to Kingstown twice daily in about three hours and a half. The London and Northwestern Railway Company also run excellent passenger express steamers twice daily. There is ample hotel accommodation, and good lodgings, of which a list has been specially prepared by Dr. Baxter, can be easily procured. In the city itself are numerous places of interest: the Phoenix Park, Kingstown, Bray, Killiney, and other picturesque environs are easily reached by car or train; and for longer excursions to places in the County Wicklow, Killarney, the Giant's Causeway, Donegal Highlands, etc., for which special arrangements have been made after the meeting, Dublin is the best starting-point.

Any one wishing to attend the International Medical Congress can take one of the above-mentioned excursions during the week after the Dublin meeting, and embark for New York from either Queenstown, Londonderry, or Belfast, according to the line of steamers he has selected.

The President-elect, Dr. Banks, will give an official dinner on the evening of Monday, August 1st. On the following morning, Tuesday, the Council of 1886-'87 will meet at 9.30 A. M. This will allow the first general meeting to be held at 11.30 A. M., and it is then hoped that most of the business part of the meeting will be got through on the first day. In the evening the President will give his address. The dignitaries both of the Church of Ireland and of the Roman Catholic Church, in Dublin, have expressed their desire to pay a compliment to the association and to the medical profession by having services in their cathedrals on the first day of the meeting. There will be a morning service at 10 A. M. in the Pro-Cathedral, Marlborough Street, at which the Reverend Martial Klein will preach. This gentleman is the Professor of Biology in University College, Dublin, and his selection by His Grace the Catholic Archbishop of Dublin to preach on the occasion of the visit of the British Medical Association is appropriate from the fact of his being a member of the profession, and at one time a surgeon in the French army, as well as a distinguished scientist.

The Most Reverend the Lord Bishop of Meath, Dr. Reichel, who is one of the most eloquent and learned of the Irish prelates, has kindly consented to preach the sermon at a special afternoon service in the ancient national cathedral of St. Patrick's.

Turning to the sectional work, the arrangement here also will be new. The sectional meetings will all be in the morning hours, from 10.30 A. M. to 2 P. M., and the addresses will be delivered in the afternoon, at 3 P. M. each day. By this arrangement more time than heretofore will be given to the sections; there will be no interruption in their work, and the afternoons will be free for the general meetings and addresses. The readers of addresses are men of wide reputation, namely, Dr. Gairdner, of Glasgow, in medicine, the Reverend Dr. Haughton, of Dublin, in public medicine, and Professor Hamilton, of Dublin, in surgery. They will be sure to attract large audiences.

The names of the officers of sections, the subjects selected for special discussion in each, and the names of the members who will introduce these subjects, and who have already promised papers, published in the official programme, will show that, as far as the scientific work of the meeting is concerned, it augurs well. In the Section of Medicine, a discussion on "Aphasia" will be introduced by Dr. H. C. Bastian, F. R. S., whose writings, on this subject especially, have won for him so high a place among neurologists. In the Section of Surgery, Mr. Mitchell Banks, Dr. Macewen, Mr. W. D. Spanton, and Mr. C. R. B. Keetley, will initiate a discussion on "The Radical Cure of Hernia," which can not fail to be of the highest interest to practical surgeons. A topic of hardly less practical importance to surgeons, "The Etiology and Treatment of Convergent Concomitant Strabismus," will occupy the attention of the Section of Ophthalmology; it will be introduced by Mr. Simeon Snell. In the Section of Obstetrics, also, two thoroughly practical subjects will be discussed—namely, "The Prevention of Puerperal Fever," introduced by Dr. W. S. Playfair, and "Displacements of the Uterus," by Dr. Halliday Croom. Dr. Burney Yeo has promised to initiate a debate on "The Therapeutics of the Uric Acid Diathesis." A novel subject has been chosen by Dr. George H. Savage, who, in the Section on Psychology, will begin a discussion on "Nervous Disorders following the Use of Anæsthetics." Sir Charles Cameron will open the question of "The Best Method of Dealing with Insanitary Property oc-

cupied by the Artisan Class," in the Section of Public Medicine, and Dr. T. Donnelly will raise a discussion on "The Influence of Modern Preventive Measures on the Prevalence of Infectious Diseases." In the remaining Section of Pathology, two subjects generally provocative of discussion have been chosen, and the two subsections will also be occupied with topics of much clinical importance.

A novel feature of the programme is the *conversazione* to be given by the medical officers of the army. The proposal has been warmly taken up, and the evening will not only be enjoyable in itself, but will be an ostensible proof of the good feeling which exists between the civil and military branches of the medical profession. As a large number of medical officers will attend this meeting, we would throw out the hope that many of them will contribute, from their special experiences, to its scientific proceedings.

We are glad to learn that several distinguished foreigners have signified their intention to attend the meeting and take part in the proceedings. Among those who have already done so we may mention Professors Unna, of Hamburg; Kocher, of Berne; Landolt, Apostoli, and Meyer, of Paris; Reymond, of Turin; Gerhardt and Uhthoff, of Berlin; and many others who have been invited by the Reception Committee are also expected. Of our own members, Sir Spencer Wells, Dr. Grainger Stewart, Sir Dyce Duckworth, Sir Thomas Crawford, K. C. B., Drs. Robert Barnes, Argyll Robertson, Matthews Duncan, Wheelhouse, Playfair, Priestley, Gairdner, Charlton Bastian, Priestley Smith, Berry, Barr, Brabazon, Crookshank, Halliday Croom, Lawson Tait, Elder, Frost, Mortimer Granville, Spender, Karl Grossman, Grigg, Hewetson, Hovell, Keay, David Little, Mason, Myrtle, Owen Lloyd, Snell, Savage, Vose Solomon, etc., are expected.

Every one almost has heard of the beauties of the County Wicklow, and a glance at the brief sketch of the excursions which have been arranged will prove that every means will be taken to show to many of the visitors some of the most charming portions of that county. There will be two excursions to Wicklow, in one of which the party will be entertained by the Earl of Carysfort. The excursion to the Boyne and the sepulchral tumuli of Dowth will also be a most interesting one; while for lovers of marine scenery and zoölogy the excursion in Dublin Bay will be charming.—*British Medical Journal*.

The Treatment of Tapeworm.—In reply to a correspondent of the "Lancet," several communications are published in that journal, including one from Dr. F. A. A. Smith, of Cheltenham, who says that during his stay in South Africa he treated many cases, his own included, and all with success. The great point in the treatment of tapeworm, he says, is to expose the head, which is attached to the intestine by its hooklets. So long as the head is covered with faeces no medicine will do much good. His treatment is as follows: The day before giving the worm medicine he allows no food of any kind, except plain beef-tea, or other very thin soup, and very little even of these. The first morning he gives one drachm of compound jalap powder, which generally operates three or four times during the day, and effectually clears out the bowels, bringing away at the same time large portions of the worm. The patient, of course, keeps quiet in the house. On the second morning, on an empty stomach, he gives a draught consisting of from two to three drachms of oil of turpentine and one drachm of oil of male fern in sweetened emulsion. After an hour or so he gives a dose of castor-oil. It will not be long before the whole of the worm with its head will have passed, which will be found on proper examination of the stools. The patient can then take his usual diet, and the following day will be well. He has never known this treatment fail. The doses, of course, are intended for adults. The frequent failure of the oil of male fern as an anthelmintic is, he believes, attributable to the smallness of the dose exhibited, less than a drachm for an adult being useless. The writer believes every native in South Africa to be infected with one or two tapeworms.

The Medical School of Maine. The commencement exercises of Bowdoin College were held at Brunswick, on Thursday, June 23d. The honorary degree of LL. D. was conferred on Dr. Forlyce Barker, a graduate of the college in the class of 1841, and twenty candidates received the degree in medicine. Dr. H. H. Hunt, of Portland, was appointed professor of physiology.

The New York Post-graduate Medical School and Hospital.—Dr. George B. Fowler has been elected professor of clinical medicine and medical chemistry.

Itching of the Vulva.—A contributor to the "Union médicale" credits M. P. Ménétière with the following formula:

Zinc oxide.....	6 parts;
Potassium bromide.....	10 "
Extract of Indian hemp.....	2 "
Glycerite of starch.....	30 "

The application should be preceded by the use of lotions of very hot linden-flower water (distilled from the flowers of the *Tilia europæa*). When there is aene of the vulva, black soft soap should be applied for half an hour at a time, morning and evening, followed by bathing with a strong infusion of black tea as hot as can be borne.

A Correction.—In Dr. Gray's article on "Localization in the Cortex Cerebri," published in our issue for June 18th, a reference to Fig. 3 on page 675, first column, in the eighth, twenty-fourth, and thirty-seventh lines, was given as "A," when it should have been A1.

The New Hampshire Medical Society.—At the annual meeting, held at Concord on Wednesday, June 22d, Dr. S. W. Roberts, of Wakefield, was elected president; Dr. S. C. Whittier, of Portsmouth, vice-president; Dr. D. S. Adams, of Manchester, treasurer; Dr. G. P. Conn, of Concord, secretary; and Dr. C. R. Walker, of Concord, Dr. G. D. Towne, of Manchester, and Dr. J. R. Kimball, of Suncook, members of the executive committee.

The Medical Society of the State of West Virginia will hold its twentieth annual meeting at White Sulphur Springs on Wednesday, Thursday, and Friday, the 13th, 14th, and 15th inst. The secretary's circular announces some of the papers to be read, and states that others are doubtless in course of preparation. The list includes the following: "The Therapeutical Value of the Water of the Greenbrier, W. Va., White Sulphur Springs," by Dr. T. R. Evans, of Mount Carbon; "Public Health," by Dr. T. A. Harris, of Parkersburg; "Remarks on Five Hundred Refraction Cases," by Dr. J. L. Dickey, of Wheeling; "Hypnotics," by Dr. C. C. Hersman, of Weston; "The Prognosis of Heart Murmurs," by Dr. F. Donaldson, Jr., of Baltimore; "Specialists in Medicine," by Dr. J. D. Myers, of Huntington; "The Use of the Forceps in Midwifery," by Dr. C. F. Ulrich, of Wheeling; "Medicine as taught at the School of Salerno in the Eleventh Century," by Dr. J. T. Cotton, of Charleston; "Glaucoma," by Dr. E. H. Fravell, of Poca; and "A Few of the Important Facts Gleaned by a Six Weeks' Stay in New York," by Dr. T. M. Hood, of Cassville. A paper by Dr. R. S. Henry, of Charleston, the title of which is not stated, is also announced. The reports of various standing committees will be read by their chairmen. It is expected that the meeting will be unusually successful. The season at the springs will be about at its height, and the manager of the hotel has offered to entertain the members free of charge, and their families and friends at reduced rates.

The Florida State Medical Association has appointed Dr. A. H. Glennan, of the Marine Hospital Service, a delegate to the International Medical Congress.

The Health of Boston.—During the week ending Saturday, June 25th, the following numbers of cases and deaths from infectious diseases were reported to the Board of Health: Diphtheria, 17 cases and 7 deaths; scarlet fever, 15 cases and 2 deaths; typhoid fever, 5 cases; measles, 104 cases and 7 deaths. There were also 29 deaths from consumption, 13 from pneumonia, 10 from heart disease, 3 from bronchitis, 6 from marasmus, and 1 from whooping-cough. The total number of deaths was 152 against 156 in the corresponding week last year.

The International Medical Congress.—A correspondent of the "Union médicale" states that, at a meeting of the Berlin Medical Society, held May 18th, the question came up as to whether the society would send official representatives to the Washington meeting of the Congress, as it had been invited to do, and that the proposition was negatived. The writer adds that the Berlin society has sent out but one official delegation since its foundation, and that was to the Copenhagen meeting of the Congress. That delegation was charged with the

mission of inviting the Congress to hold its next meeting in Berlin, but, thanks to a coalition of French and American physicians, the writer continues, the motion was not taken into consideration. The remembrance of this fact, he avers, had much to do with the action taken by the society in the matter of sending representatives to Washington.

The Illinois Medical Practice Act.—The following is the full text of the new act, which went into effect on the 1st inst.:

SECTION 1. *Be it enacted by the People of the State of Illinois, represented in the General Assembly,* That no person shall practice medicine in any of its departments in this State unless such person possesses the qualifications required by this act. If a graduate in medicine, he shall present his diploma to the State Board of Health for verification as to its genuineness. If the diploma is found genuine, and from a legally chartered medical institution in good standing, and if the person named therein be the person claiming and presenting the same, the State Board of Health shall issue its certificate to that effect signed by all of the members thereof, and such certificate shall be conclusive as to the right of the lawful holder of the same to practice medicine in this State. If not a graduate, the person practicing medicine in this State shall present himself before said board and submit himself to such examination as the board may require, and if the examination be satisfactory to the board, the said board shall issue its certificate in accordance with the facts, and the lawful holder of such certificate shall be entitled to all the rights and privileges herein mentioned.

§ 2. The State Board of Health shall organize within three months after the passage of this act, it shall procure a seal, and shall receive, through its secretary, applications for certificates and examinations; the president and secretary shall have authority to administer oaths, and the board to take testimony in all matters relating to its duties; it shall issue certificates to all who furnish satisfactory proof of having received diplomas or licenses from legally chartered medical institutions in good standing, as may be determined by the board; it shall prepare three forms of certificates, one for persons in possession of such diplomas or licenses, the second for candidates examined and favorably passed on by the board, and a third for persons to whom certificates may be issued as hereinafter provided in section 12 of this act; it shall furnish to the county clerks of the several counties a list of all persons receiving certificates. In selecting places to hold its meetings, it shall, as far as is reasonable, accommodate applicants residing in different sections of the State, and due notice shall be published of all of its meetings for examination. Certificates shall be signed by all the members of the board, and the secretary of the board shall receive from the applicant a fee of five (\$5) dollars for each certificate issued to such graduate or licentiate. Graduates or licentiates in midwifery to pay the sum of two (2) dollars for each certificate. All such fees for certificates shall be paid by the secretary into the treasury of the board.

§ 3. The verification of the diploma shall consist in the affidavit of the holder and applicant that he is the lawful possessor of the same, and that he is the person therein named. Such affidavit may be taken before any person authorized to administer oaths, and the same shall be attested under the hand and official seal of such officer, if he have a seal; and any person swearing falsely shall be deemed guilty of perjury, and punished accordingly. Graduates may present their diplomas and affidavits as provided in this act, by letter or by proxy, and the State Board of Health shall issue its certificate the same as though the owner of the diploma was present.

§ 4. All examinations of persons not graduates or licentiates shall be made directly by the board, and the certificates given by the board shall authorize the possessor to practice medicine and surgery in the State of Illinois.

§ 5. Every person holding a certificate from the State Board of Health shall have it recorded in the office of the clerk of the county in which he resides, within three months from its date, and the date of recording shall be indorsed thereon. Until such certificate is recorded as herein provided the holder thereof shall not exercise any of the rights or privileges conferred therein to practice medicine. Any person removing to another county to practice shall record the certificate in like manner, in the county to which he removes, and the holder of

the certificate shall pay to the county clerk the usual fees for making the record.

§ 6. The county clerk shall keep, in a book provided for the purpose, a complete list of the certificates recorded by him, with the date of the issue of the certificate. If the certificate be based on a diploma or license, he shall record the name of the medical institution conferring it, and the date when conferred. The register of the county clerk shall be open to public inspection during business hours.

§ 7. The fees for the examination of non-graduates shall be as follows: Twenty (20) dollars for an examination in medicines and surgery; ten (10) dollars for an examination in midwifery only; and said fees shall be paid into the treasury of the board, and shall be paid by each applicant, whether a certificate is issued or not. Upon successfully passing the examination the certificate of the board shall be issued to the applicant without further charge.

§ 8. Examinations may be made in whole or in part in writing, and shall be of an elementary and practical character, but sufficiently strict to test the qualifications of the candidate as a practitioner.

§ 9. The State Board of Health may refuse to issue the certificates provided for in section 2 to individuals guilty of unprofessional or dishonorable conduct, and it may revoke such certificates for like causes. In all cases of refusal or revocation the applicant may appeal to the Governor, who may affirm or overrule the decision of the board, and this decision shall be final.

§ 10. Any person shall be regarded as practicing medicine, within the meaning of this act, who shall treat, operate on, or prescribe for any physical ailment of another. But nothing in this act shall be construed to prohibit service in cases of emergency, or the domestic administration of family remedies. And this act shall not apply to commissioned surgeons of the United States Army, Navy, or Marine Hospital Service in the discharge of their official duties.

§ 11. Any itinerant vendor of any drug, nostrum, ointment, or appliance of any kind, intended for the treatment of disease or injury, or who shall, by writing or printing or any other method, profess to cure or treat disease or deformity, by any drug, nostrum, manipulation, or other expedient, shall pay a license of one hundred (100) dollars per month into the treasury of the board, to be collected by the State Board of Health, in the name of the People of the State of Illinois for the use of said Board of Health. And it shall be lawful for the State Board of Health to issue such license on application made to the State Board of Health, such license to be signed by the President of the Board, and attested by the secretary of the board, with the seal of the board. Any such itinerant vendor who shall vend or sell any such drug, nostrum, ointment, or appliance without having a license so to do, shall, if found guilty, be fined in any sum not less than one hundred dollars, and not exceeding two hundred dollars for each offense, to be recovered in an action of debt before any court of competent jurisdiction. But such board may for sufficient cause refuse such license.

§ 12. Any person practicing medicine or surgery in the State without the certificate issued by this board in compliance with the provisions of this act, shall for each and every instance of such practice forfeit and pay to the people of the State of Illinois for the use of the said State Board of Health the sum of one hundred (100) dollars for the first offense, and two hundred (200) dollars for each subsequent offense, the same to be recovered in an action of debt before any court of competent jurisdiction, and any person filing or attempting to file as his own the diploma or certificate of another, or a forged affidavit of identification, shall be guilty of a felony, and, upon conviction, shall be subject to such fine and imprisonment as are made and provided by the statutes of the State for the crime of forgery: *Provided*, that all persons who have been practicing medicine continuously for ten years within this State prior to the taking effect of the act to which this is an amendment, and who have not under said original act obtained a certificate from said Board of Health to practice medicine in this State, shall, upon proper application to said Board of Health, receive such certificate, unless it shall be ascertained and determined by said Board of Health that the person so applying for a certificate is of immoral character, or guilty of unprofessional or dishonorable conduct, in which case said Board of Health may reject such application: *And, provided*, that such application for a certificate shall be made within six months

after the taking effect of this act, and all persons holding a certificate on account of ten years' practice shall be subject to all the requirements and discipline of this act, and the act to which this is an amendment, in regard to their future conduct in the practice of medicine the same as all other persons holding certificates, and all persons not having applied for or received such certificate within six months after the taking effect of this act, and all persons whose applications have for the causes herein named been rejected or certificates revoked, shall, if they shall practice medicine, be deemed guilty of practicing in violation of law, and shall suffer the penalties herein provided.

§ 13. Upon conviction of either of the offenses mentioned in this act, the court shall, as part of the judgment, order that the defendant be committed to the common jail of the county until the fine and costs are paid, and upon failure to pay the same immediately the defendant shall be committed under said order. *Provided*, that either party may appeal in the same time and manner as appeals may be taken in other cases, except that where an appeal is prayed in behalf of the people no appeal bond shall be required to be filed, whether the appeal be from a justice of the peace, or from the county or circuit court, or from the appellate court. But it shall be sufficient, in behalf of the people of the State of Illinois, for the use of the State Board of Health, to pray an appeal, and thereupon appeal may be had without bond or security.

§ 14. All acts and parts of acts inconsistent or in conflict with this act are hereby repealed.

M. Pasteur's Treatment of Rabies.—The London correspondent of the "Therapeutic Gazette" says: "With respect to possible danger from inoculation, I must refer to a fatal case of Landry's paralysis, or acute ascending spinal paralysis, which occurred here in one of Pasteur's patients, and caused considerable discussion at the time. The patient in question, who was an attendant at the Brown Institution for the Study of the Diseases of Animals, in London, had been bitten by a rabid cat, in which Mr. Horsley, the professor superintendent, was studying rabies. The man had been at once sent to M. Pasteur, and treated with *intensive* injections, but he died with perplexing spinal symptoms immediately on his return from Paris. Whatever may have been the exact nature of his illness, there was a general impression among the profession here that the patient died from the effects of the inoculation, as a few other cases appear unfortunately to have done. However, risk will probably disappear under the milder injections now used."

Referring to the prospective report by the committee appointed by the British Government to investigate the Pasteur system, the writer adds: "It is most sincerely to be hoped that the favorable report which I expect from the committee may bear the test of time. Were it only for Pasteur's sake, one would rejoice to see the value of his method accepted. From first to last he has been a pattern of generous, open, kindly dealing with regard to it, receiving strangers from every country with the greatest possible attention and consideration, laboriously treating half a hundred patients every morning, and entirely declining to accept any remuneration or other return than thanks for his trouble, even from those who were in the best possible position to pay for his services."

Government Health Reports.—By direction of the Secretary of the Treasury, Dr. John B. Hamilton, Surgeon General of the Marine-Hospital Service, has issued the following abstract of sanitary reports received during the week ending June 23d:

England and Wales.—The deaths registered in twenty-eight great towns of England and Wales during the week ending June 4th corresponded to an annual rate of 19.5 in a thousand of the aggregate population, which is estimated at 9,245,099. The lowest rate was recorded in Derby, viz., 12.8, and the highest in Manchester, viz., 30.5 in a thousand.

London.—One thousand four hundred and forty-seven deaths were registered during the week ending June 4th, including 109 from measles, 15 from scarlet fever, 15 from diphtheria, 75 from whooping cough, 5 from enteric fever, 12 from diarrhoea and dysentery, and 1 from choleraic diarrhoea. There were 264 deaths from diseases of the respiratory organs. Different forms of violence caused 54 deaths, and 7 suicides were registered. The deaths from all causes corresponded

to an annual rate of 17.9 in a thousand. In greater London, 1,774 deaths were registered, corresponding to an annual rate of 17.1 in a thousand of the population. In the "outer ring" 33 deaths from measles were registered.

Ireland.—The average annual death rate represented by the deaths registered during the week ending June 4th, in the sixteen principal town districts of Ireland, was 22 in a thousand of the population. The lowest rate was recorded in Dundalk, viz., 13.1, and the highest in Lurgan, viz., 35.9 in a thousand.

Dublin.—One hundred and sixty-three deaths were registered during the week ending June 4th, including 10 from measles, 3 from whooping-cough, 2 from enteric fever, 4 from scarlet fever, and 1 from erysipelas. Diseases of the respiratory organs caused 20 deaths. In twenty-four instances the causes of death were uncertified, and 3 accidental deaths were registered. The deaths from all causes corresponded to an annual rate of 21.4 in a thousand.

Scotland.—The deaths registered in eight principal towns during the week ending June 4th corresponded to an annual rate of 19.8 in a thousand of the population, which is estimated at 1,299,000. The lowest mortality was recorded in Aberdeen, viz., 15.1, and the highest in Leith, viz., 22.3 in a thousand. The aggregate number of deaths registered from all causes was 495, including 4 from measles, 5 from scarlet fever, 32 from whooping-cough, and 4 from diarrhoea.

Germany.—The deaths registered in fifty-two cities of Germany, having an aggregate population of 6,821,222, during the week ending May 28th, corresponded to an annual rate of 22. The lowest rate was recorded in Charlottenburg, viz., 11.3, and the highest in München, viz., 37.8.

Fayal.—The United States consul, under date of May 14th, reports that "small-pox has manifested itself in this place, brought, it is said, from the island of Terceira, where it exists, as it does also at St. Michaels, I am informed. The disease is limited thus far to seven cases at Fayal, and efforts are being made to control it."

Marselles.—Eight hundred and seven deaths were registered during the month of May, 1887, including one from small-pox, 30 from enteric fever, 37 from diphtheria, and 50 from measles.

Nice.—One hundred and nine deaths were registered during the fifteen days ending May 15th, including six from small-pox.

Rims.—Two cases of small-pox and 6 of scarlet fever were registered during the week ending June 4th.

Amsterdam.—Two cases of small-pox, 2 of scarlet fever, and 2 of diphtheria were registered during the week ending June 4th.

Baranquilla.—The United States consul, under date of May 26th, forwards a copy from the "Star and Herald," of Panama, under date of May 19th, relative to the inoculation for the prevention of yellow fever, as follows: "A letter from Cucuta, Santander, dated April 14th, says: 'On the 6th I sent you a telegraphic message containing important information. I told you how successful inoculation is proving here for yellow fever. About 10 per cent. of the inoculated patients are attacked by the disease, but none of them die. The heat is intense; ranges between 34° and 38° centigrade.' Cucuta is not far from the place where yellow fever seems to have its headquarters."

MORTALITY TABLE, FOREIGN CITIES.

CITIES.	Week ending—	Estimated population.	Total deaths from all causes.	DEATHS FROM—							
				Cholera.	Yellow fever.	Small-pox.	Typhus fever.	Enteric fever.	Scarlet fever.	Diphtheria.	Rin.
Calcutta	May 7.	433,219	165	28	..	..	..	..	..	..	..
Havana	June 9.	268,000	152	..	25	2	..	6	..	..	..
Warsaw	May 28.	430,174	187	..	..	8	..	..	..	..	..
Paris	June 4.	2,260,045	1,057	..	..	13	..	20	6	30	..
Bordeaux	June 4.	240,589	106	..	..	..	..	1	..	..	..
Havre	June 4.	112,074	45	..	..	1	..	4	..	..	..
Belfast	June 4.	224,122	98	..	..	..	1	2	1	..	..
Glasgow	June 4.	545,678	205	..	..	..	..	..	1	2	..
Copenhagen	May 24.	260,000	146	..	..	..	..	1	..	15	..
Leipsic	June 4.	170,000	90	..	..	..	..	..	1	5	..
Bremen	May 28.	119,000	45	..	..	..	..	1	..	..	..
Mayence	May 21.	65,701	31	..	..	..	..	..	..	2	..
Munch	May 28.	268,000	158	..	..	..	..	..	1	1	..
Palermo	June 4.	250,000	91	..	..	..	..	..	4	3	..
Genoa	May 28.	179,368	123	..	..	4	..	5	..	1	..
St. Vincent	May 15.	4,600	..	..	1	..	..	..	..	..	..

UNITED STATES.

Key West—Yellow Fever.—Thirty-one cases and 11 deaths have been reported up to June 18th.

Platt's Chlorides.—Mr. Platt writes that through the recent offer made by him in our advertising pages to send a complimentary sample of his chlorides to any physician still unacquainted with it, he has received many hundreds of requests which he has complied with with pleasure. But there are a few, he adds, that will be disappointed, by reason of their own carelessness or thoughtlessness in writing, as it was impossible to decipher the name or the P. O. address, or the latter was not fully given. For instance, one physician gave his P. O. address as simply Harper's Ferry, not naming the State. There being a Harper's Ferry in Iowa, one in Kentucky, and another in West Virginia, it was impossible to tell where to send the sample, as in this instance the physician's name was not in any of our directories, and the post-mark was entirely obliterated. Mr. Platt renews his offer to send samples (expressage prepaid) for a few weeks yet, and would kindly ask those requesting them to inclose their card, or to write on a letter-head giving the name and address in print.

The Health of San Francisco.—According to the Health Department's "Condensed Statement of Mortality," for the month of May, the whole number of deaths for the month was 475, including 1 from cholera morbus, 2 from cholera infantum, 24 from croup and diphtheria, 3 from cerebro-spinal meningitis, 4 from diarrhoea, 1 from erysipelas, 11 from typhoid fever, 1 from typhus, 1 from measles, 3 from whooping-cough, 2 from pyæmia, and 1 from septicæmia.

THERAPEUTICAL NOTES.

A Galactagogue and an Antigalactic.—Dr. Prota-Giurleo ("Morgagni"; "Med.-chir. Rndsch."; "Arch. f. Kndrhlk.") states that, fifteen years ago, he received from Mexico some of the flowers of the *Didana digitifolia* (*Rhamnus alaternus*), a supposed stimulant of the salivary and cutaneous secretions. These effects he has not observed, but the use of an infusion of the flowers in the case of a nursing woman caused a decided increase of the secretion of milk, which disappeared when the use of the drug was suspended, and was repeated on its resumption. The remedy, he says, appears not only to increase the secretion when it has once been established, but also to provoke its appearance. The *Ligustrum vulgare* has the effect of checking the flow of milk. The best preparation of the latter plant is an infusion of 45 grains of the leaves in 4 ounces of water, to be taken in two doses, two days apart.

The Dietetic Treatment of Obesity.—A contributor to the "Union médicale" credits M. Dujardin-Beaumetz with the following dietary for the reduction of obesity: *Breakfast* at 8 o'clock.—Two ounces of cold meat, an ounce of bread, eight ounces of weak tea without sugar. *Luncheon* at noon.—Two ounces of bread, four ounces of meat or stew or two eggs, four ounces of fresh vegetables, half an ounce of cheese, fruit *ad libitum*. *Dinner* at 7 o'clock.—No soup, two ounces of bread, four ounces of meat or stew, four ounces of fresh vegetables, salad, half an ounce of cheese, fruit *ad libitum*. In conjunction with this course, purgatives should be taken rather frequently, either mineral waters, pills, or powders, and the subject should take exercise in proportion to his strength, and employ massage.

ANSWERS TO CORRESPONDENTS.

No. 1.—It is true that certain societies have appointed delegates to the Ninth International Medical Congress, but one need not be a delegate to attend the meeting and take full part in its proceedings. All you have to do is to register in due form and pay the fee. We make this statement on the assumption that the rules heretofore in force will be followed at the Washington meeting.

No. 2.—The society takes its name from the Italian city in which it was organized, several years ago, by a number of young American physicians who happened to be thrown together there at the time. Our impression is that its scope is largely, if not wholly, social; it certainly has nothing to do with the organization that you mention.

Original Communications.

THE ANATOMY AND PHYSIOLOGY OF THE RECURRENT LARYNGEAL NERVES.*

By FRANKLIN H. HOOPER, M. D., BOSTON.

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I. ANATOMY.

NOTWITHSTANDING the centuries that have elapsed since the reputed discovery of the recurrent laryngeal nerves by Galen, it is doubtful if there be another pair of nerves in the body which have given rise to so many diverse and fanciful theories to account for the anatomical peculiarity of their course or to elucidate their physiological functions. At the present day our knowledge of the anatomy of these nerves is, for the most part, complete and exact. The reason why they are not given off by the pneumogastrics at a point opposite the larynx so as to reach that organ by the shortest route, instead of branching from the pneumogastrics low down in the neck and running a complicated and recurrent course to the larynx, is now clearly understood. Yet Magendie,† in his lectures on the nervous system, delivered at the Collège de France at so recent a date as 1836, asserted that this was a problem which anatomists were unable to solve. But several years prior to the date of Magendie's lectures two articles had appeared in a Scotch journal which, had they come under his notice, would have given him a clew to the explanation of the matter.

Stedman, in 1823, in a paper entitled "A Singular Distribution of some of the Nerves and Arteries in the Neck and the Top of the Thorax,"‡ gives a description and a drawing of his dissection of an aged female in whom he found that the right recurrent laryngeal nerve was absent. There were, however, nerves given off from the trunk of the pneumogastric, about the middle of the neck, which went direct to the larynx. He also found, in the same subject, an irregularity in the origin and course of the right subclavian artery. It arose from the arch of the aorta behind and a little to the left side of the left subclavian artery, and, forming an arch, pierced between the œsophagus and vertebral column in the region of the first vertebra of the back, and then passed over the first rib on the right side. Stedman was the first to cite an example of the connection between an irregular origin of the right subclavian artery and right recurrent laryngeal nerve—a connection which we now know is constant; but he dismissed the subject with the comment that the nerve, in his case, which went direct to the larynx from the pneumogastric probably performed the same functions as the recurrent, and that nature seemed to have been forced to have recourse to this arrangement from the singular situation of the subclavian. Three years after the appearance of Stedman's paper, Hart (1826) reported in the same journal § "A Case of Irregular Origin

and Course of the Right Subclavian Artery and Right Inferior Laryngeal Nerve." The artery arose from the aorta direct, and the nerve, instead of being recurrent, went straight from the pneumogastric to the larynx. Hart speculates upon the reason why the nerve in this instance should have been straight and short, and, although his views are not strictly in accord with the teaching of modern embryologists, they show that he was aware that the secret of the circuitous course of the inferior laryngeal nerves was to be sought in the natural law of embryonic development. He says: "In the earlier periods of the existence of the fetus the rudiment of the head appears as a small projection from the upper and anterior part of the trunk, the neck not being yet developed. The larynx at this time is placed behind the ascending portion of the arch of the aorta, while the brain, as it then exists, is situated so low as to rest on the thymus gland and front of that vessel. Hence it is that the inferior laryngeal nerves pass back to the larynx, separated by the ascending aorta, the left going round its arch, while the right goes below the *arteria innominata*. As gestation advances, the head becomes more distinct, and the neck begins to be formed after the second month, which, as it lengthens, has the effect of moving the brain upward to a greater distance, and of drawing out the larynx from the chest, in accommodation to which the nerves of the par vagum and their recurrences become elongated, and hence the circuitous route the latter are found to take afterward, forming loops in which the aorta and right subclavian artery are, as it were, suspended. . . . Had not the great blood-vessels been originally thus interposed between the brain and larynx, the inferior laryngeal nerves would not have been entangled by them, and we should find them in the adult taking the nearest route to their destination."

These early papers upon this subject are most interesting, and show that their authors were careful observers. They pointed out the right path, which, however, was not followed by all subsequent writers who expressed themselves on the question.

Swan, for instance, entertained certain theories in regard to the influence which the blood-vessels had upon the nervous system, and in "An Essay on the Connection between the Action of the Heart and Arteries and the Functions of the Nervous System," London, 1829, p. 50, he applied his views in a very curious way to explain the recurrent course of the inferior laryngeal nerves. After speaking of their encompassing the subclavian artery on the right side and the arch of the aorta on the left, and remarking that it was very singular that neither of the carotids was included, he says: "I conceive this disposition was intended for producing a more extensive sympathy between the arteries of those parts of the body which are subjected to be excited by exercise, and the glottis; for when the action and distension of the arteries are increased by exercise, the recurrent nerves become stimulated, and consequently the muscles of the glottis, the opening of which thus becomes widened, so as to admit a greater and more free supply of air into the lungs. It may be supposed that any other disposition would have sufficed, so long as the parts were properly supplied with

* Read before the American Laryngological Association at its ninth annual congress.

† "Lancet," July 1, 1837, p. 503.

‡ "Edin. Med. and Surg. Jour.," xix, 1823, p. 564.

§ "Edin. Med. and Surg. Jour.," April, 1826, p. 286.

nerves, and a case is related by Dr. Stedman where the recurrent was wanting on the right side, and its place was supplied by numerous branches of the par vagum; but in this instance 'the right subclavian artery rose from the arch of the aorta behind and a little to the left side of the left subclavian, and, forming an arch, pierced between the œsophagus and vertebral column in the region of the first vertebra of the back, and then passed over the first rib on the right side.' It must be remarked that the right subclavian was already under the influence of the left recurrent, and therefore the usual distribution was not necessary on the right side. The same unusual distribution I have also observed in a rabbit, which was very healthy, but I never saw it in exercise, and therefore can not determine whether its respiration was affected during that state. It is a curious circumstance that the recurrences do not always include the carotids; but it seldom happens that the action of these arteries is much increased, except by the exertions of the voice, as in singing, etc., and therefore, if they had been included, the delicate and complicated actions of the glottis, which are produced during these processes, might have been too much interfered with, and I believe a compensation is made for this omission by the connection of the pharyngeal plexus with the superficial cardiac nerve. . . . The subclavian artery on the right side and the aorta on the left are almost encircled by the par vagum and its recurrent branches. This distribution, no doubt, connects the actions of these arteries with those of the glottis."

Hilton (1837), to whom we are indebted for an admirable paper* describing the distribution of the recurrent nerves, states in a foot-note that he had seen a subject in his dissecting-room in which the right subclavian artery came off from the posterior part and left side of the transverse portion of the aorta. In this case, he continues, "the right recurrent nerve did not curve round the artery, but was detached from the pneumogastric at an acute angle with the descending part of the nerve, about opposite the fifth cervical vertebra." We find, moreover, in the same writer's well-known "Lectures on Rest and Pain,"† the statement that he had seen examples in which the recurrent did not wind around the arch of the aorta or the subclavian artery, yet the course of the nerve was, notwithstanding, equally recurrent, thus clearly indicating that it had no necessary relation with the subclavian artery or the aorta. He then sets forth the following singular theory to explain the course of these nerves: "The nervous influence, whatever it may be, which travels by these recurrent nerves, goes from below upward. And I think it will be apparent why this nerve takes its course from below upward. It is an essential thing, to my mind, that the muscles which are acting upon the air as it escapes outward from the lungs so as to make the voice, should be acting from within outward—that is, from the lower part of the larynx to the upper. It is quite obvious that if they acted in the other way we should all be ventriloquists, talking inwardly to ourselves, as it were, and having no external voice; and it is for the purpose of determining the direction of influence from with-

in outward that we find this nerve pursuing this singularly recurrent course."

Meckel* says the recurrent nerve is sometimes double, and, though rare, when this occurs it is always on the right side. He considers it probable "that the recurrent nerve results from the plexiform division of the trunk of the pneumogastric, and that its existence is connected with the primitive shortness of the neck, since the larynx is much nearer its origin in the early periods of life than subsequently. This hypothesis would explain its arrangement in the same manner as the high origin and long course of the spermatic vessels."

Daremberg,† in speaking of the recurrent nerve twisting round the subclavian artery on the right side and the arch of the aorta on the left, says: "Que la nature a disposés comme deux bornes qui les fixent dans la carrière qu'ils ont à fournir avant de se répandre dans les muscles abaisseurs du larynx, qu'ils font mouvoir comme avec une main."

If we wish to obtain a clear idea of the reason why the recurrent nerves recur, we must leave this speculative ground and begin at the beginning of the development of the embryo. These remarkable nerves exist at a very early period of foetal life. At a certain stage of embryonic development they have, indeed, a transverse direction, and proceed direct from the pneumogastrics to their destination, and their recurrent course is determined later solely through developmental changes in the branchial apparatus of the embryo, and to the descent of the heart into the thorax. We will briefly review these changes: In the cervical region are developed the five pairs of aortic arches—a transitory foetal apparatus in the higher vertebrates. Of the five pairs of arches, but two are permanent at birth, namely, the fourth arch on the left side, which is represented by the arch of the aorta, and the corresponding arch on the right side, which has become the right subclavian artery. The recurrent nerves originally passed under the fifth pair of aortic arches; but as the *ductus arteriosus*—the fifth arch on the left side—is obliterated after birth, it follows that the left recurrent nerve is hooked under the first permanent arch above it, namely, the fourth, which has become the arch of the aorta; while on the right side the fifth aortic arch disappears entirely, and the right recurrent consequently passes under the fourth aortic arch, which persists as the right subclavian artery.

The long course of the recurrences, like the elongation of the carotids and other anatomical features of the cervical region, is brought about by the change of position which the heart and great vessels undergo during embryonic life, and which we may best describe by borrowing Huxley's words:‡ "At first the heart of a mammal lies under the middle of the head, immediately behind the first branchial arches, in which the first pair of aortic arches ascend. As

* "Manual of Anatomy." Translated by Doane, 1832.

† "Exposition des connaissances de Galien," etc., Thèse, Paris, 1841, p. 57.

‡ "A Manual of the Anatomy of Vertebrated Animals," London, 1871. We take the liberty of substituting the word "branchial" for "visceral."

* "Guy's Hosp. Reports," vol. ii, 1837, p. 514.

† Second edition, London, 1877, p. 217.

the other pairs of aortic arches are developed the heart moves backward, but the fourth pair of branchial arches, by the modification of one of which the persistent aorta is formed, lies, at first, no farther back than the occipital region of the skull, to which the fourth pair of branchial arches belongs. As the two pairs of cornua of the hyoid belong to the second and the third branchial arches, the larynx is probably developed within the region of the fourth and fifth branchial arches; hence the branches of the pneumogastric, with which it is supplied, must, originally, pass directly to their destination. But, as development proceeds, the aortic arches and the heart become altogether detached from the branchial arches and move back, until at length they are lodged deep in the thorax. Hence the elongation of the carotid arteries; hence also, as the larynx remains relatively stationary, the singular course in the adult of that branch of the pneumogastric, the recurrent laryngeal, which primitively passed to the laryngeal region behind the fourth branchial arch, and consequently becomes drawn out into a long loop, the middle of it being, as it were, pulled back by the retrogression of the aortic arch into the thorax."

The proof that the course of the recurrent nerves is a question of development is found in the fact that when, from any cause operating in early foetal life, irregularities of the arch of the aorta or in the origin of its primary branches exist, the recurrent nerves have always in such instances an anomalous origin and course. There are several recorded cases of this inter-relation of these anomalies. We have already mentioned Stedman's paper, in which he described, for the first time, a case of irregular origin of the right subclavian artery associated with absence of the right recurrent nerve. In this case, undoubtedly, the fourth right aortic arch disappeared very early, and, the right subclavian arising from the descending portion of the aorta, there was nothing to carry the right recurrent down, and it consequently ran directly to the larynx. Through the kindness of Professor Dwight we have had an opportunity of observing a similar case in the dissecting-room of the Harvard Medical School. Hérard* in 1846 showed a specimen at the Anatomical Society of Paris, in which the right recurrent was given off from the pneumogastric opposite the cricoid cartilage, and he suggested that we ought to be prudent in denying the existence of the recurrent if we did not find it in its proper place. The left recurrent was normal. He makes no mention of any anomaly of the blood-vessels. Reid,† in 1847, gives the correct explanation of the origin of these anomalies, and says that in those cases of monstrosity where the head and larynx are double, and the two bodies are fused together immediately below this, so that the lower part of the neck, the thorax, and thoracic extremities are single, and where consequently we have four vagi nerves in the upper part of the neck and only two at the lower part, the right recurrent of the right larynx hooks round the subclavian artery, and the left recurrent of the left larynx hooks round the arch of the aorta, while the left recurrent of the right larynx and the right recurrent of

the left proceed to their destination from the pneumogastries as they pass the larynges. Demarquay* (1848) was, we believe, the first one in France to record a case of irregular origin of the right subclavian artery with absence of the recurrent nerve on the same side.

Professor Turner, in his admirable paper,‡ cites cases where there was no innominate artery and an unusual origin of the right subclavian. In one instance the recurrent turned round the inferior thyroid artery, and in others it passed directly inward to the larynx. He also describes cases where the aorta arched to the right side, in which the left recurrents wound round the obliterated ducti arteriosi while the right recurrents passed behind the arches of the aorta. Krause and Telgmann§ add to the number of irregular origins of the subclavian artery and recurrent nerves, which, according to Turner, occur once in two hundred and fifty cases.

More recently, Brenner,* in an interesting paper, describes two instances of this anomaly, and a third where the right recurrent branched from the pneumogastric opposite the sixth cervical vertebra, and turned round the vertebral artery to reascend to the larynx. Here the right vertebral artery represented the fourth right aortic arch. The branches from the aorta in this case were in this order: First, a vessel that divided some two inches from its origin into the right vertebral and the right carotid; then came the left carotid, the left vertebral, the left subclavian, and finally the right subclavian from the descending aorta. He further reports two cases where the aorta passed over the right bronchus, in which the left recurrents passed under the fifth left branchial arches represented by the obliterated ducti arteriosi. The last writer who has called our attention to this subject is Chaput, whose "Note sur un rapport peu connu du recurrent gauche" may be found in the records of the "Soc. anatom. de Paris," July, 1884.

To return now to the normal relation of the recurrent nerves to the large blood-vessels, we find (Luschka) that the left recurrent leaves the pneumogastric at an acute angle in front of the arch of the aorta; it then turns round the vessel from before backward, runs up between it and the left bronchus, following the posterior surface of the aorta, which it leaves between the origin of the left common carotid artery and the subclavian to ascend to the larynx in the sulcus between the œsophagus and trachea. The right recurrent, which is shorter than the left, branches from the pneumogastric in front of the right subclavian artery. Turning under that vessel and running up behind the right common carotid, which it crosses to reach the fissure between the œsophagus and the trachea, it then proceeds to the larynx. In their course the recurrents send communicating branches to the cardiac and pulmonary nerves, and supply the œsophagus, trachea, and inferior portion of the pharynx with numerous filaments.

* "Gaz. méd. de Paris," 1848, p. 714.

† "On Irregularities of the Pulmonary Artery, Arch of the Aorta, etc.," "Brit. and Foreign Med.-chirurg. Review," vol. xxx, 1862, p. 173.

‡ "Die Nervenvarietäten des Menschen," Leipzig, 1868.

§ "Ueber das Verhältniss des Nervus laryngeus inferior vagi u. s. w.," "Arch. für Anat. und Entwicklungsgesch.," 1883, p. 373.

* "Bull. de la Soc. anat. de Paris," 1846, p. 111.

† Todd's "Cyclopædia," article "Par Vagum," 1847.

Rainey,* Hilton,† and Habershon,‡ from their own dissections, have described communicating filaments, running from the recurrenents to the superior laryngeal nerves, while Philipeaux and Vulpian* maintain that the anastomosing fibers which are found come exclusively from the superior laryngeal nerves. Luschka|| believed that in reality there was no communication between the superior and inferior laryngeal nerves, and that those filaments coming from the superior laryngeal which had this appearance were sometimes merely enveloped for a short distance in the same sheath with the inferior laryngeal, and at other times crossed it superficially at an acute angle to be distributed in the mucous membrane of the pharynx. Exner,‡ on the other hand, in one of the latest and most elaborate monographs on the innervation of the larynx, describes and pictures the ramus communicans, or "Galen's anastomosis." The relations of the inferior thyroid artery and the recurrent laryngeal nerve are of practical importance in operations upon the œsophagus, and for the removal of the whole or a part of the thyroid gland. Referring to Professor Dwight's paper § on this subject, we find that Woelfler† stated that the nerve always passed before a branch of the artery. Kocher,‡ on the other hand, describes the artery as passing behind the nerve, coming forward on its inner side and bending over it. Rotter‡ made some fifteen examinations, and found the artery in one third as described by Kocher. Dr. Streck-eisen** reports the results of the examination of both sides of fifty-six bodies. He appears, however, to have had chiefly in mind the question whether or not the artery formed a loop around the nerve, and, if so, to what degree it surrounded it. It is not quite clear, therefore, in how many of his cases the artery passed before or behind the nerve. Dwight examined fifty-two bodies on both sides, and twenty-seven on one side. He found that on the right the artery was before the nerve thirty-three times, and behind it thirty-one. On the left the artery was before the nerve forty-nine times, and behind it fifteen. It appears, therefore, that the probabilities are equal that the right nerve or artery will be in front, and that on the left the chances are three to one that the nerve will be behind. Professor Dwight concludes that his series tend to support the practical deduction that, when it is necessary to tie the artery near the gland, the vessel should be carefully isolated.

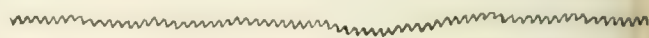
It has been stated that the recurrent nerves contain sensory fibers, but we are not aware of any experimental

proof to support this opinion. In our judgment, this point may be determined by the following methods:

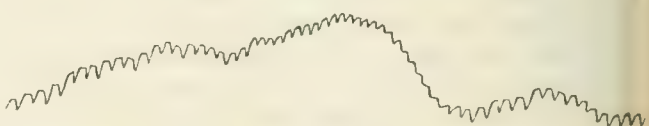
Experiment.—Anæsthetize a dog or a cat, and fix it on its back, with its lower jaw held open, so that a perfect view of its glottis can be obtained through the mouth by throwing in light by means of an ordinary head-reflector. The animal's tongue may be held out by the fingers of the left hand, and the epiglottis raised with a long forceps by the right hand. The recurrent nerve having been exposed and cut, the corresponding vocal band will be seen to be completely immovable, while its fellow moves rhythmically with respiration. Place an electrode on the central cut end of the recurrent, and stimulate with currents from the feeblest to the strongest intensity; no effect whatever will be produced on the glottis. But, if we now change the electrode from the cut end of the recurrent to the trunk of the pneumogastric of the same side, and stimulate it, we do obtain a decided reflex effect upon the glottis, which was impossible when its recurrent branch was irritated. But perhaps a still more delicate proof that there are no sensitive fibers in this nerve is furnished us by the absence of a rise of blood-pressure in curarized animals on stimulation of its central end after section. The observation of Ludwig and Thiry that irritation of sensitive nerves was followed by a rise of the blood-pressure occasioned by reflex contraction of the muscular coats of the arteries led us to apply this test to the recurrent, the method employed being that described by Dittmar and Miescher in their researches* on the sensitive fibers in the spinal cord.

We have used dogs and cats for this purpose without in a single instance, being able to observe a rise of the blood-pressure when the recurrent was stimulated with weak or strong currents, which invariably followed when the internal popliteal nerve was irritated. We subjoin the details of one of the experiments, and the curves showing the difference between the action of these two nerves on the blood-pressure.

April 13, 1887.—Small black-and-tan dog. Curarized. Artificial respiration. Left recurrent and left internal popliteal nerves laid bare and cut previous to stimulation. The recording pen of a mercury manometer, which was connected with the right femoral artery, recorded the blood-pressure on a long roll of paper in the usual manner.



Irritation of central end of left recurrent nerve. $I=200$.



Irritation of central end of left internal popliteal nerve. $I=200$.

By reading these tracings from right to left, it will be seen that irritation of the recurrent nerve with a very

* "The Recurrent Laryngeal Nerves," London "Med. Gazette," December 6, 1828.

† "Guy's Hosp. Reports," vol. ii, 1837, p. 514.

‡ "The Pathology of the Pneumogastric Nerve," "Med. Times and Gazette," vol. i, 1876.

* "Sur l'anastomose qui existe entre le nerf laryngé supérieur et le nerf récurrent," "Arch. de physiol. norm. et path.," tome ii, 1869.

|| "Der Kehlkopf des Menschen," Tübingen, 1871.

△ "Sitzungsber. d. Wiener Akademie d. W.," Bd. lxxxv, 1884.

◇ "Boston Med. and Surg. Journal."

‡ "Wiener med. Wochenschr.," 1879.

† "Arch. für klin. Chirurgie," Bd. xxix, 1883.

‡ "Archiv. für klin. Chirurgie," Bd. xxxi, 1885.

** Virchow's "Archiv.," Bd. ciii, 1886.

* "Arbeiten a. d. physiol. Anstalt," Leipsic, 1870.

powerful current was not followed by any change of pressure, while, when the internal popliteal was stimulated, a marked rise was observed. We consider, therefore, that, as far as dogs and cats are concerned, the recurrents are purely motor nerves.

The recurrent nerve does not become the inferior laryngeal proper until it has reached the lower border of the cricoid cartilage. It is here about one millimetre in diameter.

Passing under the lower border of the inferior constrictor muscle of the pharynx, it enters the larynx behind the articulation of the inferior cornu of the thyroid cartilage. It then divides into several branches, which innervate all the muscles of the larynx except the thyreo-cricoids. It is an occasional, but not a constant, phenomenon, that excitation of one of the recurrent nerves will cause a contraction of the vocal band of the opposite side, which tends to confirm the statement that there are connections between the terminal filaments of the recurrents in the laryngeal muscles. Such, then, being the course and distribution of the recurrent nerves, it remains now to investigate their rôle in carrying on the different functions of the larynx.

II. PHYSIOLOGY.

In looking through the mass of writings and experiments, from remote times to the present day, upon the physiology of the recurrent laryngeal nerves and the parts which they supply, we are struck, first of all, by the many discordant opinions that have been, and still are being, recorded, and feel that the old aphorism, "experiment is fallacious and decision difficult," is as applicable to the nineteenth century as to the time when Hippocrates gave it utterance. Yet, when we consider the improvement in recent years in instruments of research, and reflect upon the advance and development of physical science, we may ask if it is not now, perhaps, the experimenter that is fallacious, and not the experiment.

It is, indeed, surprising that scarcely fifty years have passed since the first experimental study of questions pertaining to the larynx which approached completeness and was of real scientific value. We refer to a paper by John Reid (1838), of Scotland, the title of which, however, would not lead one to look for as much valuable work upon the nerves of the larynx as it contains. This important paper, to which we shall again refer, was entitled "An Experimental Investigation into the Functions of the Eighth Pair of Nerves, or the Glosso-pharyngeal, Pneumogastric, and Spinal Accessory,"* and was founded upon experiments which, as Romberg † justly says, may serve as models of philosophical inquiries.

We know, however, that from the earliest times the voice has enlisted the attention and speculation of physiologists, but the experiments of all, from Rufus the Ephesian down to Reid (1838), except, perhaps, Magendie's, were directed chiefly to finding out what influence the pneumogastrics or the recurrents had upon the function of phonation; whether the voice was lost after section of these

nerves; and whether it could be regained when once taken away in this manner.

Rufus of Ephesus, Galen, Vesalius, and others found that the voice was lost after the pneumogastrics or the recurrents had been cut or included in a ligature, although less careful observers came to different conclusions; but we need not at present review in detail the investigations of these early writers, inasmuch, as we have just mentioned, as their researches had reference solely to the relation of these nerves to the voice.

To come down to more recent periods (1734), one of the earliest papers is by Martin, entitled "The Experiment of cutting the Recurrent Nerves carried on farther than has hitherto been done."* We find in it, however, little to justify the title, as Martin confined himself to cutting the recurrents of a sucking pig in order to observe the effect on the voice, and recorded that, after the operation, "it could never give a squeak in the ordinary manner of these animals."

A more elaborate paper, by Haighton (1792), followed Martin's, on "Experiments made on the Laryngeal and Recurrent Branches of the Eighth Pair of Nerves, etc.,"† in which he calls attention to the "contrariety of opinions" that then prevailed, and adds, significantly: "This may possibly excite astonishment, when we consider that the subject is not of very difficult investigation, requiring for its accomplishment very little more than an unprejudiced mind and a hand accustomed to dissection." He determined that the recurrents were the true vocal nerves, and showed in one experiment on a dog that the voice could, "when taken away by the division of the nerves, again return." Galen, he tells us, said also that the voice "ought to return after it had been lost by experiment," owing to the communicating branches between the superior and inferior laryngeal nerves, but Haighton believed that it depended upon the reunion of the divided nerves. Magendie (1813), who, up to his day, furnished the most noteworthy experimental work on the larynx and gave a good description of the distribution of the recurrent nerves, believed, nevertheless, that all the muscles which they supplied opened the glottis, while the superior laryngeal nerves, in going to the thyreo-cricoid and transverse muscles, had exactly the opposite function, and closed the glottis. For many years a number of writers blindly followed the teachings of this great physiologist in regard to the functions of the laryngeal nerves and muscles. Hugh Ley, among others, believed with him that the recurrents opened the glottis, and that the transverse muscle was the principal closer of the organ; and in a work of much labor on "Croup" ‡ Ley wrote considerable that is of interest to modern laryngologists, but much also that is most extravagant.

We have mentioned elsewhere* that Magendie was the first who demonstrated experimentally the true action of

* "Medical Essays of Edinburgh," vol. ii, 1734, p. 114.

† "Mem. of the Medical Soc. of London," vol. iii, 1792, p. 422.

‡ "An Essay on the Laryngismus Stridulus or Croup-like Inspiration of Infants," London, 1836.

* "Experimental Researches on the Tension of the Vocal Bands," "Trans. of the Amer. Laryng. Assoc.," 1883.

* "Edin. Med. and Surg. Journal," vol. xlix, 1838, p. 109.

† "The Sydenham Soc.," vol. ii, 1853, p. 313.

the thyreo-cricoid muscle; and at the present day, when it is positively known that the office of this muscle in raising the cricoid cartilage on to the thyroid is to produce longitudinal tension of the vocal bands, we can not read without a smile the reasons which Ley's fertile brain invented to account for this upward movement of the cricoid cartilage. He says he can trace no other purpose for it than that of throwing mucus into, and perhaps through, the chink. "This movement," he continues, "the posterior part of the ring being fixed, while the anterior is carried upward and inward, resembles that of a hoop, which will strike the skin with force when an attempt is made to raise it from its horizontal position by pressure upon its edge with the foot, or that of a basin containing fluid, treading upon the edge of which will throw its contents to a considerable height upon the limb, while the edge of the vessel itself may also strike the skin. The cricoid cartilage is thus a sort of pail, which, filled from the trachea, empties its contents into or through the glottis, and performs an office somewhat analogous to those scoops or buckets which, attached to a large wheel, help to deepen the river by drawing the earth from its bed, and, by the same revolution of the wheel, discharge their contents into an adjoining lighter for ballast or other purposes."

Here we see one of the most exquisite of the co-ordinated movements of the larynx—a movement upon which one of the fundamental laws of vocal physiology is founded—actually compared to the working of a dredging-machine and a mud-scow!

Hilton, in his "Lectures on Rest and Pain," gives a far more poetical explanation of this upward movement of the cricoid cartilage. In speaking of the motor branch of the superior laryngeal nerve, which supplies the thyreo-cricoid muscle, he says: "No matter how rapidly the nervous influence passes, it must reach the nearest point first, and that is apparently the reason why this little nerve takes so short a course to the crico-thyreoideus. It has long been my habit to regard the crico-thyreoidei as the muscles which are intended to tune the vocal instrument; and, as the instrument must be tuned before it can be played upon, so this nervous influence, first reaching the crico-thyreoidei, the vocal cords are put into a due state of tension, preparatory to the more precise and accurate influence of the other muscles acting directly and indirectly upon the vocal cords."

It was not long, however, before important light was shed upon these questions. Reid (1838), whose paper we have already mentioned, gave an accurate account of the anatomy of the recurrent nerves. He refuted Magendie's statement that these nerves moved only those muscles which opened the glottis; he confirmed experimentally Magendie's views of the action of the thyreo-cricoid muscles, and described the functions of the other intrinsic muscles, as they are now generally understood. He showed also that irritation of the recurrents of a dog closed the glottis.

Three years later (1841) Longet's* well-known paper

appeared, which covered very much the same ground as Reid's, with practically the same results. Longet, moreover, agreed with Bischoff* that the internal branch of the spinal accessory was the motor nerve which presided over the tensors and the closers of the glottis, and that the dilators were innervated independently. Cl. Bernard's† careful experiments confirm this view. He showed that section of the spinal accessory in a kitten five weeks old was followed by aphonia, but glottic respiration remained free. Two days afterward, the kitten having remained well but voiceless, its recurrents were cut, when it instantly died asphyxiated. He concludes from this that the pneumogastric has a motor power independent of the spinal accessory which permits the animal to breathe after the latter has been cut; or, in other words, the larynx is a vocal organ when excited by the spinal accessory, and a respiratory organ when under the influence of the pneumogastric, or more probably of other motor nerves associated with it. In certain animals, as the chimpanzee, the internal branch of the spinal accessory does not blend with the pneumogastric, but goes direct as a separate nerve to the larynx.

Conclusive as were the experiments of Magendie, Reid, Longet, and others who have followed them, we find, even at the present day, differences of opinion in regard to the offices of certain of the intrinsic laryngeal muscles, about which our knowledge is apparently exact, as their function has been experimentally proved. The salient points of these questions, however, although they will always be more or less at the mercy of theorists, may be considered as tolerably well established. We know that the recurrent nerves supply those muscles which both open and shut the glottis—all of the intrinsic muscles, in fact, except the longitudinal tensors, the thyreo-cricoids; also, in part at least, those muscles which compose the ventricular bands and the ary-epiglottic folds. It is reasonably certain, too, that the internal thyreo-arytenoids, the lateral crico-arytenoids, and the transverse muscles are the closers, while the posterior crico-arytenoids are the only openers of the glottis.

In coming now to the subject-matter of this paper, we wish to express our gratification at having had the other Boston members of this association (Dr. Knight, Dr. Langmaid, and Dr. De Blois) as witnesses to some of the results herein recorded. Our thanks are especially due Dr. J. Solis-Cohen for his interest in this subject, who, with Dr. Edward Martin, of Philadelphia, was willing to submit to a long and tedious journey to pass a day of experimental investigation with us in the laboratory. It has been our object in our present series of observations, as in all our experimental work of the past five years, to multiply largely the experiments and to record only such as were typical and had been seen by other eyes besides our own. We have pursued this plan in order to eliminate, as far as possible, sources of error, and, as our work has always been undertaken without any preconceived theory to support, or care as to what might or might not happen, provided a fact

* "Nervii accessorii Willisii anat. et. physiol.," Heidelberg, 1832.

* "Recherches expérimentales sur les fonctions des nerfs du larynx," etc., "Gaz. méd. de Paris," ix, 1841.

† "Fonctions du nerf spinal," etc., "Leçons sur la physiologie et la pathologie du système nerveux," tome ii, Paris, 1858.

could be established, we think our mistakes—if mistakes there be—will be due to some fault in our methods rather than in our observation.

(To be concluded.)

VAGINAL HYSTERECTOMY IN AMERICA,

WITH REPORT OF TWO CASES.*

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In no branch of the surgical art has greater advancement been made during the past twenty years than in the field of gynecology.

America justly lays claim to her share in this progress. During the time mentioned, hysterio-trachelorrhaphy has traversed the rugged path to success, and laparotomy, for various forms of disease, has struggled from infancy with its many enemies to maturity with its thousands of friends, and now occupies an enduring place in modern and future surgery.

In the same manner, vaginal hysterectomy sprang into existence as a surgical procedure for the relief of a disease most loathsome and dreaded. It is a procedure yet in its infancy, but is daily laying increasing claims upon the profession for recognition, and, although not having its origin in America (for Andreas, of Cruce, is supposed to have done it in 1560, and Langenbeck is known to have done it in 1813, followed by Santu in 1822, Blundell in 1828, and Récamier in 1829), it was not looked upon with favor, and remained dormant as a surgical wonder until April 12, 1878, when Czerny revived it and did the operation which, with few changes, is the accepted operation of to-day. In Europe, during the past ten years, much has been written upon this subject, with scarcely a passing reference to American work. Here even the operation has been looked upon as an unsurgical procedure, cried down by almost the entire profession, while in the small amount of space devoted to it in our medical literature, foreign quotations and praise make up the major portions of the articles, much to the discredit of our own profession. My object in this paper will be to show what the profession of this country has accomplished with this operation, to place upon record a series of cases with individual methods of operation and treatment, and statistics which can not fail to be of interest, and to give America a just title to original work in this, as well as the operations previously mentioned.

The credit for the first removal of the uterus *per vaginam* for malignant disease in this country, so far as I am able to learn, is due Professor Paul F. Eve, of Augusta, Ga., who, on April 16, 1850 ("Am. Jour. of the Med. Sciences," 1858), did vaginal hysterectomy for extensive malignant disease of the uterus and vagina—at that time diagnosed as encephaloid. This operation was done in the presence of Dr. J. A. Eve, Dr. Longstreet, Dr. Montgomery, and Dr. Henry Campbell, and to the latter I am indebted for an accurate description of the case and operation.

* Read before the Alumni Association of the Woman's Hospital at its third meeting.

The patient, a negress, twenty-eight years old, had been married, but never impregnated. Her disease had existed for three years, attended by frequent hæmorrhages from the vagina. She was placed under chloroform, in the lithotomy position, and the growth seized with forceps, which repeatedly gave way, bringing with it large masses of necrosed tissue. Finally the growth was dragged down to the ostium vaginae, and, finding it impossible to remove the firm resisting body, it was carefully excised with a knife, from above downward, or in an antero-posterior manner. The left uterine artery, which bled quite profusely, was ligated with animal ligature. A solution of sulphate of zinc was applied to restrain further hæmorrhage, which had been considerable. There was no protrusion of the bowel, or other severe symptom, following this operation. In the mass removed the uterus was readily recognized, with its Fallopian tubes and round ligaments. The patient returned to her home on the seventeenth day, and on June 15th, two months after the operation, rode eleven miles to see the doctor, who found the disease returning in the vaginal wall. She died from hæmorrhage three months and one week after the operation.

Such is a brief history of the first case of vaginal hysterectomy in the United States for malignant disease. But this, it seems, was not the first time the uterus was removed *per vaginam* successfully, although not for malignant disease, for I find that as early as September, 1834, Dr. John M. Esselman, of Nashville, Tenn., successfully removed the inverted uterus by means of the ligature, and his patient made a good recovery. He again did the operation successfully in August, 1843, for inverted uterus containing a fibroid. Others followed his example with success. From 1850 to 1878, a period of twenty-eight years, I am unable to find recorded a single case of complete removal of a cancerous uterus *per vaginam*.

During that time in this country the fashionable method of operating seems to have been by abdominal section, and numerous cases are tabulated of removal of the uterus, or the corporeal portion of it, for malignant disease or fibroid. As early as June 25, 1853, Dr. Walter Burnham, of Lowell, Mass., operated by this method, followed by Dr. Gilman Kimball, of the same city, in August of the same year. At the end of the period mentioned, on January 30, 1878, Freund's operation, with the history of which you are all familiar, was given to the profession. Numerous cases of it are recorded, but death followed so closely in its wake that I hasten to dismiss it from my subject; and, as it is the purpose of this paper to speak of vaginal hysterectomy for malignant disease only, I will simply give a passing notice to the removal of the uterus by other methods.

On October 17, 1876, Dr. Emil Noeggerath, of this city, reported a case before the New York Obstetrical Society (see page 150, "Trans.," '76 and '78), entitled "A New Operation for the Removal of the Uterus with its Peritoneal Envelope through the Vagina for Carcinoma," which he stated was the first operation of the kind. Undoubtedly it was, and has remained so ever since, for the operation was never finished. A word of explanation for this remark is necessary and just:

The operation was undertaken *per vaginam*. The anterior and posterior vaginal connections were severed with the galvanic knife, the openings thus made were stretched with an Ellinger's dilator, and the finger was passed into the pelvic cavity to

examine the broad ligaments. They were found to be hard and infiltrated, rendering extraction by the vagina difficult. The abdominal cavity was therefore opened through the linea alba. Péan's wire constrictors were passed in and the broad ligaments and tubes constricted; then the abdominal incision was closed. (This procedure at once excludes this operation from my list of purely vaginal ones.)

The patient died of septicæmia on the fourth day. An autopsy showed the uterus *in situ*, although nearly severed from its ligamentous attachments by the constricting wires.

The operation will pass into history as an uncompleted procedure, and I must look in another direction for the next successful case of vaginal hysterectomy in the United States.

This I find to be credited to Dr. L. C. Lane, of San Francisco, who, on the 11th day of November, 1878, did the operation for epithelioma of the cervix, and repeated it the same year. His method of operation I shall speak of farther on. I can find no report of its having been done again until January 28, 1880, when it was performed by Blake, of Boston, whose patient died in twelve hours from shock. The next to perform it was Cushing (September 4, 1881), of San Francisco, followed in a few days by Anderson and Taylor, of San Francisco, and Fenger, of Chicago, with successful results. Up to this time, you can see, the western part of our country took the lead. Then surgeons in the East resorted to the operation, and during the year 1882 six operations were done by as many operators, the result being a loss of five of the patients. In 1883 eight patients were operated upon by seven different operators with a loss of two. In 1884 eight operations were done by six operators, the result being one death, so that from November, 1878, to the first of the year 1885, thirty operations had been done, resulting in death in ten.

I have records of fourteen operations that were done during 1885, nearly half the number of all those done in the previous years I have mentioned. Of that number, eight ended fatally, and, with the exception of Lane', Mundé', and Weir', they were the operators' first and only cases. But do not hasten to condemn this operation on that account. One who has tried it knows the difficulties he has to surmount, and no one can appreciate them until he has done it himself; and when he has, almost his first thought will be, I can do it better the next time.

The record for 1886 seems to confirm this statement, for of the twenty-one cases for that year, of which I have a record, with the exception of three, whose cases were all successful, the operation was done by old operators, and of the twenty-one, five resulted fatally. This is a material increase over the records of the previous years, and evidences either an improvement in manipulative skill, or more careful choice of cases selected for operation. Of the sixty-six cases I have collected which will be shown in the table, twenty-three resulted fatally, while forty-three patients recovered and remained well afterward for periods varying from three months to three years (see table). The variety of disease for which this operation has been resorted to most frequently in this country has been epithelioma of the cervix-uteri.

It is difficult to tabulate the exact number of each form of the disease, for, while one operator in his report speaks of his case as carcinoma of the cervix, another describes it as cauliflower, and still another as epithelioma, without going into details sufficiently to be positive. Of the sixty-six cases I have collected, thirty-three are designated epithelioma involving the cervix and extending into the body to a more or less degree.

Only four cases are diagnosticated as carcinoma of the body, three as sarcoma of the cervix, and only one as sarcoma of the body—evidence of a much more frequent occurrence of the epithelial form of the disease.

The methods of operation practiced by the operators of this country differ but slightly in their essential points. In the cases reported, two thirds of the surgeons have preferred the lithotomy position for the patient, while the remaining third have employed the Sims position. The choice as to opening the anterior or posterior *cul-de-sac* first has been about equally divided, while in the large majority of the cases the uterus has been retroverted for the purpose of bringing it into the vagina, and the broad ligaments have been tied in sections. Open dressing of the wound is the accepted method, iodoform gauze being used as an application to the cut surfaces, applied in the form of a loose tampon, and allowed to remain for several days, unless contra-indicated by a rise of temperature. Such is the method practiced by Dr. Lane, of San Francisco, who stands at the head of the list of operators, in point of number, having done nine operations, with a loss of three patients, while Dr. Bernays, of St. Louis, although second in point of number, heads the list of successful operators, having done six operations without a death.

Dr. Polk, of this city, favors the dorsal position, and, as his method differs so materially from that practiced by others, I desire to mention the essential steps taken in its performance. The patient on the back, he divides the vaginal mucous membrane into the cellular tissue on the sides first, preferably with the galvano-cautery, then through these openings he passes his modified aneurysm-needle, hooks down the uterine arteries and ligates them before cutting farther. The anterior and posterior vaginal wall are then treated in the same manner. When this has been done the patient is ready for the second step in the operation, which is a supra-vaginal amputation of the cervix. He then has only loose cellular tissue and peritonæum to deal with. Before opening the latter, the vagina is thoroughly cleansed with an antiseptic solution. This being done, the peritonæum is opened, and the remaining portion of the body is anteverted or retroverted, as the case may indicate. The ovarian arteries are then ligated, including as much of the tubes and ovaries as possible. The space then remaining between the uterine and ovarian arteries is ligated *en masse*, and small bleeding points in Douglas's pouch are ligated separately. No portion of the wound is closed by suture and no drainage-tube is used, but the wound is packed with iodoform gauze. In view of the good results obtained and reported by Dr. Baker at a previous meeting of this society, the question might be raised as to why the doctor should open the peritonæum and remove the remaining portion of

the body after having done so thorough a supra-vaginal amputation without loss of much blood.

Opinions concerning the operation differ but slightly among the operators of the United States. It is the universal opinion that it is limited to certain forms of the disease—namely, carcinoma of the body and epithelioma of the cervix, neither of which shall have advanced sufficiently to have involved the peri-uterine structures, and that the organ shall be perfectly movable. Dr. Hunter and Dr. Bull, of this city, believe this operation the best that can be chosen for the class of cases I have mentioned.

My own experience has been limited, but peculiar features of interest have attended it, and I have taken pains to follow the cases closely to their termination, and will report their results in full. My first was—

Vaginal Hysterectomy; Recovery. Entero-vaginal Fistula Six Months Later; Laparotomy for its Relief.—Mrs. G., aged forty-six, married thirty years, and the mother of six children, the last two years old; two miscarriages since the birth of the last child, caused by taking rhubarb; menstrual function always regular, but profuse, with some pain during the flow; menopause six months previous. Her general health was poor, and she was thin and anæmic. Her present illness had lasted nine months. It began with pain of a lancinating character in the back, lower part of the abdomen, and vulva, radiating into the thighs and legs. The pain was increased by standing or walking. Local examination revealed epithelioma of the cervix uteri, extending into the cervical canal, and also involving the vaginal wall slightly on the right side. The uterus was perfectly movable, and she had not suffered from hæmorrhage. The patient's condition called for removal of the diseased tissues without delay. Removal of the uterus *per vaginam* was proposed, and on December 20, 1883, the operation was performed in the following manner: The patient was given an anæsthetic composed of equal parts of methylene and ether, and placed upon the left side in Sims's position. A large Sims's speculum was introduced, and the bladder was emptied and held forward against the pubes by a Peaslee's sound. I then grasped the cervix with a volsella, and carried it backward toward the posterior vaginal wall, thereby tilting the body of the uterus forward, and putting the anterior vaginal wall upon the stretch. The forceps being held by an assistant, the vaginal wall immediately in front of the cervix was caught up upon a tenaculum, and, keeping the cervix as a guide, a semicircular incision, about an inch and a half long, was made with a sharp knife, the cut being continued until the peritoneum covering the utero-vesical fold could be felt, and this also was caught up and cut with *blunt-pointed scissors*. The finger could now be readily passed to the fundus of the uterus, and swept along each broad ligament. Still retaining my finger within the incision already made, I introduced by the side of it the long handle of a scalpel, and gradually enlarged the opening by a process of scratching until it extended in a half-circle around the cervix to each broad ligament. Then, firmly fixing one blade of a volsella in the fundus, I made gradual traction forward, at the same time pressing the cervix back in the vagina until the fundus appeared at the opening, and was grasped with a catch forceps. The difficulty now arose of drawing the fundus into the vagina, but, by steady traction and using my thumb and finger, I was able (so to speak) to put the cut surface back over the fundus, and bring the latter into the vagina with little difficulty. A thin, flat sponge was then secured by silk, and passed into the pelvic cavity to protect the intestines. The patient being on the left side, the left or lower broad ligament was first ligated, includ-

ing the ovarian artery, and was divided down to the vaginal roof, the uterine artery of that side still remaining untied. The uterine surface of the cut was secured by clamp forceps. The right ligament was treated in the same manner, and was severed down to the neighborhood of the uterine artery. The uterus was now perfectly movable, and I was able to readily pass a curved needle through Douglas's *cul-de-sac* at each side of the cervix, and to ligate the uterine arteries. This accomplished, both broad ligaments were entirely severed, and the uterus was separated from its attachment to Douglas's *cul-de-sac* and removed. The vagina was then thoroughly cleansed with a solution of bichloride of mercury, 1 to 3,000, and the cut surfaces were inspected to be sure that all diseased tissue had been removed. Several small points of indurated tissue were found. These were removed, including some of the apparently healthy tissue, until the whole circumference of the cut surface felt soft to the touch. This started afresh the hæmorrhage from the small vessels of the vaginal walls. These I did not attempt to ligate, as it is quite difficult to do properly, and takes much valuable time. The bleeding points were caught by small torsion forceps, which were allowed to remain until the next morning. The sponge was next removed from the pelvic cavity, and the latter was thoroughly cleansed with a solution of bichloride and sponged dry. The intestines could be seen lying high in the cavity, away from the pelvic roof. Another sponge was then introduced into the vagina and placed in apposition to the cut surface, and the patient was put to bed. The time of operation was one hour and forty minutes. The sponge was removed on the same evening, and the forceps the next morning. No hæmorrhage followed. The patient's recovery was facilitated by sufficient morphine to relieve pain, together with perfect cleanliness. The urine was drawn every six hours, and the vagina washed out with a solution of bichloride, 1 to 3,000. The bowels were first moved by enemata on the sixth day, and each day after that either by oil or enema. The daily temperature ranged from 100° to 102° F., and the pulse from 100 to 110. The ligatures were removed on the thirteenth day. Twenty days after the operation the patient sat up several hours. Twenty-six days after the operation, examination showed union perfect, and she was discharged well.

I am well aware that vaginal hysterectomy for cancer is an operation not yet accepted by a majority of the profession as a justifiable procedure, and it is only by tracing such cases to their final termination that their histories become of any value in enabling us to draw just conclusions concerning such operations. This I have endeavored to do in the present case, and for a concise record of the patient's condition from the time she left the hospital until her death I am indebted to Dr. H. W. Smith, of Placerville, California, who kindly furnished me with the following history:

The operation was performed in December, 1883, and she remained in good health until the following June, when, while making beds one day, she felt something suddenly give way in the lower part of the abdomen, and immediately began to have pain. She was then under the care of another physician. On July 28th she was seen by Dr. Smith in consultation, at which time she had stercoraceous vomiting, and all the symptoms of complete obstruction of the bowel. Examination *per vaginam* revealed a hardened mass in the pelvis in about the position that the body of the uterus should have occupied. The doctor does not state the method of treatment adopted at that time. He did not see her again until the following November. During the interval the intestine had sloughed, and a fistulous opening into the vagina had formed so that the contents of the bow-

els passed entirely through this opening, which readily admitted the passage of a large sound into the intestine. Very little cicatricial tissue surrounded the fistula. In November she placed herself under Dr. Smith's care, and desired an operation for closure of the fistula. At that time her general health was much improved, but she was mentally depressed, owing to her failure to secure permanent relief. At that time Dr. Smith scraped away some of the raw edges of the fistula, and, after submitting it to microscopical examination, declared it to be *non-malignant*; but, finding some hard lumps in the region of the ascending colon, he thought that possibly the growth had returned higher up in the pelvis, and that the lumps felt might be infiltrated glands. But, after one month's observation, with repeated examinations, and finding no change in her condition, he consented to operate for closure of the fistula. December 13, 1884, she was again placed under an anæsthetic, and, assisted by Dr. Cook and Dr. Stone, he made an incision through the linea alba five inches and a half long. The abdominal contents were examined, commencing at the stomach and following the intestine down to its obstruction, which was found to be eight inches from the ileo-cæcal valve. The ileum was twisted upon itself in a half-figure-of-eight manner, and bound down in Douglas's *cul-de-sac* by bands of plastic lymph, the remains of a former peritonitis. The portion of the ileum from the stricture to the colon had atrophied, and was no larger than a lead-pencil. The vermiform appendix was attached to the right broad ligament by plastic bands.

After thoroughly examining the pelvis by conjoined manipulation, the doctor states positively that there was no return of the cancer present, and that the lumps felt were faecal concretions in the ascending colon. The intestines were normal except the atrophied portion, through which nothing had passed for six months. The spleen, kidneys, and liver were normal. After this thorough examination of the abdominal organs, the intestines were drawn up, and, after squeezing the faecal concretions from the cæcum, the ileum was united to the ascending colon, just above the ileo-cæcal valve, by the Lembert stitch, the serous surfaces being carefully brought together, and the muscular coats being included in the stitches. Fine silk was used for sewing the gut together. After all the oozing had stopped, he closed the abdominal incision with silver-wire sutures, applied antiseptic dressings, and put the patient to bed. She reacted well after the operation, and in six hours flatus escaped from the rectum by passing a catheter, and for three days her condition was very favorable. During the third night she had a natural passage from the bowels, the first in six months. Her temperature ranged from normal to 101.5°, and her pulse from 112 to 128. There was no tympanitis until the initiatory chill of peritonitis, from which she died on the morning of the fifth day, one year after the first operation.

(To be concluded.)

INDICATIONS AND CONTRA-INDICATIONS FOR LAPAROTOMY.*

By J. R. NILSEN, M. D.,

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I FEEL compelled to begin with a confession and an apology. My confession is that, because plenty of time was given me for the preparation of my paper for this evening,

I so delayed the matter that it became crowded into the background by much compulsory bread-earning work, so that for a time it was forgotten until I was awakened to realize my obligation by a communication received only two days ago. Accordingly, my apology is for presenting a paper, such as this will prove to be, upon a subject so broad, for if surgery has made any progress during the last ten or fifteen years, it surely has done so in the many brilliant ways laparotomy has been called to aid in saving life.

I will for the occasion deal with the subject not scientifically perhaps, but only to present a few of the principles underlying it. I will first address myself to the younger aspirants for surgical honors.

Perhaps in no field of surgery has there, of late years, been seen among the younger men such eagerness to be put on record for big operations as in the gynæcological. Enthusiasm and ambition are powers well worth possessing, but ambition, in harness with the other, needs a good bridle and strong reins. To go on record for having performed such and such operations amounts to nothing *per se*, or should amount to nothing. There must be a far higher aim than that to impel a young surgeon to undertake any serious operation upon the living human body.

My earnest advice to him is to leave it alone if, first, it does not lie distinctly in the line of his practice; and, secondly, if his surgical training from the beginning of the alphabet, successively through chapter after chapter, and the preparations for the special effort have not been such that he feels ready to attack any difficulty that may arise in the progress of the operation, say nothing of the self-evident, anticipated stages without being led (soliciting the guidance), step by step, by one skilled by long practice, and agreeable, by kind condescension, to be called assistant for the occasion.

If one sees, unmistakably, that his practice lies where he must some day take upon himself operations like laparotomies, there is a right way of going to work about preparing himself. He should see a good deal and look a great deal; assist as much as possible; work a good deal upon the cadaver; practice diligently all the minor steps of operations, such as tying sutures and ligatures, handling special instruments, etc.; and in all minor operations he meanwhile may be called upon to perform, be ever very sensitive and critical of his own work, watching and studying its results, and never try to force himself up into a higher class if he must say to himself that where he is he is still a bungler, unable to take upon himself the responsibility of an operation of any magnitude without some one to coach him through it.

Of course one might like to have present at an unusual operation that would demand laparotomy some one of recognized authority in such matters; the moral support of his mere presence might be worth something; but I, for my own part, should want even the most skillful surgeon living to keep his opinions to himself during the operation, with his full right to criticise—*mentally*, unless otherwise requested. After the operation I should like nothing better—this I say truly—than to hear the most searching criticism

* Read before the Clinical Society of the New York Post-graduate Medical School and Hospital, May 7, 1887. For the discussion, see the Journal for June 25th, p. 722.

from such an one—from any one, in fact, capable of criticising.

A contra-indication, then, to laparotomy is the absence of conclusive evidence that the operator has the needful skill and knowledge.

Successful laparotomies have of late been resorted to under so many different conditions formerly deemed fatal, and illustrative cases recorded so carefully in our journals, that I will here only mention some of the more prominent employments of the operation: In acute septic peritonitis, especially when not accompanied with far-advanced disease of the kidneys, to open and wash out the abdominal cavity; in obstruction of the intestines, so very fatal without surgical aid; in inflammations or abscesses about the vermiform appendix; abscess and tumors of the liver; for the removal of gall-stones; in abscess or tumors of the kidneys, or under certain conditions demanding the removal of one of them; in diseases of the spleen, with or without dislocation, when not dependent upon or accompanied by leucocytæmia; in certain diseases of the pancreas; in wounds of the intestines by puncture, or pistol, or gunshot. Under no circumstances does laparotomy seem more clearly indicated than here. More concerning gynecology than general surgery, we have the conditions in pregnancy at term where contractions in the parturient canal forbid the passage of the fetus through the natural outlet. Here we have the choice, now not difficult, between the old Cesarean section, Porro's and Miller's operations, and Thomas's laparo-elytrotomy, etc. In unmistakable extra-uterine pregnancies, the choice lies between laparotomy for the removal, and electricity for the destruction, of the fetus. Either of these conditions would alone be more than a sufficient topic for an evening's discussion.

But I will rather go on to the points on which I invite discussion more particularly. There is one condition for which laparotomy more and more appears to me the rational resort, as soon as it shall be demonstrated that the operation can be made in itself harmless here, as it practically has become in the hands of a few abroad. I allude to extreme and persistent retroflexions where pessaries can not be borne or after exhaustive trials do no good. I have been working hard and faithfully without success with some such cases, and think I shall finally be compelled to try laparotomy, when I shall have determined upon the best method of securing the forward fixation of the fundus uteri.

We have recently been told here and abroad that the flexed condition of the uterus has little or nothing to do with the symptoms, these arising from abnormalities in the tubes and ovaries and disappearing upon the removal of these organs. I do not think that this theory has been so universally accepted as to be allowed to influence operators to disregard the faulty formation and position of the uterus, as I have seen this condition disregarded at operations based upon said theory. It looks to me as if in the near future laparotomy would play a prominent part in the treatment of this so common affliction, and that not by the removal of the uterine appendages, as my belief is, unless these prove at the operations to be extensively diseased. I have been speaking of cases with no adhesions between the fundus and

the parts lying behind it, but I believe that even where such do exist, and perhaps especially in such cases, shall we come to rely upon the intra-abdominal treatment. We are surely justified in saying at least that all cases of retroflexion with adhesions do not depend upon the condition of the ovaries and tubes for their symptoms any more than cases where no adhesions exist. In the latter, well-adjusted mechanical means do often enough entirely and permanently relieve even very distressing symptoms, and when the pessaries, sooner or later, happen to give trouble, I do not agree that this is always due to pressure upon diseased tubes and ovaries. There are often exceedingly tender spots within reach of the examining finger in patients whose ovaries and tubes have been removed even for years. Various forms of antelexion pessaries, formerly used more than now, often caused pain, but not because they pressed upon these organs. Say to those who insist that the symptoms emanate from the ovaries: "But what if the examining touch can not detect anything wrong about them, and if upon opening the abdomen they appear only little affected?" You may get for answer: "They are the cause of the symptoms, no doubt, and should be removed." It is not much to offer for elucidation when I say that I believe we shall soon know what to do with these trying cases without that radical procedure. We have recently had a boom in the so-called Alexander's operation, but, if I mistake not, active minds are at work now because it did not meet the expectations placed upon it. The difficulty has been to discover a sure method of anchoring the fundus. I think we are fast approaching the solution. Dr. Fritsch, of Breslau, says, when speaking of Alexander's operation: "I have not yet performed the operation, and can not therefore express my opinion as expert. Meanwhile, I do not believe that I ever shall perform it. He who understands how to manage pessaries has such excellent results with a less dangerous method that he will not feel called upon to perform the Alquié-Aran-Freund-Alexander-Adams operation for retroflexion." This is so generally—in fact, with the great majority of these cases; but I should feel tempted to defy any one to accomplish anything in some cases that I have seen. A few of these patients, now under my treatment, have gone through a number of operations by some of our most brilliant gynecologists without any good result whatever. They have tried every possible procedure short of laparotomy. I regret that Dr. Fritsch is so far away. I have had good success with a number of bad cases, but with some of them not until I found, after much experimenting, the support of just the right material and size, and a few patients took all the patience and ingenuity at my command.

I am often invited to and have seen a number of laparotomies for salpingitis, oophoritis, and the two conditions combined, and I see many reported. But the reports generally lack to me the essential points of interest. I have not seen two pairs of ovaries and tubes precisely alike, and the procedures for their removal differ in all cases, in some particulars, so that little is to be learned from reading the reports as they generally appear. It is not satisfactory and conclusive when I read or hear that a laparotomy was done "after the ordinary modes of treatment had failed." A

satisfying report to me would be one giving every detail of the treatment previous to the operation. I have more than once been present at the removal of ovaries that had a most uncomfortable resemblance to perfectly normal organs. These operations have taken place in hospitals, and I should like some of you present to help me to answers to the following points: Are we not very apt in the hospitals to operate without ascertaining how far other means really have been resorted to, and is it not common enough to regard as conclusive some one's, even the patient's own, statement that she has "tried everything for years," and so operate as a supposed last resort?

It reads well, and has its influence for good, too, of course, that Dr. A. has performed so and so many laparotomies for the removal of the uterine appendages without one death. I take to myself pleasure at and am proud of my friend's successes. That is all very well and highly creditable; but, supposing some one of recognized infinite knowledge in matters medical should say that a certain percentage, be it 50, 20, or even 10 per cent., of the cases might have been completely and permanently cured if the right means had been applied without resorting to the sterilizing operation. What then?

Dr. A., we will suppose, has a large hospital service; his patients come from among the poorer classes. Before entering the hospital, have they all been able to engage physicians who had it in their power to try all known modes of treatment, or several of them, or any of them? Here is Mrs. Malony, very ill, and very poor. She went to Dr. B. three times, and then her means gave out. Dr. B. advised her to go to a dispensary; she did (and, unfortunately for her, not to the Post-graduate). She came into the hands of Dr. C., who found a large, tender uterus, great tenderness in the parametrium on both sides, and a swelling-like something where the ovaries and tubes should lie, and so he put down in his case-book: "Hyperplasia of the uterus; chronic oophoritis, with disease of the Fallopian tubes"; painted a large figure with iodine upon the vaginal wall twice a week for two months, and told her to take a hot injection twice daily, without telling her how or how long to take the douche. After the two months he thought her a little better, but still she remained pretty bad. "Would Mrs. Malony be willing to undergo an operation? Everything else had failed." Indeed, she would. "Anything to get well." So she was sent to the ward of Dr. A. "Gentlemen, I shall to-day perform laparotomy upon this patient, who was brought here last week by Dr. C. for the removal of her ovaries and tubes, which are probably far advanced in disease, and give her constant intolerable suffering, even after all other means have been systematically used without the slightest effect." So Mrs. Malony has them removed. One more successful laparotomy—done as a last resort. How much of the bulk of our statistics is made up of similar cases, and how long after their discharge as cured are the patients watched carefully?

Thorough and complete systematic treatment is, as a rule, not given to the poor; they don't get it. Do they? If there is anything wrong in the neighborhood of the ovaries, the poor things—the ovaries I mean—are apt to

be taken to a new neighborhood, instead of having their surroundings made fit for them to live in peaceably and peacefully. Or am I all wrong in saying this? I ask for judgment. I have, of course, been speaking of cases such as yield ovaries that have to be sent to the pathologist to determine if they are diseased.

"Here is a woman whom I have cured without the removal of any of her organs after, she says, everything else had been tried and laparotomy proposed, before she came into my hands."

More pride to me, infinitely more, in saying that than in reporting a successful Tait's operation, which often means—is it not so?—that the patient didn't die on the table, nor a week after, and was discharged cured six weeks later, entirely free from all her former symptoms. Give a poor, hard-working woman six weeks' rest and good feeding, with such extras as an operator is willing to procure for her for the sake of an operation, and she may often be cured by that alone.

I will state frankly that I feel most keenly the responsibility I assume every time I open a woman's abdomen, and in any case my diagnosis must be to me satisfactory and unmistakable before I do it. I do not mean to say that, for example, the exact nature and condition of one or more tumors of appreciable size must be absolutely determined before laparotomy is ventured upon, but I must know that, with the fact that I have myself for a reasonable period (consulting authorities) done all in my power to alleviate the patient's sufferings without any results, I do find existing a pathological condition which I can positively say is one or more of two or three things, either of which alone is capable of producing symptoms such as the patient exhibits, a pathological condition probably removable by operation.

It may be arrogance in one to say: "Now all has been done that can be done," yet he may say: "All has been done that I can do." But just there lies the danger. How can he answer this question to himself: "How much do I know about it?"

I will raise one question here: Can we, in the light of our present experience, promise to any sufferer certain and absolute cure by removal of the uterine appendages?

Now, this is a momentous question, carrying the burden of the whole matter, and, if it must be confessed that the answer can not be made in the affirmative without many mental reservations, it behooves us well to walk very cautiously. Are such mental negative reservations necessary? For answer, here are five quotations from five different men in New York, some of them eminent in their specialty, all gathered from one evening's discussions, published:

Said one: "... for the relief of the persistent pelvic pains that sometimes remain after the removal of the tubes and ovaries."

"Although the patients upon whom I have performed this operation have all recovered, several of them have not been relieved of their pain."

"This experience ... went far to prove that the pain in question was of such a character that it would sometimes not be relieved by an operation."

A fourth one said about a case after the operation for hystero-epilepsy: "The patient had no more attacks after the operation until she was examined some months later. I found then a tender spot which gave her great pain. After returning home the patient had an attack like her former ones."

"I am sorry to say that I have several cases in which pain has persisted after laparotomy, and I propose to try the effect of electricity on them," and so on.

Some of those whom I have known to make use of the word several (not here quoted) have had no more than from eight to a dozen cases on record, and "several" means, in law at least, any number below seven, I think.

Said one operator: "Oh, she has had a whole bevy of children, and it will be much better for her if she has no more." Another said: "Fortunately, these patients belong to a class where it would seem a blessing to free them from any more child-bearing." He might have added: "Therefore the fact that she is rendered sterile by the operation need not have great weight in determining what to do." Let me tell you a little story, and compare it with the foregoing. It is not made up:

Mrs. G. was the mother of three living children, one boy and two girls, and had lost two or three. She had worked hard for many years, for she was poor, and her husband, a man of about forty, had only recently worked himself up to a position where he was able to earn from \$3.75 to \$4.50 a day as an engraver. The woman became a sufferer from pelvic troubles. All ordinary means were tried without any good. She became very hysterical. Her husband took to drinking during the days of strikes two years ago. The doctor could do no more for her except laparotomy. She was persuaded by Dr. X. that it was the only thing left to do. She would have consented to have her head taken off in her despair, for she was simply worn out, and tired of living. Her uterine appendages were removed successfully—the doctor got them all out—and she remained in the hospital for six weeks, there being well fed and resting, while knowing that her children were taken good care of. When she again resumed her household duties some of the old pains returned. A few months later her children were taken ill with scarlet fever, and one of them with some lung trouble. The boy and one of the girls died, and the remaining child is a complete little wreck. Just a year ago the husband's mother died in Germany, leaving him a little property. Shortly after that he stopped drinking and got good work again. He is now getting on very well. The wife, not very strong, is able to employ servant-girls and can rest more. She still has some pain, but the great black cloud upon her life is now the consciousness that she can not have another child, and she is only a little over thirty years old and in such changed circumstances. She bewails the day when she consented to the operation.

I have out of my own experience material at command for more stories of similar character.

Now, it won't do to close without trying to give the impression that I know a good deal about curing bad cases without operating, but I will cite only one case out of a number:

Mrs. O. came to me about one year and a half ago with constant pain in her left side and presenting symptoms of well-marked hystero-epilepsy. She had many attacks in my office, one of them lasting nearly six hours, and to get her home that

time I put her under chloroform and carried her into a carriage, her husband assisting me, and kept her anesthetized until she was put to bed in her home in 110th Street. She suffered tortures at her menstrual periods, and on the last day of the flow she was always seized with uncontrollable vomiting, which never stopped until her doctor gave her large hypodermic injections of morphine. This had been going on for five or six years. She always fought against the vomiting for fear of the after-effects of the morphine, and once insisted upon leaving it alone until it should stop of itself; but she fell into a state of collapse after two weeks' vomiting, from which she rallied with difficulty. A short time before she came to me I had done an operation—not laparotomy—upon a friend of hers which proved a blessing, and, since she had been told that nothing more but an operation could be done for her, she at last made up her mind to have it done, and came to me for that purpose.

I could learn nothing definite concerning the nature of her previous treatment, so I went to work without taking out the ovaries. The galvanic current, carefully regulated according to the daily changes in her bodily resistance, played the most important part in the treatment. She has now not vomited nor had an attack for six or seven months, and comes only once a week, or when she feels "a little peculiar." She has at times slight pains where they used to be so severe, but not enough to mind them, she says. In her pelvis I found at first on the left side two very distinct tumors, of about the size of my thumb, and on the right side one single larger mass of ill-defined outlines. The latter is much smaller than it was, and the others are a little diminished in size, though not very much, and can easily be palpated.

This case is by no means unique in my own experience.

A young lady is now under my treatment for a very grave form of dysmenorrhœa and constant pelvic distress. She has had a number of physicians for more than seven years, was for three months in the private hospital of one of the leading gynecologists of our country, and is no better to-day than seven years ago. She is bright, handsome, fitful, and headstrong. Regarding her history superficially, one would say that indeed everything had been done for her. I asked her one day if she had ever used hot douches. "Used them?" she said. "Don't talk to me about douches; it was my only diet at the hospital, and I had many hearty meals a day." She has been under my treatment now for about two months, and is no better. I have done all I could for her, but she has not done all nor half I have told her to do. If she were willing to carry out my orders, I might benefit her materially, or else feel compelled in time to recommend laparotomy. I say compelled to, for the mind, right in this matter, says: "I am afraid I shall be compelled, after all, to perform the operation." It is my endeavor to cultivate such a mind, and not one that says: "Aha, I guess here is a chance for a laparotomy."

We have a number of conditions where this operation is not only justifiable, but demanded. Large ovarian cysts are one of these. Fibroid tumors, when they cause a great deal of suffering or threaten life by flooding, are another. So is the rupture of cysts into the abdominal cavity with dangerous and unmistakable symptoms. Hæmorrhages likewise, from whatever cause, if clearly diagnosed or even feared, demand the operation, etc.

I will add only two more of the many even important

things left untouched in this my hasty production, and they are :

Heart and Kidney Diseases as Contra-indications for Laparotomy.—A heart will have to behave very badly indeed to deter me from an operation otherwise indicated or demanded. The choice of anæsthetic would here be of importance. I have seen some very poor hearts pass through even prolonged operations very well indeed.

Regarding kidney diseases, I will state in very few words how I stand. The gravity of the conditions calling for the operation must be put on one side of the balance, and on the other the extent of the renal disease present, and the weightiest must decide. I have seen patients with extensive kidney disease rally well from severe operations. On the other hand, I have seen them die in uræmic convulsions or coma within a week after minor operations when renal disease was not even suspected in them before the operation. As you know, some forms of kidney disease, even when extensive, may give no albumin in the urine.

But my paper is already too long for its contents, and, with a renewed apology for the meagerness of my hasty effort, I will close with the request that you in your discussion fill up some of the many gaps I have left.

INTUBATION OF THE LARYNX.

By E. FLETCHER INGALS, M. D.,

CHICAGO.

(Concluded from page 15.)

THERE is an old and, it is said, very efficient treatment for acute laryngo-tracheitis and bronchitis, which consists of simply withholding all fluids for forty-eight hours. This gives color to the hypothesis that, after intubation for diphtheritic cases, this method not only avoids the danger of exciting inflammation, but actually aids in curing that which already exists.

Most valuable and interesting articles on this subject have been written by Dr. O'Dwyer, Dr. Waxham, Dr. Northrup, Dr. Hance, Dr. Caillé, and others. From these and from personal letters which these gentlemen have kindly furnished me, I have obtained reports of over five hundred cases. Briefly, these reports are as follows :

Dr. S. A. McWilliams, of Chicago, reports three cases, one of them in a child under three years of age—all of diphtheritic croup. The tube was worn in them from one half to forty-eight hours. There were no recoveries. The immediate effect of intubation was excellent. In two cases the tube was coughed out, and the parents refused to have it reintroduced.

Dr. William Cheatham, of Louisville, Ky., writes me that he has had fifteen cases of intubation, ten of them in patients under three years of age. Tubes were worn from eighteen hours to four days. There was immediate relief, except in one case. This latter patient was found pulseless; when seen, the tube was introduced, brandy was injected hypodermically, artificial respiration was resorted to, and in half an hour the child was breathing well again. It died in twenty-four hours from heart-failure. There was one recovery among his cases. The doctor says he will never do another tracheotomy for croup, and believes intubation is far better. A majority of his patients died from extension of the membrane, others from heart-failure and asthenia.

Dr. George W. Mason, of Bloomington, Ill., reports three cases, all in patients over three years of age. One case he terms diphtheritic croup, and the others membranous croup. There was relief to respiration in all. The tubes were worn from one to one hundred and twenty hours. There was one recovery. The third patient died from complication of whooping-cough and pneumonia.

Dr. Homer O. Bates, of Chicago, reports six cases, two of them in children under three years of age. All suffered from diphtheritic croup. The tube was worn from one hour in one case to four days and four hours in another. The relief was immediate. There were three recoveries. Dr. Bates believes intubation a valuable means of relief, and in proper cases the best treatment, but that it can not supplant tracheotomy in all cases. The youngest patient that recovered was eight and a half months old. This patient came near dying from diphtheritic bronchitis, but was finally relieved by the same prescription that I had given in one of my successful cases (No. 5).

Dr. F. Henrotin, of Chicago, reports nine cases, two of them in children under three years of age. These patients were suffering from croup, all but two showing more or less diphtheritic membrane in the fauces. The tube was worn from three to six days. In two cases no relief was given by the operation; in one only partial relief, and in the others there was complete relief from stenosis, and disappearance of its symptoms. He had three recoveries.

Dr. J. L. Mulfinger, of Chicago, reports two cases, one patient being eight, the other five years old, both suffering from diphtheria. One had relief almost at once, and recovered. The other had very little relief, even temporarily, and died in about twelve hours. In the one that recovered there was complete loss of voice for seven days after the tube was removed, and more or less aphonia continued for two months.

Dr. Hopkins, of Buffalo, reported six cases in which impending death was overcome, and life saved by intubation.

Dr. Hailes, of Albany, N. Y., reported two cases in which intubation was successfully practiced.

Dr. John B. Wheeler, of Burlington, Vt., reports the case of a child three and a half years old. There was improvement at once, but the tube became plugged with a large piece of membrane, and the child choked and died in about two minutes. The tube was retained about fourteen hours.

Dr. E. D. Ferguson, of Troy, N. Y., reports one case, in a child three years old, suffering from diphtheria. When the obturator was withdrawn, respiration was stopped completely, and tracheotomy became necessary. The child died in about thirty hours. False membrane had probably occluded the lower end of the tube.

Dr. Charles Denison, of Denver, Col., reports one case of diphtheritic laryngitis in a child six years old. On introduction, the tube displaced some membrane, and the tube and membrane were immediately ejected, and it was not necessary to reintroduce it. The child was laboring for breath, with its lips purple and its face suffused before the intubation.

Dr. F. Tipton, of Selma, Ala., reports one case in a child four years old suffering from diphtheria. The tube remained in position fourteen days. There was immediate relief, and the child recovered. The same physician reports that one tube went into the stomach, but was passed in ten days without ill effects.

Dr. L. H. Dunning, of South Bend, Ind., reports seven cases, four of them in children under three years of age. Two of them were for diphtheritic croup, five for pseudo membranous croup. The tube was worn from twelve to one hundred and twelve hours. In five cases there was almost immediate relief. In one case there was relief after reintroduction of the tube. In another case the patient had a violent struggle after the tube was

placed, and finally, when death seemed imminent, a pseudo-membranous cast of the larynx and trachea, one inch and a half long, was forcibly ejected from the mouth. This patient made a speedy recovery. The doctor is enthusiastically in favor of the operation, which he thinks simpler than catheterization of the bladder.

Dr. Irwin H. Hance, of New York, informs me that he has had six cases of intubation, all in children under three years of age, four cases of diphtheria, one of which was complicated with scarlet fever, one case of diphtheritic laryngitis, one case of catarrhal croup with extensive bronchitis. The tube was worn from six hours to five days and a quarter. This latter patient recovered; the remaining five died. In five cases there was immediate relief; in one case no relief until after laryngotomy had been performed. In this last-named case there was no relief while the tube was in place. It was placed in the larynx five times, and remained once for twenty-five minutes, without diminution of the severity of the dyspnoea, which was more severe while the tube was *in situ*.

Dr. Montgomery, of Philadelphia, reports thirteen cases. In no case did death occur in less than twenty-four hours, and the relief from dyspnoea was prompt in every case. Six of his patients recovered. The youngest child, eighteen months old, died on the fifth day in convulsions. The youngest child to recover was two years old. In one case the tube was coughed up and swallowed. It was passed *per anum* two days later with no ill effects.

Dr. A. E. Hoadley, of Chicago, reports nine cases, two of them in children under three years of age. All had diphtheria. The tube was worn from twelve hours to four days. The operation afforded complete relief from the difficult breathing, but there were no recoveries. One of the patients died from pneumonia, one from extension of the membrane into the finer tubes, and seven from the constitutional effects of the disease. He prefers the deep position of the tube.

Dr. J. Tascher, of Chicago, reports eleven cases, three of them in children under three years of age. The tube was worn from eight to seventy-two hours. He says there was immediate relief in every case. He had four recoveries. Four of the deaths were from broncho-pneumonia, one from occlusion of the tube by a large piece of membrane, two from blood poisoning. On six of the patients he used the short tube with small head, already described, and of these three recovered. He states that none of these six patients had much difficulty in swallowing.

Dr. D. O'Shea, of Chicago, reports thirty-seven cases, eight of them in children under three years of age. These patients had diphtheritic laryngitis. The tube was worn for periods varying from six hours to eleven days. He reports fourteen recoveries. In two cases patients had spasmodic action of the larynx after the tube was coughed out, and died in a few minutes.

Dr. A. B. Strong, of Chicago, reports thirty-one cases, eight in children under three years of age. All these had membranous obstruction of the larynx. The tube was worn from a few hours to seven days. The patients had immediate relief in every instance. There was one recovery. The remainder died the second or third day, usually from bronchitis. He objects to the operation for the reason that patients can not eat with the tube in position.

Dr. F. C. Schaefer, of Chicago, reports four cases. Two of the patients were under three years of age. The tube was worn from one hour to two days. All had diphtheria. There was great relief in all cases except the last one, in which a short tube was used. This child had pneumonia at the time, and there was but slight relief. He had no recoveries. In one case

tracheotomy was performed twenty-four hours after intubation, and the child lived thirty hours after the operation.

Dr. A. Caillé, of New York, writes me that he has operated in twelve cases, seven of them in children under three years of age. Seven of these had pharyngeal diphtheria with laryngeal stenosis, four had true membranous laryngitis, and one had urgent stenosis of five days' standing. The tube was worn from four hours to fourteen days. The result was very satisfactory in every case. He had five recoveries. The doctor says he finds that solid food chopped fine and moistened is swallowed fairly well. In addition he gives ice, and stimulates *per rectum*. He gives mercury through the cutis by means of lanolin. He has done tracheotomy twenty-one times with only five recoveries, and says that in the majority of cases he shall intubate. In certain cases of septic diphtheria with stenosis, where proper and sufficient nourishment and stimulation were a *sine qua non*, he might prefer tracheotomy. Recently he has been in the habit of removing the tube after twelve, twenty-four, or thirty-six hours, if the patient does not get enough nourishment, and then, after giving food, medicine, or stimulants by the mouth, he re-introduces it if necessary, repeating this process several times as needed. He gives finely divided solid food moistened with water and no liquids, and says his results have been better since he has followed this plan.

Dr. C. E. Denhard, of New York, writes me that he has operated on twenty-four patients with diphtheria, seventeen of them under three years of age. The tube was worn from two to eleven days. In every instance there was immediate relief. There were ten recoveries. He says that out of thirty-four cases of tracheotomy he had fifteen recoveries. All who recovered were over three years of age, excepting two, aged two and two and a half respectively.

Dr. W. P. Northrup, of New York, writes me that he has operated on thirty patients with six recoveries. Twelve of his patients were under three years of age. The tube was worn from two hours to seven days. In every case but one there was effectual prompt relief. In that exceptional case the patient died two hours after the intubation from extension of the diphtheritic process. All the patients had albuminuria and diphtheria of the pharynx. Two died from heart failure while apparently doing well. He has never had the slightest accident attributable to the tube, but has found, in the course of his autopsies at the asylum, two ulcers at the lower end of the tube where it rubbed against the anterior surface of the trachea; but he is uncertain whether or not there were defects in the tube to account for the irritation.

Dr. Northrup says his predecessor put a tube into the stomach by mistake. It passed in fifty-two hours unaided and without symptoms.

Dr. Joseph O'Dwyer informs me by letter that he has operated in one hundred and thirty-seven cases of croup since the beginning of his experiments in 1880. Of these he reports twenty-seven recoveries; but he adds that a large number of them were experimental cases before the instruments had been perfected. The average time during which the tube was worn in eighteen cases of recovery was four days and twenty-two hours.

Dr. F. E. Waxham, of Chicago, in addition to the eighty-three cases already reported with twenty-three recoveries, tells me that he has had forty-eight additional cases with eleven recoveries, making one hundred and thirty-one cases with thirty-four recoveries. The youngest child to recover was nine months of age, the oldest nine years. He believes the percentage of recoveries under three years better than after tracheotomy, but for patients over three years the percentage after tracheotomy seems a little better than after intubation. He adds that all the

cases operated on were desperate, many of the patients being moribund at the time, and that in no case was the tube introduced until the dyspnoea had become urgent.

Thus, altogether, I have reports of 514 cases, in 134 of which, or $26\frac{7}{100}$ per cent., the patients have recovered. Of these, many were under three years of age, and a number of them recovered. Dr. Waxham states that of fifty-two patients under three years of age, 25 per cent. had recovered. This is certainly a remarkably good showing, for of children under four years in whom tracheotomy has been done for diphtheritic laryngitis, the statements of different authors, though varying widely, seem to prove that not more than 15 or 20 per cent. recover. The statistics of tracheotomy in the same disease for all ages show that from 25 to 40 per cent. recover, but very great disparity will be noted in the results of individual operators. That this disparity is partially due to the operation itself is possibly true, though this I believe is the least of the factors. Much, however, does depend on the judgment of the operator in determining the time for the operation, and on his personal influence in securing the consent of the parents early; much on the amount of care exercised by him in operating only on patients who are likely to recover, and on the subsequent care of the patient; but, most of all, the results will be modified by the epidemic influences and immediate surroundings of the case. It has been found that under the same circumstances as to operator, general surroundings, and treatment, the death-rate will vary greatly in different epidemics.

The same might be said of intubation of the larynx; but in estimating the value of the new procedure we must not forget that, in probably less than 10 per cent. of the cases that have been treated by it, it would have been impossible to obtain the consent of the parents to tracheotomy, and therefore most of those that have recovered must have perished but for the new method.

Remembering that in the fatal cases many have died of bronchitis or pneumonia, which may have been caused by foreign substances in the air-passages, and considering the satisfactory results in the few cases in which fluids have been withheld while the tube was in the larynx, I feel confident that the percentage of recoveries from this method will be much greater when more care is exercised in this respect.

When medicines fail to relieve pseudo-membranous laryngitis, no time should be lost in providing for the free entrance of air, and for this purpose either intubation of the larynx or tracheotomy should be resorted to. The former may be done more quickly and safely and with less shock to the patient, and with less objection from friends; therefore it should be tried first, unless there is serious obstruction in the fauces or trachea; but the operator should always be prepared to open the trachea in case loosened membrane should be forced down by the laryngeal tube. Tracheotomy should also be practiced in cases where the laryngeal tube from any cause fails to relieve the dyspnoea, unless we have sufficient reason to believe that this operation would also fail. In cases where the operator believes that false membrane is loose in the trachea, no time should be wasted by attempting to remove it with a forceps, for, though this

attempt may occasionally be successful, it is much more likely to fail, and then a death will result which might have been averted by tracheotomy. If, however, it is thought best to introduce a forceps into the trachea, Mackenzie's long laryngeal forceps opening antero-posteriorly will be found the best.

While intubation can not always take the place of tracheotomy, it has much to recommend it in the majority of cases. In conclusion, I wish to state again what has already been said:

1. Intubation may be quickly and easily performed, and with but little danger.
 2. Friends readily consent to the procedure.
 3. There is no necessity of tedious after-treatment, as the tube is kept clear by the respiratory efforts.
 4. The results so far are practically as good as those of tracheotomy at all ages, and apparently better in very young children.
 5. To secure the best results, great care must be taken to prevent the entrance of foreign substances into the trachea.
 6. At present, with O'Dwyer's tubes, the most successful plan is to absolutely prohibit the deglutition of fluids while the tube remains in the larynx. Small bits of ice may be sucked to allay thirst; soft solids may be swallowed, and fluids may, if necessary, be supplied by enemata, or the tube may be removed to feed the patient, and then be re-introduced.
 7. Tubes with smaller heads, designed to rest on the vocal cords, have not yet been used sufficiently often to enable us to speak positively about them. If experience proves that they do not often slip into the trachea, and that they do not injure the vocal cords, they will be especially useful, for they will nearly overcome the difficulty in deglutition, and patients wearing them may eat and drink at pleasure, excepting when paralysis or some other result of the disease prevents closure of the epiglottis.
 8. Medical treatment should be carefully attended to after intubation, and we must spare no effort to prevent extension of the disease to the bronchial tubes, or to relieve the dyspnoea which it occasions. I apprehend that successful after-treatment depends largely upon the judicious and timely use of suitable expectorants and respiratory and cardiac stimulants.
 9. Though short tubes may be used with good results in some cases, the danger of their becoming filled with pseudo-membrane is so great as to render long tubes preferable.
 10. Intubation may and should be practiced early, and it does not preclude subsequent tracheotomy.
 11. For serious cases of spasmodic croup, and for oedema of the glottis, this will prove a most useful procedure. Lastly,
 12. For the treatment of chronic laryngeal stenosis this method will, doubtless, be of value.
- Considering what has already been accomplished, we must acknowledge our debt of gratitude to Dr. O'Dwyer for perseverance in perfecting this operation, and for demonstrating its practicability, and we must thank Dr. Wax-

ham and others for their enthusiastic employment of it, which has led so many physicians to test its merits.

64 STATE STREET, CHICAGO.

Correspondence.

LETTER FROM VIENNA.

A New Theory of Respiration.—Enucleation of the Astragalus in Cases of Club-foot.—The Influence of Irritation of the Fifth Nerve on the Tactile and Temperature Senses of the Skin of the Face.—The Health of Professor Billroth.—The Tscheck Faculty of Prague.

VIENNA, June 19, 1887.

At a recent meeting of the Imperial-Royal Society of Physicians, Professor von Fleschl propounded a new theory of respiration, of which I will give the chief features. He had sought to ascertain the utility of the heart-beat. It would be most unreasonable, he said, to have such a motor force as that of the heart simply to drive the blood mechanically into the vascular system—that work could be much better done by a gradually increasing *vis a tergo*, and the heart-beat was dangerous to life by the consequent variations in the blood-pressure. Why did so many persons die of apoplexy? Because of the great oscillations of the blood-pressure caused by the action of the heart. The heart-beat must, therefore, have another purpose than the merely mechanical act of keeping up the circulation. Referring to the familiar fact of the sudden setting free of chemical constituents as the effect of concussion, the speaker remarked that he had shown on a previous occasion that it was the beat of the heart that set carbonic acid free in the right ventricle. Now, oxyhæmoglobin was of such a stable constitution that the affinity of the tissues for oxygen was too feeble to enable them to withdraw it from the combination. But the blood, charged with oxyhæmoglobin, was subjected to energetic agitation in the left ventricle, and the oxygen was set free in the same way that carbonic acid was set free by the action of the right ventricle; the blood of the left ventricle no longer contained oxyhæmoglobin, but free oxygen. In the first volume of his "Archiv" Pflügge had discussed the mechanical influence to which the blood was subjected in the heart, and had described the agitation which it sustained there, but he had not emphasized this phase of it, and had considered the change of surface as the chief feature. The speaker remarked that it would be a mistake to suppose that the blood that came out by the aorta was the same that had been carried to the heart by the pulmonary veins. Both the hæmoglobin and the tissues had a certain affinity for oxygen, and the purpose of the heart beat was to settle the matter in favor of the tissues. To sustain his theory, the speaker mentioned the following facts: The oxygen could not be set free from a solution of oxyhæmoglobin, at a temperature of from 0° to 10° Celsius, unless the solution was shaken energetically; agitation with a spoon was not sufficient, but it must be subjected to repeated and decided shocks. Pflügge had known this fact, but he had not given it the correct interpretation. Approximately, one third of the whole weight of the liver consisted of blood, the rest being parenchyma. Why, with the organ inundated with blood to this extent, was the hepatic artery so small in comparison with the size of the portal vein? Why did the tissue of the liver become necrosed when the hepatic artery was tied? These matters were explained by the speaker's theory. The blood of the hepatic artery contained free oxygen, whereas the oxygen of the blood of the portal vein, although it surpassed the other many

times in quantity, was so combined with hæmoglobin that it could be of no use to the liver. It was known from the experiments of Claude Bernard, Stricker, and Albert that the blood of the left ventricle was cooler than that of the right ventricle by some tenths of a degree. This had been explained by the suggestion that the blood circulating through the lungs lost a part of its heat by evaporation and by contact with the inspired air. Heidenhain, however, had shown that this theory was not correct. He had caused animals to inhale air that had previously been heated and supersaturated with aqueous vapor, but nevertheless there was a difference in the temperature of the blood in the two ventricles. The speaker's theory gave the key to the true explanation. It was known that heat was evolved in every instance of oxygenation. In the lungs the blood still held its third part of oxygen in combination, and it was for this reason that it was warmer than the blood of the right ventricle. As to the left ventricle, cooling was due to the freeing of oxygen from its combination. In the aorta no considerable reoxygenation took place, for the blood coursing through that vessel still felt the force of the cardiac agitation, and it was interesting to note that the blood there was still cooler, by two tenths of a degree, than that of the left ventricle. The speaker illustrated his theory with several further facts, and said that he would give the full details in a work to be published in October.

At the same meeting, Docent Dr. Lorenz presented a case of congenital bilateral club-foot, in a boy eleven years old, in which he had enucleated the astragalus with a good result. Tenotomy had been performed on both sides, fourteen days after birth, but a return of the deformity occurred at the end of four years, and tenotomy was performed for the second time. After some time the trouble again recurred, and there was inversion of the foot to a high degree, so that the boy could not walk, and had intense pains on the slightest attempt at taking a step. For this reason, last autumn, the speaker performed *redressement forcé* on both feet, but obtained a favorable result only with the left foot. After long and unsuccessful treatment of the right foot, he decided to remove the astragalus. The result of the operation had been very favorable; the patient was now able to walk with security, and was free from pain. The speaker showed two astragali that he had removed in another case of congenital bilateral club-foot. The patient, a boy seven years old, was cured, but had as yet made no attempts to walk.

Dr. Urbantschitsch, professor of otiatrics at the Vienna Poliklinik, had very often, in cases of inflammation of the middle ear, observed a diminution of the sensibility of the skin of the corresponding side of the face, as well as changes in the temperature sense; and investigation had shown that these conditions disappeared with the subsidence of the otitis media, and were therefore to be attributed to the ear affection. From analogous observations that he had made on the sensory nerves, he had thought it very probable from the beginning that the changes alluded to were of a reflex character, and this he had been able to confirm experimentally, for he had found that a transitory irritation of the sensory nerves of the middle ear, and also of the territory supplied by the fifth, was followed by an increase of the sense of touch and that of temperature, lasting for some seconds only.

Professor Billroth has recovered from the acute pneumonia which threatened to put an end to his life, and is said to be about to leave Vienna in a few days for his wife's country residence at St. Gilgen. Dr. Pawlik, Docent in obstetrics and gynecology at Vienna, has been named an ordinary professor at the Tscheck medical faculty of Prague—i. e., the faculty which teaches in the Bohemian language.

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PASTEUR AND HIS VIENNA CRITICS.

First Article.

M. PASTEUR has written a letter to the president of the Imperial-Royal Society of Physicians of Vienna in refutation of Dr. von Frisch's pamphlet and of Professor Billroth's comments, and the letter is published in the "Gazette médicale de Paris," together with a summary of the remarks made by Dr. Ullmann and Dr. von Frisch at the meeting of June 10th, at which it was read. M. Pasteur's letter is a dignified and argumentative statement, and it displays no resentment even in that portion where mention is made of Billroth's having applied to the writer's system of anti-rabic inoculations the derisive term *fasco*. Incidental allusion is made to the unfavorable experiments of which De Renzi and Amoroso, of Naples, and Abreu, of Lisbon, have published accounts, but the writer contents himself with referring to a criticism of them by Dr. Gamaleia, of the Odessa anti-rabic laboratory, contained in the "Annales de l'Institut Pasteur" for March 25th.

M. Pasteur remarks that von Frisch's statements are so absolute as readily to seem decisive to a reader who is not well up in the matter, and that they had scarcely appeared when Billroth furnished his comments in the shape of an article which was published in the "Neue freie Presse." In that article Billroth denied the efficiency alike of the inoculations against rabies and those against anthrax in cattle and sheep, but Pasteur intimates that he depended for his data on the Berlin school, the views of which have undergone a change on further examination of the facts. Figures are then given showing the rate of mortality from anthrax in inoculated sheep during each of the last five years to have been respectively 1.08, 0.77, 0.97, 0.90, and 0.75 per cent., that of sheep not inoculated being 10 per cent.; and in inoculated cattle, 0.35, 0.35, 0.37, 0.50, and 0.28 per cent., that of cattle not inoculated being 5 per cent.

Having disposed of this side-issue, Pasteur turns his attention to von Frisch, to whom, he says, he had spoken of certain unpublished experiments of his own bearing upon the possibility of inoculating dogs with rabies after their intra-cranial inoculation with the virus of casual rabies; and had attributed prime importance to those experiments, on account of the confidence which they must inspire as to the efficiency of his method of preventing rabies, for no bite, he remarks, can be compared, as to the gravity of its consequences, to the insertion of the virus on the surface of the brain, as the latter always gives rise to the disease. Inoculation under such circumstances would furnish irrefragable proof of the virtue of his method for the prevention of rabies. To his surprise, however, von

Frisch, he found, had put forth this idea as having originated with himself. Pasteur's statement on this point is strengthened by his adding that at the same time he had made a similar suggestion to Sanderson and Horsley, of the English commission, and it is confirmed beyond doubt by his citing this passage from a report made to the Medical Society of Odessa in June, 1886: "M. Pasteur has proved that in some cases it is possible to prevent rabies even after inoculation by trephining." But Pasteur says that he would not have insisted upon this matter of priority had not von Frisch invested the test with extraordinary importance, holding it up as the only one capable of serving as the basis for a decision as to the efficiency of the prophylactic method. This Pasteur now declares it is not, but only a proof *a fortiori*, a sort of experimental *tour de force*. It is true, however, that Bardach, who reported ten successes in fifteen trials at Odessa, confirmed the exactness of Pasteur's results.

MINOR PARAGRAPHS.

A SIN OF OMISSION.

BREVITY is the soul of wit, no doubt, but we have little patience with that parsimony in the use of words which transfers the labor-saving devices of the note-book to publications intended for readers to comprehend. The offence has become so common that it is tolerated in clinical reports, but surely we have a right to look for complete expressions in the title of an article, at least; yet a contributor to the "Zeitschrift für Geburtshilfe und Gynäkologie" entitles his communication "Die Diagnose des beginnenden Carcinoms der Portio," without taking the trouble to specify what portio he means. To be sure, his meaning is apparent enough from the article, but, so far as one can learn from the title, he might refer to the portio mollis or the portio dura. If such an extreme curtailment of expressions is due to anything else than laziness, we know not what it can be. The "Dublin Journal of Medical Science" seems to be of our way of thinking, for in a society report it adds to the heading "Congenital Defect in the Ventricular Septum" the word "(Cordis)."

THE INSTRUMENTAL EXPRESSION OF RETAINED PORTIONS OF OVUM.

IN the last number of the "Maryland Medical Journal," Dr. William P. Chunn, of Baltimore, tells how he was accidentally led to learn the value of instrumental compression of the uterus in squeezing out the remnants of an ovum in cases of abortion. In the case of which he gives the history, there were indications calling for the evacuation of the uterus, and the organ was in a state of anteversion. For the purpose of correcting the displacement, in order to bring the face of the cervix into view, pressure was made upon the body of the uterus, through the anterior vaginal wall, by means of Nott's modification of Sims's depressor, and it was found that this pressure forced the organ back against the sacrum and then acted to express the retained mass. Thus the dangers of intra-uterine manipulation were avoided.

THE CHARITY HOSPITAL OF NEW ORLEANS.

IT seems to us that Dr. Joseph Jones has added materially to his many services to the profession and the community by introducing at the recent meeting of the Louisiana State Medical Society, and forcibly arguing in favor of their adoption, certain

resolutions calling upon the Legislature to repeal the law of 1885 excluding all medical students from competition for the position of resident students of the Charity Hospital, except natives and residents of Louisiana. It would be difficult to conceive of a narrower-minded policy than that which is embodied in the law referred to, and unquestionably, as was remarked by Dr. Jones, it is quite at variance with the broad spirit of the people of Louisiana. It is to be hoped that the Legislature will be influenced by this formal and deliberate expression of opinion by the society.

THE NEW CITY HEALTH COMMISSIONER.

It is our conviction that a better appointment could not have been made than that of Dr. Joseph D. Bryant to succeed the late Dr. Johnson. On several occasions we have spoken in commendation of Dr. Bryant's services as surgeon-general of the State, and it is not to be doubted that the same qualities that so eminently fit him for that position will guide his action as a commissioner on the board of health.

SUMMUM JUS SUMMA INJURIA.

THAT this old saying too often applies will hardly be denied by those who have had much to do with the law. It is suggested by the "Province médicale" as applicable to a case that lately came to trial in France. It seems that at a meeting of one of the Paris medical societies a written communication was presented in which the writer, who used a secret remedy for consumption, charged a physician of Lyons with having stolen a bottle of his nostrum from him and submitted it to analysis. The document was handed to the secretary and found its way into the report of the meeting that was published in one of the Paris journals. The Lyons gentleman, thus finding himself publicly branded as a thief, brought suit against the secret-remedy man and the publisher of the journal in which the report appeared. But the magistrate ruled that the author of the injurious statement could not be punished, inasmuch as he had not signed the paper, although he admitted having presented it. It would be interesting to know the magistrate's conception of the reason that led the defamer to hand the paper to the secretary of the society.

THE DURATION OF MENSTRUAL LIFE.

A FEW years ago, Dr. Fordyce Barker stated it as the result of his observation that, contrary to the common impression, the menopause was apt to occur early in women who had not menstruated for the first time until they had passed the usual age for the beginning of the menstrual function, and *vice versa*. This view was recently supported to a certain extent by Dr. Rouvier, professor of gynæcology at Beyrout, in a memoir on "Menstruation in the Women of Syria," presented to the Paris *Société de médecine*, brief mention of which we find in the "Union médicale." Dr. Rouvier has found that, when menstruation begins unusually early, the menopause occurs neither earlier nor later than in the generality of women.

THE BOSTON MEDICAL LIBRARY ASSOCIATION.

WE take it that a library organization that finds itself pressed for shelf-room is more to be congratulated than condoled with, especially if its lot is cast in Boston, for the people of the New England metropolis are not wont to let the grass grow under their feet when the resources of a deserving institution need strengthening, and certainly they will not do so in this instance, for the cramped state of the library, as stated in one of the reports read before the last annual meeting, is in

great measure due to the growth of the business done in the Directory for Nurses, the management of which it would be a pity to see separated from that of the library proper, with whose promoters the idea originated, and which is of personal importance to every well-to-do citizen of Boston and its environs.

A MAN WITH A HEAD OF DOG'S HAIR.

NEWSPAPER versions of the wonders of surgery are not wholly confined to New York, as some of our contemporaries seem to imagine. A recent number of the "Evening Wisconsin" gives rather more than a column of details about the case of a young man from New York who, having lost the greater part of his scalp in consequence of an accident with sulphuric acid, profited by the skill and ingenuity of a surgeon who transplanted to his head portions of the skin of two dogs, hair and all. We are glad to learn that the doctor was "paid enough for his work to keep him from want the rest of his life." Thirteen separate transplantations are said to have been performed, all but two of which were successful.

"MEDICAL CLASSICS."

THIS is the title of a new bi monthly periodical published in New York, the first number of which has reached us. It contains the Hippocratic oath in Greek, a number of passages from the "Iliad," and several disquisitions by the masters in medicine of bygone times. There are also brief and sprightly comments on current events, and we notice a commendatory allusion to our own journal, for which we have to thank the editor of our young contemporary. It is clear that the musty productions of the past can be so presented as to form entertaining reading matter.

THE GROSS MEDICAL COLLEGE.

WE have received the announcement of the first session of this institution, being the medical department of the Rocky Mountain University, of Denver, Colorado. The organization seems to be quite up to the standard of American medical colleges, and a three years' graded course is urged upon the students. Mention is made of the well-known advantages of Denver as a health resort as commending it to students whom ill health has compelled to give up their studies elsewhere. We see no reason why the new college should not at once enter upon a career of usefulness and prosperity, and we are glad to see that the memory of the late Professor Gross, a remarkably good likeness of whom adorns the cover of the announcement, is to be perpetuated in connection with so promising an undertaking.

ENGLISH AS SHE IS WROTE.

It is not uncommon to meet with very peculiar English in French publications, but it is seldom that we come across so droll an example as the following concluding sentence of an article in one of our Paris contemporaries, on the mercurial treatment of diphtheria: "Selon l'expression d'un écrivain américain, elle n'est plus alors qu'un vulgaire procédé d'embaumement (*the proceeding for embalming the body*)."

RHYMES AND A STORY BY MEDICAL MEN.

Two pleasing specimens of non-scientific writing by members of our craft have lately come to our notice. One of them, in the form of a dainty little pamphlet published in Louisville, is entitled "Medicine and Medicine-Men." It formed the anniversary address delivered before the Louisville Medical Society,

toward the close of May, by Dr. John Godfrey, of the Marine Hospital Service. Pathos and humor are so judiciously mingled in its rhymes as to make us hope that its clever author will not rest content with this single exhibition of his literary powers. The other piece is the opening article of the July number of the "Harvard Monthly," a dramatic account of "Dan. Miller's Death," by Dr. Frank Donaldson, Jr., of Baltimore, a gentleman whose compositions we have already noticed favorably. It seems to us that the insight which medical men get into the characteristics of their fellow-men ought oftener to find expression in a form fitted for popular reading.

THE FRENCH EPIDEMIC OF SUETTE MILIAIRE.

THE *snette miliaire*, *sudor anglicus*, or *sweating sickness*, which raged in England during the fifteenth and sixteenth centuries, and afterward figured only now and then and in a very mild form, seems lately to have taken on something of its old-time malignity in the French department of the Vienne and the adjacent departments of the Haute-Vienne, the Charente, and the Indre. What appears to be a novel feature of the outbreak is that in many cases the initial symptoms are those of measles, and the "Gazette hebdomadaire de médecine et de chirurgie" states that, in one locality, the children are attacked with measles, while persons over fifteen years of age are taken with the *snette*. At the time the account was prepared there had been five or six thousand cases, and the general mortality had been a fraction over nine per cent., but in certain localities the proportion of deaths had been greatly in excess of this rate, instances being given in which almost all the members of large families had fallen victims to the disease.

ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Fourth Division of the Health Department for the following statement of cases and deaths reported during the two weeks ending July 5, 1887:

DISEASES.	Week ending June 28.		Week ending July 5.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever.....	11	5	6	4
Scarlet fever.....	58	12	27	9
Cerebro-spinal meningitis....	4	3	1	1
Measles.....	30	5	19	3
Diphtheria.....	124	53	107	48
Small-pox.....	1	1	4	0

The Medical Society of the County of Clinton, N. Y., will hold its semi-annual meeting on Tuesday, the 12th inst. For the same day an excursion to Maquam Bay has been arranged, to which all physicians are invited, together with their families and friends. The steamer will leave the Plattsburgh pier at 11.30 A. M., and dinner will be served at the hotel at Maquam at 1.30 P. M. After a cruise about the lake, the steamer will reach Plattsburgh at 7 P. M., in time for the outgoing evening trains. Tickets for the excursion and for the dinner, at 50 cents each, may be obtained on board the steamer.

The Health of Boston.—During the week ending Saturday, July 2d, the following numbers of cases and deaths from infectious diseases were reported to the Board of Health: Diphtheria, 10 cases and 4 deaths; scarlet fever, 11 cases and 1 death; typhoid fever, 11 cases and 1 death; measles, 86 cases and 8 deaths. There were also 29 deaths from consumption,

3 from pneumonia, 4 from whooping-cough, 14 from heart disease, and 3 from bronchitis. The total number of deaths was 173, against 165 in the corresponding week last year.

Society Meetings for the Coming Week:

MONDAY, July 11th: New York Ophthalmological Society (private); New York Medico-historical Society (private); Boston Society for Medical Improvement; Gynecological Society of Boston; Burlington, Vt., Medical and Surgical Club; Norwalk, Conn., Medical Society (private).

TUESDAY, July 12th: Medical Societies of the Counties of Chautauqua (annual), Clinton (semi-annual—Plattsburg), Greene (quarterly), Jefferson (semi-annual—Watertown), Madison (annual), Oneida (annual—Utica), Ontario (annual—Canandaigua), Schuyler (semi-annual), Tioga (semi-annual—Owego), and Wayne (annual), N. Y.; Norfolk, Mass., District Medical Society (Hyde Park); Newark, N. J., and Trenton (private), N. J., Medical Associations.

WEDNESDAY, July 13th: Medical Society of the County of Albany, N. Y.; Tri-States Medical Association (Port Jervis, N. Y.); Franklin, Mass. (quarterly—Greenfield), Hampshire, Mass. (quarterly—Northampton), and Worcester, Mass., District (Worcester) Medical Societies.

THURSDAY, July 14th: Medical Societies of the Counties of Cayuga and Fulton (semi-annual), N. Y.

SATURDAY, July 16th: Clinical Society of the New York Post-graduate Medical School and Hospital; Miller's River, Mass., Medical Society.

Proceedings of Societies.

PHILADELPHIA COUNTY MEDICAL SOCIETY.

Meeting of June 22, 1887.

Dr. H. AUGUSTUS WILSON in the Chair.

(Continued from page 20.)

Cystic Enlargement of the Vulvo-vaginal Gland.—Dr. B. F. BAER read a paper on this subject. The case was specially interesting because of the size of the tumor and of a mistaken diagnosis which had been made.

The patient, thirty-six years of age, married, but sterile, presented herself at the Polyclinic, and stated that she had "a rupture which would not go back," although she had been kept upon her back as long as two days at a time, and had been bandaged and compressed until she could no longer endure the suffering. Truss after truss had also been adjusted, but all to no purpose. On inquiry, it was learned that, about one year before coming under observation, she noticed a small lump near the posterior commissure of the vulva, corresponding with the location of the vulvo-vaginal gland. It was painless, and gradually increased from below upward. At the time she presented herself it was as large as a duck's egg. During the first nine months of its presence it produced no symptoms, except slight inconvenience from the swelling, but about three months before coming under the speaker's notice it began to occasion difficulty on account of its size and the friction produced in walking, and from a most interesting symptom—namely, obstruction to the flow of urine. During the act of micturition the urine would flow regularly for a short time, and then it would suddenly cease, to be followed by great pain. By an effort she could again start the flow, and then it would again abruptly stop. During the last few months the tumor had so increased in size as to approach the symphysis pubis. On examination, he found an elastic tumor making compression upon the urethra, and the mechanical interference was at once explained. When the bladder became full, the effort to empty the

organ overcame the obstruction from pressure of the mass for a time, but, as soon as the straining ceased, the urethra would be suddenly closed again by the tumor. It required considerable force to displace the tumor so as to see the urethra. The tumor was not tender on pressure, and there were no signs of inflammatory action about it. There was marked fluctuation, and its size was not affected when the patient was in the recumbent posture. The inguinal canal was empty, and there was nothing in the shape or character of the tumor which would indicate that it contained intestine. The diagnosis lay between hernia and hydrocele of the labium majus, both exceedingly rare, and abscess or cystic enlargement of the vulvo-vaginal gland, although the tumor was much larger than any he had ever seen from the latter cause. He advised its removal by extirpation, because his previous experience in the treatment of this disease had taught him that radical measures were necessary. The patient entered the hospital, and an incision was made at the lower and inner surface of the tumor, the intention being to try to enucleate it entire. But the cyst was ruptured by the effort, and a yellowish fluid escaped of the consistence of thick cream, but without odor. He next passed his finger within the collapsed sac, and found that it occupied a very extended surface—from the upper portion of the labium down to the ischio-rectal space. The secreting surface or membrane was very thick. It was not likely, therefore, that any thing short of removal of the gland would effect a permanent cure.

This had been his experience with these cases, as he had said. But hæmorrhage was sometimes great, and this had caused most authors to advise simply evacuation of the fluid, and injection or packing with iodine, or some other agent, to destroy the surface. It would be remembered that the gland was in close relation with the transverse perineal artery below, and with the bulb of the vestibule at its upper extremity. When, however, the organ was diseased and hypertrophied, the blood-vessels became greatly enlarged, as during pregnancy, making this locality much more vascular. Then the gland, as the result of its increased size, extended much farther up, and became surrounded by the network of veins called the bulb of the vestibule, and there was closer contact with the vessels at the lower surface of the gland.

In pursuance of his original plan, he endeavored to separate the sac from its close attachments with the handle of the scalpel; but this he was unable to do, and was compelled to dissect it out with the edge of the knife. The extent of surface was much greater than he had anticipated, even, and the hæmorrhage very considerable; that from the arteries was controlled by ligation, but he found great difficulty in checking the venous. Hot water and compression failed, and he was finally compelled to pack the cavity with pledgets of cotton saturated with Monsel's iron, and supplement this with pressure supplied by a vaginal tampon and with a compress held in position by means of a T-bandage. The dressing was permitted to remain in position twenty-four hours (there being no untoward symptoms), when the bandage and compress were removed. He now ordered the constant application of lead-water and laudanum, which gave great comfort, as the parts were hot and somewhat swollen. Very little pain was complained of, however. The next day a part of the packing was removed, and a little more each day after—as much as came away easily. Irrigation with carbolyzed water every four hours, and the constant application of the lead-water and laudanum, constituted the after-treatment. At the end of a week the last pledget of packing came away, and in another week the patient left the hospital, the wound having almost entirely healed. He was much gratified with the rapid recovery, for he had feared that there might be extensive sloughing and granulation. The operation occurred some months ago. The patient was entirely cured.

In simple retention cysts he had succeeded in curing the case by incision and packing. In abscess of this gland, treatment of that kind would usually be sufficient. In the present case he did not know the cause. A common cause was injury from coition or from childbirth, the former most commonly. It sometimes occurred as a result of the first coition. There

was no doubt that some cases had a gonorrhœal origin, but he did not believe that this cause was so common as was often stated.

Dr. J. M. DA COSTA remembered distinctly two or three cases seen within a few months. In one case a large quantity of fluid was removed. Another case was one of chronic inflammation in the left labium. He opened it and treated it in the ordinary way, but it rapidly returned. He then thought of dissecting it out, but, fearing just what Dr. Baer had met with, tried another method of treatment, which had succeeded well in some cases. After emptying the cyst, he scraped the inside with a curette; then, with a swab, applied a strong preparation of iodine, consisting of pure iodine with iodide of potassium dissolved in glycerin. He next took two or three deep sutures, bringing the walls in close contact, and in that way succeeded in obliterating the whole sac.

Dr. J. B. DEEVER said that, with regard to the causation of these tumors of the vulvo-vaginal gland, his experience was not in accord with that of Dr. Baer. He had not found injury a common cause. The majority of cases which he had seen had apparently arisen without any special cause. He could not understand the difficulty experienced in the arrest of the hæmorrhage. He would simply pack the sac, and stitch the edges of the wound over it.

Dr. W. S. STEWART had had some experience in operating in these cases. He did not use a general anæsthetic, but preferred to employ cocaine solution. He found that cocaine, in from a five- to a ten-per-cent. solution, had an astringent effect. In a case in which he employed this in the removal of one of these glands he had expected hæmorrhage, for the arteries in this location were numerous, and the veins valveless. During the removal of the gland he had no difficulty in controlling the bleeding by applications of the solution. After the operation, the use of sutures brought the surfaces accurately together, and there was no subsequent hæmorrhage. In order to keep down inflammatory trouble, he made applications of phénol sodique.

Dr. BAER said that the arrest of hæmorrhage would not seem to be a difficult matter where the gland was of normal size, but, when the organ increased to a large size, the vessels became much larger. If Dr. Deaver had seen the efforts which he had made to check the hæmorrhage by pressure, he thought he would have agreed with him that it was difficult to control. Cocaine would not have arrested the bleeding, for it did not come from the incision, but from the vessels beneath the tumor.

Book Notices.

Transactions of the American Gynecological Society. Vol. XI, for the Year 1886. New York: D. Appleton & Co., 1887. Pp. 8-13 to 516. [Price, \$5.]

This volume compares favorably with its predecessors, and indicates that a wholesome change has come over our gynecological work; instead of inventing new operations, our foremost men in that department are now occupying themselves largely with reviewing what has been done in the past, and endeavoring to substitute system for the somewhat chaotic magnificence of a few years ago. Noteworthy examples are Dr. H. P. C. Wilson's paper, Dr. Emmet's, Dr. Engelmann's, and Dr. Dudley's. Dr. Wilson advocates posterior division of the cervix uteri for ante-flexion with dysmenorrhœa and sterility. The operation has fallen into disfavor, and, although we think

it deserved its fate, it is but right that it should have the benefit of whatever any judicious surgeon—and that Dr. Wilson certainly is—can say in its favor. Dr. Emmet's paper is a renewed expression of his views on pelvic inflammation, and the amount of thought which he has bestowed upon the subject ought to urge on others to study it more attentively, to the end that something approaching unanimity may be reached concerning it. It is by far the most important matter in gynecology, and needs all the light that can be shed on it. Dr. Busey's remarks strike us as more suggestive than anything else that was said in the discussion. The substance of them was that, in studying pelvic inflammation, we should not overlook the histological anatomy of the peritonæum and the cellular tissue, "the former being a vast chambered lymphatic sac, and the latter an enormously dilated lymphatic sac."

One of the most important questions of the day in gynecological therapeutics concerns the application of electricity, and this was treated by Dr. Engelmann in the most exhaustive of all the papers that were presented. We do not know how much it was abbreviated when read, but it did not excite the discussion and comment which it deserved. It shows a clear understanding of a complicated subject and is well worthy of study and reference. The paper on the intra-peritoneal elastic ligature, its use in laparo-myomotomy and laparo-hysterectomy, by Dr. Dudley, was also a suggestive and excellent one upon a practical question, which must soon be decided—one way or the other. The foregoing impressed us as the salient points of this volume, but it abounds in other meritorious features.

Practical Lessons in Nursing. The Nursing and Care of the Nervous and the Insane. By CHARLES K. MILLS, M. D., Professor of Diseases of the Mind and Nervous System in the Philadelphia Polyclinic and College for Graduates in Medicine, etc. Philadelphia: J. B. Lippincott Company, 1887. Pp. 8-9 to 147. [Price, \$1.]

This little book contains much information which can not fail to be appreciated by those who are interested in the care of the insane. In Chapter I the qualities of a good nurse for nervous patients, the general management of hysteria, the forms of insensibility, and the alcohol, opium, and other narcotic habits are discussed at some length. Chapter II is devoted to the consideration of massage, "movements," "muscle-beaters," and other practical subjects. The various forms of electrical appliances are discussed in Chapter III; and in the last chapter the nursing and care of the insane receive attention. To our own mind this is the least hackneyed and altogether the most useful chapter in the book. The style of the author is good, and his excellent descriptions are enhanced in value by the numerous illustrations distributed throughout the book.

Elements of Physiological Psychology: a Treatise of the Activities and Nature of the Mind, from the Physical and Experimental Point of View. By GEORGE T. LADD, Professor of Physiology in Yale University. New York: Charles Scribner's Sons, 1887. Pp. xii-696. [Price, \$4.50.]

We think that this is the first attempt which has been made in the English language to lay before the general reader a résumé of the latest views of the anatomy of the nervous system so far as they relate to mental phenomena. A number of monographs on the different subdivisions of the subject are now before the public, but many of them are not easily attainable or are in languages incomprehensible to many readers. The work is divided into three heads, "The Nervous Mechanism," "The Correlation of the Nervous Mechanism and the Mind," and "The Nature of the Mind." In the first and second divisions a sketch

is given of the gross and minute anatomy of the nervous system and of its physiology, in language easily understood by the average lay reader; and disputed points are omitted altogether or accepted only provisionally. For those who are interested in psychology and who wish to gain a superficial knowledge of the agents through which the mind communicates with the external world, this portion of the work will undoubtedly prove useful. Of the metaphysical portion of the work we do not care to speak, as it lies beyond the field of this journal. We will say, however, that in our opinion the author has committed a grave error in not entering fully into a discussion of comparative psychology—an error which weakens the force of his arguments very greatly. Many of the cuts are very poorly executed and the index is inadequate, but both these shortcomings can be remedied in future editions.

A Treatise on the Practice of Medicine, for the use of Students and Practitioners of Medicine. By ROBERTS BARTHOLOW, M. A., M. D., LL. D., Professor of Materia Medica, General Therapeutics, and Hygiene in the Jefferson Medical College of Philadelphia, etc. Sixth Edition, Revised and Enlarged. New York: D. Appleton & Co., 1886. Pp. xxvi-990. [Price, \$5.]

A new edition of Professor Bartholow's treatise having been called for every year since its first appearance, it may be said to have taken a firm hold upon the profession. The fact is primarily due to the author's happy faculty of bringing out clearly and prominently the precise points about which the average practitioner desires unmistakable statements from an authoritative source; and it is also an ample justification of the plan on which the work was originally constructed, that of making it an integral portion of a complete work on practical medicine. There is much new matter in this edition, and the whole work has been revised with evident care. It is eminently not a mere book for occasional reference, but one that the practitioner will keep within easy reach and consult continually. That it is likely to hold this position for many years to come can not be doubted.

Cyclopædia of Obstetrics and Gynecology. Vols. I, II, III, and IV: A Practical Treatise on Obstetrics. By DR. A. CHARPENTIER, Adjunct Professor at the Faculty of Medicine, Paris. Translated under the Supervision of, and with Notes and Additions by, EGBERT H. GRANDIN, M. D., Obstetric Surgeon to the New York Maternity Hospital, etc. New York: William Wood & Co., 1887. Pp. x-509 (267 wood engravings and 4 colored plates); ii-381 (45 wood engravings and 2 colored plates); ii-348 (248 wood engravings); ii-404 (191 wood engravings and 1 colored plate).

THESE four volumes, forming the opening members of a series by various authors, are a translation of M. Charpentier's very comprehensive treatise. The respective sub-titles of the volumes are: "Anatomy of the Internal and External Genitals, Menstruation and Fecundation, Pregnancy and Labor"; "The Pathology of Pregnancy"; "The Pathology of Labor, the Uses of Ergot"; and "Obstetric Operations, the Pathology of the Puerperium." The translation is clear, but in many places inelegant. The editor's notes are numerous, and as a rule they are to the point and inculcate sound practice. The external appearance of the volumes is attractive, and the print is pleasant to the eye. Most of the woodcuts are suggestive of hasty printing, but they answer the purpose reasonably well. Some of the colored plates are quite meritorious.

So far as we know, Charpentier's excellent treatise has not before been translated into English, and the purchasers of this

cyclopædia are to be congratulated on the fact that it forms a portion of the work.

Éléments de pathologie chirurgicale générale. Par F. TERRIER, professeur agrégé à la Faculté de médecine de Paris, chirurgien des hôpitaux, etc. Deuxième fascicule, Complications des lésions traumatiques. Lésions inflammatoires. Paris: Felix Alcan, 1887. Pp. 409 to 672. [Prix, 6 francs.]

In this fasciculus of the "Elements of Surgical Pathology" the author devotes a short chapter to traumatic neuralgia, and then considers the series of affections covered by the titles traumatic inflammation, traumatic fever, surgical septicæmia, purulent infection, traumatic erysipelas, hospital gangrene, and traumatic tetanus. All of these subjects are carefully and thoroughly treated of, and a well-selected bibliography of each is appended for the use of those who wish to carry their study further. The third part of the work is devoted to inflammatory lesions in general—abscess, fistula, foreign bodies, ulcers, and gangrene; and the fasciculus ends with a short chapter on the pathology of cicatrices. From this brief enumeration the general character of the book can be seen. What it will be when completed can not yet be judged, but the articles in the present volume are well worth careful study, and the book as a whole promises well for the author's effort to bring all the subjects considered fully up to date.

The Hygiene of the Vocal Organs. A Practical Hand-book for Singers and Speakers. By MORELL MACKENZIE, M. D., London, Consulting Physician to the Hospital for Diseases of the Throat, etc. London and New York: Macmillan & Co., 1886. Pp. xii-223. [Price, \$1.50.]

This work, from the pen of the best-known living author upon matters pertaining to the throat, will be read with interest by all concerned in the cultivation and care of the human voice. The author has written from the standpoint of the practical physician, and, while avoiding unnecessary technical detail, has endeavored with success to make the book a really useful guide. The field which he has chosen is one which, at present, is so replete with disputed points that the views here advanced can not fail to be studied with unusual attention, and their value fully appreciated. It should be a subject for congratulation to us, however, that through the labors of one of our own countrymen in the perfection of the art of photographing the larynx, and through the clear and positive knowledge of the physiology of the voice which is sure to be its outcome, it will not be long before matters now at issue will be definitely settled, and thus the work of the student greatly simplified.

A Manual of Minor Surgery and Bandaging for the Use of House-Surgeons, Dressers, and Junior Practitioners. By CHRISTOPHER HEATH, F. R. C. S., Surgeon to University College Hospital, London, etc. Eighth Edition. Philadelphia: P. Blakiston, Son, & Co., 1886. Pp. xvi-1 to 360. [Price, \$2.]

We note with pleasure that the merits of this little manual have prolonged its life for over a quarter of a century, and can see no reason why it should not live for ever, as it is one of the most useful works upon the subject before the profession.

GENERAL LITERARY NOTES.

AMONG recent foreign publications we note the following:

F. ALCAN, Paris.—C. Féré, "Sensations et mouvements." (2fr. 50.)

J. B. BAILLIÈRE & FILS, Paris.—T. A. Emmet, "La pratique des maladies des femmes." Transl. by A. Olivier, preface by M. Trélat. (15fr.) — J. Cyr, "Traité pratique des maladies du foie." (12fr.)

— O. Jennings, "Sur un nouveau mode de traitement de la morphomanie." (1fr. 50.) — A. Cullerre, "Nervosisme et névroses, hygiène des éternés et des névropathes." (3fr. 50.)

O. BERTHIER, Paris.—A. Veillard, "Formulaire clinique et thérapeutique pour les maladies des enfants." (4fr.)

A. COCCOZ, Paris.—Dubuc, "De l'utilité, des doses, du mode d'emploi de la cocaïne dans l'opération de la lithotritie." (0fr. 75.)

O. DOIN, Paris.—A. Brissay and J. A. Doléris, "Fragments de chirurgie et de gynécologie opératoire contemporaines." (7fr.) — J. R. Le Clerc, "L'angine de poitrine hystérique." (3fr.) — E. Toussaint, "Hygiène de l'enfant en nourrice et au sevrage." (1fr. 50.) — L. Danion, "Traitement des affections articulaires par l'électricité, leur pathogénie." (5fr.) — R. Lefour, "De la constriction métallique appliquée à la rhachiotomie." (3fr. 50.) — E. Callamand, "Du rôle de l'eau dans la nutrition." (3fr.)

Reports on the Progress of Medicine.

OPHTHALMOLOGY.

By CHARLES STEDMAN BULL, M.D.

Cataract Produced by Sounds or Noises.—Stein ("Otbl. f. prakt. Augenh.") has been experimenting upon guinea-pigs with a view to the production of opacities in the lens by the repetition of sudden and continuous sounds. The eyes were previously examined carefully, and then the animals were placed in a box on which an electrical tuning-fork was fastened. Here they were kept for a few days without the fork being caused to sound. The first experiment was made on a guinea-pig, two days old, with a tuning-fork D, with 100 vibrations. At first the animal was unruly and cried. After three or four hours the pupil became widely dilated, and after twelve hours there was seen a stellate figure on the posterior surface of the lens, near the equator, which in the next twenty-four hours gradually extended through the lens. Then the opacity began to fade slowly, and finally disappeared entirely in four or five days. The second experiment was made on an animal three days old, and with a fork of 250 vibrations. After twenty-four hours a stellate opacity appeared on the anterior surface of the lens, and two days later a similar one on the posterior surface. These disappeared subsequently, as in the first case. The third experiment was on an animal five weeks old, with a fork of 100 vibrations. In forty-eight hours dense triangular opacities appeared at the equator, which disappeared in a week. The eyes, on being enucleated, showed an anterior stellate cataract, or a posterior stellate cataract, or a posterior cortical cataract, or a combination of all three forms.

Amblyopia following Quinine Poisoning.—Mellinger ("Klin. Mtsbl. f. Augenheilk.") reports a case of this kind in a woman, aged forty-two, who had been an inmate of an insane asylum for puerperal melancholia. Twenty days after parturition she became violently feverish and delirious, and took 225 grains of quinine in the course of twenty-four hours. Two days later the amblyopia set in and rapidly increased, and when she was admitted into the asylum, one month later, she could only count fingers at one foot. There was mydriasis in both eyes, and the vessels on the discs were much reduced in caliber, though there was no demonstrable discoloration of the papillæ. One month later the patient counted fingers at a distance of ten feet, but the discs were very pale and the vessels still smaller in caliber. Three months later vision had improved to $\frac{1}{2}$, but the blood-vessels on the discs were entirely empty, and the mydriasis remained. One year later the discs were still very white and dull-looking, and the vessels excessively reduced in caliber. Vision = $\frac{1}{2}$, unimproved. There was no interference with the color sense, but the visual fields were contracted above and below.

Transplantation of the Cornea.—Adamuk (*ibid.*) regards the preservation of the neighboring portion of the sclera as the most important step in this operation, and he advises excising as much as two millimetres in width of the latter in connection with the cornea, in

order to retain as many of the nutrient vessels as possible. In his experiments he first employed the cornea of the rat. The animal was killed, and, after carefully washing out the eye and the *cul-de-sac*, the conjunctiva was dissected up from the equator, the sutures were inserted, and the whole was then reflected over upon the cornea. The cornea and the neighboring sclera were then separated from the eyeball and spread out in a one-per-cent. solution of common salt. Here it remained while the eye of the patient was prepared for the transplantation. The cases chosen for this operation were those in which the entire cornea had been transformed into a dense leucoma. Before the trephine was used the conjunctiva was dissected up all round for a breadth of 2 or 3 mm., and the necessary sutures were introduced. The trephine was then applied and a piece of the opaque cornea removed. The rat's cornea was then immediately applied in such manner that the sutures were placed opposite each other, and they were then immediately tied. A bandage was now applied, and this was not changed till the third day. Three cases were thus treated, but in all of them the transplanted cornea sloughed. Adamuk then determined to resort to fowls' eyes. The operation was done in the same manner, except that the ossification of the sclera in the vicinity of the cornea in fowls' eyes required the removal of a larger width of sclera than was really necessary. Out of five cases operated upon in this manner three proved successful. In two or three weeks after the operation the disintegration and rejection of particles of ossified sclera were observed as an independent process. The transparency of the transplanted cornea remained intact in all three cases.

Paquelin's Cautey in Ophthalmic Surgery.—Galezowski ("Rec. d'ophthal.") recommends the use of Paquelin's cautey in the treatment of trichiasis and organic entropion, in sloughing ulcers of the cornea, in malignant tumors of the cornea, and in tumors of the sclera. In the case of trichiasis and entropion the treatment must be directed not only against the cutaneous and muscular tissues of the lids, but also against the tarsus, in order to restore its normal position. In these cases the tarsus is deformed and retracted inward, and for this defect Galezowski recommends the cauterization of the lid parallel to its margin—of all the deep tissues, including skin, muscular tissue, and tarsus. This cauterization causes a restoration of the normal position of the tarsus, and thus completely and permanently corrects the trichiasis and entropion. He regards this as the best method of treating these cases.

Bilateral Congenital Coloboma of the Lids and Iris.—Schiesse-Genuseus ("Klin. Mntsb. f. Augenh.") reports a very interesting case of this kind in a male child aged seven weeks. No similar anomaly had ever been observed in any branch of the family. In the upper lid of each eye there was a coloboma which extended from the punctum lacrymale to the middle of the edge of the lid. On the right side there was a dacryocystitis, with a moderate amount of purulent secretion. The cornea of the right eye was small and horizontally oval, and on the nasal margin was a small tumor, as large as the lens, reddish-white in color, which extended over upon the cornea. On the superior corneal margin there was a similar smaller growth. The coloboma of the iris was in the supero-nasal quadrant, and was complete. In the left eye there was a catarrhal conjunctivitis, with a coloboma of the upper lid of about the same extent as in the right eye. On the nasal margin of the cornea there was a similar globular tumor, extending over upon the cornea, pale-red in color, and on the upper margin of the cornea a similar smaller tumor. The cornea was cloudy throughout. All these four tumors were covered with epidermis. There was a dacryocystitis with profuse discharge on the left side also. The coloboma of the iris in the left eye was small and ill-defined, and the entire iris-tissue seemed to be drawn upward. In the field of the pupil were three small fibers extending upward from the lower pupillary margin. The lenses were transparent, the eyes were myopic, and there was no coloboma of the chorioid. The fundus of the left eye, owing to the cloudiness of the cornea, could not be seen. The normal margins of the lids were provided with cilia, but there were none on the edges of the colobomata, and the skin here passed directly into the mucous membrane. There was no upper lacrymal punctum visible in the left eye. The nose was deformed, both upper and lower portions being, with the vomer, thrust forward like a proboscis. The alae of the nose showed deep fissures

running from below and within, upward and outward. There was a bilateral fissure in the upper lip, also a broad fissure running the entire length of the hard palate.

The Treatment of Prolapse of the Iris occurring in Ulcer of the Cornea.—Gama Pinto (*ibid.*) believes it possible so to cut off a recently prolapsed iris that anterior synechiae will be prevented. He is opposed to the use of iodoform as a dressing in these cases, as the crystals may mechanically prevent or retard the closure of the perforation. The larger the latter is, the slower is the healing, as well as the consolidation of the cicatrix. This, he thinks, may be facilitated and hastened by covering the hole in the cornea with some living tissue, and he has been employing for this purpose a conjunctival flap without a pedicle. He reports in detail three cases in which this method was successfully carried out, and with most satisfactory results. The resulting opacity is much smaller than the leucoma which results from the ordinary method of treatment.

The Operative Treatment of Basedow's Disease.—Bobone ("Ann. d'oculist.") calls attention to the case, reported by Dr. Hack, of Freiburg, of a young girl who had bilateral exophthalmic goitre, with hypertrophy of the mucous membrane of the middle and inferior turbinated bones. Cauterization of the right nasal cavity caused a disappearance of the exophthalmia of the right side, and the same occurred on the left side, when the left nasal cavity was cauterized. After repeated cauterizations there was a progressive disappearance of the cardiac phenomena, with a diminution in the volume of the thyroid body. Bobone reports a very similar case occurring at the clinic of Dr. Chiari in Vienna. In explaining these cases he believes that the chronic affection of the nasal cavities kept up a permanent irritation of the ends of the sympathetic nerve in the nasal mucous membrane. Hence, in all cases of exophthalmic goitre the nose should be carefully examined.

The Relations between the Curvature of the Cornea, the Circumference of the Head, and the Stature.—Bourgeois and Tscherning's examinations (*ibid.*) were made by measuring the stature by the regulation fathom. Then the circumference of the head was measured by placing a metrical leather band at the level of the external occipital protuberance and bringing it round in front just above the eyebrows. Then the visual acuity was measured without glasses, and all cases were noted in which this was less than $\frac{5}{6}$. Finally, the radius of curvature of the cornea and the corneal astigmatism were measured by means of the ophthalmometer of Javal and Schiötz. Among other interesting observations they found that there was but little difference in the curvature of the two corneae in the same person. They concluded from their researches that in general the tallest men, and especially those with large heads, had the longest radii of curvature of the cornea. This influence is, however, weak, for the variation of the mean of the corneal radius for different degrees of stature is much less than the variations which may be found among men of the same stature or of the same size of head. The exactness with which the refractive power of the ocular media agrees, in the great majority of cases, with the length of the axis of the eye merits attention. It is probable that an almost constant relation exists between the radius of the cornea and the axis of the eye.

Case of Supposed Quinine Amaurosis.—Browne ("Ophth. Rev.") reports a case of this kind in a man, aged thirty-four, who had had syphilis two years before, but he had been carefully treated and was perfectly temperate and in good health. While in China, in January, 1886, he had a severe rigor followed by pneumonia. He was said to have taken quinine in doses of thirty grains every two hours, and thought he had taken one hundred and twenty grains, when he suddenly became very deaf, a "flickering" came before his eyes, and then he suddenly became completely blind. His pupils became at this time widely dilated. At the end of six weeks he began to perceive bright sunlight, and central vision rapidly returned. Three months and a half after his loss of sight, vision in the right eye was $\frac{3}{8}$ and in the left eye $\frac{3}{8}$. Central color vision was perfect, but the field for white was very contracted. The optic discs were very pale, and the vessels extremely small and contracted. The hearing was perfect.

Hydatid Cysts of the Orbit, Brain, etc., with Unilateral Optic Neuritis.—Brailey (*ibid.*) reports an interesting case of this nature in a female child, aged two years, who was perfectly well till fourteen weeks

before her death. Then the left eyelids did not close properly during sleep, and she used to wake screaming. Eight weeks later she was admitted into Guy's Hospital. The left eye protruded downward and forward, the lids were reddened and slightly swollen, and the lateral movements of the eye were extremely limited. The optic disc was swollen and ill-defined, and the veins were large, dark, and tortuous. The liver had an irregular, nodulated surface, the nodules varying in size from that of a pea to that of a walnut. Eight days later the child had a series of convulsions, and the breathing became very irregular. Nine days later the convulsions returned, beginning on the left side, but were shortly transferred to the right side. The right eye was turned to the left and the pupil was widely dilated. The left eye was much congested and the protrusion was increased. The child died twelve hours later. The autopsy showed a cyst, of the size of a large walnut, in the upper part of the left orbit, within the superior rectus muscle, implicating it from near its origin up to its tendinous insertion. The muscular fibers expanded on the posterior part of the cyst, but farther forward all trace of them was lost, except on the extreme inner side, where they were continued as an attenuated layer up to the tendinous insertion. Cysts were found in the liver, lungs, spleen, right kidney, and left ovary, and a large one was imbedded in the posterior superior part of the right cerebrum, in the region of the angular gyrus.

Miscellany.

To Contributors and Correspondents.—*The attention of all who purpose favoring us with communications is respectfully called to the following:*

Authors of articles intended for publication under the head of "original contributions" are respectfully informed that, in accepting such articles, we always do so with the understanding that the following conditions are to be observed: (1) when a manuscript is sent to this journal, a similar manuscript or any abstract thereof must not be or have been sent to any other periodical, unless we are specially notified of the fact at the time the article is sent to us; (2) accepted articles are subject to the customary rules of editorial revision, and will be published as promptly as our other engagements will admit of—we can not engage to publish an article in any specified issue; (3) any conditions which an author wishes complied with must be distinctly stated in a communication accompanying the manuscript, and no new conditions can be considered after the manuscript has been put into the type-setters' hands. We are often constrained to decline articles which, although they may be creditable to their authors, are not suitable for publication in this journal, either because they are too long, or are loaded with tabular matter or prolix histories of cases, or deal with subjects of little interest to the medical profession at large. We can not enter into any correspondence concerning our reasons for declining an article.

All letters, whether intended for publication or not, must contain the writer's name and address, not necessarily for publication. No attention will be paid to anonymous communications. Hereafter, correspondents asking for information that we are capable of giving, and that can properly be given in this journal, will be answered by number, a private communication being previously sent to each correspondent informing him under what number the answer to his note is to be looked for. All communications not intended for publication under the author's name are treated as strictly confidential. We can not give advice to laymen as to particular cases or recommend individual practitioners.

Secretaries of medical societies will confer a favor by keeping us informed of the dates of their societies' regular meetings. Brief notifications of matters that are expected to come up at particular meetings will be inserted when they are received in time.

Newspapers and other publications containing matter which the person sending them desires to bring to our notice should be marked. Members of the profession who send us information of matters of interest

to our readers will be considered as doing them and us a favor, and, if the space at our command admits of it, we shall take pleasure in inserting the substance of such communications.

All communications intended for the editor should be addressed to him in care of the publishers.

All communications relating to the business of the journal should be addressed to the publishers.

Molluscum Fibrosum and Keloid.—In a very valuable article entitled "A Further Contribution to the Study of Molluscum Fibrosum; Ætiology; Fibromatous Infiltration and its Relation to Keloid," by Dr. R. W. Taylor, surgeon to the Charity Hospital ("Jour. of Cutaneous and Genito-urinary Diseases"), the author says: "While most authors are silent, others state the cause as unknown. Others, again, speak vaguely of scrofula and heredity, of a dyscrasia, or of a diathesis as being the underlying cause. Hebra says that, in his experience, subjects to this form of growth are mentally and physically below par, to which Hardy replies that his opinion is not at all in accord with that view. I myself have seen the affection in healthy persons with fair average intelligence. Schwimmer ('Handbuch der Hautkrankheiten,' Ziemssen) speaks of local irritation as the cause, and casually alludes to a case in which it followed a wound. The clear history of my cases proves the truth of this remark. I think, therefore, that we are now warranted in making the statement that *localized molluscum fibrosum may have its origin in traumatic causes*. The evidence presented by my cases warrants the opinion that the wounds causing these tumors must be of such severity as to damage the subcutaneous connective-tissue layers.

"Besides keloid, there is a rare form of connective-tissue infiltration of the skin which presents clearly marked characters. It consists of a more or less diffuse patch of skin thickened in its entirety, and seemingly without involvement of the subcutaneous tissue. To the eye it is of normal hue or perhaps slightly pinkish, not as deep, however, in color or as glossy as keloid. The surface is ridged, undulating, as if the condensation of the skin had thrown it into a mass of slight waves. At the periphery of the patch, which is of more recent origin, the tendency to slight elevation is greater than in its center; in no place, however, is the salience peculiar to keloid to be observed. The patches are sharply margined, and they grow chiefly in their longitudinal direction from the whole margin, and there is nothing to be observed in their increase akin to the claw-like processes of keloid. In point of slowness of growth these fibromatous patches resemble keloid; but they differ from that affection in never undergoing spontaneous involution, which is somewhat infrequently observed in keloid. While keloid is frequently the seat of pain and hyperæsthesia, these patches seem to be indolent and painless, though Mr. Hutchinson says that the patches upon the girl were occasionally the seat of pain and itching. In my case there was no disturbance of sensation. These fibromatous patches, like keloid, show no tendency to malignancy, nor do they, like morphea and scleroderma, undergo contraction and throw the skin into ridges and folds. They seem to show a predilection to development in the regions most commonly the seat of keloid, the sternal and the supraclavicular. While in general keloid follows as a result of superficial wounds of the skin, such as scratches, burns and blisters, actual erythema and sunburn, and upon the scars of leech-bites, small-pox, acne, herpes zoster (Jackson), syphilitic ulcers, etc., the fibromatous patches result from deep-seated injury to the skin and subcutaneous connective tissue. Finally, unlike keloid, which upon extirpation almost invariably returns *in situ*, the observations of Mr. Hutchinson show that in the fibromatous tumors there is no tendency to recurrence after removal. This fact is of great importance in prognosis.

"My studies lead me to think that of all skin affections keloid is the one least likely to vary from the type-form. Confusion exists in the minds of many regarding it, for the reason that under the term keloid every form of hypertrophic cicatrix is included. While there may be a histological similarity between the two forms of new growth, clinically they are distinct. In my judgment, the term keloid should be limited, as Alibert intended it should be, to the peculiar pinkish elevated patches of new growth, from the margins of which claw-like pro-

cesses jut out, presenting the semblance of a crab. In hypertrophic cicatrices there is little or none of this tendency to claw-like outshoots, nor indeed to peripheral extension, though in color they may resemble more or less closely keloid. The division of this group, which I think most rational and borne out by clinical observation, is as follows: First, keloid in the limited sense indicated; second, hypertrophic cicatrices; and, third, patches of fibromatous infiltration."

Collapse following Strapping of the Testicles.—At a recent meeting of the South Indian Branch of the British Medical Association ("Indian Med. Gazette"), Dr. J. Smyth gave the following account of a case: The patient, a strong young soldier, was admitted into the Station Hospital, Madras. On examination, he was found to have two small hydroceles. The external rings were healthy. The left and larger hydrocele was of about the size of a hen's egg. It had been tapped some time ago and had now refilled. The right had not been tapped before. There was no pain. I now tapped the left tunic and ordered the testicle to be lightly strapped and supported. The next day the patient continued well. The strapping caused no discomfort. The bowels were regular and the appetite was good. The right tunic was tapped and strapped like the left.

The next morning at 7 A. M. the apothecary informed me that the patient with the hydrocele was suffering from symptoms of obstruction of the bowels. On examination, I found him in a state of collapse, able to speak only in whispers. He was very pale and bathed in cold sweat, which stood out in great beads on his face and saturated his bedding. The extremities were cold and the patient complained of numbness in the arms. He pointed out the hypogastric region as the seat of his distress. He did not complain of pain in the testicles. The pulse was small, frequent, and intermittent. The apothecary said he had grown much worse during the last half-hour. He said the patient had felt uneasy sensations in his abdomen at about 2 A. M., and gone to the latrine. The bowels acted well. But about 5 A. M., the pains continuing and increasing, he went again to the rear, and strained a great deal, but could pass nothing. Shortly afterward there was some nausea and the patient vomited. Nothing amiss was noticed as regards micturition.

Although the patient did not complain of pain in the testicles and there was no outward indication of local mischief, I resolved, as a preliminary measure, to give him a stimulant and to remove the strapping from the testicles at once.

When all the strapping, save the first encircling band, had been removed from the left testicle, the skin over it was found very red with just a perceptible purplish tinge near the band. On removing this strap the redness immediately disappeared, but a well-defined œdematous area remained. There was no pain. On the right side nothing abnormal was found. The strapping removed, the patient immediately began to recover, and in ten or fifteen minutes was quite well.

On the next day I noted: "The testicles remain unstrapped and free from pain. The tunics have almost refilled. The patient says he passes water more frequently than before he came to hospital. He is otherwise quite well."

From this case it would appear, said Dr. Smyth, that tight strapping of the testicles is exceedingly dangerous. I can not doubt that this patient would shortly have sunk had his testicles not been relieved. The sympathy that exists between the innervation of the testes and that of the intestines was very markedly shown. Probably the first abdominal symptoms were caused by the patient unconsciously compressing the strapped testicles during sleep. The act of defecation no doubt increased the congestion and tension in the testicles, and consequently, of course, the abdominal symptoms; these two conditions—the tension in the testicles and the irritation in the bowels exciting contractions of their walls—continuing to react on each other, ultimately brought about the condition of extreme collapse which was so characteristic a feature in the case.

The case clearly shows also that abnormal conditions of the testes may cause symptoms of a very alarming character, and out of all proportion to the local manifestations.

When acting resident medical officer in the General Hospital, I was accustomed to have testicles strapped in a manner somewhat different

from that usually adopted, and which seemed particularly adapted to the pendulous scrotums so often met with in this country. After clipping off all the hair from the scrotum and pubes on the affected side and placing the patient on his back, I raised the scrotum so that the testicle gravitated toward the external ring. I then took a piece of strapping about twelve inches long and half an inch wide, and, beginning at the bottom of the scrotum, coiled the strapping around it from below upward, and from within forward and outward, till I reached the diseased organ. The patient then rose to his feet. The testicle was found to be firmly and comfortably supported, though it still descended a little. The strapping was now continued over the testicle till one coil or so had passed just above it. By this method the testicle was well supported and moderately compressed, and all risk of strangulation or congestion avoided. The cord also, which in these cases is usually greatly elongated, had an opportunity afforded it of regaining its tone, instead of being dragged upon and still further elongated, as is the case almost invariably when the ordinary method of strapping is adopted.

No chafing or irritation (by the strapping) of the "occluded" portion of the scrotum was ever noticed; sometimes a degree of shrinking seemed to have taken place, but of this I was never quite certain.

The Physiology of the Endometrium.—In a very interesting paper entitled "The Menstrual Organ," presented to the British Gynecological Society by Dr. Arthur Johnstone, of Danville, Ky. ("Brit. Gynec. Jour."), we find the following:

"In the ordinary acceptance of the term, the endometrium, above the internal os, is not a 'mucous membrane,' but belongs to the so-called 'adenoid' tissues, and menstruation is for it exactly what the lymph-stream is to the lymph-gland or the blood-current to the spleen.

"The life-history of the uterine lining is analogous to that of the thymus gland. 'Tis true that this organ comes into the world in an active state, and that it is the first of the cytogenic tissues to finish its course and sink into aged obscurity; but it is equally certain that it is the type of the whole class. For, as we have long known of Peyer's patches, the tonsil, and the other lymphoid structures, sooner or later they all follow its example, and, like worked-out mines, ruin and decay alone mark the spot of their former activity.

"The quiet entrance of the endometrium and its persistent repose for the first thirteen years do not invalidate its claim to a place in the class. Is this gradual approach to maturity any more wonderful than that the hair-follicles, whose first products herald the approach of adult life, should have lain still so long? Has any one ever thought of questioning the history that the Greeks have for all time recorded of the thyroid development? In their masterpieces we find that the Venus of Milo is a girl just budding into womanhood, with that slight, willowy throat that the scalpel now tells us is due to the rudimentary condition of the thyroid gland. In the Venus Callipyge, however, who is a full-grown woman in the ripe maturity of her charms, we find a broad, full throat, in which a pronounced thyroid is visible, thus proving that the most classic as well as most critical of people concurred with us in recognizing its development as one of the integral elements of adolescence. But the impetus that puberty gives to the lymphoid organs everywhere is too well known to need repetition here, and the first menstruation is only one result of the general process.

"Bound firmly to the inner layers of the muscular wall, the human endometrium is perforated in every direction by the so-called glands, whose ramifications convert the whole into a sponge-like mass, all of whose channels lead into the cavity of the body. Its epithelial covering consists of a single layer which dips into every reduplication of the glandular canals, and thus gives a protecting coat to the soft protoplasmic tissue.

"In the only two of the ruminants that I am familiar with I find that the cotyledons are composed of exactly the same tissue that lines the human uterus, and that sometimes a thin layer of it stretches from one cotyledon to its neighbor. The epithelial covering is like the human, except that it is much thicker, often containing as many as

eight or ten layers. But the great point of difference is in the immense number of lymph canals with which the ruminants are furnished. In woman, so far as is yet determined, there are very few, if any; but in the cow and sheep I find that not only all the space between the cytogenic layer and the muscular wall is taken up with a rich layer of lymph canals and intercellular spaces, but that the plexus of the vessels themselves are richly supplied with lymph radicles and perivascular sheaths, like those found so abundantly in the brain and optic nerve in every animal. In fact, the whole thing gives one the impression of a slightly modified lymphatic gland, and that, like the lily pads on the surface of a marsh, the cotyledons are floating on a lymphatic swamp. In the sow, however, I find a very different state of things. The lymphatics are nothing like so rich, and the relations between the muscle and endometrium are a nearer approach to what we find in woman. In fact, with the exception of the tremendously thick epithelial coat, the internal microscopy of a sow's uterus is not far from a reproduction of what we find in the human being. But the striking thing about its parenchyma is that it is the child's and not the adult's condition that it resembles. I have found corroborative evidence of this conclusion by the examination of the human uterus in a condition of arrested development.

"The whole of the lining is not used up even in the manufacture of the placenta, but, like processional teeth, the menstrual organ keeps up its steady growth under the fully developed afterbirth. Colin and Robin were among the first to notice the growth of the layer between the placenta and the muscular wall. On page 98 of Priestley's 'Lectures on the Development of the Gravid Uterus' you will find the subject well discussed, and the authorities brought up to 1860. The most satisfactory article on the subject, however, is found in the exhaustive comparative study of Professor Ercolani, of Bologna, for on Plate 10 of the atlas of illustrations accompanying the American edition you will find that sketch No. 3 settles the question beyond a doubt. So, then, we feel fully warranted in saying that this growth, once started in the higher orders of animals, under all normal circumstances never stops, but goes on until the whole of its material is used up. Now comes the question, What becomes of the products of this growth? In two of the ruminants I have shown that nature has supplied this tissue with an abundant lymph-stream, which in the unimpregnated state washes away the ripe material to the general circulation exactly as it does any other lymph-corpuscle. But in woman, where, on account of its erect position, the uterus has to depend on the tenacity of its own fibers for the preservation of its shape, no such thing as loose tissue of a lymphatic network can be depended upon. So, to preserve the integrity of the uterine wall, the emulgent stream is poured into the cavity of the body and got rid of through the vagina.

"The sow does not menstruate for the same reason that the child does not. The corpuscles are so slightly developed that they do not need rapid removal. Whether there are more than these three conditions in the animal kingdom I am now unable to say; but by this negative kind of proof I am ready to corroborate Ercolani's statement that the change necessary to the formation of the placenta must be much greater in some than in other animals. In an excellent paper Dr. Aveling has propounded the extremely ingenious theory of nidation; but it has this misfortune, that the conclusions of the observers quoted by Dr. Aveling, and the observations on which he founds his theory, are entirely erroneous.

"The microscope confirms the long-known clinical experience that the nest is always ready, but that, like everything else about a woman, there are times when it is better for a clearing out. The well-known fact that pregnancy is much more apt to occur directly after menstruation has always been a stumbling-block to the acceptance of the denudation doctrine, for I am sure that no other female will lay in a nest directly after she has destroyed it. Therefore the simplest definition of menstruation is a periodic washing away of those corpuscles that are too old to make a placenta. Stripped of its epithelium, the endometrium reminds one very forcibly of the sponge-like tissue of the lymph-glands, and it is very easy to see how, like the lymph-stream, the menstrual blood creeps through its meshes and washes away the corpuscles exactly as it is constantly doing in the spleen."

The Professional Status of Dentists in the United States.—Commenting on the recent action taken by the American Medical Association toward practitioners of dental surgery, by resolutions recognizing dentists of a certain grade of education as "members of the regular profession of medicine," our excellent contemporary the "Independent Practitioner" says:

"We have no positive knowledge of the train of events which brought about this action. The names of influential dentists have been mentioned as having instigated the movement. If this be so, and if it be true that it was in deference to their wishes that these resolutions were passed, we must say that, praiseworthy as doubtless were their motives, it would have been better that they had not put forth their hands to steady the ark of our progress. Unless the resolutions mean an honest expression of thoughtful and enlightened opinion, they are misleading and will tend to errors. We say, therefore, that they should be carefully considered by dentists, and that we must proceed thoughtfully.

"Dentistry was digged from a slimy pit. In its early days it was almost entirely mechanical and smacked strongly of charlatanism, as the resolutions intimate. But Harris and Brown and Bond and others saw the possibilities of a reputable and scientific practice. They believed the future to be pregnant with great things for dentistry, if once its practitioners could be brought to a higher plane—if the crude methods of the day could be crystallized into a consistent system to be followed by educated and intelligent men. They applied to certain medical colleges to commence the teaching of a dental practice founded on medical knowledge, and running in technical, scientific channels. What wonder that they were refused? Was the dentistry of that day a fit associate for scientific medicine? There was no theory of practice whatever. Dentists generally were ignorant, untrained, peripatetic tinkers. Exceptions there were, of course, but the great body of the dentists of that day were devoid of technical knowledge. Medicine was right in refusing to acknowledge the unknown foundling.

"The only course left was pursued, and separate colleges were founded and a new, unheard-of degree instituted. In these schools the teaching was at first mainly practical, and not scientific. But we have constantly grown, and the prescience of Harris and his compeers has been vindicated. Educated men came into dentistry, and its practitioners began to be known in the world of science. Our schools became broader in their teachings, and thoughtful medical men began to see what were the possibilities hidden under the at first so unpromising exterior. Some of the great universities recognized the scientific aspect of the new specialty, and saw its near relation to medicine and the liberal professions. Harvard threw open its doors, devised a new degree more consistent with literary training, and now for the first time dentistry took her place in the halls of her mother, medicine. Other great universities followed—Michigan and Pennsylvania—and now a liberal dentistry is a recognized part of true medical teaching."

The Health of the State of New York.—According to the State Board of Health's "Monthly Bulletin," for May, the whole number of deaths reported during the month was 7,528. In each thousand there were 18.85 from diarrhoeal diseases, 5 from typhoid fever, and 71.70 from croup and diphtheria. Forty-two deaths from small-pox were reported, all in the Maritime District.

An Honorary Degree.—At the last annual commencement of the Illinois Wesleyan University, the honorary degree of Ph. D. was conferred on Dr. James E. Pilcher, of the army, formerly managing editor of the "Annals of Anatomy and Surgery," of Brooklyn.

The National Guard of the State of New York.—On the 1st of June, Dr. William A. Valentine, corporal of Company F, Seventh Infantry, was promoted to the rank of captain and assistant surgeon of the regiment. In Orders, No. 7, dated June 28th, Captain Daniel Appleton said: "Captain Valentine joined this company June 3, 1880, and while absent from the city was unanimously elected corporal June 26, 1884. During his seven years' service in the ranks he performed most faithful duty, and as company inspector of rifle practice he made a brilliant record, keeping his company among the first in the State in this important branch of a soldier's education. Our best wishes go with our comrade for success in his honorable office." We learn that

Assistant Surgeon Valentine rendered most efficient service during his regiment's recent encampment.

The Massachusetts Medical Society.—We are informed that it was Dr. William G. Breck, of Springfield, who was elected vice-president at the recent annual meeting, and not Dr. Harlow.

Government Health Reports.—By direction of the Secretary of the Treasury, Dr. John B. Hamilton, Surgeon-General of the Marine-Hospital Service, has issued the following abstract of sanitary reports received during the week ending June 30th:

England and Wales.—The deaths registered in twenty-eight great towns of England and Wales during the week ending June 11th corresponded to an annual rate of 18.9 in a thousand of the aggregate population, which is estimated at 9,245,999. The lowest rate was recorded in Leicester, viz., 11.3, and the highest in Birkenhead, viz., 29.4 in a thousand. Small-pox caused 2 deaths in Sheffield and 1 in Birmingham.

London.—One thousand four hundred and fourteen deaths were registered during the week ending June 11th, including 114 from measles, 27 from scarlet fever, 9 from diphtheria, 74 from whooping-cough, 1 from typhus fever, 6 from enteric fever, and 9 from diarrhoea and dysentery. There were 259 deaths from diseases of the respiratory organs. Different forms of violence caused 70 deaths, and 9 suicides were registered. The deaths from all causes corresponded to an annual rate of 17.5 in a thousand. In greater London, 1,745 deaths were registered, corresponding to an annual rate of 16.8 in a thousand of the population. In the "outer ring" 22 deaths from measles and 6 from diphtheria were registered.

Ireland.—The average annual death rate represented by the deaths registered during the week ending June 11th, in the sixteen principal town districts of Ireland, was 25.1 in a thousand of the population. The lowest rate was recorded in Sligo, viz., 0, and the highest in Drogheda, viz., 38.1 in a thousand.

Dublin.—Two hundred and eleven deaths were registered during the week ending June 11th, including 18 from measles, 2 from whooping-cough, 1 from diphtheria, 2 from enteric fever, and 3 from scarlet fever. Diseases of the respiratory organs caused 37 deaths. Three accidental deaths and 1 suicide were registered, and in twenty-five instances the causes of death were uncertified. The deaths from all causes corresponded to an annual rate of 31.2 in a thousand.

Scotland.—The deaths registered in eight principal towns during the week ending June 11th corresponded to an annual rate of 21.9 in a thousand of the population, which is estimated at 1,299,000. The lowest mortality was recorded in Leith, viz., 18.7, and the highest in Paisley, viz., 27.3 in a thousand. The aggregate number of deaths registered from all causes was 546, including 8 from measles, 9 from scarlet fever, 4 from diphtheria, 35 from whooping-cough, and 12 from diarrhoea.

Germany.—The deaths registered in fifty-one cities of Germany, having an aggregate population of 6,763,812, during the week ending June 4th, corresponded to an annual rate of 24.1. The lowest rate was recorded in Metz, viz., 11.5, and the highest in München-Gladbach, viz., 39.2.

Kingston, Jamaica.—One hundred and twenty deaths were registered during the month of May, 1887, including 6 from small-pox and 3 from diphtheria.

Santiago de Cuba.—The sanitary inspector at Havana, from information received through the United States consul, reports that the Spanish brigantine Catania arrived at Santiago on the 8th of June, from Montevideo. The vessel's original destination was Porto Rico, where the cargo was not allowed to be discharged, on account of a report that two deaths (cause unknown) had occurred on board. The vessel was allowed to enter at Santiago, for the reason that when she left Montevideo it was officially announced that the cholera epidemic had ceased.

Havana.—Three hundred and three deaths were registered during the two weeks ending June 23d, including 57 from yellow fever, 25 from small-pox, and 5 from enteric fever.

Key West—Yellow Fever.—The medical officer in charge of the Marine-Hospital Service at Key West reports 51 cases of yellow fever, and 20 deaths from that disease, up to June 30th.

MORTALITY TABLE, FOREIGN CITIES.

CITIES.	Week ending—	Estimated population.	Total deaths from all causes.	DEATHS FROM—						
				Cholera.	Yellow fever.	Small-pox.	Typhus fever.	Enteric fever.	Scarlet fever.	Diphtheria.
Paris	June 11.	2,260,045	941	..	..	14	..	13	5	26
Warsaw	June 4.	439,174	225	..	..	21	..	..	..	..
Amsterdam	June 11.	378,686	154	..	..	..	..	2	..	1
Rome	May 7.	369,214	151	..	..	3	..	1	1	1
Copenhagen	May 31.	290,000	132	..	..	..	..	..	..	17
Palermo	June 11.	250,000	88	..	..	..	..	2	..	3
Bristol	June 11.	223,635	57	..	..	..	..	2	1	..
Trieste	May 28.	150,157	81	..	..	7	..	..	..	2
Trieste	June 4.	150,157	74	..	..	4	..	2	3	1
Stuttgart	June 11.	125,510	37	..	..	..	..	..	..	1
Toronto	June 18.	120,000	27	..	..	..	..	..	..	4
Bremen	June 4.	119,000	43	..	..	..	..	2	..	..
Pernambuco	May 24.	111,000	98	..	..	..	1	..	..	..
Leghorn	June 12.	101,172	49	..	..	..	..	1	..	..
Reims	June 11.	97,903	46	..	..	..	4	..	..	..
Mayence	May 28.	65,701	23	..	..	..	2	..	..	..
Guayaquil	May 20.	35,000	52	..	1	4	..	14	..	..
Guayaquil	May 27.	35,000	52	..	8	2	..	18	..	..
Gibraltar	June 5.	23,631	15	..	..	..	..	..	..	1

THERAPEUTICAL NOTES.

Lamium Album as a Hæmostatic.—M. Florain ("Bull. gén. de therap.") reports satisfactory results from the use of the dead nettle (*Lamium album*) in cases of metrorrhagia, after the more or less complete failure of various other hæmostatics. He used a tincture of the stems and root, made with white wine, in the following formula:

Tincture of *Lamium album*..... 100 parts;
Syrup..... 50
Water..... 25 "

A dessertspoonful is given every half hour until the hæmorrhage stops, and then every four hours.

From the fresh stems of the plant, gathered at the time of flowering, the author has obtained an alkaloid, lamine, which, either as the sulphate or the hydrochloride, he has used hypodermically with the effect of promptly arresting hæmorrhage without producing any symptoms of poisoning. The dose of the alkaloid is not mentioned.

Neutral Hydrochloride of Quinine.—M. Clermont ("Bull. gén. de therap.") agrees with M. Boymond as to the advantages of the basic hydrochloride of quinine, which is soluble in 21.4 times its weight of water, but recommends the neutral hydrochloride as still better fitted for hypodermic use, since it is soluble in its own weight of water and has no caustic action. It may be made either by adding a solution of chloride of barium to a solution of neutral sulphate of quinine, and separating the precipitated sulphate of barium by filtering; or by adding hydrochloric acid to a solution of the basic hydrochloride.

Seltzer Water as an Anodyne in Cases of Superficial Burns is recommended by M. Dubois, of Villers-Bretonneux ("Répert. de pharm."; "Lyon méd."). It is sufficient to allow the contents of a siphon, previously cooled, to flow over the part. The effect is attributed partly to the refrigeration and partly to the carbonic acid. While the application is not supposed to have any decided curative action, it is thought to hasten the return of the burned part to its normal condition.

ANSWERS TO CORRESPONDENTS.

No. 3.—If the person is eligible—i. e., if he is between twenty and thirty years old and of good moral character—he should apply to the Board of Managers of the Training School for Male Nurses at Charity Hospital, Blackwell's Island, New York. A blank form of application will be furnished to him, with instructions as to how he should further proceed.

No. 4.—It is confidently expected that the new building of the College of Physicians and Surgeons, in West Fifty-ninth Street, opposite the Roosevelt Hospital, will be ready for occupation in time for the opening of the next course of lectures, early in October.

No. 5.—No excipient is necessary. Warm a wedgewood mortar by pouring hot water into it, throw out the water, dry the mortar rapidly, and stir the lupulin in it with a pestle, when it will assume the proper consistence for a pill-mass.

Original Communications.

PASTEUR'S PROPHYLACTIC TREATMENT OF RABIES.*

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YOUR president has kindly invited me to read a short paper before the Clinical Society, summarizing the conclusions reached in the recent investigations of Pasteur's treatment of rabies. I consented to do so only reluctantly, because I desired that my first paper before the Clinical Society should contain the results of more independent observations than I have made in this direction, and because so much has been recently written upon this subject that it has been divested somewhat of its interest. My own position in regard to it, however, has been somewhat misunderstood, and it was the desire to correct this erroneous impression that finally overcame my scruples. I have been wrongly regarded as an enthusiastic supporter of and believer in Pasteur's method for the prevention of rabies.

This I have never been, and although at first I was very favorably impressed with the method, because of the results that Pasteur so positively asserted he had obtained in his experiments on dogs, yet I only pleaded then that justice should be accorded to Pasteur for the magnificent work he had already done, and that sufficient time be granted to him to prove or disprove his positions.

It is my purpose in this paper to only present to you the present status of the question, especially from the practical standpoint, as based upon the most reliable information that we have at command, and I shall abstain as far as possible from expressing any individual opinions.

It is almost unnecessary to refer to the methods of Pasteur's treatment, as the principles underlying them have become very well known during the past eighteen months to all medical men.

We may say in brief, however, that in various communications to the Academy of Sciences in 1883, '84, and '85, Pasteur maintained—

1. That the virus of rabies was present in a concentrated form in the central nervous system, and that rabies could be usually produced by the subcutaneous inoculation, and with the greatest certainty by the subdural inoculation, of animals with portions of the brain or spinal cord obtained from animals dead of this disease.

2. That the virulence of this virus could be increased and the period of incubation shortened by the successive subdural inoculation of rabbits.

3. That by a series of inoculations with a rabie virus attenuated by drying, but of a gradually increasing virulence, he had been able to finally render dogs refractory to inoculations with the most virulent virus, and to protect them from the disease after infection with fresh street rabies.

4. That the method was equally applicable and perfectly safe as regards the human being, and that by its use persons bitten by rabid dogs, if inoculated before the period of incubation had elapsed, could with certainty be protected from the development of the disease.

Let us examine now more carefully each of these statements from the light of recent investigations. The first is that the virus of rabies exists in a concentrated form in the central nervous system, and that rabies can be produced with great certainty by the inoculation of animals with rabie brain or spinal cord. Dubois, in 1879, declared that the virus of rabies was localized in the medulla, and nearly all the investigations that have been made since Pasteur's communication agree in confirming his observations as to the presence of a specific virus in the brain and spinal cord of animals dead of rabies, and as to the possibility of the production of the disease by inoculations with this material. The disease thus produced, however, does not, as a rule, manifest itself by the ordinary symptoms of street rabies, but rather by the symptoms of a progressive paralysis—the so-called dumb or paralytic rabies; this is especially true of the manifestations of the disease in rabbits. The disease, moreover, is produced with far greater certainty, as is claimed by Pasteur, if the inoculations are made by subdural injections of the virus after trephining than if made by subcutaneous inoculations. Frisch, of Vienna, who was sent by the Austrian Government to study Pasteur's method, and who has made a series of elaborate experiments, confirms these conclusions, as does also in fact Abreu, the representative of the Portuguese Government, and Ernest, of Boston, in a carefully conducted series of experiments.

The question at once arises in this connection as to the effects produced by the subdural injection of the medulla from healthy animals. On this point the writer made a number of experiments on rabbits some time ago. In these experiments an emulsion was made in distilled water of the fresh spinal cord of dogs or rabbits. This was injected underneath the dura mater after trephining in the manner prescribed by M. Pasteur. The amount used varied between one and two c.c. The rabbits quickly recovered from the effects of the chloroform and were soon as lively and well as ever, excepting in two or three instances. In one of these cases the rabbit died in the course of a few hours, and in two others they were somewhat sluggish on the following day, but on the second were quite well and remained so. Aside from these cases, there were no symptoms of any kind following the inoculation, and at the end of several months the animals remained quite well. The results obtained by most other observers have been the same. Spitzka's experiments can not be considered in this connection, as he used for the most part different forms of septic matter and brought about a meningitis, cerebritis, or some other gross lesion which would quite account for the symptoms produced. No such changes are found in animals dead of a rabies produced by subdural inoculation.

The second statement is that, within certain limits, the virulence of the virus is increased and the period of incubation shortened by the successive subdural inoculation of

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rabbits. So far as I know, no extensive experiments have been made in regard to this point. Von Frisch's experiments, so far as they go, confirm this statement.

The third proposition announces the possibility of rendering animals refractory to inoculations with the most virulent virus by a series of inoculations with an attenuated virus, and the possibility of preventing the development of rabies in animals infected with the virus of ordinary street rabies.

As to the first question, the most carefully conducted and most reliable experiments seem for the most part to confirm this statement. Von Frisch, of Vienna, after a long series of experiments, summarizes his conclusions on this point in the following words: "Animals that have been subcutaneously inoculated with an ascending series of the spinal cords (attenuated by drying) are protected by the weaker virus against the effects of the stronger if the previous successive inoculations have not followed each other too closely." This last clause contains a very important exception with regard to the later methods of Pasteur, as we shall see later.

Ernest, of Boston, draws the following conclusions as the results of a series of carefully conducted experiments upon this point: "Injections of a virus modified in strength by drying, and in the manner prescribed by Pasteur, exert a very marked protective influence against an inoculation with virus of full strength."

In his experiments, out of nine rabbits which were first inoculated with a strong virus, and then protected by subcutaneous inoculations with an attenuated virus, one only died. In another series, when the strong virus was used and the animals were left unprotected, seven died.

The results obtained by Abreu do not agree with those obtained by other observers. He was sent by the Portuguese Government to Paris to study the subject of rabies, and, after eight months' work in Paris and Lisbon, he made a very full and voluminous report to the Minister of the Interior of Portugal. He says that the rabies produced in rabbits by the inoculations of the medulla of rabid animals appeared after a period varying from one day to five months, but that he was able to produce, in some cases, the same symptoms by the inoculation of rabbits after trephining with the medulla of normal rabbits.

Two Italian investigators, De Renzi and Amoroso, working in Naples, have also reported adverse results.

No conclusive experiments have been made, so far as I know, as to the possibility of preventing the development of the disease in dogs after infection, in any way, with ordinary street rabies. The experiments of von Frisch are rather adverse to this proposition.

Although the observations at hand are somewhat contradictory, we may at least conclude that the most careful investigations show that the serial inoculations of the weaker virus grant a certain degree of immunity to the action of the strongest virus.

This brings us to the consideration of the fourth point—namely, that this prophylactic method is equally applicable to the human being, and that persons bitten by rabid dogs can with certainty be protected from hydrophobia if

they are subjected to the treatment within fifteen or twenty days, or before the period of incubation has elapsed. This is the practical question in the method, and can only be judged of from the results obtained by such inoculations.

The first point that impresses one on carefully reviewing the subject is the enormous number of cases of rabies that have suddenly appeared. Until recently certainly rabies and hydrophobia have been considered very rare diseases in all countries, but in one year after the announcement of this discovery nearly two thousand Frenchmen were subjected to this treatment because they were supposed to have been bitten by rabid dogs, and were in imminent danger of hydrophobia. This astonishing fact at once attracts and holds our attention. If these patients have in reality been bitten by rabid dogs, the disease can no longer be considered a rare one, but must have become a very common one. The most careful and reliable estimates—those of Leblanc—as to the proportion of persons bitten by rabid dogs who develop hydrophobia, place the ratio as at 16 to 100. Bouley, however, says that the proportion fixed by Hunter—*i. e.*, 5 to 100—approaches nearer the truth. If we accept the ratio of 16 to 100, as Pasteur has done, there would have been 320 deaths from hydrophobia in France in 1886. This is what Pasteur alleges would have occurred. Let us glance now at the statistics of this disease for the last few years in France and other European countries, and see how they compare with such an estimate of the death-rate in France for last year. Boudin, in a communication to the French Academy in 1863, gave the average death-rate from hydrophobia in Prussia, from 1854-'58, as 19.5; in Bavaria, from 1855-'56, as 3.5; in Belgium, from 1856-'60, as 2.6; in England, from 1853-'57, as 10; in Scotland, from 1855-'63, as 1; in Sweden, from 1856-'60, as 4.2.

In Austria the deaths have averaged 8 yearly for the six years ending in 1885. In Prussia the death-rate during the last five years has been 10, 6, 4, 1, and 0, respectively, or 4.2 annually. In Holland the average was 2.1 for the ten years ending in 1879, and during the last five years no deaths have been recorded in the official government reports. In France, according to the reports of Tardieu and Brouardel, for the years 1850-'72, there were in all 685 deaths, or an average of a little less than 30 yearly. Tardieu says of his reports that nearly all the departments replied to his inquiries, and Brouardel that about two thirds were included in his. If we assume that the deaths in the other third were proportionate, we would have a total of 45 annually. It seems safe to assume, however, that the errors in diagnosis in ascribing to hydrophobia deaths which were caused by other affections would more than counterbalance the cases not included in the reports, and there is little danger of any genuine cases of this escaping notice. Now there have been during the year ending February 1, 1887, 14 deaths reported in France from hydrophobia among uninoculated persons, and 25 of Pasteur's patients have succumbed after treatment, making a total of 39. Three of Pasteur's cases he maintains died of some other disease. If we now allow for unreported cases, as we have done in the other statistics, we have a total greater than 45, which rep-

resents the highest reliable previous estimate of the average annual death-rate in France.*

The success that has attended the institutes established in other countries for the prophylaxis of rabies has been, as a whole, less satisfactory than that obtained in Paris. At Moscow 2 deaths have occurred among 115 persons inoculated; at Odessa, 7 deaths in 107 patients.

At Warsaw, if the reports are to be credited, a very sad event has occurred which would in itself almost condemn the whole method if shown to be true: In July a boy was bitten at Lubine by a dog supposed to be rabid, and

was immediately subjected to the prophylactic treatment at Warsaw. Contrary to the usual stupid procedure, the dog was *not* killed but was placed in confinement. On the 11th of November the boy died of hydrophobia. At this time the supposed rabid dog was living and well and had shown no further evidences of rabies. The conclusion seems to be inevitable in this case that the boy died from the result of the inoculations.

In St. Petersburg 84 persons have been treated, but no deaths have occurred.

I have appended the table given by M. Lutaud in the

TABLE GIVING THE MORTALITY AMONG THE FRENCH PATIENTS TREATED IN M. PASTEUR'S LABORATORY IN 1886

No.	Name.	Age.	Part of body bitten.	Date of bites.	Dates of treatment.	Description of treatment.	Date of death.	Cauterized or not.	Animal.	Observations.
1	Videau, Matthieu.	3	Forehead.	Feb. 24.	Feb. 27 to March 7.	Spinal cords of 14 to 5 days.	Sept. 24, 1886.	Not.	Dog.	Slightly bitten; incubation remarkably long; convulsive hydrophobia; incubation, 200 days.
2	Lagut, Elvina.	11	Inferior lip.	May 18.	May 24 to June 2.	Spinal cord of 14 to 5 days.	June 17, 1886.	"	"	Convulsive hydrophobia, canine.
3	Bourvier, Marius.	40	Hand.	April.	.....	.....	July 21, 1886.	"	Cat.	Convulsive hydrophobia; M. Pasteur's supporters say that it was a case of delirium tremens; incubation long.
4	Cledière, Emile.	21 mo.	"	June 17.	June 21 to June 30.	.....	Aug. 17, 1886.	"	Dog.	
5	Peytel, Henri	6	"	June 28.	June 30 to July 9.	.....	July 16, 1886.	"	"	Canine hydrophobia; incubation, 18 days.
6	Leduc, Zélie.	70	"	July 14.	July 18 to 25.	.....	Sept. 10, 1886.	"	"	Convulsive hydrophobia; incubation, 50 days.
7	Magneron, Norbert.	18	"	July 25.	August 1 to 7.	.....	Oct. 16, 1886.	Cauterized 3 days after.	"	Convulsive hydrophobia; incubation, 81 days.
8	Moerman, Alfred.	40	"	June 28.	August 11 to 21.	.....	Sept. 7, 1886.	.....	"	Convulsive hydrophobia.
9	Christin.	12	Forehead.	June.	July 1 to 10.	.....	July 17, 1886.	Not.	"	The laboratory says the child died from meningitis, but the post-mortem examination, made at the hospital at Evian, goes against that opinion; the child died of hydrophobia after having been bitten.
10	Moulis, André.	6	Forearm.	July 31.	August 6 to 12.	Spinal cords of 14 to 5 days.	Sept. 8, 1886.	Cauterized.	"	
11	Grand, Louis.	41	Hand.	Sept. 5.	Sept. 14 to 28.	.....	Sept. 8, 1886.	"	"	
12	Duresset, Edouard.	..	Leg.	August.	September.	.....	End of Sept.	?	"	The death, which happened one month after the inoculations, is said to have been due to pneumonia; the patient was treated by Dr. Yot, at Versailles.
13	Astier, Justin	2	Both cheeks	Aug. 4.	August 5 to 21.	.....	Sept. 16, 1886.	Cauterized.	"	
14	Jansen, Louis.	47	Legs and fists.	Aug. 18.	Aug. 21 to Sept. 3.	.....	Dec. 31, 1886.	Not.	"	Convulsive hydrophobia; incubation, 146 days.
15	Clergot, Eugène.	27	Forearm.	Aug. 7.	August 11 to 23.	.....	Oct. 24, 1886.	"	"	
16	Lodini, Bernard.	46	Leg.	Oct. 12.	October 21 to 31.	New treatment, described on Nov. 2, 1886.	Nov. 24, 1886.	"	"	Paralytic hydrophobia; pain at the points injected.
17	Leteng, Etienne.	59	Foot bitten through slipper.	Nov. 3.	November 8 to 20.	.....	Dec. 8, 1886.	"	"	Paralytic hydrophobia; pain at points injected, not at part bitten.
18	Née, Leopold	42	Leg bitten through trousers.	Nov. 21.	November 17 to 26.	.....	Dec. 17, 1886.	"	"	Ditto.
19	Gerard, Amédée.	28	Hand.	Dec. 1.	December 3 to 13.	.....	Jan. 3, 1887.	"	"	Ditto.
20	Revcillac, Louis.	25	"	.....	.....	.....	.....	"	"	Ditto.
21	Rouyer, Arthur.	12	"	Oct. 20.	Oct. 25 to Nov. 5.	.....	Nov. 26, 1886.	"	"	Ditto. (According to M. Brauer, a case of mania.)
22	Goriot, Paul.	12	Forefinger.	Sept.	End of December.	.....	Jan. 14, 1887.	"	Cat.	Ditto.
23	Foulup.	30	Hand.	Dec. 1.	December 12 to 22.	.....	Jan. 24, 1887.	"	Dog.	Ditto.
24	Alphand.	42	"	Dec. 13.	Dec. 20 to Jan. 1.	.....	Jan. 20, 1887.	"	"	Ditto.
25	Bergé.	40	"	Sept.	Sept. 12 to 24.	.....	Jan. 28, 1887.	"	"	Ditto.

* These statistics have been taken for the most part from M. Lutaud's work entitled "La rage."

"British Medical Journal" for April 2d of the fatal cases treated by M. Pasteur. It agrees entirely with Pasteur's report, with the exception that he maintains that Nos. 9, 12, and 21 in the table died from some other disease.

It seems to me to be a significant fact that 24 of these 25 deaths have occurred during the seven months ending February 1st, only one occurring in the first five months of the year. At this rate we shall have a mortality among Pasteur's French patients of more than 40 annually, which is probably greater than the previous average death-rate. This number does not include the deaths occurring among uninoculated persons.

In October of 1886, because of the large number of deaths following the previous methods of treatment, Pasteur commenced the employment of a new intensive method, varied according to the seat and severity of the bite and the period that had elapsed after the injury. The treatment was varied for three classes of cases as follows:

I. Treatment for small bites through the clothing:

1st day. Three inoculations with medullas 12, 11, and 10 days old.

2d day. Three inoculations with medullas 9, 7, and 8 days old.

3d day. Three inoculations with medullas 6, 5, and 4 days old.

4th day. One inoculation with medulla 3 days old.

5th day. One inoculation with medulla 2 days old.

6th day. One inoculation with medulla 1 day old.

7th day. One inoculation with medulla 4 days old.

8th day. One inoculation with medulla 3 days old.

9th day. One inoculation with medulla 2 days old.

10th day. One inoculation with medulla 1 day old.

II. Treatment for wounds of uncovered parts other than the face. Treatment as above. Several days intervene, and then the series 4, 3, 2, 1 is repeated.

III. Intensive treatment, applied to persons bitten on the head, face, or neighboring parts (neck, etc.), or when the patients have arrived late.

Treatment as before, but the series 4, 3, 2, 1 is repeated a number of times with intervals of two to four days for four, five, or even six weeks.

Among the persons inoculated by this intensive method there have been nine deaths from a form of rabies hitherto almost unknown in the human being—namely, paralytic rabies—a disease similar to that which is produced in the laboratory in rabbits.

The following observations, made by Professor Germe, of Arras, and communicated to the Academy of Medicine of Paris by Professor Peter as quoted by M. Lutaud, can be considered as typical for the nine cases of paralytic hydrophobia noted in December and January:

"L. N., aged forty-two, a basket-maker, was traveling in the country with a little cart under which a dog was tied on November 12, 1886, near Avesnes le Comte; he let his dog loose and was immediately bitten on the right leg. He seized the dog, tied him up, and killed him. The dog had never ceased taking food. The post-mortem examination of the dog was made at Arras by a veterinary surgeon who stated that he could find no symptoms proving that the dog was rabid.

"The corpse was sent to M. Pasteur, and the family is still waiting to know if the dog was rabid or not. N. remained eleven days at M. Pasteur's laboratory, during which he received twenty-one inoculations to the number of even three in one day. After each inoculation he complained of giddiness, felt sick, and vomited.

"On his return to Arras on November 29th nothing remarkable was observed except increase of appetite, which had also been the case while staying in Paris.

"During the nights of December 10th and 11th intense pain was felt in the parts of the body pricked by the inoculations, the pains rapidly invading the spine and continuing until the last moment.

"The patient was restless, and said that he was suffering as he did after the inoculations in Paris, and was sure he would die. A physician who was called in supposed at first that N. was suffering from lumbago, and, later on, from inflammation of the spine.

"The above-mentioned symptoms were followed by great difficulty in breathing, salivation, convulsions of the muscles of the face, arms, and thorax; the patient had nightmares, was restless, and sweated profusely, but there were no general convulsions or hydrophobia. He could swallow easily, except on the last two days of his life. On the 14th two physicians were called in consultation, and they were in doubt as to whether it was an inflammation of the spine or the result of the inoculations. Paralysis set in soon after; the sight got weaker and weaker till it was completely lost; breathing became more and more difficult, and saliva issued abundantly from the sides of the mouth.

"At last the patient died on December 17th at 11 P. M."

As regards this paralytic rabies, it is certain that if it has ever occurred in human beings, it is only in rare instances. The frequency of its development in those patients who have been subjected to the intensive method of treatment certainly has great significance when taken in connection with its symptoms and with similar inoculation experiments on animals.

The conclusions arrived at by von Frisch on this point are interesting.

To the unsuccessful results obtained by him in his first series of experiments with subdural inoculations with strong virus, either before or after the prophylactic treatment, Pasteur has objected—

("Comptes rendus," November 2, 1886) that the preventive inoculations followed each other too slowly, although Dr. v. Frisch had carefully adhered to the procedures described by himself. M. Pasteur then required the application of the whole amount of (preventive) virus within twenty-four hours (the inoculations being made every two hours), and two or three repetitions of the whole series; further, that these inoculations should begin soon after infection, at least on the following day. Experiments thus carried out on dogs and rabbits gave not one favorable result; all the animals died, even after this "intensive" treatment.

But, further, the important result arises from these experiments that, by a quick succession of inoculations, gradually increasing in virulence, a protective power of the weaker against the subsequent stronger ones is no longer to be safely expected. Of a number of rabbits and dogs which served in control-experiments to the above, and in which the intensive treatment alone was adopted without previous infection, a very large majority died.

Animals that were subjected to preventive inoculations after subcutaneous infection, nevertheless succumbed to rabies, with few exceptions, even when the incubation-period extended to thirty-four days.

At the meeting of the Academy of Sciences on January 11th and 18th the distinguished clinician, M. Peter, after reporting several cases of paralytic rabies, came to the following conclusions—namely, that, first, the death-rate from hydrophobia in 1886, in France, had not been lowered by Pasteur's method; and, second, that the death-rate tended to rise on account of the intensive method. M. Peter then bitterly attacked Pasteur's method, and M. Vulpian for his support of it.

In endeavoring to reach a conclusion as to the efficacy of this method from the experimental results obtained by independent observers and the government commissions appointed to investigate this subject, we are impressed by the scarcity of reliable experimental data. There have been but few experimental researches thus far reported. Those of von Frisch are the most important ones. His conclusions, which have just been given in part, are certainly far from confirmatory of Pasteur's allegations. Abreu, the representative of the Portuguese Government, has written on the fly-leaf of the copy that I have of his report to the Minister of the Interior of Portugal as follows: "I can not accept the conclusions of the illustrious sage, and it appears to me that his immortal attempt threatens to transform hydrophobia into a common distemper of the human kind, because the public forget the necessity for cleanliness and cauterization of suspicious wounds." The English Government commission are still holding their report for further investigations. The Belgian Government commission reported adversely to the establishment of an institute for these inoculations in Belgium. Two Italian experimenters, De Renzi and Amoroso, have reported adversely. The most distinguished German experimenters, and many of the English, have from the beginning regarded the treatment with suspicion and distrust. On the other hand, some French investigators have confirmed Pasteur's results, and the experiments of Ernest, so far as they go, are in quite close accord with the conclusions of Pasteur. The conclusions that he draws from his experiments are:

I. There exists in the cords and brains of animals inoculated in Pasteur's laboratory a specific virus capable of the production of similar symptoms through a long series of animals.

II. That these symptoms are produced with absolute certainty when the method of inoculation is by trephining the skull and injection under the dura mater; with less certainty when the inoculation is by subcutaneous injection.

III. That the strength of this virus is lessened when the cords containing it are removed from the animals and placed in a dry atmosphere at an even temperature.

IV. That the symptoms produced by the inoculation of this virus only appear after a certain period of incubation distinctly shorter when the inoculation has been done by trephining than when done by subcutaneous injection.

V. That injections of the virus modified in strength by

drying, and in the manner prescribed by Pasteur, exert a very marked protective influence against an inoculation with virus of full strength.

VI. That a very moderate degree of heat destroys the power of the virus entirely, while prolonged freezing does not injure it.

It has been found, however, that rabies can not be produced with certainty by the subcutaneous inoculation of the virulent virus. In the majority of cases the disease may be produced, but this result is not invariable, and in the experiments from which these observations were drawn the virus was introduced in this manner. The disease, however, can be produced with the greatest certainty by inoculations underneath the dura after trephining. The question immediately arises, What effects are produced by subdural inoculations with virulent virus either before or after the prophylactic treatment? In Ernest's cases, 50 per cent. died when strong virus was used this way, either before or after the prophylactic treatment. That 50 per cent. lived would seem to show that there certainly was a marked prophylactic action exerted by the treatment, for, when not protected by treatment, all the animals die after subdural inoculation with strong virus. Von Frisch, however, has not obtained such good results, and I append his conclusions upon this point:

Animals that have been subcutaneously inoculated during the course of ten days with virus material (that is, portions of spinal cord dried for different periods) of gradually increasing virulency, contrary to M. Pasteur's statements, do not possess perfect immunity against infection with fresh "street rabies," and, after subdural infection with the latter, remain healthy only in exceptional cases.

Rabbits and dogs that were subjected to preventive inoculations after trephining and subdural infection with "street rabies" (of sixteen days' incubation period), all died of rabies with one single exception. (See "*Anzeiger der k. k. Academie der Wissenschaften*," July 15, 1886; also "*Medicinische Presse*," 1886, No. 32.) The animal, moreover, that remained healthy was infected subdurally fourteen weeks later, and died of rabies eight days afterward.

Among distinguished members of the French medical profession, Pasteur's most bitter opponents are M. Peter and M. Lutaud, the able editor of "*The Journal of Medicine of Paris*." M. Lutaud, in a careful and comprehensive review of the whole subject, in a work entitled "*La rage*," charges Pasteur with a perversion of statistics, of want of accuracy in his work, and of unworthy motives. He concludes, with M. Peter, first, that the mortality from hydrophobia in France has not been decreased by his inoculations; and, second, that it tends to rise as the result of his recent intensive method of treatment.

It is quite impossible, in this short paper, to take up the consideration of the many disputed questions or the experimental evidence brought forward by Pasteur to show that the majority of the 2,000 Frenchmen inoculated were bitten by rabid dogs. The experimental evidence at hand from other sources is contradictory and insufficient. Von Frisch's experiments are lacking in the convincing proof of his conclusions. Ernest's are more carefully detailed, but do not cover all of the most important

ground. We find, moreover, a considerable discrepancy in some of his results as compared with Pasteur's statements. Ernest has thrown out of his table of thirty-two rabbits inoculated by trephining five animals. These showed no symptoms, or only slight ones, and were excluded on the ground that the virus was attenuated or destroyed by heating. To prove this statement, he has reported one additional experiment, in which the virus was heated for five minutes to 110° F., and in which no symptoms followed the inoculation. This experiment, in itself, evidently proves nothing.

On the other hand, M. Gibier, in a note to the Academy of Sciences, dated June 11, 1883, stated that the virus of rabies was attenuated by the influence of a temperature varying between 40° to 46° C., or 104° to 115° F. Gibier's experiments were repeated by M. Pasteur, and in a later communication Gibier's conclusions were stated by him to be erroneous. (See Vignal's "Report," "Brit. Med. Journal," April 17 and 24, 1886.) This, of course, is not a matter of paramount importance, but involves the modification of Ernest's second conclusion, and the rejection of a part of the sixth.

Dr. Valentine Mott has told me that in his inoculations death has almost invariably followed after subdural injections of the virus. In the few cases where this result did not follow, he had thought the virus had not passed under the dura, or was too small in quantity. When these animals were inoculated a second time, death always followed. Death had never occurred later than the fourteenth day in his cases, and very rarely had reached this limit. In Ernest's cases 14.9 days was the average time, and twenty-eight days the longest period.

As regards the experimental data at hand, we may conclude that they are contradictory, insufficient, and incomplete. So far as the results obtained go, they show that there is some peculiar nerve poison that Pasteur is experimenting with. This poison is probably that of rabies, has a specific action on certain animals, may be attenuated by keeping in a dry air for various periods of time, and when thus attenuated and used for inoculation in a prescribed manner, grants a certain degree of insusceptibility to the strongest virus. The insusceptibility thus conferred, however, is not absolute.

We will return now to the practical results obtained in the inoculation of human beings. It seems quite incredible that nearly 2,000 French persons have been bitten by rabid dogs in 1886. It is fully as incredible that there would have been 320 deaths from hydrophobia in France in 1886 if Pasteur's inoculations had not been made. The estimated average mortality in France from 30 to 45 annually for many years, as shown by the most reliable statistics at hand when compared with deaths in other countries from this disease, and with our general knowledge of the rarity of the disease, seems a very liberal estimate, and I should say is certainly not too low. The deaths during the last year have been, roughly speaking, somewhere between 35 and 40. *Now, if these statistics are correct*, we are forced to the conclusion that there is as yet no proof from this side of the question of the efficacy of the method. Again, M. Pasteur

has placed the number of deaths in the Paris hospitals during the last five years at 60, or 12 annually. This year he says there have been only three—one of his patients, and two who had not been inoculated. Lutaud, on the other hand, gives in detail a statement of each death from hydrophobia in each of the Paris hospitals for the last five years, and finds that the total number is 26, or 5.1 annually, and the total number for the last eleven years as 43, or 3.9 annually, instead of 12, as stated by Pasteur. Further, he says that two of Pasteur's patients have died in the Paris hospitals in 1886, making the total number of deaths 4 instead of 3, as Pasteur has stated. These statistics again, if correct, show nothing favorable to Pasteur.

Now as to the new method of intensive treatment, which appears to have been subjected to innumerable modifications. This, it seems to me, has no rational foundation as viewed from any standpoint. It does not harmonize with anything that we know concerning the virus of any of the infectious diseases. It is as unscientific in its conception as it is irrational in its application, and is opposed to Pasteur's own previous statements and belief. Further, so far as we know, it had no sufficient test in experiments on animals before it was applied to man, and the only independent experiments thus far made with it wholly condemn it. The method of development of paralytic rabies in the human being, the history and manifestations of the disease, the experimental results obtained in animals, and the case of hydrophobia at Warsaw, all seem to make it at least possible that the disease may be actually produced by the inoculations.

After this hasty review of the whole subject it does not seem to me that the conclusion drawn by von Frisch from his experiments is without foundation when he says: "That M. Pasteur's method of conferring immunity on animals against the virus of rabies requires much further working out before it can be considered safe or trustworthy, while as to human beings there are as yet no valid reasons for the institution of a preventive treatment. On the contrary, there is a strong presumption that the actual disease may be produced by the preventive treatment itself, at least in the intensive form lately adopted by Pasteur."

In a paper read nearly one year and a half ago the writer said: "It seems to me that the strongest evidence of the efficacy of the method for the prevention of rabies rests, not upon any results thus far obtained in the inoculation of human beings, but upon the results of his experiments upon dogs. But these experiments are as yet unconfirmed by other observers, and scientific men will hesitate to accept such far-reaching conclusions as are involved in this method without such confirmation." And quoting again from that paper: "Pasteur's prophylactic method for rabies rests purely on empirical grounds, and can only be fairly judged by the practical results obtained by its use." After the lapse of a year and a half we can only say that the experiments upon animals made by other observers have been only in part confirmatory of his position, and that the practical results thus far obtained lack very much of being what Pasteur declared they would be. With scarcely any

more confirmatory evidence than we had at that time, and with much opposing evidence derived from the practical results obtained by the application of the method, we may well follow in the footsteps of the English hydrophobia commission and wait for fuller and more reliable information.

THE ANATOMY AND PHYSIOLOGY OF THE RECURRENT LARYNGEAL NERVES.

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FROM THE PHYSIOLOGICAL LABORATORY OF THE HARVARD MEDICAL SCHOOL.

(Continued from page 35.)

In arriving at an appreciation of the physiology of the recurrent laryngeal nerves, it may be well to view them in the light of our knowledge of the functions of the organ over which they preside. We can recognize three distinct functions of the larynx controlled by three distinct groups of muscles, which are all innervated by the recurrent nerves. These wonderful nerve-trunks, therefore, which, as previously stated, are but one millimetre in diameter, contain sets of nerve-fibers as distinct as the functions of the groups of muscles which they supply. Mentioned in the order of their importance to life, these muscular groups and their functions are: (a) Those that carry on the respiratory function of the larynx; (b) the sphincter group, which serve to close the lumen of the larynx to prevent the entrance of foreign bodies, and play an important part in all expulsive acts, such as coughing, sneezing, retching, vomiting, or defecation, "or in those muscular actions where it is necessary to have the thorax fixed in order to enable the muscles attached to it to act with greater advantage or greater precision" (Lauder Brunton and Cash*); and (c) the phonatory muscles.†

The respiratory and the phonatory muscles which are attached to the arytenoid cartilages have diametrically opposite action. The respiratory muscles (the posterior crico-arytenoids) hold the glottis open for the ingress and egress of air, and, on direct stimulation, they open it still wider, while the phonatory muscles, when called into play, close the glottis by approximating the vocal bands. The vocal bands are brought into apposition in the median line of the glottis for sound production by a most delicate co-ordination of automatic muscular action, and not by forcible constriction in the sense with which we apply that word to the sphincter-like working of the muscles contained in those portions of the larynx above the vocal bands—namely, in the ary-epiglottic folds and in the ventricular bands.

These functions of the larynx can be watched in the laryngoscopic mirror. If the subject under examination takes a deep inspiration, the glottis will immediately dilate under the increased respiratory stimulus; if a probe or other instrument is passed into the interior of the organ,

its walls will instantly shut tightly around it, and reflex coughing or retching will be produced; if a vocal sound is emitted, it will be accompanied by an approximation of the vocal bands. Since the recurrent furnishes these groups of muscles with nerve-force, we must speak of it, like the organ over which it presides, as having three functions, its effect upon the larynx depending upon the particular set of nerve-fibers which are called into action. If the different sets of filaments contained in the trunk of the nerve could be traced to their origin, and there differentiated and separately stimulated, we might undoubtedly produce an opening or a closing of the glottis at will, according to the function of the nerve-fibers operated upon.

But when we experiment with the nerve-trunk itself we find there all the different fibers packed together in a small compass, and on applying a current of electricity to it we can not be positive that we are stimulating all of its component filaments equally and simultaneously. We have no definite knowledge of the numerical or topographical relation between the dilating and the constricting fibers. The fact that a stimulus applied to the recurrent nerve of some animals causes a dilatation of the glottis, while in others, under the same conditions, it produces a closure, and again, in the same animal, at one moment dilatation and at another moment closure, according to circumstances, shows us what a complex nerve we are dealing with, and how great are our difficulties when we attempt to apply results obtained in the lower animals to man.

The most important function of the larynx is that of respiration. The muscles which regulate this vital act are the largest of the intrinsic laryngeal group. They are in ceaseless activity during life, holding the glottis open to permit the passage of air to and from the lungs. Theoretically, we should expect that the nerve-fibers which innervate these muscles would be the most numerous, the most sensitive, and of greater resisting power than all the other individual filaments of the recurrent nerve; and also that any stimulus applied to the nerve would excite a contraction of these muscles, since they are the largest of the laryngeal group, and the most bountifully supplied with nerve-force; but practically we know that this is not universally the case. If, for instance, the recurrent nerves of dogs that are unnarcotized or slightly under the influence of ether, chloroform, chloral, or morphine, are stimulated with the feeblest current of electricity, the first effect noticeable upon the glottis is a vibratory movement of the vocal bands, with a tendency toward closure, which, on gradually increasing the intensity of the stimulus, becomes a firm closure of the glottis through tetanic contraction of the adductor muscles. Now, it is very remarkable that if we irritate the recurrent nerves of a cat under the same conditions, the effect upon the glottis is exactly the opposite. The cat's glottis will dilate instead of closing. Contrary to what we observe in dogs, the earliest effect of a weak stimulus applied to the recurrent nerves of the cat is to produce a vibratory movement of the vocal bands with a tendency toward dilatation, which immediately merges into a rigid dilatation as the strength of the stimulus is increased.

* "The Valvular Action of the Larynx," "Journal of Anatomy and Physiology," vol. xvii.

† It must be recognized, however, that some of the fibers belonging to the group of muscles commonly described as the thyro-arytenoids may act as sphincters under certain conditions, while at other times they serve purposes of phonation.

Dr. Douglas Powell,* of London, has drawn our attention to the fact that the same phenomena are not observed in different animals, and he has recorded that in the cat, instead of closure, powerful abduction of the vocal bands was obtained on galvanizing the recurrent nerves.

Our own observations agree with those of Dr. Powell, and we think we may affirm that in the dog the function of the recurrent nerve, under normal conditions, is to close the glottis, while in the cat, under similar conditions, it is to open the glottis. These effects take place whether stimulation be applied to the intact nerves or to their peripheral ends after section. These opposite results in the lower animals render the practical and pertinent question, "*What is the normal function of the recurrent nerve in man?*" difficult to answer until we are able to determine which animal man most resembles, or until we subject him to direct experimentation.

The results of experiments on man have not been entirely satisfactory, but they all point in one direction—viz., that stimuli applied to the nerve close the glottis. We know of but one series of experiments made on man where the recurrent nerve was dissected out and irritated. Dr. W. W. Keen,† of Philadelphia, in 1875 experimented on the recurrent nerve of a criminal recently hanged, in order to determine the question whether a chiasm of the minute fibers of the nerve existed. He says that repeated faradization, both with weak and with strong currents, of the left recurrent and left vagus produced decided movements of the left vocal cord only. The character of the movements (adduction or abduction) was not mentioned, but Dr. Keen has recently informed the writer that, although he would not like, at this distance of time, to assert positively that the left cord was adducted, he is as reasonably certain that such was the fact as one can be of a remembered fact after a long interval of time.

The attempts that have been made on the living subject to excite the recurrent nerves through the skin and soft parts of the neck, and to observe the effect upon the glottis through the laryngoscopic mirror, have been crowned with a certain degree of success, and it has always been the adductor muscles that were seen to respond to the stimulation.

Gerhardt,‡ the earliest investigator in this direction, reached negative or doubtful conclusions. Dr. Pauly, of Posen, and Professor Quincke§ employed this percutaneous method to reach the recurrent nerves, and observed that stimulation was followed by complete closure of the glottis. Rossbach,|| Erb,^ and Kaplan◇ have each determined that it was upon the adductor muscles of the glottis that the elec-

trical stimulation was manifested, but, as the results were not constant, and as it was uncertain whether the effects were of a reflex nature or direct upon the nerve, or perhaps upon the laryngeal muscles themselves, we can not regard these observations as throwing any very clear light upon our present inquiry. It is noteworthy, however, that an opening of the glottis has not been recorded by those who have experimented with the recurrent nerves in this manner; and, from our empirical knowledge of the action of the muscles of the glottis in health and in disease, we consider it reasonably certain that any irritation of the trunk of the recurrent nerve in man would produce a spasm of the glottis and not a dilatation.

Let us now return to the lower animals. We have already said that stimulation of the recurrent nerves of the dog, under normal conditions, *closes*, while excitation of the recurrent nerves of the cat *opens*, the glottis. Yet it is in our power, under certain circumstances, to reverse this natural order of phenomena in these two animals, and to produce in the dog a dilatation and in the cat a closure. The sole condition in the dog, so far as our present experience goes, by which a dilatation of the glottis can be obtained, is through the influence of sulphuric ether, and when the animal is in profound morphine narcosis.

From some undiscovered cause ether completely abolishes the offices of the glottis-closers. It has some unknown peripheral effect upon either the laryngeal muscles or nerves, or both, so that when a dog is in profound ether narcosis his glottis no longer closes when the recurrent nerves are stimulated, but, on the contrary, is opened widely through the action of the glottis-openers, upon which ether has, apparently, no influence.

In a paper* entitled "The Respiratory Function of the Human Larynx," published two years ago, we recorded this fact for the first time. From the date of that observation to the present time experimental researches have been prosecuted in the physiological laboratory of the Harvard Medical School, by others as well as by ourselves, with the view of determining the cause of this "ether-effect," and whether sulphuric ether would have analogous effects upon other nerves and upon other groups of antagonistic muscles.

While we were engaged in this direction, having established beyond doubt the *fact* of what for the sake of brevity we shall call the "ether-effect," a paper appeared in the "American Journal of the Medical Sciences," July, 1886, by Dr. F. Donaldson, Jr., wherein the writer stated that he had been unable to obtain the "ether-effect." He did, however, observe a dilatation of a dog's glottis when the animal was under ether, but inferred that the phenomenon was due to weak stimulation of the recurrent nerve instead of to the ether, inasmuch as he produced a closure of the glottis on increasing the intensity of the current.

Shortly after this paper was issued, Felix Semon, M. D., F. R. C. P., and Victor Horsley, B. S., F. R. S.,† published in a lucid report the results of their investigations on this sub-

* "Med. Times and Gazette," Dec. 19, 1874, p. 701.

† "Trans. of the College of Physicians of Philadelphia," Third Series, vol. i, 1875.

‡ Virchow's "Archiv," vol. xxvii, 1863.

§ Referred to by Kaplan, "Experimenteller Beitrag zur electrischen Erregbarkeit d. Glottismusculatur," etc. Inaugural Dissertation, Berlin, 1884.

|| "Monatsschr. für Ohrenheilkunde," etc., October, 1881, No. 10, p. 166.

^ "Handbuch der Elektrotherapie," Leipsic, 1882, p. 172.

◇ *Loc. cit.*

* "New York Medical Journal," July 4, 1885.

† "On an Apparently Peripheral and Differential Action of Ether upon the Laryngeal Muscles," "Brit. Med. Journal," August 23, 1886, p. 405.

ject, which fully verified our own observations. These authors also state that they were able to obtain dilatation with feeble stimuli, yet they call our attention to the fact, and it is here the practical point, that it was only in those cases in which the animal was not deeply etherized.

The dilatation, it seems to us, should be ascribed to the action of the narcotic.

The strength of the current, however, is a factor in determining whether dilatation or closure is produced, and it is undoubtedly correct that *in certain stages of etherization*, as we shall hereafter demonstrate, abduction may be called forth by a weak stimulus, while a stronger stimulus, with the same amount of ether, will produce the ordinary result of closure. But we think it is impracticable to use strong stimuli in these or other studies in experimental laryngology.

In our investigations on the "ether-effect," conducted two years ago, the intensity of the currents used was always of the feeblest, and it therefore struck us as somewhat extraordinary that others who followed us should lay so much stress upon the fact that weak stimuli should be the cause of the opening of the glottis, which, in reality, as we had proved, was due to the effect of sulphuric ether.

Considering, therefore, the confusion, although it appears to us to be more fancied than real, that has slightly befogged this question, we have felt it incumbent upon us to rehandle the subject.

It may be well here to explain more in detail than we have hitherto done the terms we use to describe the different shapes the glottis may assume in response to electrical stimulation of the recurrent nerves. By *complete dilatation* we mean that both vocal processes of the arytenoid cartilages are rotated forcibly outward, the vocal bands, in marked instances, appearing to lie flat against the walls of the larynx, this extreme opening being maintained as long as the stimulation is kept up. By *mixed movement* we mean an opening in the posterior portion of the glottis and a contraction of the ligamentous portion in front, giving to the glottis a rhomboidal shape. This shape appears to arise in two ways—either by an active opening behind accompanied by an active closure in front, or simply by a *want of closure* behind and an active closure in front. The large development of the cartilaginous portion of the glottis in the dog should be borne in mind in interpreting these appearances. The agency by which the mixed movement is brought about is not perfectly understood. It would seem, in some instances, as if all the intrinsic group of muscles were responding equally to the stimulation except the lateral crico-arytenoids and the transversus; hence the closure in front and the opening behind; but, the lateral and transverse muscles not acting, the lozenge-shaped glottis is the result. By *complete closure* we mean close apposition of the ligamentous and cartilaginous portions of the glottis.

When we consider what a complicated and delicate organ the larynx is, being made up of so many cartilages which are freely movable on each other by means of the numerous muscles attached to them, the fibers of which run in every possible direction, it need not cause surprise that there should be occasional variations in the appearances of the

glottis in different dogs following stimulation of the recurrents which may be due to some peculiarity of the nerve distribution or to unusual strength of some of the laryngeal muscles.

But of the general results in dogs we think there is not much ground for doubt or for any difference of opinion of practical value. Errors of interpretation may be lessened and the most trustworthy results obtained by placing a shielded electrode on each nerve five to eight centimetres below the cricoid cartilage, the effect of stimulation on the glottis being watched through the mouth, when both nerves are irritated equally and simultaneously.

Small and young dogs, in our experience, are much more satisfactory for experimental purposes than old or very large ones. The breed seems to be of no consequence.

Our present series of observations have been conducted on forty-two dogs, and comprise three hundred and twelve recorded experiments. Of these animals, twelve have been devoted to a study of the effects on the glottis of stimulating the nerves when the dog was under chloral, chloroform, or morphia, eighteen to the "ether-effect," seven to the local effect of ether upon the nerve-trunk, and five to "exhaustion" experiments.

We have stated that the normal effect of irritating the recurrent nerves of dogs is to *close* the glottis. This statement is founded upon the investigations of others, who have experimented with and without anaesthetics, and upon our own observations with small amounts of different narcotics.

The following experiments with chloral may be taken as a type of what occurs in the majority of cases when dogs are under small amounts of chloral, morphine, chloroform, or ether. These particular experiments are selected from a large number merely because some of our colleagues conducted the observations with us:

April 27, 1887.—Dr. Knight and Dr. Langmaid present. Medium-sized poodle bitch. Ether was first given until the femoral vein was exposed and a cannula tied into it, through which a 25-per-cent. solution of chloral was slowly injected. After this stage of the operation the animal had no more ether. The recurrent nerves were laid bare, and shielded electrodes placed upon them. The glottis was observed through the mouth. Stimulation of the nerves with the feeblest current was followed by a vibratory motion of the vocal bands, which, on increasing the intensity of the stimulus, passed into complete closure. Nothing resembling a dilatation or the mixed movement could be called forth in this dog.

Dr. Knight was present on another occasion, when a very small terrier bitch was the subject of experiment under similar conditions, and the results were identical in all respects. In no instance, in a chloralized dog, have we been able to elicit a complete dilatation, but the mixed movement has been seen in two cases. In one of these, Dr. Knight, Dr. Langmaid, and Dr. De Blois assisting, the dog was a very powerful animal, and, although the first few effects of stimulation were followed by closure, the mixed movement only was afterward called forth with

all intensities. It would seem that this mixed movement was produced through a failure of the lateral crico-arytenoid muscles to respond to electrical stimulation, the other muscles acting equally. It may be that, as narcosis comes on, the lateral adductor is the first to lose its contractility, and, as the narcosis becomes more profound, the functions of the other adductors are also arrested, while the dilators hold out to the last.

Although we have not been able to produce complete dilatation with chloral or chloroform, it is not unlikely that, by pushing these drugs to extreme limits, we might, in certain cases, elicit such an effect. It is difficult to believe that sulphuric ether should be the only drug capable of calling forth abduction. We have succeeded in obtaining complete dilatation in a dog under an enormous dose (2-5 grammes) of morphine; but the condition of the dog under these circumstances can hardly be compared with that of the animal when a harmless dose of ether has been administered. It was with much surprise that, in the spring of 1885, we saw, for the first time, the glottis dilate under the effect of an irritation applied to the recurrent nerve; but we immediately surmised the reason, which subsequent researches by ourselves and others have shown to be correct. It may render this study clearer if we briefly review the circumstances of our first observation, and how we were led to what appeared to us the only possible conclusion, that the dilatation was brought about through the influence of sulphuric ether. Our experiments, which had already been quite numerous, were generally performed on dogs chloralized by intravenous injection. This means of producing anæsthesia was almost invariably employed for prolonged experiments. Ether, however, was given in the first stage of the operation. The dog in which we first observed a dilatation was etherized for the purpose of passing a thread through the recurrent nerve, after which the incision in the neck was to be sewed up, and the animal returned to his kennel for a few days before further observation. On looking for the nerve, it was not found in its proper anatomical situation; but two small nerves were discovered near by. As it was doubtful what these two branches were, it was considered prudent to irritate them, and, if the glottis contracted, we could then be certain we had the nerve we were in search of, and proceed with the operation. But, when the nerves were stimulated, we were greatly surprised to see a forcible dilatation, instead of the customary closure. The assistant in physiology, Dr. Warren, was requested to come and witness this unusual sight. The ether sponge had been removed from the dog since the beginning of the experiment, and by the time Dr. Warren was ready to look at the glottis the animal was somewhat out of its influence. At all events, on stimulating the nerve a second time, closure was manifested, instead of the dilatation so evident a few moments before. Here we had in the same dog, at a short interval, both a dilatation and a closure of the glottis. As all the conditions were the same, with the exception of the depth of the narcosis, the natural inference was that the amount of ether in the animal must be the cause of the dilatation. A large quantity of ether was again administered, and the abduction again clearly demonstrated.

Our first idea was that the "ether-effect" was central. To test this hypothesis the recurrent was divided, and the irritation applied to its peripheral end. The glottis dilated after section of the nerves as well as before.

With regard to the fact of the "ether-effect" in dogs we have little to add. Our previous experiments were based on so many confirmatory observations on different dogs that the fact was clearly established. The facility with which a dilatation may be elicited depends upon the susceptibility of the dog to the drug, the intensity of the irritation, and the amount given. It differs in different dogs. In the majority complete dilatation may be elicited; in other instances the mixed movement only is obtainable. In two dogs, in our experience, the effect has been negative; in these cases there was neither contraction nor dilatation on stimulation of the recurrent nerves, even in the most profound stage of etherization, but with slight anæsthesia closure took place.

(To be continued.)

VAGINAL HYSTERECTOMY IN AMERICA,

WITH REPORT OF TWO CASES.

By A. PALMER DUDLEY, M. D.,

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(Concluded from page 38.)

There are several interesting features in this case, which may be summed up as follows:

1. The advance which the disease had made before the operation was resorted to. The cervix was so much involved that it broke down when grasped by the forceps, and the right wall of the vagina also was somewhat affected. Still, at the expiration of one year, no return had manifested itself. (In an article entitled "The Limitation of Vaginal Hysterectomy," read before the American Gynecological Society in 1884, by Dr. Paul F. Mundé, he gives statistics of eighty-two operations, in thirty-two of which, or 39.2 per cent., the patients remained free from recurrence two years after the operation.)

2. The manner of operation. From what I can gather from the literature of the subject (especially from the German), the usual position for operation is upon the back. Both anterior and posterior vaginal connections are severed, and the uterus is retroverted and brought into the vagina. It seems to me that the lateral (Sims's) presents many advantages over the dorsal or lithotomy position. In the former, fewer assistants and instruments are required to keep the parts in view, and the hæmorrhage can be much better controlled, while the blood, escaping from the most dependent portion of the vagina, does not obstruct the view of the parts. Dr. Mundé, in summing up the report of his cases, stated that in the future he should operate with his patient in the gluteo-dorsal position in preference to the Sims, his main reason being the difficulty of doing the operation in case of narrow vagina. I can not see the advantage of the dorsal position, with the numerous retractors, even under such circumstances, for the narrow or contracted condition of the vagina can be largely

overcome by thoroughly packing it with antiseptic cotton for a few days before the operation.

3. With the patient in the dorsal position, one of the most troublesome features of the operation is to keep the intestines and bladder out of danger. In Sims's position both bladder and intestines are carried out of the way by force of gravity, and thus are less liable to be wounded. Again, by anteverting the uterus and drawing it down, while the posterior vaginal connection still remains intact, there is less liability of necrosed tissue and poisonous fluids coming into contact with the intestines or pelvic peritonæum, while the danger of concealed hæmorrhage from bleeding vessels behind the Sims speculum (as happened in Dr. Mundé's case) is avoided; and certainly, after the uterus has been removed, the operator is better able to detect any portions of diseased tissue which may not have been included in the first incisions.

These advantages of the side position tend to shorten considerably the actual time required to perform this operation, which is an item worth considering. In my own case, although the woman had borne children, the vagina was not voluminous; still, the operation was completed without haste in one hour and forty minutes.

4. As to the best method of leaving the wound after operation. In this case I did not close any part of the wound with sutures, but left it to heal by granulation (and how far may this method have been the cause of the inflammatory adhesions which resulted in obstruction of the bowel and production of the fistula?), which is a rare occurrence after such an operation. Martin, in his last work, reports sixty operations for various forms of disease (carcinoma, sarcoma, epithelioma, and adenoma), in one of which an entero-vaginal fistula resulted, but in that case the cancer had involved the tissues around the uterus. His method of treating the wound is by closely uniting the peritonæum and the vagina with interrupted sutures, applied with a sharply curved needle, the application of the sutures following closely upon each incision so as to avoid hæmorrhage. They are passed through the vaginal wall and peritonæum, returning on the same side so as to ligate all bleeding vessels, and at the same time fasten the peritonæum around the circumference of the wound. The angles of the wound are then brought together with interrupted sutures. He concludes that a drainage-tube is necessary for a good result, and uses the soft rubber tubing. At stated intervals he cleanses the vagina, but does not inject water into the peritoneal cavity. The cut surfaces heal by granulation, and he afterward removes the peritoneal-retaining sutures carefully. In my case, as before stated, the wound was left to heal by granulation at the same time that free drainage was secured, and it healed perfectly in twenty days. The surgeons who have done vaginal hysterectomy have each his own peculiar way of treating the wound after operation. While one stitches the wound closely around a drainage-tube, another is content to leave the wound to heal by granulation. But, as statistics show a decrease of mortality in proportion to the increase of our knowledge of antiseptic surgery in this operation as well as in others, the main feature of the after-treatment proves itself to be *antiseptis*, and for statis-

tical evidence of this fact the reader is referred to a valuable paper by Dr. Sarah Post in the "American Journal of the Medical Sciences" for January of the past year.

5. This case is also of interest because it demonstrates how the intestines may be treated, in accidents to the latter, during or following such operations or abdominal section for any purpose, even after a lapse of six months, without a proper movement.

Since writing the preceding portion of this paper I have done the operation a second time, and, although not with such good success (it having terminated fatally), I desire to place a short report of it before you, in order to call your attention to some features of the case which to me have been most instructive.

The patient was Mrs. Marie B., German, aged forty-eight years, married twenty years, the mother of ten children; no miscarriages; widow eight years. With her first four children she had a physician; the last six a midwife was in attendance. She ceased to menstruate at the age of forty-five, and remained well for nearly two years. Then she commenced to have pain through the back and pelvis, which continued until the time I saw her. For the last five months it had been severe, and accompanied with frequent hæmorrhages *per vaginam*. She first came to my clinic at the Northeastern Dispensary, December 20, 1886, when I made a diagnosis of malignant disease of the uterus, involving the cervix and extending into the body. I sent her to the Post-graduate school, where Professor Bache Emmet confirmed my diagnosis. She was admitted into the hospital on the 26th, and on the morning of the 28th of December the operation was done. During the two days that she had been in the hospital the vagina had been packed as closely as she could bear with an iodized glycerin tampon. This served to prevent hæmorrhage, remove the bad odor, and dilate the vagina to a considerable extent.

The operation was done in the same manner as described in the previous case, excepting that after opening the anterior *cul-de-sac* I took the precaution to ligate each uterine artery before attempting to antevert the uterus. My trouble then commenced, for as I passed my finger over the fundus uteri I discovered that it contained a small fibroid in each horn, which widened the surface to such a degree as to make it impossible to bring the body of the uterus into the vagina. I anteverted it and brought the right horn, containing the largest fibroid, into the vagina, transected and ligated beneath the fibroid, and cut the latter away. I then allowed the uterus to fall back into the pelvis, turned it upon itself, and brought the left horn down, and soon succeeded in bringing the body through the incision into the vagina, but in my efforts to do this I lacerated the tissue considerably by making too much traction with the forceps. This promoted considerable bleeding from the left ovarian artery, which I readily controlled by casting the elastic ligature around the body close to the vaginal junction. Finding I had perfect control of all hæmorrhage, which facilitated my work, I again severed the body close to the ligature. Up to this point the operation had been very difficult, and much time had been consumed owing to the fact that the vagina was narrow, making work exceedingly difficult; and this difficulty was further complicated by a whip-cord-like band of peritonæum, which extended from the lower and posterior surface of the right broad ligament up the side of the pelvis to the true pelvic brim. This band prevented my being able to draw the uterus down more than an inch, and obliged me to do the entire operation with it high in the pelvis. Having removed the major portion of the body, I transected and again ligated

No.	Name of surgeon.	Age.	Description of case.	Manner of operation.	Date of operation.	Result.	When last seen.	Remarks.
I.	Dr. Anderson, San Francisco.	56	Carcinoma of cervix and body.	Circular incision of vaginal vault with a galvano-cautery.	October 26, 1881.	Recovery, with a vesical fistula.	February, 1882; no return of the disease.	
I.	Dr. W. H. Baker, Boston. Not published.	54	Carcinoma of body of uterus.	Anterior, then posterior, incision; uterus retroverted; section ligatures; wound dressed openly.	March 24, 1885.	Recovery.	Disease returned in October, 1885; died May 25, 1886.	
I.	Dr. A. C. Bernays, St. Louis.	52	Epithelioma, involving both lips of the portio vaginalis.		Dec. 12, 1883.	Recovery.	November 24, 1886; in good health.	Had peritonitis lasting only a short time.
II.	"	41	Epithelioma of cervix and extending into the body		May 10, 1884.	Recovery rapid.	December, 1886; no return.	Uninterrupted recovery.
III.	"	42	Epithelioma of cervix and body; organ much enlarged.		March 26, 1885.	Recovery rapid.	November 1, 1886; no return of the disease.	Had some peritonitis with suppuration; tubes and ovaries removed with the uterus
IV.	"	50	Epithelioma of cervix, involving some of vaginal vault.		June 5, 1885.	Recovery rapid.	July 4, 1886; examined and found no return of the disease.	
V.	"	36	Epithelioma; the entire posterior lip of cervix gone; growth extended into the body.		August 1, 1885.	Recovery rapid.	December 3, 1886; slight suspicious thickening in the cicatrix.	Had secondary hæmorrhage requiring ligation of small artery on the fifth day.
VI.	"	34	Epithelioma of cervix, extending to the internal os.		November 4, 1885.	Recovery rapid.	December 4, 1886; no return.	
I.	Dr. J. G. Blake, B's't'n. "Boston Med. & Surg. Jour."	42	Carcinoma of the cervix.	Circular incision; ligaments ligated <i>en masse</i> ; uterus removed without version.	January 28, 1880.	Death in 12 hours from shock.		The parts were so vascular the loss of blood was great.
I.	Dr. Wm. T. Bull, New York, "New York Med. Journal."	45	Epithelioma of the cervix uteri.	Circular incision; uterus anteverted; broad ligaments tied in sections; open dressing.	February 19, 1883.	Recovery rapid.	In October, 1883, the disease reappeared, and she died in eighteen months.	Vagina tamponed with peat-bags.
II.	"	36	Epithelial growth upon the cervix; cauliflower.	"	August 16, 1884.	Recovery.	March, 1886. Death from carcinoma of the peritonæum.	Five days before the hysterectomy the cauliflower cervix was removed.
III.	"	35	Epithelioma of the cervix, extending to internal os.	Circular incision; uterus retroverted; broad ligaments tied in sections.	September 24, 1884.	Recovery.	September, 1886, she remained well.	One suture placed across the vaginal wound.
IV.	"	52	Epithelioma of the cervix.	Posterior and lateral incision; uterus retroverted; open dressing.	July 4, 1886.	Recovery.		Right broad ligament tied in sections; left broad ligament cut with cautery.
V.	"	43	Cauliflower of the cervix.	Uterus pulled down with silver wire and cut away from rectum and bladder.	August 27, 1886.	Death August 27, 1886.	Two transfusions of saline fluid before death.	Hæmorrhage in meso-rectum.
I.	Dr. Burke, Connecticut. Not reported.	37	Sarcoma of cervix; cauliflower.	Uterine arteries ligated; uterus drawn down; <i>cul-de-sac</i> opened; ligaments tied <i>en masse</i> ; uterus severed & drawn down; vagina stretched.	November 11, 1882.	Recovery rapid.	During the present month, and found in good condition.	The cervix was amputated six months previous to the operation for hysterectomy.
I.	Dr. Cushing, San Francisco. "Am. Jour. of the Med. Sci.," 1882.	47	Carcinoma of the cervix uteri.	Sims's position; uterine arteries ligated; uterus separated from bladder; ovarian arteries tied; uterus retroverted; vaginal wound left open.	September 4, 1881.	Recovery rapid.	One year after operation.	Disease returned in six months and caused death in one year.
I.	Dr. B. F. Dawson, New York, "Am. Journal of Obstetrics."		Diffuse sarcoma of the mucous membrane of the uterus.	Circular incision; uterus drawn down and not ante- or retroverted, owing to presence of a fibroid in the body.	April 7, 1885.	Death on 3d day from fever.	The uterus contained two fibroids, one interstitial.	Autopsy showed fatty degeneration of the kidneys.
I.	Dr. De Vecchi, San Francisco. "Western Lancet" 1883.	53	Epithelioma of the cervix and vagina.	Incision by galvano-cautery wire; mass ligatures; uterus retroverted.	March 1, 1883.	Rapid recovery; died 2 years and 3 months after.	She was under observation till death; the disease showed evidence of return in one year.	The disease involved abdominal organs; patient died in great agony.
II.	"	50	"	"	No date.	Rapid recovery.		The disease returned in 6 months, and the patient died before the 6th mo. had passed.
I.	Dr. A. Palmer, Dudley, New York.	44	Epithelioma of the cervix and right vaginal wall.	Anterior vaginal opening; uterus anteverted; ligaments tied in sections; open dressing.	December 20, 1883.	Recovery rapid.	One year after operation; no return of the disease.	Death from laparotomy for entero-vaginal fistula.

No.	Name of surgeon.	Age.	Description of case.	Manner of operation.	Date of operation.	Result.	When last seen.	Remarks.
II.	Dr. A. Palmer Dudley, N ^w York.	48	Epithelioma of the cervix and body.	Anterior vaginal opening; uterus anteverted; ligaments tied in sections; open dressing.	December 28, 1886.	Death in 39 hours from acute nephritis.		Complete suppression of urine twelve hours before death.
I.	Dr. E. C. Dudley, Chicago. Not reported.	..	Carcinoma of the cervix and extending into the body of uterus.	Czerny's method of operation.	May 23, 1882.	Died in four hours from shock.		
I.	Dr. J. W. Elliot, Boston. "East'n Med. & Sur. Jour.," July 22, 1885.	39	Epithelioma of the cervix uteri.	High amputation; anterior <i>cul-de-sac</i> opened; uterus anteverted; vaginal wound tamponed with iodoform gauze.	May 12, 1885.	Death on the 6th day from hemorrhage.		This patient had high amputation in January, 1885; was again curetted in March; death caused by hemorrhage from torn adhesions.
I.	Dr. P. F. Eve, "Am. Jour. of the Med. Sci.," 1850.	28	Encephaloid of apparently entire uterus and upper part of vagina.	Forcibly drawn down and removed with a knife.	April 16, 1850.	Recovery rapid.	Two months after operation; growth found returning in the scar.	Death July 22, 1850, three months and one week after the operation.
I.	Dr. C. Fenger, Chicago. "Trans. of the Am. Gynec. Society."	40	Carcinoma of cervix and lower half of the body of uterus.	Uterus anteverted; broad ligaments tied in two sections; vaginal wound closed with silk.	September 19, 1881.	Recovery in four weeks. Died in May, 1885.	The disease returned in the posterior wall of bladder in 1884.	A fistula made in the bladder at time of operation was closed with silk; the latter was a nidus for stone passed six months later.
I.	Dr. M. Franklin, Philadelphia.	40	Epithelioma of the cervix uteri.		November 11, 1882.	Death on fifth day from shock.		Autopsy gave no evidence of peritonitis; only a few lymph glands about the intestines, at the seat of the operation.
I.	Dr. Goodell, Philadelphia.	50	Epithelioma of the cervix uteri.	Anterior, then posterior incision; uterus retroverted; ligaments tied in sections.	November 13, 1883.	Died November 15, 1883.	Death caused by septicæmia.	Iodoform tampon used, and vaginal wound left open.
II.	"	64	"	"	March 3, 1886.	Recovery.	Died October 25, 1886, from vaginal hemorrhage.	
I.	Dr. R. J. Hall, New York. Not reported.	35	Epithelioma of the cervix and extending into the body of uterus.	Operation made for hemorrhage; Douglas's <i>cul-de-sac</i> opened; uterus retroverted; open dressing; ligaments tied in three sections.	August, 1886.	Recovery.	Seen last November; she was then well.	Cervix amputated six weeks before the operation, the intestines prolapsed during the operation.
I.	Dr. J. B. Hunter, New York. Not published.	50	Carcinoma of cervix and body.	Lithotomy position; anterior incision, then posterior, and uterus anteverted; section ligature of ligaments.	October 24, 1885.	Death same evening from shock.		This operation was very difficult, owing to patient's fleshiness and narrow vagina.
I.	Dr. E. J. III, New Jersey. "N.Y. Med. Jour.," Feb. 13, 1886.	42	Cauliflower of cervix.	Curetted and stitched wound up; incision on right side first; anterior <i>cul-de-sac</i> opened and uterus anteverted; then left side treated.	May 30, 1885.	Recovery.	April 11, 1886; she shows evidence of return of the disease.	November 17, 1886, still in good general health.
I.	Dr. J. Taber Johnson, Washington.	27	Epithelioma of the cervix extending into the internal os.	Anterior, then posterior, <i>cul-de-sac</i> opened; uterus retroverted; section ligatures; iodoform dressing.	June, 1885.	Death in 4 days from peritonitis.		Four months before the operation the diseased cervix was curetted and cauterized.
I.	Dr. F. d'Almeida, New York. "Report of Surgical Society."	60	Carcinoma of the cervix extending into the body.	Martin's method; uterus retroverted; ligaments tied in sections.	November 11, 1886.	Recovery rapid.	February 5, 1887; perfectly well.	
I.	Dr. L. C. Lane, San Francisco.	..	Epithelioma of the cervix uteri.		November 11, 1878.	Recovery rapid.	One year after, when she had ascites, and died soon afterward.	Autopsy showed no return of the disease in the pelvis, but the mesenteric glands contained cancerous deposits.
II.	"	..	"		1878.	Recovery rapid.	Two months after operation.	Death from pelvic abscess, which burst internally.
III.	"	..	"		1884.	Recovery rapid.	Still living and doing well.	
IV.	"	..	"		1885.	Died in 48 hours from septicæmia.		
V.	"	..	"		1885.	Died 1 week later from peritonitis.		

No.	Name of surgeon.	Age.	Description of case.	Manner of operation.	Date of operation.	Result.	When last seen.	Remarks.
VI.	Dr. L. C. Lane, San Francisco.	..	Epithelioma of the cervix uteri.	.....	1886.	Recovery.	Four months after operation.	There was a speedy return of the disease.
VII.	"	..	"	.....	1886.	Died two days after-ward.	.....	The autopsy revealed retro-peritoneal hæmorrhage of some standing.
VIII.	"	..	"	.....	1886.	Rapid recovery.	January 1, 1887.	Well at the present time.
IX.	"	..	"	.....	December 4, 1886.	Rapid recovery.	.....	Well at the present time.
I.	Dr. W. H. May, Stockton, Cal.	..	Carcinoma of the cervix uteri.	Circular incision; Douglas's <i>cul-de-sac</i> opened first; uterus retroverted; ligaments tied in three sections.	September, 1882.	Death on the fifth day.	.....	Cause of death unknown.
I.	Dr. Paul F. 43 Mundé, N'w York. "Tr. Am. Gynæc. Soc.," 1884.	43	Epithelioma of the cervix uteri.	Sims's position; anterior, then posterior incision of vagina; uterus retroverted; then ligaments tied in three sections.	October 10, 1883.	Recovery.	The disease returned in nine months.	The ovaries and tubes were removed with the uterus.
II.	"	30	Sarcoma of the cervix uteri.	"	November 9, 1883.	Death in 40 hours from internal bleeding.	.....	.....
III.	Dr. Paul F. 47 Mundé, N'w York. "N'w York Obst. Soc.," 1884.	47	Epithelioma of the cervix ingrafted upon lips of an old lacerated cervix.	Lithotomy position; open'd first <i>cul-de-sac</i> ; retroverted uterus; ligaments tied in three sections.	January 30, 1885.	Death in 30 hours from shock.	.....	Although this operation was more difficult than the previous, he prefers the lithotomy position.
I.	Dr. Polk, New York.	27	Epithelioma of the cervix and body.	Patient upon the back; circular incision of vaginal vault; uterus retroverted.	July 14, 1884.	Death on the sixth day.	On the sixth day.	Cause of death, septic peritonitis.
II.	"	31	Epithelioma of the cervix and body, the uterus movable.	Operation similar, but the uterus anteverted and removed.	January 6, 1886.	Recovery rapid.	Three months after operation.	The disease returned in three months.
III.	"	57	"	Operation similar, but the uterus retroverted.	March, 1886.	Recovery rapid.	.....	Patient now well.
IV.	"	56	"	Operation similar, but the uterus anteverted.	May 27, 1886.	"	Seen last September, 1886, and disease found returning.	This was a very fleshy patient, with a narrow pelvis.
V.	"	55	Epithelioma of cervix and body, and the vaginal wall posteriorly.	As in previous cases, but he was obliged to antevert the uterus.	November, 1886.	Death in 14 hours from shock.	.....	The autopsy showed implication of the glands of the broad ligaments, evidence that the disease was not all removed at the time of the operation.
VI.	"	45	Epithelioma of the cervix extending to the internal os.	On the back; anterior and posterior incisions with cautery; high amputation of the cervix, then the body anteverted.	December 18, 1886.	Recovery rapid.	.....	Patient doing well at present.
I.	Dr. Reamy, Cincinnati.	..	Epithelioma of the cervix and one half of the body of uterus.	Uterus anteverted; after ligating uterine arteries and broad ligaments, stitched the peritonæum to vaginal wall.	August, 1886.	Death in 48 hours from shock.	.....	Long ligatures? were left, and vaginal wound left open.
II.	"	47	Sarcoma of the body of the uterus, not involving the cervix.	"	November 8, 1886.	Recovery in 4 weeks.	.....	The temperature never rose above 101°, or pulse above 108.
I.	Dr. W. E. Taylor, San Francisco. Not reported.	48	Carcinoma of the cervix.	Circular incision; posterior <i>cul-de-sac</i> opened; uterus retroverted; section ligatures; vaginal wound sutured.	August 14, 1881.	Recovery rapid.	The disease returned in April, 1882; death took place in August, 1882.	.....
II.	"	51	Carcinoma of cervix and vaginal wall.	"	August 19, 1881.	Death August 20, 1881.	.....	In both these cases there was prolapse of the intestines into the vagina during the operation.
I.	Dr. Thomas, New York. Not published.	59	Epithelioma of the cervix extending into the body.	Uterus retroverted thro'gh Douglas's <i>cul-de-sac</i> .	October 5, 1882.	Died on 7th day from septicæmia.	.....	The patient was much exhausted prior to the operation.
I.	Dr. Van Rando, New York.	30	Epithelioma of cervix extending to internal os.	Sims's position; amputation of posterior lip of cervix; ligature of uterine arteries; uterus anteverted; iod. tampon.	July 16, 1886.	Recovery.	December 26, 1886; vaginal roof feels hard and suspicious.	Ovaries and tubes were not removed.

No.	Name of surgeon.	Age.	Description of case.	Manner of operation.	Date of operation.	Result.	When last seen.	Remarks.
I.	Dr. Von Hoff- man, San Francisco. Not pub- lished.	37	Carcinoma of the cervix existing four months.	Bladder separated from vagina first; then Dou- glas's <i>cul-de-sac</i> opened, and uterus retroverted.	October 25, 1883.	Recovery rapid; died January 14, 1884.	.....	Post mortem showed carcinoma of omen- tum and peritonæum, but no return in the pelvis.
II.	"	56	Carcinoma of body of uterus, exist- ing six months.	" Uterus retroverted; vagi- nal wound left open.	May 1, 1886.	Recovery.	Well at the present time.	
III.	"	50	Carcinoma of cer- vix.	"	Fall of 1884.	Recovery.	.....	History of this and the following patient lost; they came from a dis- tance, went home well in four weeks, and have not been heard from since.
IV.	"	53	"	"	Fall of 1884.	Recovery.	.....
I.	Dr. R. F. Weir, New York. "Trans. N. Y. Surgical Society."	40	Epithelioma of the cervix uteri; cau- liflower.	Lithotomy position; blad- der separated first; uter- us anteverted; broad ligaments tied in three sections; vagina closed with catgut.	November 10, 1884.	Recovery.	April 27, '85; the growth had commenced to re- turn.	
II.	" Not pub- lished.	45	Epithelioma of cer- vix uteri.	" Bladder perforated by a retractor.	May 16, 1885.	Death from shock and loss of blood.	Patient only lived a few hours.	Uterus much enlarged, complicating the op- eration.
I.	Dr. Wile, Conn. "New Eng- land Med. Monthly," Feb. 15, 1883.	49	Carcinoma of the cervix uteri.	Anterior incision; silk ligature carried over right broad ligament; then posterior vaginal wall opened, and left side treated.	November 13, 1882.	Died No- vember 16, from shock.	She had a sharp hæmor- rhage from the right uterine artery, and it was ligated the second time.	During the operation the intestines pro- lapsed into the va- gina.
I.	Dr. C. M. Wil- son, Phila- d'phia. Not published.	50	Carcinoma of an inverted uterus.	Divided uterus longitudin- ally; tied arteries with catgut, and touched stump with cautery.	September, 1886.	Recovery.	December 14, 1886; still in good health, with no evidence of return.	The inversion had ex- isted for six years.

each broad ligament, slipped my elastic ligature, and cleared the remaining portion of the uterus from the vagina. The small sponge, placed in the pelvis after anteverting the uterus, had prevented any blood entering among the intestines. The vagina was thoroughly cleansed, the sponge carefully withdrawn, and the wound filled with iodoform gauze. The patient went to bed with a weak pulse, but responded readily to stimulants and reacted rapidly, so that by 8.30 p. m. the pulse was good at 90, and the temperature 99.6°. She was given hot water to drink, with brandy as a stimulant, and passed a very comfortable night. The urine was drawn every four hours, about two ounces being obtained each time. At 11 a. m. the next day, the pulse and temperature having gone up rapidly since morning, I feared hæmorrhage into the pelvis and removed the tampon, but found the latter sweet and no evidence of bleeding. I then passed the catheter and got no urine. Wondering what the cause could be, I was informed by the house surgeon that he got but very little from the last passage of the catheter. Our efforts were then directed toward reducing the temperature and relieving the kidneys. The former I succeeded in with hypodermic injections of hydrochloride of quinine and urea and the application of the cold-water coil; but, although twenty minims of tr. digitalis and twenty grains of bromide and acetate of potassium were each given every hour, with hypodermic injections of brandy as a stimulant, the kidneys would not respond, and the pulse gradually weakened and ran higher until death took place thirty-eight hours after the operation.

After much persuasion, permission for an autopsy was obtained, and Professor Porter, pathologist to the school, kindly furnishes me with the following excellent report:

The necropsy, which was limited to the abdominal cavity, was made about twelve hours after death. The peritonæum was carefully examined and found to be absolutely free from

any inflammatory action. The pelvic cavity contained no blood or serum, and the stump of the operation was free from suppuration and in a reparative condition.

The spleen was small and fissured, but otherwise normal.

Kidneys.—Both glands were enlarged, weighing six ounces (170 grammes) each. They were soft and of a whitish-yellow color. Their capsules were non-adherent to the underlying renal tissue, the surface of which remained perfectly smooth after enucleation. The mucous membrane in both pelves presented a marked congestion and puffiness, which would indicate the existence of an acute pyelitis.

The cut surface of the glands showed the cortex to be thickened, pale, granular, and fatty, but the markings were straight. Upon microscopical examination, the epithelium of the uriniferous tubules was found to be in a state of granular and fatty metamorphosis, many of the tubules being occluded by the desquamating epithelium, hyaline, finely and coarsely granular and fatty casts. There was no inflammatory change and no active change in the intertubular tissue; but the appearances were those of a rapidly progressing acute parenchymatous metamorphosis of the kidneys, which had existed for a day or two only. The few drops of urine obtained at the time of the necropsy gave every evidence of the existence of the above lesion. A small lipoma projected from the surface of one kidney.

This form of renal lesion is of comparatively frequent occurrence in connection with severe surgical operations, and explains many of the so-called septic symptoms without suppuration, the erroneously named septic symptoms being due to a uræmic toxæmia from non-elimination.

The liver was the seat of a marked interlobular cirrhosis. There was a small lipoma in the omentum, near the splenic flexure of the colon, that had undergone fibrous and cavernous metamorphosis. Sections made from the uterine neoplasm were

found to be composed largely of fibrillated connective tissue and non-striated muscle fibers. In some places this mixed tissue contained rings of cylindrical epithelium, commonly described as the cauliflower growth, or cylindrical-celled epithelial carcinoma, while in other sections the perivascular or lymphatic spaces were dilated into alveolar cavities, and were packed full of irregular epithelial cells without intercellular substance, and without any definite order of arrangement, this appearance being that characteristic of a scirrhus carcinoma.

For a full description of the pathology and development of this form of renal lesion the reader is referred to Dr. Porter's work, published by William Wood & Co.

THE PROGNOSIS OF ACUTE LOBAR PNEUMONIA.

BY W. D. SCHUYLER, M. D.

(Continued from Vol. XLV, page 713.)

BESIDES the general impaired results from the presence of Bright's disease above enumerated that strongly predispose to the occurrence of general or special organic and functional insufficiency when the system is subjected to an additional and sudden functional strain, other and special consequences of the hæmic results referred to occur to increase the labor and promote the exhaustion and insufficiency of the organs directly involved and functionally obstructed by the pneumonic process. On account of the impaired chemical and nutritive conditions of the blood in Bright's disease, an imperfect as also a more difficult hæmatosis is occasioned; as stated, less oxygen is taken into the system with each inspiration, and less carbonic acid is discharged with each expiratory act. This diminished result of each respiratory act so far occasions the necessity for a greater number of respirations in a given time, and thus favors, by increasing an already overtaxed action, pulmonary motor exhaustion, insufficiency, and danger of death from apnœa. Again, a difficult and imperfect respiratory (hæmatotic) action tends to delay circulation through the pulmonary capillaries, and to that extent increases resistance to the action of the right heart, and assists to exhaust its energy, and thus promotes its insufficiency and failure. Furthermore, the impaired and degenerative results occurring in and throughout the arteries mentioned constitute an increased circulatory resistance to be overcome by the circulatory energies, and, though this result mostly affects the left heart, yet, as the burden of the *pulmonary circulation* is thereby thrown more entirely upon the right heart, its exhaustion, under such added difficulties as a pneumonia causes, is also promoted.

It is apparent from the foregoing that the more prominent effects of Bright's disease in the system are *organic asthenia* and an increased tax upon functional action, and that they tend in a special manner to impair the energy, tone, and sufficiency, functionally speaking, of the lungs and heart.

Hence, I hold that the prominence of asthenia as a final result of Bright's disease justifies the assumption that it is the principal complicating element of that malady as it influences the prognosis of a concurrent acute pneumonia.

And this inference would seem to be further justified by two facts: the frequency of cardiac failure as a cause of death in pneumonia on the one hand, and the clearly exhausting consequences of Bright's disease upon the cardiac energy on the other.

But it may be objected that cardiac asthenia is not a prominent or special result of Bright's disease, inasmuch as the heart hypertrophies in that affection, and should, therefore, if it does not become stronger and more capable, remain as strong and enduring as under normal conditions. It is to be admitted that the heart steadily and progressively hypertrophies in the inflammatory and cirrhotic forms of Bright's disease, and also, but less frequently, in the amyloid kidney; but, notwithstanding, it is not stronger or more able to contend with a pneumonic obstruction on that account. It is not more able, first, because such hypertrophy takes place mostly in the left side of the organ, and does not correspondingly increase the energy of the right side, which principally has to do with such an obstruction; and, second, because, though hypertrophy may be equal in both sides of the organ, its enlarged muscles soon (and at the advanced stage when pneumonia is likely to occur this is already accomplished) take on degenerative impairment and dilatation, and are then not strengthened but weakened. Hence the general and special deductions reached are not invalidated by the fact that hypertrophy occurs, and it must remain, therefore, that asthenia, as regards its influence upon the result of acute pneumonia, is the complicating element of Bright's disease. Furthermore, that the asthenia resulting from Bright's disease is the essential element of that affection that dangerously complicates pneumonia is evident from the existing vaso-motor debility present in the former, and the frequent occurrence of œdema of the lungs in the latter, when Bright's disease is present.

The therapeutic indication for the treatment of pneumonia, then, when complicated by Bright's disease, is, as it is in connection with other debilitating conditions, for an early recourse to tonics and support.

Emphysema of the lungs is the complication next of importance. According to the English statistics, it causes death in 23 per cent. of the cases it complicates. Naturally this disease promotes death in pneumonia by predisposing to the occurrence both of apnœa (pulmonary functional insufficiency) and right cardiac exhaustion and insufficiency. That both of these results, in connection with acute pneumonia, are predisposed to by the presence of pulmonary emphysema is a clear inference from the character of its morbid anatomy, and from the evident effect of such morbid anatomical results upon the organs and functions placed in jeopardy by the development of a pneumonic process. The morbid anatomy of pulmonary emphysema comprises the atrophy and destruction of a varying amount or extent of the vesicular pulmonary structure, and especially of vesicular septa, and of a corresponding number of pulmonary capillaries. To the extent that the vesicular structure is destroyed the capacity of the lungs to aerate the blood is lessened, and, when they are further inhibited by the sudden development of a pneumonic process, the two causes favor a fatal apnœa, especially if a collateral

congestion should concur. Also to the extent that the pulmonary capillaries, taken as a whole, suffer a diminished capacity from an emphysematous atrophy of any considerable portion of their number, their capacity to circulate the systemic venous blood through the lungs as fast as it arrives by the afferent vessels is lessened; and when there occurs a further diminution of pulmonary vascular lumen on account of a suddenly developed pneumonic obstructive process, the greater stegnosis thus brought about adds to the resistance to be met by the right heart, and so far promotes its exhaustion and functional failure. The therapeutical indications derived from the presence of an emphysema of the lungs with pneumonia are, when apnœa is threatened from the occurrence of a collateral congestion, mainly, in addition to the other causes, for venesection, and, when stegnosis is causing heart failure, for venesection and cardiac tonics.

Chlorosis, according to the English statistics, when it occurs with acute pneumonia, proves quite as fatal a complication as emphysema of the lungs. We can readily understand how it is so, the effects of the two complications being essentially the same, but from different causes. To the degree that chlorosis exists, and the blood is deficient, particularly in red blood-globules—carriers of oxygen—dyspnœa is a consequence, and, occurring in addition to the pneumonic dyspnœa, may also readily be the cause of a fatal apnœa.

Again, the greater the dyspnœa occasioned by (1) pneumonia and (2) chlorotic blood, the greater is the necessity for an increased rapidity of circulation, which increase of labor tends to the development of exhaustion both of the respiratory movements and of the cardiac forces. And thus here, again, where a fatal result occurs, asthenia is its direct cause. Hence the indication for an early tonic treatment is most apparent.

Hypertrophy and dilatation of the heart were present in three of the Bellevue Hospital cases (Loomis), and come next to be considered. Where these conditions are present in the left heart only, it is difficult to understand how they can affect the prognosis of acute pneumonia, as that side of the organ, relative to the obstruction occasioned by its local process, is beyond its site, and not affected by it. But where those morbid conditions affect the right heart—not often met with—then weakening results; and especially those of dilatation, as regards the capacity of the heart to withstand the pneumonic stress, are directly bad. Dilatation of cardiac muscle indicates its previous overtax and an already enfeebled state, and therefore unfavorable results, when they occur from this complication of pneumonia, are beyond doubt due to cardiac asthenia. The therapeutic indications from this condition are to relieve the obstruction to the right heart by the administration of circulatory sedatives, which lessen pulmonary stress, and to support its action by tonics.

Peritonitis, which was present in two of the Bellevue cases, when present (which is not often, generally speaking, except in the puerperal form), if acute, and the resulting abdominal tympanites is great, may, by causing upward pressure against the lungs, cripple their action in the

same manner as an extensive pleuritic effusion, and thereby promote respiratory or cardiac insufficiency. The therapeutic indication from this condition is (1) to relieve the tympanites, and for that, if not otherwise accomplished, puncture should be resorted to; and (2) to afford cardiac and respiratory support.

Finally, *fibrinous bronchitis*, present once in the series we are examining, complicates pneumonia by rendering the pulmonary movements more difficult, and thereby, and to the same degree, favoring a slower hæmatosis or an increase of the pulmonary (respiratory) and circulatory tax. These effects, in addition to the similar resistance of a pneumonic process, may seriously promote exhaustion and asthenic insufficiency of the right heart, and thus be a means of death.

As a conclusion from the foregoing study we have seen, as it was premised we should, that the causes of death arising in connection with the recognized complications of pneumonia are essentially the same, and that this common resultant is asthenia. Moreover, that asthenia simply is the essential cause of the greater mortality resulting from acute lobar pneumonia in the presence of complications, is evident from the following facts deduced by this study: 1. Because the most natural effect of the presence and action of the various complications of pneumonia *is to increase resistance to, and promote the exhaustion of, the heart and lungs*, those organs whose functional actions are directly endangered by the sudden development of a pneumonic process in the latter, *but upon whose continued functional sufficiency a favorable result almost wholly depends*. 2. Because, of all the diseases which may concur with acute pneumonia, *those only are recognized as complications that act, by their results, to increase such resistance, and thus to promote such functional exhaustion or insufficiency*. 3. Because those complications that manifestly cause *the greatest resistance to the functional action and sufficiency of the organs mentioned*, as endocarditis and pericarditis do to the action of the heart, and, to a lesser degree, as pleurisy does to the action of the lungs, and those which develop the more profound general and local asthenia, as chronic alcoholism and Bright's disease, and, in the comparative ratio of their injurious action, *are those that, as statistics show, cause the greatest fatality* when they are complications. And, lastly, because the relatively injurious effects of complications, as shown by statistics, *closely accord with their evident capacity for increasing resistance to functional action and for promoting its debility and insufficiency*.

Therefore, having determined, from a study of their effects and action, how complications of pneumonia act to promote or influence fatal results from that malady, and having determined that such fatal influence *is a concurrent or promoted functional asthenia* amounting to insufficiency, I now again return to the study of *age* as a prognostic condition of that disease.

(To be concluded.)

The Dipnoan Brain.—Under this title, the "American Naturalist," for June, publishes an abstract of an interesting paper "On the Brain of Zeratodus, with Remarks upon Classification and the General Morphology of the Vertebrate Brain," read before the National Academy of Scientists, by Prof. Bart G. Wilder, of Cornell University.

THE
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NEW YORK, SATURDAY, JULY 16, 1887.

PASTEUR AND HIS VIENNA CRITICS.

Second Article.

CONTINUING his rejoinder to von Frisch's *brochure*, M. Pasteur remarks that, for the purpose of testing his (Pasteur's) experiments, von Frisch made an error in applying his tests for the most part to rabbits rather than dogs, but, above all, whether rabbits or dogs were concerned, in trying the prophylactic inoculations without any previous infection. Following up certain details connected with these points, Pasteur declares that they vitiate von Frisch's experiments and lead one to conclude either that he conducted his operations badly, or that he allowed the virus which he received from Pasteur to degenerate. This, he thinks, is shown not only by the frequent occurrence of unheard-of periods of incubation, but also by sundry deaths from septicæmia.

Reverting to von Frisch's conception of testing the prophylactic efficacy of the Pasteur system by inoculation by the method of trephining, to which he had objected that von Frisch's negative results could not outweigh his positive results, and having learned from the pamphlet that von Frisch regarded his own results as positive, M. Pasteur brings up these two propositions: 1. In dogs, inoculation on the surface of the brain always causes death by rabies—a point on which all the world is agreed. 2. The preventive inoculation is possible, even after inoculation on the cerebral surface. If, he adds, success is met with in the preventive inoculations under these circumstances, the result is certainly positive.

Passing over certain of von Frisch's statements, such as those relating to the statistics of rabies, to severe bites as compared with trifling ones, and the like, M. Pasteur reminds the Vienna society that the present contention over the subject of the preventive inoculations against rabies recalls what took place a few years ago in regard to the general question of the attenuation of viruses and the preventive inoculations against anthrax. The advance of time, he adds, has confirmed, scientifically and practically, the value of these latter inoculations, and, as concerns the present question, he looks confidently to time, which pleads neither for nor against, but is the infallible final arbiter. With pardonable pride, he closes with the statement that there are now fourteen anti-rabic institutes in operation in the world.

When the reading of the letter had been concluded, Dr. Ullmann stated that he had undertaken a series of experiments relating to the anti-rabic inoculations, which, although not yet concluded, warranted him, he thought, in stating: 1. That the preventive injections never cause death in animals. 2. That the preventive inoculations, managed according to M. Pasteur's

method, are capable of rendering animals insusceptible to rabies. 3. That his own preventive inoculations of the human subject tend to confirm the efficiency of the treatment introduced by Pasteur.

In contravention of M. Pasteur's statements, Dr. von Frisch declared that, in regard to inoculations against anthrax, the Berlin school had not been converted; it had published nothing on the subject since the appearance of the memoir by Koch, Gaffky, and Loeffler, who had judged the practice to be devoid of real value. As to the question of priority in the matter of subdural inoculations, he said, M. Pasteur had said nothing about it to him during his stay in Paris. It was true that most of his experiments had been by the slow method, but that was the only one that had been broached at the time; as soon as he had heard of the intensive method, he had hastened to put it into practice, but with no change in the results. In all his experiments, he had made use of dogs as well as rabbits, and the effect had been the same on both. Finally, he could not admit that his criticisms had been refuted.

Our readers can draw their own inferences as to which of the parties to this particular phase of the controversy has the better of the other. We may be permitted to say, however, that we think there is something ungenerous in the persistency with which some of M. Pasteur's critics, especially in his own country, lay stress upon points that seem of secondary importance, in order to cry down the value of his system of preventing rabies. The strongest feature of M. Pasteur's position, it strikes us, is his reliance on the final verdict of experience.

THE BRITISH COMMITTEE'S REPORT ON THE PASTEUR SYSTEM.

THE English are not given to being carried away with enthusiasm over novelties and wonders; on the contrary, their conservatism is proverbial. It has been reasonably certain from the first, therefore, that the conclusions finally arrived at by the committee appointed by the Local Government Board to inquire into Pasteur's system of preventing rabies would be of a character to constitute a most potent argument for or against the system. The names of the individual members of the committee—Sir James Paget (chairman), Dr. T. Lauder Brunton, Dr. George Fleming, the veterinarian, Sir Joseph Lister, Dr. Richard Quain, Sir Henry E. Roscoe, Dr. J. Burdon Sanderson, and Mr. Victor Horsley (secretary)—were an additional guarantee to the same effect.

The committee was appointed in April, 1886, and has worked with assiduity ever since, several of its members having visited Paris to obtain information from M. Pasteur himself, and its secretary having undertaken a thorough course of experiments. Its report was laid before Parliament on the 27th of June, and a copious abstract of the document appears in the "Lancet" for July 2d. For some weeks past it has been generally understood that the main drift of the report would be favorable to the system; it now appears that it is most decidedly in its favor. Every important proposition put forth by M. Pasteur is accepted, and it is shown by a careful analysis of

recognized and undeniable statistical facts that the saving of life that has already resulted from M. Pasteur's preventive inoculations of human beings is very considerable. Indeed, the evidence adduced seems to us to wholly brush away the stock objections that have persistently been harped upon by the opponents of the system. The committee even doubts if any of the deaths that have followed the use of the intensive method can be attributed to the inoculations, and the report very properly treats this matter of detail as one still in the experimental stage, as M. Pasteur himself avows.

THE ÆTIOLOGY OF TETANUS.

IN connection with the articles that have appeared in these columns from time to time concerning the doctrine of the equine origin and the infectiousness of tetanus, it is proper to notice an interesting *résumé* of certain investigations bearing on the part played by micro-organisms in the causation of the disease, as presented by Dr. Brieger at a recent meeting of the Berlin Medical Society. After several unsuccessful attempts to propagate tetanus by injecting pus and blood from animals affected with it, Carle and Rattone, he said, had succeeded in evoking an attack in a rabbit by injecting into the sheath of the sciatic nerve material obtained from a pustule on a rabbit that had succumbed to the disease. A similar transfer was also effected with an emulsion of a portion of the sciatic nerve. These experiments received support from Rosenbach's discovery, in the wound of a person who had died of tetanus, of a bacillus which he was able to cultivate. Guinea-pigs, mice, and rabbits proved readily susceptible to inoculation, although the stage of incubation might extend over many days. Flügge believed that by heating the bacillus for several minutes he had obtained a pure cultivation, which, however, was transmitted with difficulty to other cultivation media, while impure cultivations were easily transmitted.

From these bacilli Brieger has succeeded in extracting a ptomaine, or toxine, which has the property of producing tetanus, and to which he has given the name of tetanine. If a small portion of this substance is injected into an animal, two series of phenomena follow: one of paralysis, which often continues for hours, and one of alternate clonic and tonic contractions, rapidly leading to death. In addition to the tetanine, another substance is found—tetanine toxine—which has the power to call forth similar manifestations, although the clonic and tonic contractions are more prominent. The symptoms of poisoning with this substance also run in a certain cycle, but develop more slowly and hence stand out more clearly. At first there are fibrillary contractions, which constantly grow stronger and stronger until the animal falls into a tremor; then it passes into a state of paralysis, lowers its head, and presses its abdomen against the floor. Associated with the paralysis there are spasms, and their intensity is in direct proportion to the severity of the paralytic phenomena. Finally clonic and tonic contractions follow, which grow more and more intense until the animal dies in the acme of one of them. Brieger ob-

tained a number of other toxines from the tetanus bacilli, but they have no special bearing on the subject under consideration.

MINOR PARAGRAPHS.

A REDUCTIO AD ABSURDUM.

graduated from the Medical Department of the University of Pennsylvania in 1841. He was a member of the Lancaster County Medical Society, of which he was one of the founders and its president in 1855, and of the Pennsylvania State Medical Society, of which he has been secretary, vice-president, and a censor.

Proceedings of Societies.

NEW YORK CLINICAL SOCIETY.

Meeting of May 27, 1887.

The President, Dr. ROBERT ABBE, in the Chair.

Thyroidectomy.—Dr. FRANK HARTLEY showed a woman, forty-seven years old, Irish, on whom he had performed this operation. She was admitted into Bellevue Hospital, December establishment of a Pasteur Institute in the United Kingdom. We think there can be no doubt of the soundness of this view, and it applies to all other countries as well. Whatever may be the final status of the system, the strong probability of its efficiency in preventing death in one of its most horrifying forms seems to us to make it the duty of every country to provide for its being carried out within its own territory.

THE QUESTION OF THE CONTAGIOUSNESS OF LEPROSY.

ACCORDING to the "Lancet," the Royal College of Physicians is unable to determine whether leprosy is contagious or not. Although an inquiry conducted by it twenty years ago was supposed to have settled the question practically, to the effect that the disease was not contagious, it has been practically reopened by the discovery of the *Bacillus lepræ* and by expressions of opinion from many colonial practitioners, and further investigation is declared to be necessary.

A NOTEWORTHY CASE OF RETROVERSION OF THE UTERUS.

IN a recent number of the "Lancet," Mr. W. J. Fraser gives a sketch of the case of an unmarried woman in whom retroversion of the uterus seems to have taken place suddenly, entailing consequences, in the shape of retention of urine and difficulty of replacement, commonly observed only when retroversion happens to the gravid organ. No mention is made of any uterine tumor or of the cause of the retroversion.

INGLUVIN.

A CORRESPONDENT of the "Deutsche Medicinal-Zeitung" has learned that there is a preparation called ingluvin, furnished, as he says, by one Warner & Co., of New York-Philadelphia ("von einem Warner & Co. in New York-Philadelphia"); and he wishes to know whether there is anything useful in the article, or whether the medical world had better not be *warned against this Warner*. In reply, he is told what ingluvin is and that it is much recommended, and given the additional informa-

tion that it would be well to be cautious in regard to it, one of the reasons given being that its maker's name is the same as that of the "Safe Cure." It strikes us that ingluvin must be making its way in Germany, or it would not be thought necessary to throw discredit on it by such a suggestion.

NEW YORK, SATURDAY, JULY 16, 1887.

PASTEUR AND HIS VIENNA CRITICS.

Second Article.

CONTINUING his rejoinder to von Frisch's brochure, M. Pasteur remarks that, for the purpose of testing his (Pasteur's) experiments, von Frisch made an error in applying his tests for the most part to rabbits rather than dogs, but, above all, whether rabbits or dogs were concerned, in trying the prophylactic inoculations without any previous infection. Following up certain details connected with these points, Pasteur declares that they vitiate von Frisch's experiments and lead one to conclude either that he conducted his operations badly, or that he allowed the virus which he received from Pasteur to degenerate. This, he thinks, is shown not only by the frequent occurrence of unheard-of periods of incubation, but also by sundry deaths from septicæmia.

CHROME YELLOW AS AN ARTICLE OF DIET.

JUDGING by the reports of the coroner's inquisition in the cases of a number of Philadelphia children who are alleged to have lost their lives by poisoning with chrome yellow, that compound must be extensively consumed in Philadelphia, for a number of bakers testified that it was necessary to color their buns and cakes in order to sell them, and that nothing of an innocent nature would answer the purpose. Such being the case, it is a wonder that more cases of poisoning of the sort have not occurred. It is to be hoped, not only that the guilty persons will be adequately punished, but also that efficient measures will be taken to put a stop to the practice.

THE "JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION."

WITH the beginning of the current volume, the "Journal" was increased in size by the addition of four pages of reading matter, and the typography of the title-page was decidedly improved. We are pleased to see these evidences of its prosperity and of the continued carefulness with which its interests are looked after.

TROPHIC DISTURBANCES AFTER INJECTIONS OF ETHER.

AT a recent meeting of the Paris *Société de biologie*, reported in the "Gazette hebdomadaire des sciences médicales," M. Vailard mentioned an instance of cedematous swelling of the foot and thigh, followed by total destruction of three toes, after injections of ether in the neighborhood of the sciatic nerve in one of the lower animals. The condition was thought to be analogous to that of perforating ulcer of the foot.

THE CITY BOARD OF HEALTH.

IT is to be mentioned to the board's credit that it seems to be taking unusual care in the choice of its summer corps of supernumerary inspectors and in training them to their duties.

It is reported that it intends to carry out rigorous measures for isolating patients with the lesser infectious diseases—such, for example, as diphtheria. In the case of that disease, such action would be almost equivalent to a declaration of the board's belief in the communicability of the infection from person to person, and it would be well, perhaps, to go slowly. It is only by keeping well within the limits of what is really known on this point, and respecting the sanctity of the home—even if it is in a crowded tenement-house—as far as possible, that the board can retain that moral support by the medical profession which it acknowledges to be indispensable to its authority with the community.

ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Fourth Division of the Health Department for the following statement of cases and deaths reported during the two weeks ending July 12, 1887:

DISEASES.	Week ending July 5.		Week ending July 12.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever.....	6	4	12	3
Scarlet fever.....	27	9	39	3
Cerebro-spinal meningitis....	1	1	5	4
Measles.....	19	3	24	7
Diphtheria.....	107	48	100	33
Small-pox.....	4	0	3	2

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from June 26, 1887, to July 9, 1887:*

McKee, J. C., Major and Surgeon. Granted three days' leave. S. O. 149, A. G. O., June 29, 1887.

Beall, George T., Captain and Medical Storekeeper. Granted four months' leave of absence. S. O. 150, A. G. O., June 30, 1887.

Cherbonnier, A. V., Captain and Medical Storekeeper. Directed to take charge of office, and perform duties of acting assistant medical purveyor in St. Louis, Mo., during absence on leave of Captain George T. Beall, medical storekeeper, now performing those duties. S. O. 150, A. G. O., June 30, 1887.

Tremaine, William S., Major and Surgeon. Ordered for examination by Army Retiring Board, at Governor's Island, New York Harbor. S. O. 151, A. G. O., July 1, 1887.

Skinner, J. O., Captain and Assistant Surgeon. Granted leave of absence for four months on surgeon's certificate of disability. S. O. 151, A. G. O., July 1, 1887.

Harris, H. S. T., First Lieutenant and Assistant Surgeon. Will be relieved from duty at Fort Ringgold, Texas, upon the return of Assistant Surgeon W. F. Carter, and will then report to commanding officer at Fort McIntosh, Texas, for duty. S. O. 73, Department of Texas, June 27, 1887.

Naval Intelligence.—*Official List of Changes in the Medical Corps of the United States Navy for the two weeks ending July 9, 1887:*

Deane, C. W., Passed Assistant Surgeon. Ordered to the Naval Rendezvous, San Francisco, Cal.

Harris, H. N. T., Assistant Surgeon. Ordered to the Naval Hospital, Mare Island, Cal.

Gorgas, A. C., Medical Director. To remain on present duty until December 31, 1887.

Cleborne, C. J., Medical Inspector. To remain on present duty until December 31, 1887.

MACKAY, BENJAMIN F., Surgeon. To remain on present duty until December 31, 1887.

BROWNE, J. MILLS, Medical Director. Will remain on present duty as member of Retiring Board until June 30, 1888.

DEAN, RICHARD C., Medical Director. Will remain on present duty as member of Retiring Board until June 30, 1888.

HUDSON, A., Medical Inspector. Detached from the Trenton, and to wait orders.

SCHOFIELD, W. K., Medical Inspector. Ordered to relieve Medical Inspector Hudson on the Trenton.

Marine-Hospital Service.—*Official List of Changes of Stations and Duties of Medical Officers of the United States Marine-Hospital Service for the week ending July 2, 1887:*

ARMSTRONG, S. T., Passed Assistant Surgeon. Relieved from duty at Marine Hospital, Memphis, Tenn.; ordered to Marine Hospital, New York. June 27, 1887.

PECKHAM, C. T., Passed Assistant Surgeon. Relieved from duty at Marine Hospital, Wilmington, N. C.; ordered to Marine Hospital, Memphis, Tenn. June 27, 1887.

GLENNAN, A. H., Passed Assistant Surgeon. Ordered to Revenue Cutter Crawford for temporary duty. June 30, 1887.

BROOKS, S. D., Assistant Surgeon. Ordered to examination for promotion. June 27, 1887. Relieved from duty at Evansville, Ind.; ordered to Marine Hospital at Wilmington, N. C. June 27, 1887.

Society Meetings for the Coming Week:

MONDAY, July 18th: Hartford, Conn., City Medical Association; Chicago Medical Society.

TUESDAY, July 19th: Ogdensburg, N. Y., Medical Association; Medical Society of the County of Otsego, N. Y. (annual—Cooperstown).

THURSDAY, July 21st: New Bedford, Mass., Society for Medical Improvement (private).

OBITUARY NOTES.

Jared Linsly, M. D., a graduate of the College of Physicians and Surgeons, of New York, of the class of 1829, died on Tuesday, the 12th inst., at the home of his family, in Northford, Conn. The deceased was in his eighty-fourth year.

George Engs, M. D., of Newport, R. I., died on Thursday, the 7th inst., at the age of forty-five. The deceased was a graduate of the College of Physicians and Surgeons, of New York, and served on the house staff of Charity Hospital soon after obtaining his degree. For several years he had been one of the leading physicians of Newport, where he was highly esteemed.

John S. Bagg, M. D., of Springfield, Mass., died on Saturday, the 9th inst., at Nantucket, whither he had gone on account of ill-health. It is said that he was suffering from melancholia, and that he died by his own hand. Dr. Bagg was thirty-eight years old and a graduate of the Medical Department of the University of Pennsylvania, of the class of 1873. He served eight years in the medical corps of the navy, in which at the time of his resignation he was a passed assistant surgeon. On leaving the navy, he entered into practice in Springfield, where he worked faithfully up to the time of his attack. He was a member of the Massachusetts Medical Society and a man of great promise.

Samuel H. Henry, M. D., of Baltimore, died on Tuesday, July 12th, in the sixty-ninth year of his age. He was a native of Somerset County, Maryland, and was graduated from the University of Pennsylvania, Department of Medicine, in 1839. He practiced his profession at Elkridge Landing, Md., until

1876, when he settled in Baltimore. His death is said to have been due to paralysis.

Henry Carpenter, M. D., of Lancaster, Pa., died on Saturday, July 9th, in the sixty-eighth year of his age. The deceased was a native of Lancaster, received his early education in the Lancaster schools and the Lancaster County Academy, and was graduated from the Medical Department of the University of Pennsylvania in 1841. He was a member of the Lancaster County Medical Society, of which he was one of the founders and its president in 1855, and of the Pennsylvania State Medical Society, of which he has been secretary, vice president, and a censor.

Proceedings of Societies.

NEW YORK CLINICAL SOCIETY.

Meeting of May 27, 1887.

The President, Dr. ROBERT ABBE, in the Chair.

Thyroidectomy.—Dr. FRANK HARTLEY showed a woman, forty-seven years old, Irish, on whom he had performed this operation. She was admitted into Bellevue Hospital, December 8, 1886, with a small lump in the neck, on the left side, just midway between the chin and the breast bone. It had existed for three years, and had increased in size but slowly. It had given no trouble, except difficulty in breathing and swallowing during menstruation, until six weeks before her admission, when it became inflamed, and the difficulty in breathing and swallowing was constant. She could swallow liquids only. It had been treated first with poultices, and then with a wash. She had been in this country six years, and had always resided during this period in New York.

At the time of her admission she was well nourished, her heart and lungs were normal, her urine was free from albumin, and a microscopic examination was negative. There was a well-marked tumor upon the left side of the neck, occupying the left lobe of the thyroid gland, and extending three quarters of an inch to the right of the median line. It was two inches and a half in the transverse and two inches in the vertical diameter. About its middle a sinus extended for a distance of two inches, from which escaped a small amount of pus. The thyroid gland itself, of which this tumor formed the greater part, seemed normal to the touch, and could be felt covering the cavity on every side, except at its apex. The skin and subcutaneous tissue overlying the gland were very much thickened and adherent to the gland, especially at the opening of the sinus. There was no evidence of pressure upon the recurrent laryngeal, the sympathetic, or the pneumogastric nerve. The gland overlapped the carotid artery upon the left side. The patient had a fibroid tumor of the uterus.

On December 29th an incision three inches long was made over the prominent portion of the tumor, the gland was incised, and the cavity was opened. It was scraped out with a Volkmann's sharp spoon. There was only very slight hemorrhage. The cavity was stuffed with iodoform gauze. On the 17th the patient was discharged, and was treated in the outdoor department from that date until March 21, 1887. During this time the sinus was treated with drainage, Pernian balsam, naphthaline, and iodoform dressings, and twice it was scraped out with Volkmann's sharp spoon; but the sinus still persisted, and there were constant exacerbations of acute inflammation. At the latter date the gland was removed by Kocher's method.

The wound healed completely by the 20th of April. Microscopical examination showed the growth to be a colloid cyst, having thickened connective-tissue walls, and in a state of chronic inflammation. The reason for removing the gland was that it was the shortest and most certain method of cure, and was deemed justifiable after other methods of treatment had failed.

Dr. M. A. STARR asked in what percentage of such cases myxœdema developed.

Dr. HARTLEY did not know, but a certain operator had stated that thyroidectomy performed on patients above twenty years of age was not followed by myxœdema.

The PRESIDENT remarked that attacks of cellulitis were common in such cases. He had seen a case of colloid cyst of the thyroid which had suppurated and resulted in a sinus. The sinus was very obstinate in closing, and the patient had two or three attacks of cellulitis; but the sinus finally closed without his having to resort to excision.

Pasteur's Treatment of Rabies.—Dr. H. M. BIGGS read a paper on this subject. [See page 57.]

Dr. B. F. CURTIS had seen a case of tetanus resembling the paralytic form of rabies. A boy received a slight wound in the temple and was brought to the Chambers Street Hospital. In four or five days paralysis of the muscles of the same side of the face set in. A short time after spasm manifested itself in the paralyzed muscles. The speaker saw the patient a week after the receipt of the injury, when the paralysis of the side of the face was complete, but the eyelid was intact. The spasm affected both sides of the face, and extended to the muscles of the arms, body, and legs. Dressing of the wound had no influence on the spasms. A boggy swelling was found in the neighborhood of the wound. This was opened, with the result of giving vent to some pus, but the spasms remained unaffected. The patient died in the hospital about a fortnight later. Chloral and the bromides were of no benefit. Before death the tetanus became general. The mind remained clear, and the only pain complained of was that connected with the spasms, which were very severe.

Dr. STARR thought that the statistics of the paper were valuable and suggestive. Every one knew the hysterical character of the French people, and that hysteria might simulate hydrophobia. He was inclined to believe, in the light of the paper just read, that the majority of cases of alleged rabies recorded as occurring in France within the past year were nothing more than hysteria.

Dr. BIGGS stated in reply that he believed there was something in the method, but it was as yet in the embryonic condition, and Pasteur was apparently working without any rational theory or systematic course of procedure. The speaker would not allow himself to be subjected to the treatment if he were to be bitten by a rabid dog. In reference to the notorious Newark case, in the light of subsequent events, he believed it not to have been a case of rabies. At the autopsy he had found nothing in the brain or spinal cord.

Dr. J. H. EMERSON asked if there were any lesions characteristic of rabies.

Dr. BIGGS replied that there were not. The lesions that had so far been found were congestion of the spinal cord and of the membranes of the brain and engorgement of the small vessels of the medulla oblongata and pons Varolii, with a slight degree of inflammation around them.

Dr. STARR stated that a Parisian observer had recently found a micrococcus in the lymph-spaces in the brains of animals that had died of rabies. This micro-organism took a deep-blue stain and was capable of cultivation. It was maintained that inoculations with it would produce rabies.

The Ultimate Result of an Operation for Empyema was shown in a patient exhibited by Dr. L. EMMETT HOLT. A girl, now nine years old, was seen in May, 1884, when she had empyema of the right side, the chest being about half full of pus. The beginning of the symptoms was referred to an attack of pneumonia in the previous December. The radical operation of incision being declined, the chest was aspirated three times at short intervals, never more than six ounces of pus being removed. Six months later, the patient returned with the following signs at the right apex: Great retraction, cracked-pot resonance, increased vocal fremitus, cavernous respiration and whisper, and moist râles. Below this there were bronchial voice and bronchial respiration. Over the lower half of the chest the signs of fluid were still marked. These signs, inasmuch as the child's father had died of phthisis, were interpreted to mean a cavity at the apex, and this diagnosis was confirmed by Dr. Caldwell and Dr. Ripley. In February, 1885, a fluctuating tumor appeared at the sixth space, a little to the outer side of the right nipple-line. A free incision was made with antiseptic precautions, and four ounces of pus were withdrawn. Two drainage-tubes were inserted. The discharge lasted until August, by which time the sinus had completely and permanently closed. The right chest now measured nine inches and three quarters; the left eleven inches and a half. There was very marked retraction of the whole right side, with a considerable degree of lateral curvature of the spine. The patient's general condition was excellent, and had improved steadily since the establishment of free drainage. In January, 1886, the difference in the two sides of the chest was only one inch and a quarter. All the moist sounds at the right apex had disappeared, and the respiration was rude, broncho-vesicular, and diminished in intensity.

Her present condition was as follows: She was plump and well nourished, and had a good color; the heart's apex was not displaced; there was retraction over the whole right chest, most marked over the lower half of the lung and just below the clavicle. The latter changed but little on full inspiration. Measurements over the nipple showed only one inch difference in the two sides of the chest. The spine was almost straight, and close inspection was required to detect any deviation. There were increased vocal fremitus, dullness, and rude, high-pitched respiration over the right apex, but no râles; over the right base there was feeble respiration with marked dullness. There was a firm cicatrix, two inches long, below and to the outer side of the right nipple. The special points of interest about the case were: 1. Failure of cure by three aspirations. 2. The subsequent formation of a cavity at the right apex. 3. Arrest of the breaking-down process in the lung as soon as free drainage was established, in spite of a bad family history. 4. The complete cure of a chronic case without resection of a rib.

Dr. G. M. TUTTLE and Dr. W. H. KATZENBACH thought that the physical signs might be explained by purulent effusion compressing the lung instead of a cavity.

The PRESIDENT thought that the abscess might have been formed by a purulent effusion circumscribed by pleuritic adhesions. He doubted if the physical signs were due to a cavity in the lung substance.

ALUMNI ASSOCIATION OF THE WOMAN'S HOSPITAL.

Third Meeting.

(Continued from Vol. XLV, page 303.)

Vaginal Hysterectomy in America, with Report of Two Cases.—Dr. A. PALMER DUDLEY, of New York, read a paper on this subject. [See page 35.]

The PRESIDENT (Dr. T. A. Emmet) thought that the necessity for this operation depended upon a variety of conditions. It was more likely to result in permanent success in sarcoma than in carcinoma. If only that portion of the uterus was to be removed which was below the Fallopian tubes, the operation could usually be done with a certain degree of facility. When removed entirely, the danger from shock and peritonitis was very great. The hæmorrhage might usually be controlled by traction upon the vessels. The lateral posture seemed to him the more advantageous for the operation, Sims's speculum being used. The speaker thought that in this position the uterus could be drawn down more readily than in any other. The matter of drainage in such cases was a very important one, and should always receive due consideration.

Dr. A. F. CURRIER said that the question of the removal of the uterus for cancer was constantly recurring, notwithstanding the lack of success which had thus far attended all attempts at radical cure. Experience had demonstrated that it was a rule which had few exceptions that radical removal was impossible after the proliferating epithelial cells had penetrated beyond the uterus. Notwithstanding this, the speaker believed that the severer operations were frequently justifiable for the sake of their palliative effect, even if the disease recurred within two years, as it usually did. The operation of vaginal hysterectomy was of earlier date than had been recognized by the reader of the paper, having been done in the first years of this century by Récamier, and, in fact, it was known in Europe by his name. It had been dropped from time to time, and had been eventually revived by Czerny in 1878, after Freund's operation had failed to accomplish what had been confidently expected from it. The best results from this operation had been obtained by the Germans, notably by Staude (with sixteen consecutive successful operations), Brennecke, Fritsch, Martin, Schröder, and Billroth. We could do no better, at present, than to imitate their methods, their technique being well-nigh perfect. The speaker did not believe, with Knowsley Thornton, that the operation would soon drop out of surgical practice. As had often been observed, he believed it was a good plan to publish unsuccessful cases on the ground that failures were often more instructive than successes.

The PRESIDENT believed that the operation would always have a field, and that the conclusions of Dr. Currier as to the fatality of the disease after operation were too sweeping. He thought the turning-point as to permanent success from an operation depended upon the age of the patient, and that the results were almost invariably better in operations which were performed after the menopause. He believed also that after such operations it was better to close the wound, and leave no surface to heal by granulation.

Dr. C. C. LEE (present by invitation) thought the operation could be performed as readily in the dorsal as in the lateral position, or even more readily. He had not found it difficult to control hæmorrhage during the operation if the uterine arteries were first ligated. He thought that vaginal hysterectomy was warranted only for sarcoma. If carcinoma was present, either Baker's or Schröder's supra-vaginal excision should be performed, and at as early a period as possible.

Dr. E. C. DUDLEY had operated in only one case, and then with a fatal termination. He believed that a most important preliminary step in the operation was to secure each broad ligament with a *serre-naud*. He also thought that the peritoneum and the vaginal mucous membrane should be closed and closed separately.

Dr. A. P. DUDLEY, in conclusion, agreed to the statement that the disease was the more likely to recur if the operation had been done upon a young person. He thought that it

usually recurred in the vaginal wound. His experience had led him to believe that death occurred, in many cases, from an acute parenchymatous nephritis rather than from the shock of the operation. This demonstrated the great importance of a preliminary careful examination of the kidneys.

Book Notices.

A Manual of Treatment by Massage and Methodical Muscular Exercise. By JOSEPH SCHREIBER, M. D., Member of k. k. Gesellschaft der Aerzte of Vienna, etc. Translated, with the author's permission, by WALTER MENDELSON, M. D., of New York. Philadelphia: Lea Brothers & Co., 1887. Pp. viii-17 to 285. [Price, \$2.75.]

THE term massage, as well as the practice itself, is at present in disfavor in France, because it has come to be associated in the public mind with a suspicion of quackery. The same is true, to a moderate degree, in our own country. Recently some noted New York physicians met together in private session to examine into the charges that massage was largely carried on for immoral purposes. This deplorable state of things is due to the fact that the regular physician will not condescend to himself employ a means so largely in vogue with female "rubbers." Mechano-therapy is, however, a science well worthy of his careful study, and such men as Billroth, Benedikt, Charcot, Eulenburg, Esmarch, and a host of others, have not only added valuable contributions to the literature of the subject, but to-day do not hesitate for a moment to personally treat disease by manipulations. The mechanical treatment of diseases requires much experience and hard study, and without such should not be intrusted to a layman. The different manipulations are in themselves not difficult to learn, if only the necessary regard is paid to the relations existing between bone and soft parts; but the active and passive movements so indispensable for the cure of certain forms of disease require an exact knowledge of anatomy and physiology for their proper performance. These, therefore, should always be undertaken by the physician himself, or, at least, under his direction and oversight. The present volume will do much to establish mechanical therapeutics upon a scientific basis. While it advocates its employment in a wider field than has heretofore been accorded to it, the language used is very temperate, and the part chance plays in the cure of chronic illness, together with the natural tendency to recovery inherent in certain diseases, is well borne in mind. The mechanical measures advocated are divided into stabile and labile. Among the former are included pressing, tapping, hacking, pinching, and concussion. Among the latter, stroking, rubbing, and kneading. In addition to these, certain passive and active movements are also employed. Mechanical therapeutics will, in accordance with its physiological effects, be successful where it is desired to produce the following results: To cause an increased circulation in the muscles and soft parts; to strengthen muscular fibers; to cause the resorption of exudations, transudations, and infiltrations; to increase, by passive and active exercise of all the muscles, the oxidizing powers of the blood; to relieve the congestion of internal organs; to stimulate directly the sympathetic nervous system; and, finally, by systematic exercise (health gymnastics) to educate morbidly affected muscles, to convert abnormal into normal actions, and to suppress useless movements. In neuralgias resulting from anæmia, hysteria, and malaria, as well as in the neuralgic affections of mus-

cles and tendons, gymnastics exerts a very favorable influence, and to Benedikt belongs the credit of giving a fresh impetus to its therapeutic employment in this direction. "The routine treatment by antiphlogistics and absolute rest only too often fails. Household practice has in these cases stolen many a march on science, and, by first applying stimulating poultices, and then employing motion, especially in the chronic stage, has achieved wonderful success. The labors of those who have sought to introduce health gymnastics are soon forgotten, and it is only through the works of Stromeyer and Volkmann that this form of treatment has been again systematized. The chief thing in these cases is to test carefully both methods of cure at the proper time, and then consistently to employ the best. . . . Mechano-therapy nowhere meets with more success than in the treatment of muscular rheumatism. Busch says: 'I have lately had my attention called particularly to the fact that the pain of rheumatic myalgia is often cured sooner by massage and movement than by rest and local applications.' My own experience would lead me to expunge the word 'often' and substitute for it 'always,' for I feel free to maintain that rest actually prolongs the duration of the trouble." We find in this a ready explanation of the "Arise and walk!" of the faith-cures. Among the other morbid conditions in which this form of treatment is specially recommended we find chlorosis, neurasthenia, hysteria, hypochondriasis, cerebral congestion, chorea, writer's cramp, etc.

The work is a very welcome addition to the library, and we heartily commend it to our readers as a step in the right direction—that of the relief and cure of ailments by an improved hygiene of the affected part, and, wherever possible, without the use of drugs.

Controlling Sex in Generation. The Physical Law influencing Sex in the Embryo of Man and Brute, and its Direction to produce Male or Female Offspring at Will. By SAMUEL HUGH TERRY. Second Edition, with an Appendix of Corroborative Proofs. New York: Fowler & Wells Co., 1887. Pp. 5 to 209.

HOWSOEVER plausible a theory based upon hypothesis and supported by probabilities may be, its presentation to the uninformed and unthinking public before it has reached a more finished stage is always to be deprecated; and especially is this the case when, as in the book under consideration, an advocate whose strength has not been tried in combat with his peers undertakes to grapple with a problem which has baffled the keenest investigations of physiology, and lays before an uncritical audience hasty generalizations drawn from insufficient data. Furthermore, while we may hope for the millennium when naught connected with biology shall be deemed impure, it must be admitted that in the artificial civilization of to-day popular disquisitions on the details of sexual intercourse are apt to be associated with unsavory ideas in the casual unprofessional mind; and, although we willingly acquit the author of any save the most laudable intentions, we doubt if his work is the most desirable sort of advice to persons of a marriageable age.

Mr. Terry is much disquieted by the statistical evidence that, although the births of males exceed those of the other sex, the census shows in numerous localities a preponderance of adult females doomed to compulsory spinsterhood unless they accept the Mormon dispensation; and, instead of attempting to devise means for the prevention of the greater mortality of male children under one year of age, he takes the rather less logical course of endeavoring to still further increase the relative number of male births, thus providing more material for the mor-

ality of boyhood and the emigration of adolescence. According to the author's positively formulated law, the sex of the offspring is in inverse ratio to the degree of sexual excitement in the parents respectively at the time of impregnation, a male birth being insured if the animal passions of the wife are more intensely roused than those of the husband, and *vice versa*; so that all that is necessary is to entirely supplant reflex instinct by philosophical deliberation in the affairs of intimate domesticity which have hitherto escaped the domain of calculating forethought, except in the connubiality of Mr. Shandy, Senior, whose experience, by the way, as exemplified in the subsequent production of Master Tristram, is in striking contrast with Dr. Terry's rule. The "scientific theory" advanced in explanation of this "physical law" is, to say the least of it, original, and will probably be as satisfactory as any other to the class of minds to which it is addressed. The author finds "good reason for concluding" that sexual attraction is "one of the phenomena of electricity," affirming that "the male organs secrete or eliminate positive and the female negative electricity"; a substantiating argument being adduced in the fact that physiological chemistry has "found the menstrual discharge of woman to be quite acid in character, while the semen of man was as decidedly alkaline—being the two chemical conditions which, according to the list mentioned above, would naturally generate in the woman's sexual organs a negative electric condition, and in the man's a positive electric condition." Hence, "there must be always in the male parent an influence tending to induce the negative or female form in the germ he produces, . . . while on the other side the opposite condition of the female parent would similarly induce a positive or masculine form in that part or portion she furnishes toward the making up of the embryo." When it is added that the author postulates the existence of increased sexual desire in our American latitude, and explains the supposed phenomenon by the allegation that "there is a larger share of oxygen in our atmosphere than in the older and more populous countries of Europe," no comments of ours are needed to display the scientific weight of his "theory." As regards the "law" therefrom evolved, the experience of most observant physicians will furnish contradictory recollections of frigid mothers bearing sons to passionate husbands, and feeble fathers begetting naught but daughters from vivacious spouses. The preponderance of males is greatest in first-born children, where the passion of the male parent has presumably been most uncontrolled, and it is forensically alleged that boys have been conceived by women in a state of unconsciousness. Even if a complete analogy be granted between the generative processes in man and in the lower animals, the experimental observations of cattle-breeders have thus far failed to lead them to uniformity of conclusions, various "theories" being sustained by the collation of coincidences which are distorted into the relation of causes and effects. In fine, the perusal of the book fully substantiates the writer's candid avowal that he is "not a scientist," and, such being the case, arouses regret that he should have prematurely plunged into a subject the elucidation of which is beyond the present grasp of the science that alone can ultimately deal with it.

L'enseignement actuel de l'hygiène dans les facultés de médecine en Europe. Par le Dr. W. LOEWENTHAL, Professeur agrégé à l'Académie de Lausanne. Paris: H. La Soudier, 1887. Pp. 126.

THE author has procured information from almost all the teachers of hygiene in Europe about the amount and kind of such instruction, the facilities afforded for special investigations, and the proportion of students attending the courses. These

details are then summarized in tabular form for the purpose of ready comparison.

It is not encouraging to find that so few chairs of hygiene have been established in places where the highest medical education is supposed to be given, and so many in the so-called backward countries—*e. g.*, in Germany, out of twenty faculties, only three (those of Berlin, Leipsic, and Munich) have a special chair of hygiene, while in Hungary, Russia, and Spain every faculty has its chair, and the study is obligatory upon all students of medicine. In England, which we like to look upon as the leader in sanitary science, lectures on the subject are few, and evidently lack interest for the majority of the students. In Prussia, Koch's investigations have excited some interest, and the Minister of Public Instruction has signified his intention of endowing chairs of hygiene in all the faculties, with special laboratories, etc.

Dr. Loewenthal has done good service in calling attention to the infrequency and imperfection of instruction in hygiene at the present time, and he adds some excellent suggestions relating to the proper classification of such instruction and its adaptation to different ages, capacities, and professions, urging that it be made obligatory, not only upon all medical students, but upon all whose work in life will influence, more or less, the sanitary environment of large numbers of persons—*e. g.*, civil engineers, architects, manufacturers, teachers, and others.

Athothis. A Satire on Modern Medicine. By THOMAS C. MINOR. Cincinnati: Robert Clarke & Co., 1887. Pp. viii-5 to 194.

In a cleverly imagined Egyptological fable, the author conveys some not unmerited flings at the trade-marked customs of fashionable medical practice. Self-seeking specialism, with its one sided view; charlatanism disguised under the cloak of orthodoxy; clinical teaching conducted for the collateral profit of the teacher, with small benefit to the student and positive detriment to the patient; the lethal triumphs of venturesome modern surgery; the overweening reliance on instruments of precision and observation of effects rather than of causes; the fine-spun vagaries of the germ-theory—these and other shortcomings or backslidings of the nineteenth century are treated with rebuke or ridicule from the point of view of the revived medical philosopher of the first Egyptian dynasty. The types of different classes of successful practitioners are well caricatured—so well that readers in almost every large city will fancy that they recognize but slightly overcharged portraits from real life. If the writer seems somewhat too skeptical of any true advance in medicine, and even here and there assumes the semblance of a *laudator temporis acti* faintly tintured with modern "isms," his book sets forth some wholesome truths in pleasant phrase, and will amuse a leisure hour of the medical reader's vacation.

GENERAL LITERARY NOTES.

AMONG recent foreign publications we note the following:

J. B. BAILLIÈRE & FILS, Paris.—L. Lichtwitz, "Les anesthésies hystériques des muqueuses," etc. (3fr.)

O. DOIN, Paris.—J. R. Le Clere, "L'angine de poitrine hystérique." (3fr.)

G. STEINHEIL, Paris.—S. G. Clado, "Étude sur bactérie septique de la vessie." (2fr. 50.)

E. BESOLD, Erlangen.—G. Bizzozero, "Handbuch d. klinischen Mikroskopie." 2d ed. (8M.)

HEUSER, Neuwied.—F. Dahlmann, "Zur Behandlung d. Fehlgeburten." (6M. 75.) — D. Eichholz, "Zur Diagnose u. Therapie d. atypischen Uterusblutungen." (1M.) — C. Schmidt, "Heilung d. durch

Morphiumgenuss verursachten Nervenzerrüttung u. Willenschwäche." (1M. 20.) — H. Wehberg, "Wider den Missbrauch des Alcohols, zumal am Krankenbette." (6M. 50.)

P. NOORDHOFF, Groningen.—A. P. Fokker, "Untersuchungen über Heterogenese. I. Protoplasmawirkungen."

H. STEINITZ, Berlin.—L. Löwe, "Das Ohr." (1M. 50.)

F. C. W. VOGEL, Leipsic.—F. von Birch-Hirschfeld, "Lehrbuch d. pathologischen Anatomie," 3d ed., vol. ii, part 1. (10M.) — A. Landerer, "Behandlung von Rückgratsverkrümmungen mit Massage." — C. Liebermeister, "Vorlesungen über specielle Pathologie u. Therapie." Vol. iii.

FRATELLI RECHIEDEI, Milan.—F. Orsi, "Lezioni di patologia e terapia." 2d ed. (12L.) — J. Chauvel, "Manuale di medicina operatoria." Transl. by G. Fabiani and G. Gallozzi. 3d ed. (12L.)

F. VALLARDI, Milan.—G. Cesari, "Il ferro e suoi preparati," 2d ed. (4L.) — D. Miliotti, "Della tabe dorsale." (5L.)

U. MONTEGRIFO, Madrid.—B. G. Alvarez, "Sobre la Caries y Necrosis del Peñasco en los Niños y su Tratamiento."

BOOKS AND PAMPHLETS RECEIVED.

Practical Urine Testing: A Guide to Office and Bedside Urine Analysis, for Physicians and Students. By Charles Godwin Jennings, M. D., Professor of Chemistry and of Diseases of Children, Detroit College of Medicine, etc. Detroit: D. O. Haynes and Company, 1887. Pp. vi-9 to 124.

Medicine and Medicine-Men. Anniversary Address delivered at the Banquet of the Louisville Medical Society, May 26, 1887. By John Godfrey, Surgeon M.-H. S. Louisville: John P. Morton & Co., 1887. Pp. 34.

A Case of Incomplete Abortion in Twin Pregnancy. One Fœtus Lost at Third Month, but its Placenta retained to Delivery at Term of the Other Twin. By Stanley P. Warren, M. D., Portland, Me. [Reprinted from the "American Journal of Obstetrics and Diseases of Women and Children."]

Photographing the Retinal Image Impressed on the Living Fundus Oculi. By A. M. Rosebrugh, M. D., Toronto, Ontario. [Reprinted from the "Canadian Practitioner."]

Ricerche sperimentali sulla rabbia (seconda comunicazione). Pel Prof. Enrico de Renzi, Direttore della Prima Clinica Medica della R. Università, e pel Prof. Gaetano Amoroso, Coadiutore della Prima Clinica, etc. [Estratto della "Rivista clinica e terapeutica."]

Du développement du fœtus chez les femmes à bassin vicie. Recherches cliniques au point de vue de l'accouchement prématuré artificiel. Par le Dr. Felice La Torre, membre correspondant de la Société obstétricale et gynécologique de Paris, etc. Paris: O. Doin, 1887. Pp. 342.

Miscellany.

A Patient's Account of the Pasteur Treatment.—"The following letter," says the "Indian Medical Gazette," "was written by an Indian medical officer who was unfortunately compelled by the bite of a rabid dog to proceed to Paris and place himself under Pasteur's treatment":

"I am sending you a letter, as I think some account of M. Pasteur may interest you. I had a pleasant voyage home and got here on the 31st of January—good thing as I left M. — on the 12th of January. I was just in time, as Pasteur says his system is of no use after thirty days from the bite. I heard all about the dog that bit me. He had been queer, and refused all food from Saturday. On Sunday he bit me. On Monday he went raving mad, bit at every one and everything: bit his master, G—— of the ——— Regiment at D——; a mehter and a Khit; then got paraplegia and was killed.

"They say here it was a typical and unmistakable case of rabies. I am sending you a paper with a very good account of the scene at Pasteur's laboratory. It really is a wonderful sight. Every age, sex, nationality, and rank there, from Lord Doneraile down to ragged Spanish peasants. There were over eighty being treated while I was there.

and there were some new cases every day. They treat different cases differently; bites on the face are more dangerous, and get a more prolonged course. I had to go and be inoculated morning and evening for six days; then every morning for five days. I was finished last Friday, but they asked me, if not inconvenient, to stay in Paris for five or six days more, and then report myself, when a few more inoculations *might* be necessary. After that they said: "You can go with the most perfect confidence." They begin with virus fourteen days old, and go on up to that only five days old; they don't use any stronger than that; but virus under seven days will infallibly give a dog rabies. It always burns a good deal, and the last few days gave me a pretty big subcutaneous lump and ecchymosed spot in the skin. Now, as to results. How any sane man can doubt but that Pasteur has made another great discovery is more than I can understand. But there is a great deal of jealousy—so French—among the doctors here, as he is only a chemist. But their line of argument is so weak. They can't prove that the treatment has ever proved injurious; but they say it is useless, and that there is no proof all his cases may not yet get hydrophobia, or they say they wouldn't have got it in any case. Now, look at facts on the other hand. He has now done just 3,000 cases, and only ten have got hydrophobia. Of these, eight were the famous Russians, but they came too late, and, besides, Pasteur said at the time his system was not worked out for wolf rabies, which is specially virulent, and has a very short period of incubation. These men came very late, and I think that only eight died out of the twenty-five speaks well for the treatment. They came very late, and their wounds were horrible. One man had his jaw nearly torn away, another his abdomen torn open, and one had a wolf's tooth so impacted in his skull that they could not get it out. Of the other two cases, one patient came 35 days after being bitten. Pasteur said it was too late, but he would try. The patient got hydrophobia, and died before the treatment was completed. The tenth was a man who came only two days, and then came no more—went on the spree about Paris. He got it, and died 50 days after the bite. Not one of all the others of the 3,000 have got it, and remember from 40 to 60 days after the bite is what they call the 'dangerous period.' Cases before 40 days are awfully rare, and very rare after 60 days, though up to 19 months are authentic. The vast majority are between 40 and 60. He only treats cases, too, where there is at least *strong* suspicion that the dog was mad. There are many cases such as the following: A young civilian named F. was sent to him six months ago. He is alive and well, but two cows bitten by same dog both died mad. A Spaniard came here who had been awfully torn by a huge Pyrenean dog. Among other injuries the whole of one calf had almost been torn away. The same dog bit another dog, a pig, and two cows; they all died mad, but the man is alive and well after seven months. Two children were bitten some time ago in England. One was sent here, the other not. The one who was treated is all right, the other has died mad. Besides, he has in his laboratory a lot of dogs who have been inoculated, and you *can't* by any means give them rabies, even by means which infallibly give it to an unprotected dog, and the inoculations must in some way make you insusceptible, because the *last* inoculations are such as, if you hadn't been prepared, would be fatal: at least they are to *unprotected* dogs. I think there is but one conclusion to be drawn from these *facts*."

Hæmorrhage at the Menopause.—At a recent meeting of the Philadelphia County Medical Society, Dr. B. F. Baer showed a uterine fibroid, and said:

"This tumor was removed yesterday from a lady aged forty two years. About a year ago she began to lose more than the normal amount at her periods. Soon after, she suffered from attacks of metrorrhagia twice a month, sometimes almost to syncope. At times she would flow continuously for two weeks. Finally, in the intervals, she began to have a foetid, watery discharge. She was pale, emaciated, and cachectic. Now, such a history often indicates the presence of cancer, but not always. It *never* means that the lady is simply near the menopause. A great deal of harm has been caused by that idea. In this case the physician thought that the hæmorrhage was due to the menopause, and did not consider it necessary to make an examination. But finally the patient insisted upon it, in order to find out if there were not a local cause. He

then made the examination, and diagnosed the case correctly. I saw the case in consultation, and removed this fibroid tumor, which is ulcerated at the base, and hence its foetid discharge. I have known many instances where patients have been put off by the statement that the hæmorrhage was due to the change of life, and almost bled to death from a pathological cause. Several years ago I reported a marked case of this kind, which was easily cured by the removal of a small polypus from the neck of the womb. At first the hæmorrhage was said to be menopausal. After a time the patient became cachectic, and the case was pronounced to be one of cancer. As cancer is properly regarded as incurable, it was considered unnecessary to submit the patient to an examination. This patient was cured by the removal of a fibroid polypus! I have actually known a patient to die from repeated hæmorrhages caused by a benign disease, where the bleeding was at first attributed to the menopause and finally to cancer. I believe that great harm is often done by physicians' putting patients off with the statement that the hæmorrhage at this period of life is the result of the change of life, instead of seeking for the real cause."

The Mississippi Valley Medical Association held its thirteenth annual meeting at Crab Orchard Springs, Kentucky, on Wednesday, Thursday, and Friday of this week.

The Summer Courses in Vienna are arranged as follows:

SUBJECTS.	Teachers.	Courses begin.	Classes limited to.	Fees.
Pathological anatomy	Dr. A. Zemann.	Aug. 1, Sept. 1.	15	15 fl. (for. 20 fl.).
Pathological histology	Dr. A. Kolisko.	Aug. 1.	12	20 fl.
Bacteriology	Prof. A. Weichselbaum.	Sept. 1.	10	10 fl.
"	Dr. A. v. Frisch.	Early in Aug. 'st.	.....	15 fl.
Forensic medicine	Dr. A. Paltauf.	Aug. 1 or 15.	.....	15 fl.
Chemistry of the urine	Dr. C. Schilder.	Aug. 1.	15	15 fl.
"	Prof. J. Mauthner.	Sept. 1.	15	15 fl.
Microscopy of foods	Dr. J. Nevinny.	Aug. 1, Sept. 1.	15	25 fl.
Advances in pharmacology ..	Dr. H. Paschbisk.	Sept. 1.	15	15 fl.
Diagnosis of internal diseases	Dr. H. v. Frisch.	Aug. 1.	12	25 fl.
"	Dr. E. Neusser.	Sept. 1.	12	25 fl.
"	Dr. E. Bamberger.	Aug. 1.	12	25 fl.
"	Dr. Lorenz.	Sept. 1.	12	25 fl.
"	Dr. L. v. Langer.	Sept. 1.	8	15 fl. (for. 25 fl.).
Diagnosis and treatment of internal diseases	Dr. M. Heitler.	Aug. 1, Sept. 1.	10	20 fl.
Physical diagnosis	Dr. J. Drozda.	Sept. 1.	8	15 fl.
Diseases of the circulatory organs	Dr. K. Bettelheim.	Aug. 20.	.....	10 fl.
Differential diagnosis of diseases of the brain and spinal cord	Prof. M. Benedikt.	Aug. 1.	25	20 fl.
Pathology and treatment of nervous diseases	Prof. M. Rosenthal.	Aug. 1, Sept. 1.	.....	15 fl.
Electro-therapeutics	Dr. J. Wagner v. Jau-regg.	Aug. 1, Sept. 1.	10	20 fl.
Diseases of the brain and spinal cord	Dr. A. Holländer.	.....	.....	.....
Neuro-pathology	Dr. R. Steiner v. Pfungen.	Sept. 1.	.....	.....
Psychiatry and forensic psycho-pathology	Dr. J. Fritsch.	Sept. 1.	6	10 fl.
Surgery before and since the introduction of antiseptics.	Prof. E. Albert.	Sept. 1.	10	5 fl.
Operations on the cadaver ..	Dr. V. v. Hacker.	Aug. 1.	20	15 fl. (for. 25 fl.).
"	Dr. F. Salzer.	Sept. 1.	20	15 fl. (for. 25 fl.).
"	Dr. J. Hochenegg.	Sept. 1.	20	15 fl. (for. 25 fl.).
"	Dr. E. Ullmann.	Aug. 1.	20	15 fl. (for. 25 fl.).
Practical surgery	Dr. V. v. Hacker.	Aug. 1.	25	20 fl. (for. 30 fl.).
"	Dr. F. Salzer.	Sept. 1.	25	20 fl. (for. 30 fl.).
"	Dr. J. Hochenegg.	Sept. 1.	25	20 fl. (for. 30 fl.).
"	Dr. E. Ullmann.	Aug. 1.	25	20 fl. (for. 30 fl.).
Surgery of children	Dr. R. Wittelschöfer.	Aug. 1, Sept. 1.	8	15 fl.
Bandaging	Dr. R. Wittelschöfer.	Aug. 1, Sept. 1.	10	15 fl.
Anomalies of refraction and accommodation	Dr. L. Herz.	Aug. 1.	10	20 fl.
External diseases of the eye.	Dr. F. Dimmer.	Sept. 1.	10	20 fl.
Ophthalmic operations ..	Dr. E. Bochner.	Aug. 1.	6	20 fl.
Clinical ophthalmology ..	Prof. A. R. v. Reuss.	Sept. 1.	.....	10 fl.
Ophthalmic operations ..	Dr. O. Bergmeister.	Sept. 1.	6	20 fl.
Modern treatment of eye-diseases	Dr. S. Klein.	Aug. 1.	6	15 fl.
Ophthalmoscopy and anomalies of refraction and accommodation	Dr. L. Königstein.	Aug. 1, Sept. 5.	10	20 fl.
"			7	20 fl.

SUBJECTS.	Teachers.	Courses begin.	Classes limited to.	Fees.
Gynaecological operations...	Dr. E. Ehrendorfer.	Sept. 1.	10	10 fl.
Clinical gynaecology	Dr. L. Lumpe.	Aug. 1.	6	20 fl.
		Sept. 1.		
Operative gynaecology	Dr. L. Lumpe.	Aug. 1.	4	50 fl.
		Sept. 1.		
Obstetric operations	Dr. L. Piskacek.	Sept. 1.	10	20 fl.
Laryngoscopy and rhinoscopy	Prof. K. Störk.	Aug. 1.	20 fl.	
		Sept. 1.		
" " "	Prof. J. Schnitzler.	Sept. 1.	10 fl.	
" " "	Dr. O. Chiari.	Sept. 1.	8	20 fl.
" " "	Dr. W. Roth.	Sept. 1.	10	20 fl.
Otology	Dr. B. Gomperz.	Sept. 1.	12	15 fl.
" " "	Dr. A. Bing.	Aug. 1.	15 fl.	
		Sept. 1.		
Clinical lectures on children's diseases	Prof. A. Monti.	Sept. 1.	10	10 fl.
Certain interesting topics in paediatrics	Dr. M. Herz.	Sept. 1.	10	10 fl.
Hydro-therapeutics	Prof. W. Winternitz.	Sept. 1.	10	15 fl.
Diseases of the skin	Prof. M. Kaposi.	Aug. 1.		
" " "	Dr. S. Lustgarten.	Sept. 1.		
" " "	Dr. G. Riehl.	Aug. 1.	10	20 fl.
Veneral diseases	Dr. S. Ehrmann.	Aug. 1.	10	15 fl.
		Sept. 1.		
Exercises with instruments in the diagnosis and treatment of venereal diseases.	Dr. S. Ehrmann.	Aug. 1.	5	20 fl.
		Sept. 1.		
Syphilis and local venereal diseases	Dr. M. v. Zeissl.	Aug. 1.	10	
Skin diseases and syphilis ..	Dr. C. Schiff.	Sept. 1.	10	20 fl.
Gonorrhoea	Dr. E. Finger.	.....	6	
Treatment of venereal diseases ..	Dr. E. Kohn.			
Urethral and vesical endoscopy	Dr. S. Grünfeld.			

Government Health Reports.—By direction of the Secretary of the Treasury, Dr. John B. Hamilton, Surgeon-General of the Marine-Hospital Service, has issued the following abstract of sanitary reports received during the week ending July 7th:

England and Wales.—The deaths registered in twenty-eight great towns of England and Wales during the week ending June 18th corresponded to an annual rate of 18.4 in a thousand of the aggregate population, which is estimated at 9,245,099. The lowest rate was recorded in Derby, viz., 12.2, and the highest in Manchester, viz., 28.5 in a thousand.

London.—One thousand three hundred and ninety deaths were registered during the week ending June 18th, including 113 from measles, 8 from scarlet fever, 16 from diphtheria, 66 from whooping-cough, 1 from typhus fever, 7 from enteric fever, and 20 from diarrhoea and dysentery. There were 213 deaths from diseases of the respiratory organs. Different forms of violence caused 51 deaths, and 5 suicides were registered. The deaths from all causes corresponded to an annual rate of 17.2 in a thousand. In greater London, 1,764 deaths were registered, corresponding to an annual rate of 17 in a thousand of the population. In the "outer ring" 17 deaths from measles and 11 from whooping-cough were registered.

Ireland.—The average annual death rate represented by the deaths registered during the week ending June 18th, in the sixteen principal town districts of Ireland, was 23.8 in a thousand of the population. The lowest rate was recorded in Lurgan, viz., 5.1, and the highest in Kilkenny, viz., 33.3 in a thousand.

Dublin.—One hundred and eighty-one deaths were registered during the week ending June 18th, including 18 from measles, 3 from whooping-cough, 5 from enteric fever, and 6 from scarlet fever. Diseases of the respiratory organs caused 28 deaths. Two accidental deaths were registered, and in twenty-four instances the causes of death were uncertified. The deaths from all causes corresponded to an annual rate of 26.7 in a thousand.

Scotland.—The deaths registered in eight principal towns during the week ending June 18th corresponded to an annual rate of 19.3 in a thousand of the population, which is estimated at 1,299,000. The lowest mortality was recorded in Perth, viz., 9.7, and the highest in Dundee, viz., 23 in a thousand. The aggregate number of deaths registered from all causes was 483, including 13 from measles, 10 from scarlet fever, 4 from diphtheria, 48 from whooping-cough, and 10 from diarrhoea.

Germany.—The deaths registered in fifty-two cities of Germany, having an aggregate population of 6,821,222, during the week ending

June 11th, corresponded to an annual rate of 23.2. The lowest rate was recorded in Wiesbaden, viz., 10, and the highest in Chemnitz, viz., 44.9.

MORTALITY TABLE, FOREIGN CITIES.

CITIES.	Week ending—	Estimated population.	Total deaths from all causes.	DEATHS FROM—									
				Cholera,	Yellow fever,	Small-pox,	Typhus fever,	Enteric fever,	Scarlet fever,	Diphtheria,			
Mayence.....	June 11.	65,701	29										1
Bremen.....	June 11.	118,000	41										1
Toronto.....	June 25.	124,000	25										2
Stuttgart.....	June 18.	125,510	37										1
Leipzig.....	June 18.	170,000	68										3
Munich.....	June 4.	269,000	200									2	8

UNITED STATES.

Philadelphia, Pa.—The health officer has issued the following proclamation under date of June 22, 1887:

"By resolution of the Board of Health of the city of Philadelphia, and by authority of law, masters and pilots will take notice: That all incoming vessels bound for the port of Philadelphia from ports infected, or which may hereafter become infected, including at present Key West, and also all vessels which have or have had sickness on board since leaving the port of departure, shall be required to report at the United States Quarantine Station at the Delaware Breakwater; and that all pilots in charge of such vessels be and are hereby required to obey this order, under penalty of law, before bringing such vessels into the Philadelphia Quarantine Station on the Delaware River. Vessels from non-infected ports, and having no sickness on board, will hoist their private signal under the national flag before passing the United States Quarantine Station."

A similar proclamation has been issued by the health officer at Camden, N. J.

Key West.—Yellow fever is slowly increasing. A temporary refuge station is being established by the Marine-Hospital Service at Egmont Key, where ten days' detention will be required; also disinfection of baggage.

The International Medical Congress.—The "Gazzetta degli ospitali" states that the Italian Minister of Public Instruction has nominated Professor Durante, and the Minister of the Interior Professor Semmola, of Naples, delegates to the congress.

The Health of Michigan.—According to a summary prepared by Dr. Henry B. Baker, the secretary of the State Board of Health, for the five weeks ending July 2d, diphtheria was reported from thirty-nine places, scarlet fever from forty-two, typhoid fever from twelve, measles from thirty-six, small-pox from one, and typhus from one.

Alleged Periodical Attacks of Rabies.—The "Philadelphia Record" credits the "Pittsburg Dispatch" with the story of a man who was bitten seven years ago by a small terrier dog, and who since that time "has remained in constant terror of anything approaching the semblance of a dog. As often as the month of July, the month in which he was bitten, occurs, he has given exhibitions of the most peculiar character. These, for the most part, consist of his showing a disposition to bark and bite at whatever he sees or imagines in his strange state." From the fact, as stated, that the man was warned at the time of his first attack, "should it occur the seventh time he would die from the effects," and "that either instant death or strangulation must ensue to save his friends from the contagion of the disease," it would seem as if he was suffering from periodical hypochondriasis, the tendency of the recurrence of which is increased by the attentions of his friends, well meant possibly, but ill advised.

The Health of Boston.—During the week ending Saturday, July 9th, the following numbers of cases and deaths from infectious diseases were reported to the Board of Health: Diphtheria, 17 cases and 3 deaths; scarlet fever, 1 case; typhoid fever, 9 cases and 4 deaths; measles, 87 cases and 9 deaths. There were also 31 deaths from consumption, 8 from pneumonia, 4 from whooping-cough, 12 from

heart disease, 8 from bronchitis, and 7 from marasmus. The total number of deaths was 263, against 188 in the corresponding week last year. During the month of June the number of deaths was 654, which was an increase of 17 over the corresponding month of last year.

THERAPEUTICAL NOTES.

Gymnema Silvestre.—According to Dr. Thiselton Dyer ("Nature"; "Practitioner"), leaves of this plant, when chewed, absolutely abolish for the time the power of tasting sugar. The *Gymnema silvestre* is an asclepiadaceous plant growing in the Deccan peninsula, and is also met with in Assam, along the Coromandel coast, and in some parts of Africa. It is a stout, woody climber, with long, slender branches. Its leaves are obovate or elliptic, acute or cuspidate, rarely cordate at the base. The powdered root has for a long time been known among the natives as a remedy for snake-bites, both as a local application and when taken internally in the form of a decoction. Mr. Hooper says that the leaves have a bitterish astringent and slightly acid taste. After chewing one or two leaves it was proved undoubtedly that sugar had no taste immediately afterward; the saltish taste experienced by others was due to an insufficiency of the leaf being used. Sugar in combination with other compounds in dietetic articles is plainly destroyed as to its taste after using these leaves. In gingerbread, for instance, the pungency of the ginger is alone detected, the rest is tasteless meal; in a sweet orange the taste of the sugar is so suppressed, and that of the citric acid consequently developed, that in eating it resembles a lime in sourness. Among the several kinds of foods, drugs, and beverages which affect the palate, gymnema does not render them all tasteless; it does not affect pungent and saline things, astringents, and acids. Its action is limited apparently to two diverse substances, sweets and bitters. It has been noted that sugar taken after the leaf tastes like sand; so he has found that sulphate of quinine taken after a good dose of the leaf tastes like so much chalk. He does not propose its use in the administration of nauseous drugs until its medical properties have been more studied, otherwise the quantity of the vehicle taken might prove to counteract the effect of the medicines. The experience of several friends as well as his own is that the effect does not last for twenty-four hours, as stated, but for only one or two hours; after that time the tongue resumes its appreciation of all that is sweet or bitter. The powdered leaves were submitted to the action of various solvents, and it was ascertained that the peculiar principle was capable of being dissolved out by alcohol. The alcoholic solution of the leaves was almost entirely soluble in water, and from this solution Mr. Hooper succeeded in extracting a body having the characteristics of an organic acid related in some particulars to chrysophanic acid, but having some distinctly peculiar reactions, and possessing the anti-saccharine property ascribed to the leaves. This body he calls gymnemic acid. He has not yet succeeded in isolating the base with which it is in combination.

Potassium Bromide in the Treatment of Ophthalmic Migraine.—At a recent meeting of the Paris *Société de biologie* ("Gaz. hebdom. des sci. méd."), M. Gilles de la Tourette spoke of a subject of this affection who, having been attacked with such grave accidents as aphasia and epileptic paroxysms, was cured by the prolonged employment of potassium bromide. The treatment, he said, should be continued for several months, from 30 to 45 grains of the drug being given daily for the first week, from 45 to 60 grains the second, from 60 to 75 grains the third, and from 75 to 90 grains the fourth.

Betol.—Under this name, according to Mr. H. Helbing ("Brit. and Colon. Druggist"), the β -naphthol ether of salicylic acid has been patented. Its structural formula is analogous to that of salol (the phenyl ether of salicylic acid), and it is said to resemble that compound in its therapeutical action. It occurs in small tabular crystals, nearly white, is tasteless and almost odorless, and is insoluble in water and in glycerin. It is sparingly soluble in alcohol, and the addition of water precipitates it as a milky liquid.

The Wild Rosemary as a Remedy for Mosquito-bites.—In the same journal it is stated that a teaspoonful of tincture of wild rosemary (*Ledum palustre*), added to half a tumblerful of water, has been recommended as a lotion for the bites of the mosquito and the gnat. It should be applied as soon as the bite is perceived.

A Remedy for Lumbago.—According to the same journal, Professor Burggraeve recommends the application of a mixture of equal parts of collodion, tincture of iodine, and ammonia-water, applied widely over the affected region with a camel's-hair brush, as an "instantaneous" remedy for lumbago.

Milk as a Corrigent of Potassium Iodide.—According to Cacénave de la Ruche ("Therap. Monatsh."; "Internat. klin. Rundschau"), the intolerance of many patients for potassium iodide is effectually overcome by administering the drug in a glass of milk.

ANSWERS TO CORRESPONDENTS.

No. 6.—Write to the secretary, Dr. Clayton Parkhill, corner of Lawrence and Seventeenth Streets, Denver, Col.

No. 7.—Any of the publications mentioned in our "General Literary Notes" may be ordered through Messrs. B. Westermann & Co., 838 Broadway. The cost may usually be assumed to be, for each English *shilling*, French *franc*, or Italian *lira*, 33 cents; for each German *Mark*, 36½ cents.

No. 8.—The reasons are given in Webster's "Dictionary," under the word "Mathematics."

To Contributors and Correspondents.—*The attention of all who purpose favoring us with communications is respectfully called to the following:*

Authors of articles intended for publication under the head of "original contributions" are respectfully informed that, in accepting such articles, we always do so with the understanding that the following conditions are to be observed: (1) when a manuscript is sent to this journal, a similar manuscript or any abstract thereof must not be or have been sent to any other periodical, unless we are specially notified of the fact at the time the article is sent to us; (2) accepted articles are subject to the customary rules of editorial revision, and will be published as promptly as our other engagements will admit of—we can not engage to publish an article in any specified issue; (3) any conditions which an author wishes complied with must be distinctly stated in a communication accompanying the manuscript, and no new conditions can be considered after the manuscript has been put into the type-setters' hands. We are often constrained to decline articles which, although they may be creditable to their authors, are not suitable for publication in this journal, either because they are too long, or are loaded with tabular matter or prolix histories of cases, or deal with subjects of little interest to the medical profession at large. We can not enter into any correspondence concerning our reasons for declining an article.

All letters, whether intended for publication or not, must contain the writer's name and address, not necessarily for publication. No attention will be paid to anonymous communications. Hereafter, correspondents asking for information that we are capable of giving, and that can properly be given in this journal, will be answered by number, a private communication being previously sent to each correspondent informing him under what number the answer to his note is to be looked for. All communications not intended for publication under the author's name are treated as strictly confidential. We can not give advice to laymen as to particular cases or recommend individual practitioners.

Secretaries of medical societies will confer a favor by keeping us informed of the dates of their societies' regular meetings. Brief notifications of matters that are expected to come up at particular meetings will be inserted when they are received in time.

Newspapers and other publications containing matter which the person sending them desires to bring to our notice should be marked. Members of the profession who send us information of matters of interest to our readers will be considered as doing them and us a favor, and, if the space at our command admits of it, we shall take pleasure in inserting the substance of such communications.

All communications intended for the editor should be addressed to him in care of the publishers.

All communications relating to the business of the journal should be addressed to the publishers.

AN ABSTRACT OF THE REPORT OF THE BRITISH COMMITTEE TO INQUIRE INTO

M. PASTEUR'S TREATMENT OF HYDROPHOBIA.

THE following abstract is given in the "Lancet" for July 2d:

"The report of the committee nominated by the president of the Local Government Board in April, 1886, to inquire into M. Pasteur's treatment of hydrophobia, was presented to Parliament on Monday last.

"The report commences by stating that it was found necessary that some of the members of the committee should, together with Mr. Victor Horsley, the secretary, visit Paris so as to obtain information from M. Pasteur himself, to observe his method of treatment, and investigate a considerable number of cases of persons inoculated by him; and, further, that a careful series of experiments should be made by Mr. Horsley on the effects of such inoculation on the lower animals. Mr. Horsley's experiments are stated to entirely confirm M. Pasteur's discovery of a method by which animals may be protected from the infection of rabies. If a dog, rabbit, or other animal be bitten by a rabid dog and die of rabies, a substance can be obtained from its spinal cord which, being inoculated into a healthy dog or other animal, will produce rabies similar to that which would have followed directly from the bite of a rabid animal, or differing only in that the period of incubation between the inoculation and the appearance of the characteristic symptoms of rabies may be altered. The rabies thus transmitted by inoculation may, by similar inoculations, be transmitted through a succession of rabbits with marked increase of intensity. But the virus in the spinal cord of rabbits that have died of inoculated rabies may be gradually attenuated by drying the cords, so that after a certain number of days' drying it may be injected into healthy rabbits or other animals without any danger of producing rabies; and by using on each successive day the virus dried during a period shorter than that used on the previous day an animal may be made almost certainly secure against rabies, whether from a bite or from any method of subcutaneous inoculation; and this protection is proved by the fact that, if animals so protected and others not thus protected be bitten by the same rabid animal, none of the first set will die of rabies, and, with rare exceptions, all of the second set will succumb.

"It may hence be deemed certain that M. Pasteur has discovered a method of protection from rabies comparable with that which vaccination affords against infection from small-pox. It would be difficult to over-estimate the importance of the discovery, whether for its practical utility or for its application in general pathology. It shows a new method of inoculation, or, as M. Pasteur sometimes calls it, of vaccination, the like of which it may become possible to employ for protection of both men and domestic animals against others of the most intense kinds of virus. The duration of the immunity conferred by inoculation is not yet determined; but during the two years that have passed since it was first proved there have been no indications of its being limited. The preventive treatment adopted by M. Pasteur is based on the foregoing experience; but the determination of the success of the method is far from easy, owing to (1) the difficulty of determining whether the bites were really those of rabid animals; (2) the probability of hydrophobia in persons bitten by dogs that were certainly rabid depending very much on the number and character of the bites, whether they were on exposed parts or parts protected by clothing; and in all cases in the amount of bleeding; (3) in all cases the probability of infection may be affected by speedy cauterizing or excision of the wounded parts, or by various washings, or other methods of treatment; (4) the unequal danger of bites of different species of animals, and even of different dogs. In some groups of cases the percentage of deaths among persons bitten by dogs believed to have been rabid has been estimated at only 5 per cent., in others at 60 per cent., and the mortality from the bites of rabid wolves has been variously estimated at from 35 to 90 per cent.

"By the courtesy of M. Pasteur the committee were enabled to personally investigate ninety cases treated by him, these being mostly

those which had been earliest treated, in which the periods since inoculation were longest, and living within reach in Paris, Lyons, and St. Etienne. Among the ninety cases there were twenty-four in which the patients were bitten on naked parts by undoubtedly rabid dogs, and the wounds were not cauterized or treated in any way likely to have prevented the action of the virus; there were thirty-one in which there was no clear evidence that the dog was rabid; others in which the bite had been inflicted through clothes. It is estimated, from experience of the results of bites in other cases, that, had they not been inoculated, not less than eight among these ninety persons would have died. Not one of them has shown since the inoculation any signs of hydrophobia.

"Since, in order to quiet fears, M. Pasteur has been obliged to inoculate many in whom there was no satisfactory evidence that the bite was that of a rabid animal, it might be unjust to estimate the total value of his treatment in the whole of his cases as being more than the rate of mortality observed in them compared with the lowest rate observed in any large number of cases not inoculated. This lowest rate may be taken at 5 per cent; and, as between October, 1885, and the end of December, 1886, M. Pasteur inoculated 2,682 persons (including 127 from this country), the mortality should have been 130. But at the end of 1886 the number of deaths was 31, including 7 bitten by wolves, in whom the symptoms of hydrophobia appeared while they were under treatment; in fact, the actual percentage mortality was between 1 and 1.2, showing, on the lowest estimate, the saving of not less than 100 lives. Of 233 persons bitten by animals in which rabies was proved, only 4 died. Without inoculation, at least 40 would have died. Among 186 bitten on the head or face by animals in which rabies was proved, only 9 died, instead of at least 40. Of 48 bitten by rabid wolves, only 9 died, instead of nearly 30. Between the end of last December and the end of March, M. Pasteur inoculated 509 persons bitten by animals proved to have been rabid; only 2 have died, one of these, bitten by a wolf a month before inoculation, dying after only three days' treatment. The committee think it therefore certain that the inoculations practiced by M. Pasteur have prevented the occurrence of hydrophobia in a large proportion of those who, if they had not been so inoculated, would have died of that disease. And his discovery shows that it may become possible to arrest by inoculation, even after infection, other diseases besides hydrophobia. His researches have also added very largely to the knowledge of the pathology of hydrophobia, and supplied a sure means of determining whether an animal which has died under suspicion of rabies was really affected with that disease or not.

"The question whether the method itself entails risk to health or life is then discussed, the distinction between the ordinary method and the 'intensive' method being pointed out. By the first method there is no evidence or probability of any danger to health at all; but after the intensive method, which is only practiced in the most urgent cases, deaths have occurred which might possibly be attributed to the inoculations rather than to the original infection. Yet in the worst cases the intensive method is relatively more efficacious than the ordinary method, nor is the rate of mortality greater after the former method than after the latter. Certain cases, one of which is detailed, have, however, excited suspicion from the mode of death. The case related is that of a man bitten by a rabid cat at the Brown Institution, treated by M. Pasteur the next day by the intensive method, continued during twenty-four days, and dying about a month later with symptoms of acute ascending paralysis. The man was very intemperate, and had been exposed to chill while crossing the Channel on his return home. Mr. Horsley proved that his death was due to the virus of rabies, by using a portion of his spinal cord for the inoculation of rabbits and dogs, who died with characteristic signs of paralytic rabies such as usually occurs in rabbits. Yet it is by no means certain that the fatal issue in this and in other cases treated by the intensive method was not due to the original infection. M. Pasteur has, however, greatly modified this plan of treatment, which he employs in none but the most urgent cases.

"The final paragraphs of the report, which embody practical suggestions, may be given *in extenso*.

"The consideration of the whole subject has naturally raised the

question whether rabies and hydrophobia can be prevented in this country. If the protection by inoculation should prove permanent, the disease might be suppressed by thus inoculating all dogs; but it is not probable that such inoculation would be voluntarily adopted by all owners of dogs, or could be enforced on them. Police regulations would suffice if they could be rigidly enforced. But to make them effective it would be necessary (1) that they should order the destruction, under certain conditions, of all dogs having no owners, and wandering in either town or country; (2) that the keeping of useless dogs should be discouraged by taxation or other means; (3) that the bringing of dogs from countries in which rabies is prevalent should be forbidden or subject to quarantine; (4) that in districts or countries in which rabies is prevalent the use of muzzles should be compulsory, and dogs out of doors, if not muzzled or led, should be taken by the police as 'suspected.' An exception might be made for sheep-dogs and others while actually engaged in the purposes for which they are kept. There are examples sufficient to prove that by these or similar regulations rabies, and consequently hydrophobia, would be in this country 'stamped out,' or reduced to an amount very far less than has hitherto been known. If it be not thus reduced, it may be deemed certain that a large number of persons will, every year, require treatment by the method of M. Pasteur. The average annual number of deaths from hydrophobia during the ten years ending 1885 was, in all England, 43; in London alone, 8.5. If, as in the estimates used for judging the utility of that method of treatment, these numbers are taken as representing only 5 per cent of the persons bitten, the preventive treatment will be required for 860 persons in all England; for 170 in London alone. For it will not be possible to say which among the whole number bitten are not in danger of hydrophobia, and the methods of prevention by cautery, excision, or other treatment, can not be depended upon.

"The report is furnished with an appendix containing (A) an abstract report of Mr. Horsley's experiments; (B) a report on persons in France examined by members of the committee, with a list of English persons treated at the Pasteur Institute from January, 1886, to January, 1887; and (C) on M. Pasteur's methods of preventive inoculation. The report is signed by James Paget (chairman), T. Lauder Brunton, George Fleming, Joseph Lister, Richard Quain, Henry E. Roscoe, J. Burdon Sanderson, and Victor Horsley (secretary)."

The "Lancet" on the Hydrophobia Committee's Report.—The following passages are taken from the "Lancet's" leading article on the committee's report:

"The definite character of the conclusion reached will probably render the report a surprise to most members of the profession who have compared the divergent opinions that have been so freely expressed by men not ill qualified to judge, and have duly realized the difficulty of the investigation and the many sources of fallacy arising from the character of the facts themselves. It is certainly satisfactory that men so well able to weigh the evidence and to observe the facts, after having had

the fullest opportunity of investigating the results obtained at the Pasteur Institute, should have come with one accord to an opinion so precise. Without doubt, their verdict is the most important yet pronounced upon the subject, and must go far to decide the question of the prophylactic value of the inoculations of Pasteur."

"It must not be assumed that all parts of the report are of equal value. We have alluded to the sources of fallacy that lurk in the statistics of Pasteur; the members of the committee have taken due account of them, and have endeavored as far as possible to avoid them. To eliminate them altogether is impossible, and the conclusions reached can not have more than a very high degree of probability. But it is otherwise with the experiments instituted by the committee: these are apparently free from all sources of error. They are not numerous, it is true, but their results are unequivocal, and seem to leave no room for doubt that the inoculation with the weakened virus of rabies confers an immunity from the disease. The inoculation with emulsion of the spinal cord of rabid rabbits preserved a series of dogs from rabies, although the most certain conceivable method of inoculation was employed—a bite from an animal in the acute stage of the disorder. In no case did the animal contract rabies, whereas of other unprotected animals bitten at the same time the majority contracted the disease. The experiments thus seem to leave no doubt of the efficiency of inoculation in rendering harmless a subsequent infection. They prove that the malady, as produced by the attenuated virus, is trifling, and they thus confirm two of the most important statements of Pasteur. On the question whether inoculations, made after a bite has been inflicted by a rabid animal, confer the same immunity—a question of paramount importance—the original researches throw no direct light. But the confirmation of the conclusions of Pasteur, in so far as they have been reinvestigated, is not without its significance, for it naturally increases the readiness to accept also those conclusions that have not been the subject of independent study. The statistics of Pasteur have been subjected to a careful examination by the committee, and the conclusion from the analysis is entirely in favor of Pasteur's method. A considerable number of cases were personally investigated, so far as investigation was possible after the lapse of a considerable time. The facts of these cases, the means employed to prevent infection—washing, cauterization, etc.—and the evidence as to the condition of the dog which bit the patients, are described in the appendix to the report. The conclusion drawn from these facts is that in many of the cases the dog was unquestionably rabid, and that a certain proportion of the sufferers would have died from hydrophobia if they had not been treated, and who, being treated, have not suffered from the disease. The conclusion that the method has saved a considerable number of lives, and that it is at present, and probably will be for long, the only mode of saving from death those who have been bitten by a rabid dog, affords strong support to Pasteur's conclusions, and, we need hardly say, must have most important practical results."

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Original Communications.

A CLINICAL STUDY OF NEURALGIAS,
AND OF THE ORIGIN OF REFLEX OR TRANSFERRED PAINS.*

By C. L. DANA, M. D.

SOME excuse may be expected for presenting so hackneyed a subject as neuralgia. I have found, however, that the literature on this topic for a good many years has been mainly devoted to the therapeutics, and it has seemed to me possible that a new study of some of the clinical aspects of the disease might be of interest. In particular, I have hoped to begin at least a collection of facts which might show us whether neuralgia in this country and climate presents the same physiognomy that it does in Europe, whence has been got the basis of most American writings and views of the disease.

In the second place, I have taken up with especial care the subject of the so-called reflex origin of neuralgia and neuralgic pains, and I trust that my investigations in this line may be of some value.

True idiopathic neuralgia is a rare disease, making up not over 2 or 3 per cent. of the various forms of nervous disorder. Symptomatic neuralgias, reflex or transferred pains, and neuralgic pains from toxic causes are extremely frequent, and make up over 10 per cent. of the total of diseases for which the neurologist is consulted.

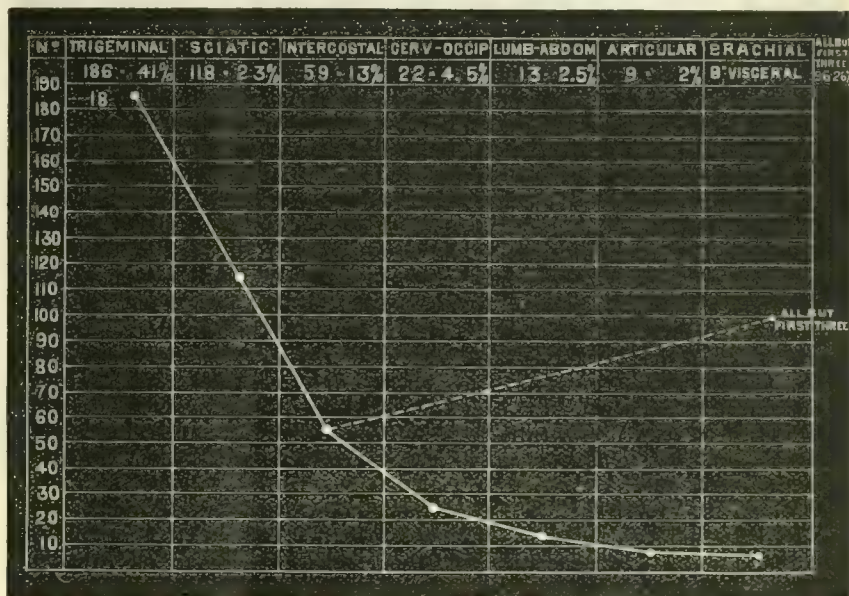
The statistics on which I base my remarks include all the neuralgias treated by myself for the past two or three years in dispensary, hospital, and private practice, of which I have preserved notes; also records of statistical value, in some directions, of the neuralgias treated during one year at the Nervous Department of the Manhattan Eye and Ear Hospital ("Annual Report," 1884-'85), the Mount Sinai Dispensary ("Annual Report"), Demilt Dispensary (from records kindly furnished by my friend, Dr. William M. Leszynsky), and the Out-patient Department of Bellevue Hospital. My own cases amount to 260, while the total number of cases collected is 453.

I shall proceed, first, to present the facts obtained by studying these cases of neuralgia as a whole.

Frequency.—The table and chart which I have here show that, of 453 cases of neuralgia, 186, or 41 per cent., were of the trigeminal nerve; next to this come the sciatic, with 23 per cent., and the intercostal, with 13 per cent.; then follow the cervico-occipital, 4.5 per cent., the lumbo-

abdominal, 2.5 per cent., and the articular, 2 per cent. The brachial is slightly less, while none of the other different neuralgias form much more than a fraction of a per cent. of the whole. This distribution of neuralgias is not in any striking way at variance with those of such other observers as I could find.

Form of Neuralgia.—Trigeminal of all forms, 186 (41 per cent.); supra-orbital, 39; migraine, 31; mixed, 17; infra-orbital, 3; infra-maxillary, 5; tic douloureux, 5—100.



Comparative frequency of occurrence of different forms of neuralgia—453 cases. The dotted line indicates the comparative frequency of all neuralgias—except trigeminal, sciatic, and intercostal—considered together.

Sciatica, 118 (23 per cent.); intercostal, 59 (13 per cent.); cervico-occipital, 22 (5 per cent.); lumbo-abdominal, 13; angina pectoris, 7; gastralgia and neuralgia, 8; articular, 9; crural, 6; brachial and cervico-brachial, 8; testes, 2; urethral, 1; parietal, 2; digital, 1; plantar, 1; palmar, 1; pododynia, 1; coccygodynia, 1; universalis, 1; epigastric, 1; ovarian, 3; larynx, 1; lingual, 1; spinal, 4. All neuralgias, except trigeminal, intercostal, and sciatic, 26 per cent.

As compared with the statistics of Dr. J. Classin, of Kiel, who collected 434 cases, it seems that we have 10 per cent. more trigeminal neuralgias, and slightly more intercostal neuralgias, while the per cent. which he gives of sciaticas (24+ per cent.), and of all neuralgias except trigeminal, sciatic, and intercostal (26+ per cent.), is almost exactly the same as my own, proving, in a striking way, the general representative nature of my collected cases.

With regard to age, the following figures are obtained:

Age.—10 to 25, 99; 25 to 35, 66; 35 to 45, 68; 45 to 55, 38; 55 to 65, 16; 65, 5—292.

A comparison of these figures with those of other observers will show that neuralgias in this city attack persons at an earlier period of life than is the case with patients observed by French and German physicians. Thus, among 543 cases collected by Erb and reported by Valleix, Eulenburg, and Erb, only 171 occurred before the thirtieth year, and about 235 before the thirty-fifth year, while in

* Read before the Medical Society of the County of New York, December 27, 1886.

my cases there were 165 out of a total of 265, or nearly two thirds, before the thirty-fifth year. In my cases one third occurred before the twenty-fifth year, while in Erb's one fifth occurred before that time.

In comparison with Classin's statistics the same result is shown. Thus, 30 per cent. of his cases and 45 per cent. of my own occurred before the thirtieth year.

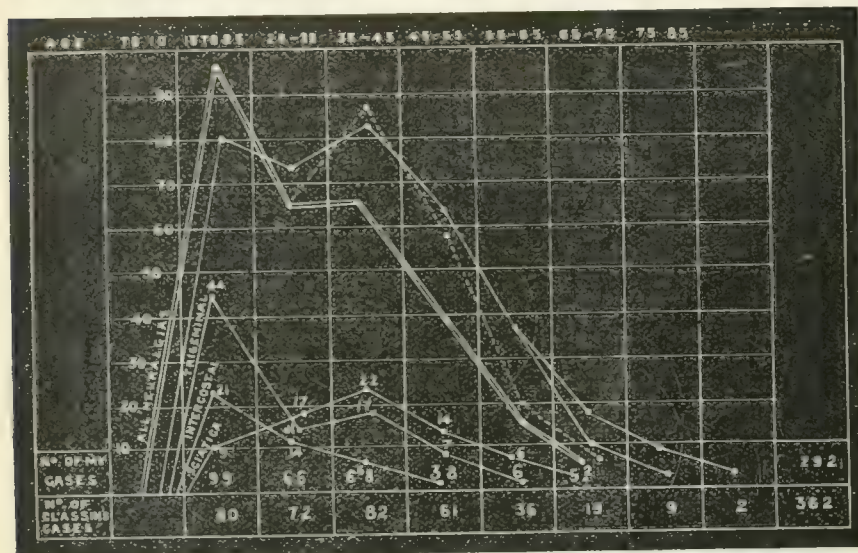


Chart showing the absolute and relative prevalence of neuralgia with reference to age. The double line represents my own cases; the upper single line, Classin's. The dotted line shows the relative number of neuralgias to persons living at ages indicated. (Of 1,000 persons born, 714 are alive at the 15th year, 500 at the 40th, and 333 at the 65th year.) Classin arranges his ages from the tenth, twentieth, thirtieth, etc., years. I have been obliged to change this and give approximate figures, for the sake of comparison.

Sex.—As regards sex, I find that there were 122 males and 199 females, giving a proportion of about 3 to 5. In Erb's 821 collected cases the ratio was about as 4 to 5 (364 to 457). In Classin's cases the males formed 37.8 per cent. (160), the females 62.2 per cent. (263). These figures are absolutely identical with mine, confirming again the representative character of my cases, and they enable us to say, with much definiteness, that women are more affected with neuralgias than men in the proportion of 5 to 3. If anything, women in this country are attacked in a larger proportional amount than men.

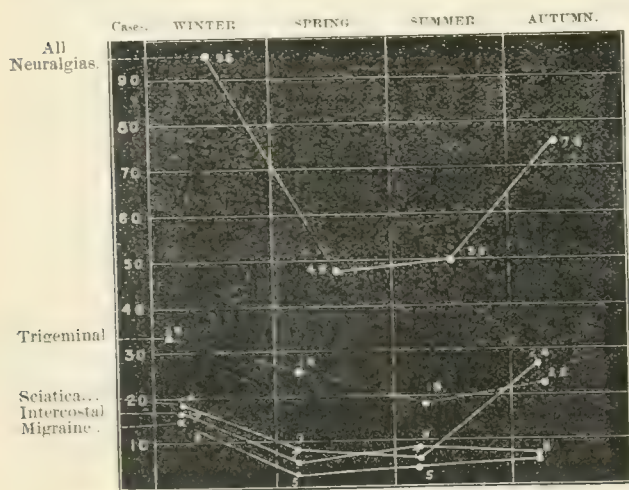


Chart showing the relation of neuralgias to the season—271 cases.

With regard to seasonal influence, not much that is definite has, so far, been established. In my own cases I found the figures as follows: Winter, 96; spring, 49; summer, 50; fall, 76—271.

From this it will be seen that the greatest number of cases occur in the winter months; that there is then a sharp fall in the spring, when the number reaches its lowest point. The number then slightly increases in summer, and reaches a still higher point in the autumn.

The figures of Classin show the greatest number in summer, 117; next in winter, 109; then spring, 107; and last in the autumn, 101. There is certainly, therefore, an increase in neuralgias in summer over the number in spring, while, doubtless owing to our climate, we have a much greater proportional number in the autumn and winter season than is the case abroad. The maximum number of cases in any one month in Classin's tables was in June, and the next in January.

It is at least interesting to establish the fact that in this city neuralgias do not bloom in the spring, but delay their efflorescence until summer, from which time they steadily increase in number in this climate until the end of winter is reached.

Of the special forms of neuralgia, those affecting the different branches of the fifth pair of cranial nerves are by far the most frequent, even excluding, as we do, the numerous diffuse head-pains of all kinds.

Neuralgias of the Fifth Pair.—The fifth pair of cranial nerves is affected with neuralgias of widely different types. They may be classed as follows:

1. The supra-orbital neuralgias. These are the most frequent in number. Supra-orbital neuralgia may occur as the expression of a constitutional neuropathic state—it may, in other words, be a true neurosis; but far more frequently it is symptomatic of some toxic or anæmic state.
2. Infra-orbital or supra-maxillary neuralgia.
3. Infra-maxillary neuralgia.
4. The mixed forms.
5. True tic douloureux. This is a comparatively rare disease, which may take the form of any of the above mentioned types.
6. Migraine. This generally affects nearly all the branches of the fifth, radiating to the occipital nerves but it often localizes itself in the upper ophthalmic branches.

We may have, then, true neuralgic neuroses, clinically different from tic douloureux, affecting one or other branch of the fifth. These are not very rare. We have true tic which are rare. Then we have symptomatic neuralgia affecting the different branches, and these are very common.

Finally, we have migraines which are also common.

The comparative number is shown by the following ratio in 100 cases.

Supra-orbital neuralgias (all forms).	39	per cent.
Migraine.....	31	" "
Mixed trigeminal neuralgias.....	17	" "
Infra-maxillary.....	5	" "
Tic douloureux.....	5	" "
Infra-orbital.....	3	" "

Trigeminal neuralgias affect the female sex more than the male in the proportion of 49 to 23, or 2 to 1.

The effect of the winter season in bringing out trigeminal neuralgias is very marked, as shown by the following: Winter, 35 (35 per cent.); spring, 26 (23 per cent.); summer, 19 (19 per cent.); autumn, 22 (22 per cent.).

Winter and spring are therefore the worst seasons for the trigeminal nerve, and this is especially the case with tics. Patients suffering from tic generally get some relief in the summer months.

With migraines this is not the case. As will be shown later, summer stands close to winter in the number of these cases.

The trigeminal nerve is the one earliest in life affected with neuralgia, which then shows itself generally in the form of migraine. Aside from the painful tics, trigeminal neuralgias are oftenest met with in persons under twenty-five or thirty years, as shown by the following: 10 to 25, 44 cases; 25 to 35, 16; 35 to 45, 17; 45 to 55, 7; 55 to 65, 1—85.

There is an increase in trigeminal neuralgias after the age of thirty-five, due to the development of tics and toxic neuralgias. Relatively to the population the number is nearly one third greater between the years 35 and 45 than between 25 and 35.

In supra-orbital neuralgias the left side is affected more than the right in the proportion of 14 to 9. This fact has been observed by others, and recently by Faucheron, who analyzed 100 cases. In the other forms no definite rule can be laid down.

Taking all forms, a preponderance is shown in favor of the left side 31 to 23. In migraines and tics the sides are about equally affected (right side 14, left 13).

In most migraines and most supra-orbital neuralgias the attacks were worse or began in the mornings. This was especially the case with those supra-orbital neuralgias curable with quinine and arsenic.

On the other hand, most of the infra-orbital, infra-maxillary, and mixed trigeminal neuralgias were worse in the afternoon and night, especially those forms showing a rheumatic origin. Some indication for treatment is furnished by these facts, for, if the observations are corroborated, they show that rheumatic influences affect the lower two branches of the fifth in a proportionally greater frequency.

A study of the causes of my cases does not furnish anything especially new.

I could only find 5 cases—4 supra- and 1 infra-orbital—that I felt at all sure were due to malaria.

Child-bearing, anæmia, and exposure were prominent causes.

Heredity is a very indirect element except in migraines. On the other hand, the nervous temperament is very often

present, and the trigeminal nerve indeed seems to be the first station at which is waved aloft the signal that another victim has been haled into the neuropathic circle.

Migraine.—This form of neuralgia occurs oftener in the female in the proportion of 1 to 3 (males, 8; females, 28).

These attacks occur oftenest in the winter, least in the spring, more in summer, and still more in the autumn: Winter, 16; spring, 5; summer, 7; autumn, 8—36.

So far as I could find, in all my cases except one there was in the main an angeiospastic condition of the arteries of the head. Angeiospastic migraine is the characteristic form in America.

In almost all cases migraine was an hereditary or at least a family disease, alternating sometimes with other neuroses, especially asthma and other neuralgias.

I found two cases only which appeared to be due to asthenia and refractive errors of the eye. Almost all responded well to treatment, and I was not able to convince myself of any peculiar nasal or pharyngeal irritations.

Permit me to add here that the idea that migraine is a disease of the sympathetic system is one of the old medical superstitions which, with the old idea of the sympathetic system, ought to be done away with entirely, and which hardly deserves to be discussed with seriousness. Migraine is a general neurosis like epilepsy, showing itself in nervous discharges, mainly in the area of the fifth. Symptomatically, therefore, it is to be spoken of as a form of trigeminal neuralgia whose manifestations are strikingly associated with vascular and secretory and sometimes motor, visual, and auditory disturbances.

But migraines may occur with very little vascular change, and there are nervous or sick headaches which stand half-way between typical migraine and ordinary rheumatic or gastric headaches.

To illustrate this: There is in particular a form of neuralgia which is often called migraine, and is popularly known as one form of sick headache. In this the pain begins in the back of the head on one side and speedily radiates over to the face on the same side, affecting sometimes the orbital and ciliary nerves, sometimes all the branches of the fifth. It is sometimes accompanied by nausea and even vomiting (especially if right-sided?), but this is not always the case. The face is generally somewhat pale, but not unilaterally so; the eyes are not suffused, nor is there often any visual or aural disturbance as in migraine. Sometimes the pain remains in the occipital nerves, and I have met with one patient who localizes her pain there entirely, and who always vomits during the attack. The paroxysms are brought on oftenest by barometrical disturbances at the onset of cold, damp weather, or in other cases by the approach of the menses, or by emotional excitement. In some cases the attacks are mild and consist only of some dull pains in the occipital and facial regions. While some of these cases may be diagnosticated as migraine, others resemble ordinary attacks of cervico-occipital neuralgia radiating to the fifth nerve, and other cases are likened to bilious headaches.

These pains are all, in my opinion, migrainous in character, though often not recognized as such. They stand in

the same relation to typical migraine as hysteroid convulsions stand to the true epileptic attack. They should be treated on this theory.

Intercostal Neuralgia.—This form of neuralgia was met with in 45 cases, of which there were 5 in males and 37 in females. This gives a larger proportion to females than the statistics of Valleix and Bassereau (11 male to 51 female).

The seasonal influence shows a great preponderance in favor of the winter months: Winter, 17; spring, 7; summer, 9; autumn, 8. The attacks occur in the left side more than the right in the proportion of 1 to 3 (right side, 6; left, 19).

Age.—From 12 to 25, 21; 25 to 35, 14; 35 to 45, 6; over 45, 4—45. Most are between the ages of 20 and 35.

Sex.—Male, 5; female, 37.

Season.—December, January, February, 16; June, July, August, 7; September, October, November, 9; March, April, May, 6.

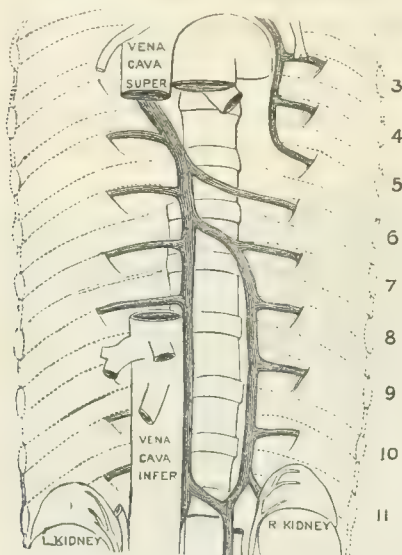
Causes.—Cardiac disease, 1; neurasthenic and anæmic states, 12; ague, 6; tobacco-working, 1; exposure and muscular strain, 6; diabetes, 1; neuritis, 1; dyspepsia and anæmia, 2.

Side.—Right side, 6; left, 19; undetermined, 18.

Pathology.—This form of neuralgia occurs oftenest in neurasthenic, anæmic, and overworked women. Exposure and muscular strain are often noted.

Exciting causes are dyspepsia and constipation and uterine trouble. Mammary neuralgia is especially often attributed to some uterine trouble. But mammary neuralgia is rare compared with the so frequent complaint of "left-sided pain."

This left side is oftener affected according to Luschka, because the arrangement of the azygos veins on that side tends to allow a stasis of blood, those veins passing underneath the descending aorta and thoracic duct.



Others ascribe left-sided pain to a more frequent occurrence of pleuritic and pulmonary congestions on the left side, or to the reflex influence of the stomach.

Uterine disorders which produce a congestion of the pampiniform plexus in the broad ligaments are said to produce left-sided pain by reason of the fact that there are no (or few) valves in these veins, that they pass behind the sigmoid flexure (in which position they may be compressed), and that they empty into the renal vein at a right angle. The objection to this oft-quoted theory is that the veins in question are below the level of exit of the affected nerves, so that any pressure pain would be felt in the thigh or gluteal region unless it were reflected or transferred to higher branches.

More has been said than need have been about the reflex origin of intercostal neuralgia. In my experience only a small proportion are cases of transferred or reflex origin. Most intercostal neuralgias have much the same history and course as supra-orbital neuralgias, and they respond to anti-neuralgic treatment in the same way. I shall return to this subject later. Probably one half the pains in the side are myalgic in nature, and should be classed as pleurodynia. These pains can be distinguished by the history of their origin and of rheumatic influences, by their diffuseness and dullness, by the great tenderness on pressure, and the pain produced on taking a deep breath.

There is another considerable proportion of cases in which the pains are mainly neuralgic, but yet there are some evidences of muscular complications.

In the third class of cases there is the pure stabbing neuralgia, the pain paroxysmal and not increased, as a rule, by movement or pressure.

These distinctions between neuralgic, myalgic, and neuro-myalgic pains are important from a therapeutic point of view. In the purest types of intercostal neuralgia, antirheumatic remedies rarely do good, while the neurotic and anodyne drugs check it very rapidly.

A study of the various pains in the back and side leads me to this therapeutical aphorism—viz., plasters are for the back, blisters for the side. This means simply that most side-pains have a predominating neuralgic element, while most back-pains are myalgic, owing to the greater muscular mass at this point. Anodyne and stimulating plasters, as ordinarily made, have little influence over neuralgia.

The preponderance of pain on the left side seems to me probably due in part to the law that the left half of the body has less resisting power, so far as nervous phenomena are concerned, than the right, exhibiting at all levels a greater number of neuralgic, spasmodic, and other sensory and motor troubles of functional origin.

The so-called tender points in intercostal neuralgia are certainly much less frequently found than is supposed. There is tenderness over the seat of pain always; sometimes a second tender point is found in the back or anteriorly near the sternum, while only very rarely have I found the typical three tender points at the exits of the posterior, lateral, and anterior branches of the intercostal nerves. They may be felt in very chronic cases.

There is a form of intercostal neuralgia not generally recognized as such, because the pain is seated in the neighborhood of the anterior upper crest of the ilium, just at the

distribution of the lateral cutaneous branch of the last dorsal nerve. The pain is quite sharply limited and there is tenderness on pressure.

(To be concluded.)

THE TREATMENT OF PULMONARY DISEASES BY GASEOUS ENEMATA.*

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THE attention of the medical profession has lately been widely drawn to Dr. Bergeon's method of treating diseases of the respiratory passages by means of enemata of sulphureted hydrogen. It is proposed in this paper to direct your attention to some of the results thus far obtained. First, however, it is important to state that the writer has approached the subject from a purely clinical standpoint. He has, he believes, avoided entirely, both in his investigation of the method and in his report thereon, any of that enthusiasm which is apt to follow the introduction of new remedies, and which for a time clouds the calmer reasoning faculties and renders an impartial judgment impossible.

My practical acquaintance with this therapeutic measure began in February past, when, learning that it was being extensively employed in Philadelphia, I made a visit to that city.

The first of the original apparatus brought to this country was then still in the clutches of the custom-house officers, but Dr. J. Solis-Cohen, to whom it belonged, had already in wide use a modified form of apparatus in imitation of this one designed by Morel. With Solis-Cohen I went to the Polyclinic, where Mr. Kyner gave me a demonstration of the method upon a phthisical patient then in waiting. On my return to New York I visited some of the city hospitals where this plan of treatment was being tried, and then began its employment in my office.

A few weeks ago I again visited Philadelphia and made a tour through all the hospitals of that city where the method was in use. I have been enabled to collect from my clinic at the Northeastern Dispensary, from cases referred to me by other physicians, and from private practice, some twelve patients the subjects of various forms of phthisical lesions and two other patients affected with chronic bronchitis. On April 16th, in a preliminary report made before the Clinical Society of the Post-graduate Medical School, I stated that in the twelve cases I had then on hand improvement had been noted in ten. This statement holds good at the present time. The method of administering the gas has been so fully described in the journals that there is no need to recapitulate it here. Too great insistence, however, can not be laid upon the importance of employing perfectly pure carbon dioxide, as otherwise intestinal irritation is apt to be produced. The best method of obtaining this result is to generate the gas by the action of tartaric acid upon bicarbonate of sodium, and to wash the product thus obtained.

* Read before the Section in Materia Medica and Therapeutics of the New York Academy of Medicine, May 27, 1887.

The use of the mineral acids is less preferable on account of the possible formation of irritating vapors. For the production of the sulphureted hydrogen in a pure form Bergeon has deemed it essential to confine himself to the use of the Eaux Bonnes water. This water as exported in bottles, however, can not be depended on, some samples containing, or at least generating, no gas whatever.

Various natural sulphur-waters have been employed in the United States, especially the Red Sulphur Spring water of Virginia, and the White Sulphur Spring water of Sharon. This latter I have had bottled expressly for me, and sent to me direct from the springs. It has proved eminently satisfactory. The objection made to the employment of such waters is, that with their use we are unable to estimate the quantity of sulphureted hydrogen which finds its way into the intestine of the patient. We can reach no scientific data, we are told, unless we accurately measure the dose which we employ in each case. To meet this objection certain solutions have been suggested, most notably that of Dr. Bardet, Chief of the Therapeutic Laboratory of the Cochin Hospital, Paris. The sulphureted solution contains ten grammes of sodium sulphide in one hundred cubic centimetres of distilled water, and is made by passing pure sulphureted-hydrogen gas through a pure solution of soda. One cubic centimetre of the liquid "will generate exactly ten cubic centimetres of sulphureted hydrogen." The acid solution used for setting free the sulphureted gas is made by dissolving twenty-five grammes of tartaric acid and one gramme of salicylic acid in one hundred cubic centimetres of distilled water. The salicylic acid is added merely as a preservative. One cubic centimetre of this solution "entirely displaces" the sulphureted hydrogen of one cubic centimetre of the preceding. Before the Biological Society of Paris, M. Morel stated that the dose of the gas was twenty-five cubic centimetres. I have employed this solution in about 50 per cent. of my cases. Dr. Bardet advises the addition of some vegetable acid to increase the efficiency of the natural sulphur-waters, when such are used. Carbon disulphide has also been employed as the source of the sulphureted gas. If this substance is chosen, the gas which is generated thereby must be very carefully washed, as otherwise intense smarting is produced which may last all day, and not infrequently severe attacks of diarrhoea. It has also caused severe nervous disturbances.

In the "Lancet" of April 23d, Dr. James M. Williamson points out that much caution is needed in such employment. It produced in one patient "great irritability and moroseness, and a tipsy feeling which so distinctly amounted to incapacity for work or clear thinking as to be noticeable by others."

Solis-Cohen first suggested * placing the mineral-water bottle in a bath of warm water, as by this means the injection was rendered more grateful. I think this is a valuable suggestion. The quantity of carbonic-acid gas to be injected each time varies from one to six litres, the amount depending on the way in which it is borne by the patient. The first administration should be tentative, as the range of

* "Medical News," April 2, 1887, Philadelphia.

individual peculiarities in this respect is quite wide. Dr. Bergeon states that two injections should be given daily, but in Paris rarely more than one is employed, unless the patient can stand but very small quantities at a time. Three hours after a meal is thought to be the best time for administering the gas, as it is apt to disturb the digestion when given on a full stomach. An exact observance of this rule, however practicable in a well-equipped hospital, is obviously impossible in private practice where not more than one patient can be attended to at a time. A much more important condition for the securement of painless administration is that the large intestine be empty. In several cases I have been able to remove all discomfort by instructing the patient in whom it had arisen to thoroughly empty the bowels either with some laxative mineral-water or with an enema before each subsequent employment of the gas. In a few cases, especially those in which the colon was torpid, the gas has created the desire to go to stool, while in one other case its continued use has created a moderate degree of constipation.

Desirous of becoming acquainted with the sensations, if any, produced by these injections, I administered to myself six litres of the carbonic-acid gas, passed through the sulphur-water in the regular way. For ten minutes after I had made the experiment I was conscious of no effects whatever, after which I had a taste in my mouth as though I had indulged rather too freely in eggs and they had disagreed with me. Now that I have presented the method itself, it may be well to pause for a moment and recall the mixture of fact and theory upon which it is based.

Phthisis (we are told) is an infectious disease, characterized by the presence of a special microbe—the *Bacillus tuberculosis*. The pulmonary tissues, being in some way weakened, either by inherent or by acquired causes, take on the suppurative process and absorb certain infectious materials, which circulate through the system and give rise to septicæmia. There is no reason to believe that the bacillus itself is the cause of all the grave phenomena of phthisis. Indeed, as Dr. Daremberg says, the true state of the matter probably is, the bacillus is almost nothing, the septicæmia everything. "The ideal end toward which we should strive," said M. Debove in 1883, "when we are in the presence of a parasitical malady such as phthisis, is to find a parasiticide acting in the interior in the same manner as the external remedies used for the itch. It is necessary to find a substance which, without injuring the system, will be destructive to the parasite." This is the hypothesis with whose claims to acceptance or otherwise we have at present nothing to do. Now for the facts. As long ago as 1857 Claude Bernard discovered * that if toxic substances, in not too large quantities, were introduced into the body at a distance from the arterial system, they were eliminated without producing any deleterious influences upon the economy.

During their transit through the body they are removed by the bile, or, if volatile, by the lungs. Reasoning from these grounds, Dr. Bergeon aimed to introduce through the rectum sufficient quantities of some antiseptic material to

prevent the development of the tubercle bacillus without unfavorably affecting the condition of the patient. This does not necessarily imply the destruction of the organism, but rather a prevention of its deleterious effects upon the pulmonary tissues. The history of the various substances employed by Dr. Bergeon before he finally adopted those now recommended is apart from our subject. As for the use of sulphur in the treatment of phthisis, we are well aware that this is no novelty; these vary. Eaux Bonnes having long been especially famous with European physicians. In a recent article on this subject, Dr. H. C. Wood* says that the good results obtained by the gaseous enemata have induced him to prescribe a solution of sulphureted hydrogen to be taken by the stomach, and that the effects upon the disease have seemed to be entirely in accord with those obtained by the rectal injections. The experience of Dr. Bergeon leads him to believe the stomach unsuitable for this purpose, and he states that the ingestion of sulphur-waters in phthical subjects frequently incites hæmoptysis, and that in the case of a patient under the care of Dr. Coutaret, of Roanne, it was the immediate cause of death.

Attempts have also been made to administer sulphur by inhalation. To the north of Naples and in the rear of Pozzuoli is the crater of an extinct volcano called the Solfatara. At the junction of the floor with its wall are a number of volcanic vent-holes called *stufes*, from which is emitted a vapor charged with fumes of sulphur and arsenic. The first attempt to utilize these fumes for medical purposes was made by Dr. Abele Franza in 1871. A Russian affected by advanced tubercular disease was removed from Naples to Pozzuoli, and during six weeks carried to the Solfatara in order that he might inhale the vapors. Many similar cases have been reported, among others that of the son of Dr. H. R. Storer, of Newport, who is said to have commenced to improve immediately after resorting to the crater. In a recent journal† article Dr. Hugenschmidt, of Paris, states that, at the mineral-springs of Allevard, France, Dr. Niepce has for many years treated phthical patients with sulphureted-hydrogen inhalations obtained by projecting a stream of the sulphur mineral-water against a concave plate, which causes it to be thrown into spray, and liberates the gases which it contains. This plan is said to have cured many patients, the bacillus beginning to disappear shortly after the initiation of the treatment, and ultimately being entirely absent from the sputa.

While in Philadelphia I was shown by Dr. S. Solis-Cohen a preparation called "Pictet Liquid," consisting of a combination of sulphur dioxide and carbon dioxide (sulphurous and carbonic anhydrides, SO_2 and CO_2) liquefied under pressure, and forced into siphons resembling those in which carbonated mineral-waters are dispensed. When the finger-valve is depressed, the mixture emerges in the form of vapor. Dr. Bartholow had proposed, he said, to place the patient with phthical lesions in a small apartment, the atmosphere of which was saturated with this vapor, and which he was to be directed to inhale. This plan, he

* "Leçons sur les substances toxiques et médicamenteuses," pp. 52 et 59.

* "The Treatment of Phthisis by Sulphureted Hydrogen," "Therap Gazette," April 15, 1887.

† "Medical News," Philadelphia, May 7.

thought, might come to supersede the Bergeon method. The treatment of phthisis by inhalations of various antiseptic substances has not thus far, however, won the confidence of the profession. A great deal of ridicule has been cast on the method under consideration, as being based on fallacious reasoning. The gas is supposed to act antiseptically upon the diseased pulmonary surfaces, and yet, say these detractors, the gas itself, at least in any quantities consistent with the safety of the individual, is not an antiseptic. The fact that it is a frequent product of the putrefaction of organic matter, both animal and vegetable, should prove this, and, what is still more significant, an examination of the sputa in those supposed to be benefited by its use shows the continued presence of the *Bacillus tuberculosis*. In the first place, arguments of this character are of a very low order of reasoning. To throw doubts on the fact because we have not positive explanation of its cause is in the highest degree unscientific.

Just how important a rôle the bacillus plays in the development of phthisis is far from satisfactorily determined. Moreover, it may very well be, as suggested by Dr. Morel, that by the use of the gas the injurious influence of the bacillus is neutralized; that, by producing in its environment some change whose nature is still unknown to us, this bacillus is reduced to the same condition of harmlessness as that shown by numerous other microbes present in the lung, to which no deleterious influences have ever been assigned. Still further,* Dr. Pilatte, who undertook researches on the relative power of the different antiseptics known as regards their action on the tubercle bacillus, stated that "of all the antiseptics employed, sulphureted hydrogen was the most reliable, preventing the development of the bacillus, at the same time destroying this micro-organism."

Now as to the therapeutic value of this treatment, as judged by the results thus far obtained. Dr. Bergeon, its originator, reports more than two hundred cases in which he has employed it during the past two years, and states that in it he has found a means of relieving almost every case of phthisis, asthma, and chronic bronchitis, and of producing cures in a very considerable proportion. Cases of incipient phthisis are controlled within a very short time, and ultimately cured, while advanced incurable cases are greatly ameliorated. The temperature falls, the pulse is lowered, the night-sweats cease, the cough becomes less, the expectoration greatly diminishes and ceases to be purulent, the appetite returns, and the patient increases in weight. Those in whom he considers cures to have been obtained have ceased to expectorate, and have been able to resume laborious occupations without evincing discomfort or losing ground. These, on physical examination, present the signs of cicatrized or cicatrizing cavities or other evidences dependent on the repair of old lesions. Pharyngeal and laryngeal tuberculous ulceration, whenever present, have been cured at the same time, without recourse to any other treatment.

How far have these results been substantiated by other

observers? In Europe this mode of treatment has been adopted and favorably reported on by Dujardin-Beaumetz, Constantin Paul, Queril, Vaillat, Chantemesse, Henry Benet, and Burney Yeo. In this country the first to employ and report on the method were J. Solis-Cohen and Edward T. Bruen, of Philadelphia, and both very favorably. Moreover, in personal interviews with the former and with the resident physicians in all the Philadelphia hospitals, the present writer was strongly impressed with the earnest tone of conviction with which these gentlemen spoke. In no case were any extravagant pretensions made for it. The treatment, it was said, relieved all the symptoms; it was too early to state what influence it had on the ultimate course of the disease. In this latter respect the greatest difficulty was experienced, because as soon as the symptoms subsided the patients were apt to consider themselves cured, and leave the hospital. I was particularly interested in one case under the care of Dr. Bodamer, of the German Hospital, in which the patient before the commencement of the treatment had a temperature of 104.5° F. Three days after the employment of the gas the temperature had fallen to 99.5° F., and since that time it has never risen above this point. Some patients, he said, had gained as much as nine pounds in four weeks. Again, at the Philadelphia Hospital, Dr. R. A. Taylor referred to a case of so-called "catarrhal pneumonia" (phthisis florida), with consolidation of the left lung, in which the pulse was 120, the temperature 100° to 103°, and the expectoration a pint and a half of purulent material daily. After the administration of the gas had been continued for a time the temperature became normal and the pulse 90, while the expectoration rapidly diminished and eventually disappeared.

In regard to my own experience with the treatment, I regret to state that I am not able at present to report many of my cases in detail. This is largely due to the very great difficulty which I have had in following them up. Thus far I have been unable to retain but three patients over three weeks at a time. The twelve cases in which I have employed this treatment have represented every stage of phthisis, from incipency to utter hopelessness. Two cases belonging to the latter type have yielded me negative results, but in every one of the others there has been a marked control of the symptoms. Twice the treatment has been intermitted for a couple of days, and on both occasions the patients have relapsed, to become better again upon its resumption. I have found considerable difficulty in some cases, especially in women, in inducing the patients to submit to what seemed to them a ridiculous form of treatment, and still greater difficulty in having them continue it after they had progressed to a certain stage. One patient however, has been continuously under my care for five weeks. I propose to give you the history of this in detail, and some data concerning the others:

CASE I.—The patient is a male, aged thirty-seven, born in Germany; his father died of cancer; the cause of his mother's death is unknown. He came to this country eighteen years ago, at which time his three brothers and one sister were in fair health. He has not heard from them since. By occupation he is a waiter. His illness dates from a year ago last Feb-

* "Med. News," May 7th.

ruary, when he caught "cold," and suffered in addition with a severe attack of rheumatism. He was under some medical treatment, but his cough continued, and on the 14th of September last he had a hæmorrhage. This was repeated at a later date, after which he developed pain in the right chest, fever, night-sweats, and copious expectoration of a starchy material mixed with pus. My acquaintance with the patient began on April 17th of this year, when he presented himself at the dispensary. He was extremely pale and greatly emaciated, and had considerable dyspnoea. His temperature was 101.7° F., pulse 120; he had anorexia, had night-sweats, and was unable to sleep. On physical examination, a large area of consolidation was discovered on the right side, as evidenced by percussion-dullness, bronchial breathing, and subcrepitant râles. The patient appeared at my office the next day, and I began with him the administration of the gas. His daily expectoration at this time weighed about eight ounces. On the fifth day his temperature was 100° and pulse 110; he coughed very much less, his expectoration had greatly diminished, and he had slept the greater part of the previous night. On the eighth day his temperature was 99°, and pulse 100; his appetite had returned, his cough was slight, his expectoration had diminished to four ounces, he slept well, had no night-sweats, and was troubled with dyspnoea only on considerable exertion. He continued in this way until the fourteenth day, when I left the city for a couple of days, and the treatment was temporarily discontinued. On my return (seventeenth day from commencement of treatment) his temperature was 101.5° and his pulse 110; he had sweated profusely on the previous night, his cough had returned, and he had been unable to sleep. After two further treatments he regained his previous improvement. His gain from this time on was steady, though occasionally the cough was troublesome at night. His improvement continues at the present time. His temperature is frequently 98° in the morning; at no time is it over 99°. His pulse averages 94. His expectoration is diminished to two and a half ounces daily. His appetite is fair, sleep good, and cough comparatively slight. (A remarkable fact connected with this patient is that, while he has otherwise improved, he has lost a pound and a half in weight.) Recently I again intermitted the treatment for thirty-six hours, when all the patient's discomforts returned, and in addition he had a slight hæmorrhage.

SUMMARY—CASE I.

	Tempera- ture.	Pulse.	Weight of daily sputa	Body weight.	No. of stools.
April 17.....	101.7	120	8 ½	121½	2 daily.
May 27.....	98-99	94	2½	120	1 daily.

Desiring to have the diagnosis confirmed, I sent him to Dr. Andrew H. Smith, who reported as follows: "I find the patient, H. S., presenting the following signs and symptoms: Respiratory movements on right side restricted; marked percussion-dullness from right apex down to the fourth rib, anteriorly and posteriorly; prolonged high-pitched expiration, and greatly increased vocal resonance and fremitus, extending from the apex nearly to the base, before and behind. *No moist râles.* Pulse 98, temperature 99°."

There had been no râles present for a considerable time past.

CASE II.—Ellen McB., aged twenty-six, occupation domestic. Father and one sister died of consumption. Has been sick for two years; had a hæmorrhage one year ago. Has at present, March 29th, dyspnoea, night-sweats, and profuse expectoration. Temperature 101°, pulse 110. Examination reveals a cavity in the apex of the right lung; consolidation from third rib to base

of chest. Treatment commenced April 1st; patient weighs 102½ pounds; daily sputa weigh about eight ounces. Injected three litres of carbon dioxide over Sharon water.

April 2d.—Injected six litres as above.

3d.—Cough was less last night and patient slept.

4th.—Night-sweats have greatly diminished. Temperature 100°, pulse 95.

8th.—Coughs principally on rising; daily sputa weigh about five ounces. No night-sweats, appetite fair; temperature 99.5° F., pulse 90.

15th.—Good condition continues; sputa, four ounces; patient weighs 104 pounds.

22d.—Patient thinks she is "nearly cured." Examination shows diminution of bronchial symptoms; no moist râles; other physical signs unchanged. Weight about 105 pounds. Temperature 99°, pulse 88. Sputa weigh about three ounces and a half.

24th.—Patient did not present herself.

25th.—Inquiry at patient's address shows she has left the city as servant to some family.

SUMMARY—CASE II.

	Patient weighed.	Tempera- ture.	Pulse.	Daily sputa weighed.
April 1.....	102½ lbs.	101°	110	About 8 ½
April 22.....	105 "	99	90	About 3½

CASE III.—Charles B., German, aged twenty-eight, cigar-maker. Mother died with "some chest trouble"; other history good. Has dyspnoea, night-sweats, cough, pain under right nipple. Sick six months. Hæmorrhage two months ago. Examination shows small cavity at right apex; consolidation of upper portion right lung; localized pleurisy on affected side. Pulse 120, temperature 102°.

April 6th.—Treatment commenced with three litres of carbon dioxide over a solution of potassium sulphide, with tartaric acid.

7th.—Complains of bad taste. No improvement.

8th.—Cough and expectoration somewhat less. Temperature 101°, pulse 110.

12th.—Sweats less; sleeps mostly all night; eats more. Temperature 99.7°, pulse 102.

19th.—Patient improved *symptomatically* in every way. Temperature 99.5°, pulse 100.

20th.—Patient disappeared and has been lost sight of.

SUMMARY—CASE III.

	Tempera- ture.	Pulse.	Sputa (19) measured about half bulk of 6th.	Body weight not as- certained.
April 6.....	102°	120		
April 19.....	99.5	100		

The writer has no hesitancy in saying that these three cases represent the best results he has thus far obtained. The two bronchial cases have certainly improved very markedly, one being of the chronic, the other of the sub-acute form. These patients are still under treatment. The two phthisical patients in whom no improvement whatever was noticed were both far advanced in their illness. They were bedridden and occupied foul-smelling rooms in tenements, and the treatment was not long continued, as the conditions were dispiriting.

It must have appealed to every one who has used this

treatment, and even to those who have read of the results obtained by others, that the element which is brought under control is the suppurative tendency. The view has been already stated that the progressively bad symptoms in a case of phthisis are probably due to the consumption proper—that is, to the wasting of tissue caused by the absorption of morbid material, the result of the presence of more or less extensive suppurating surfaces in contact with the air. However wide of the mark the explanation may fall, the facts are as stated. The symptoms which we are accustomed to associate with the presence of pus in other parts of the body—such as hectic, night-sweats, anorexia, etc.—are at once those which tell so rapidly upon the phthisical patient, and which so certainly disappear upon the continued employment of this treatment. We have long been accustomed to treat the suppurative state, as shown by the appearance of successive crops of boils, by the internal administration of sulphide of calcium or of dilute sulphurous acid, and with undoubted success. Indeed, a very large proportion of the therapeutical remedies used in the treatment of diseases which in recent years have been proved to possess a parasitical origin, are eminently microbicidal in their nature. In this instance, as in many others, empiricism has outrun science. Whatever be the future this treatment may hold in store for us—whether its light be a mere Will-o'-the-Wisp luring us by its fitful glare still deeper into the darkness which overshadows us, or that of the star, presaging the change that is to be, and guiding us in security toward the coming dawn—we can not afford to deny it a thorough trial. Certainly we have to acknowledge the inutility of all methods we at present possess. The proper attitude of mind for the student of Nature, when seeking for new truths, is neither in belief nor in unbelief, but in the exercise of the purely critical faculties.

"Here are sundry suppositions," says Herbert Spencer,* "which the man of science severally tests by observations and necessary inferences. In this he rejects such as unquestionably disagree with unquestionable truths. Continually excluding untenable hypotheses, he waits to decide among the more tenable ones, until further evidence discloses further congruities or incongruities. Checking every statement of fact and every conclusion drawn, he keeps his judgment suspended until no anomaly remains unexplained. Not only is he thus careful to shut out all possible error from inadequacy in the number and variety of data, but he is careful to shut out all possible error caused by idiosyncrasy in himself."

324 EAST FIFTIETH STREET.

Morphine and Apomorphine in Whooping-cough.—Dr. Fedoroff ("Proc. of the Arkhangelsk Med. Soc.," "British Medical Journal") states that he has observed good results from the administration, four times a day, of a tablespoonful of a mixture containing 2 grains of morphine hydrochloride, 1 grain of apomorphine hydrochloride, $\frac{3}{4}$ drachm of hydrochloric acid, and 8 ounces of distilled water. The paroxysms are lessened in number after the first few doses.

A STUDY OF THE PRINCIPAL OBJECTIONABLE FEATURES OF INTUBATION.*

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As the literature of intubation increases, a firm believer in its many advantages can not but behold with regret the statistical evidence which, although numerically increasing daily, does not improve its relative position as regards its powerful opponent, tracheotomy. This is certainly a source of sorrow to the physician who has had repeatedly to witness the mental agony of fond parents, for he hailed intubation as at least a substitute to the ever-dreaded knife—a substitute entailing less physical suffering upon the patient, less mental suffering upon the relatives. These advantages not only implied greater liberty of action, but less hesitation, less delay, not uncommon causes of a fatal issue.

The proportion of recoveries after tracheotomy, according to Agnew, who based his calculations upon ten thousand cases, is about 30 per cent. In intubation, a list of three hundred and fifteen cases, computed by myself, showed that only 25 $\frac{1}{10}$ per cent. were successful—a difference of 4 $\frac{9}{10}$ per cent. in favor of tracheotomy. It does not compete with the latter, therefore, but stands second to it, to be resorted to when the former is not permitted. This secondary position it has about held for the past year, and since, as time advances, there does not seem to be an increase in the proportionate number of recoveries, the profession is gradually becoming accustomed to intubation in the light of an easier, but less promising, operation than tracheotomy.

O'Dwyer's contribution to practical medicine is worthy of a higher standard. Its inherent qualities are too numerous not to raise it ultimately to the first rank. Had Bouchut been able to present even the bare 25 per cent. of recoveries, and "tubage" received since then the attention that tracheotomy has received, and consequently reached the perfection that the latter has, the question of comparison would not to-day present itself. Tracheotomy would not only be secondary to intubation in the sense here understood, but it would be limited entirely to different classes of cases. As it stands to-day, intubation is encumbered in its progress by not a few real defects. Analyzing these, and studying their cause, will, I am sure, lead to their early correction, and soon annul the dangers resulting from them. In presenting this paper I merely wish to record the result of a little thinking, and in doing so it is my humble desire merely to suggest a plan of action that will, in my opinion, soonest bring about the desired result. In this I feel that I am morally supported by Dr. O'Dwyer; and, if I differ with him in several emitted opinions and herein present them without reserve, he will, I hope, bear in mind that I am one of his warmest admirers.

I am confident of the ultimate success and of the greater ultimate comparative value of intubation over tracheotomy,

* "Study of Sociology," New York, 1878.

* Read before the American Laryngological Association at its ninth annual congress.

because I am of the opinion that the difficulties militating against the former are purely mechanical; while a close study of these mechanical defects has led me to believe that they are in turn due to erroneous conclusions as to the relative action of several prominent factors in the general plan of procedure.

Taking the principal objections to intubation, and arranging them according to the degree of danger attending them, we have:

1. Obstruction of the tube by fragments of membrane.
2. Crowding down of loose membrane during introduction of the tube.
3. Passage of food through the tube into the trachea, and consequent inability to feed sufficiently through the mouth.
4. Momentary arrest of respiration during introduction, and shock resulting therefrom.
5. Liability of the tube to be coughed out, and slipping of the tube into the trachea.

1. *Obstruction of the Tube by Fragments of Membrane.*—This defect I believe to be due (1) to the limited diameter of the interior of the tube; (2) to its internal conformation.

As to the first defect, Dr. O'Dwyer considers a limited diameter of the tube necessary to preserve the expulsive force of cough in the expulsion of detached pseudo-membrane. To use his words: "Cough, to have its full expulsive power, requires a full inspiration, complete closure of the glottis, and then a violent expiratory effort, which compresses the air in the lungs, and forces it through the small space between the still contracted vocal cord. Coughing through a tube, on the contrary, whether in the larynx or trachea, means inability to close the glottis, with little power of compressing the air, and, consequently, little expulsive power. Therefore, the smaller the tube, compatible with free respiration, the better, as there will be more power to expectorate, and less accumulation of secretions in the air-passages, which predisposes to the development of bronchial catarrh and broncho-pneumonia." I can not agree with him in this opinion. The tube hanging loosely in the cavity of the trachea, and the head only closing the laryngeal aperture by its weight, it seems to me that the smaller the interior of the tube, the smaller the tube proper, and the more chance for the expulsive air-current of the cough to force itself out *around* the tube, between tissues too much swollen to render respiration between them possible, but still not resisting enough not to separate under the pressure of the air-column. The force exerted upon the membrane choking the tube depends, therefore, upon the amount of resistance the tissues surrounding the tube present to the passage of the air-current; if that resistance is great, and the membrane not too tightly wedged in the cavity, the fragment will be coughed out; if the surrounding tissues and the impacted membrane present more resistance than the air-current is able to overcome, the tube will be coughed out, if the latter is held loosely; if, on the contrary, the tube is too tightly held to be coughed out, asphyxia ensues. Here a defect becomes a virtue, and I do not think that I am mistaken in saying that loose tubes have saved many lives.

Close apposition of the vocal bands is only necessary to the expulsion of very small masses. We all know the power of the voiceless "hem" to bring up even quite small quantities of mucus, and the violence with which this movement sometimes causes small particles of mucus to fly out through the mouth. In the execution of this movement the vocal bands remain quite a distance apart. Bouchut states that in one of his cases great cyanosis existed, and that this was relieved by the ejection of false membrane through his tube. In a second case, the introduction of the tube was followed by the expulsion, at two different times, of *casts* of the primary bronchus. Bouchut's tubes were large. Have we not here practical evidence that a narrow aperture is *not* necessary for the proper expulsion of the pseudo-membrane?

For the proper expulsion of loose membrane from any part of the trachea, the power of the air-current must exert itself equally upon all parts of the cavity, in order that every part of it be impinged upon by the mechanical pressure that the air-current affords. In order to obtain the greatest advantage from this force, the upper opening of the trachea must approximate as much as possible its general diameter, including that of the portion immediately above the bifurcation. If the upper orifice is constricted, the expulsive force centers itself there, and exerts no influence upon the pseudo-membrane. At the same time, only a part of the air-current passes out, while a part recoils, to counteract, to a degree, the expulsive force. A natural indication resulting from this argument would be to use a laryngeal tube approaching as nearly as possible the diameter of the normal larynx. I can not agree, therefore, with Dr. O'Dwyer, who says: "The smaller the tube compatible with free respiration, the better, as there will be more power to expectorate and less accumulation in the air-passages, which predisposes to bronchial catarrh and broncho-pneumonia."

2. *Crowding down of Detached False Membrane during the Introduction of the Tube.*—This accident has occurred a sufficient number of times to render it worthy of a prominent position in the list of dangers accompanying the operation. I believe it to be due principally to the length of the tubes. "The object of having them so long," says Dr. O'Dwyer, "is to retain the pseudo-membrane *in situ* as it becomes detached from the tracheal walls until maceration takes place." I am inclined to consider this as a dangerous measure; it seems to me contrary to all teachings to mechanically retain over their seat of formation masses of an infectious product that serves but to add to the general toxæmia, both through the blood and through the inspired air. As prompt a deliverance of all pseudo-membrane as possible would seem to me more compatible with our efforts to prevent extension to the lungs proper.

This reason, therefore, does not appear to me to hold good in accounting for the inordinate length of the tubes. Their action in crowding down membrane needs no explanation. The deeper the instrument sinks, the more opportunity it has of meeting detached portions which, untouched, would have remained innocuous. This danger,

therefore, is proportionate to the length of the tube employed.

3. *Passage of Food through the Tube into the Trachea.*

—In considering this drawback, an important question presents itself. Is there not, in the occasional passage of food into the trachea, a prolific cause of broncho-pneumonia, corresponding, at least, with the ætiological position of tracheotomy in relation to that complication? Waxham, of Chicago, one of intubation's warmest advocates, who has probably had more experience than any man living in the performance of that operation, stated at a meeting of the Chicago Medical Society, held on February 7th last, that, "besides the difficulty of swallowing, food and fluids ran into the bronchial tubes through the cannula, and that it was true that many patients died from broncho-pneumonia from this source,"* presenting at the same time an ingenious attachment of his invention to overcome the difficulty. Again, to quote his words: "He (the physician) may tell the people to feed it bread and milk, or semi-solids, and, if he investigate the matter, he will find that they are giving it half a teaspoonful of milk with a little bread, and the milk trickles into the trachea and the bread is rejected. If they are told to make a custard, they make it so soft and fluid that it will trickle into the trachea."† Imagine a custard and milk rolling down into the trachea! And still I have not the least doubt that Dr. Waxham was perfectly right.

In a list of seventeen observers, it is a rather obvious fact that those who report the greatest number of cases characterized by marked difficulty in swallowing, report at the same time the greatest number of deaths from broncho-pneumonia. This may be a mere coincidence, but I am inclined to believe that it is not.

Fletcher Ingals, in the proceedings of March 7th of the Chicago Medical Society, stated that, in the cases in which he had introduced the tube for other physicians, "those that recovered, he had insisted that they should drink absolutely nothing." In the last case he insisted upon this so strongly that "he cautioned the parents that if they gave the child a teaspoonful of water they would kill it."

That impediment to proper deglutition is an important defect of the operation is demonstrated by the fact that fifteen of the seventeen writers above alluded to mention it in connection with their cases in a more or less emphatic manner.

Dr. O'Dwyer believes this defect to depend principally upon the state of the epiglottis, the mobility of which may be very much crippled by inflammatory thickening. I doubt whether this is the case, as the proportion of cases in which the epiglottis is involved in the inflammatory process sufficiently to paralyze its functions is not to be compared with the number of cases in which deglutition becomes difficult. Again, difficulty in swallowing is mentioned as occurring only *after* the introduction of the tube in all the cases reported, a fact demonstrating that the difficulty is due to the presence of the tube.

The prevailing opinion respecting the cause of this objectionable feature is that it is due to the impediment offered by the head of the tube to the free action of the epiglottis, by preventing its close apposition to the upper portion of the larynx. That this is but a small part of the faulty mechanism is shown by the following words of Dr. O'Dwyer: "The heads of my first tubes were made very small, to permit them to sink well down in the larynx, so that the epiglottis could perform its function more perfectly. . . . Notwithstanding that I have quadrupled their size, I can see no difference in the ability to swallow fluids." There must, therefore, be another cause. That cause I am inclined to believe to be the weight of the tube. Elevation of the larynx during the act of deglutition is as important a feature of the proper execution of that act as the contraction of the constrictors. The muscles presiding over this elevation are not strong; their duty being a fixed one, their power is proportionate to the weight that they are calculated to lift. There is, perhaps, a certain amount of latent force in them, to serve in case of necessity, but that latent force can be at its best only during health, and the general stiffness that pervades the entire throat during severe local inflammatory infiltration can but counteract it, to say the least. If we add weight to the burden, the exact power necessary will either be present or absent, according to the inherent strength of the muscles and to the degree of their involvement in the inflammatory process. It must not be forgotten that in swallowing the larynx ascends more toward the epiglottis than the epiglottis descends to the larynx. If, therefore, the ascent of the former is checked by only one sixteenth of an inch, there will be an aperture left quite sufficient to allow a considerable quantity of fluid to enter.

4. *Momentary Arrest of Respiration during the Introduction of the Tube.*—Dr. L. L. Palmer, of Toronto, in an interesting article on intubation,* relates a case in which the introduction of the tube was followed by an increase in the pulse-rate of from fifteen to twenty beats, which continued until death. He recommends a short first attempt, with special effort, to render it successful. He is inclined to consider momentary asphyxias as greatly aggravating causes, and is considering whether in his case these did not cause extension of the local manifestations.

Although seldom alluded to, this feature of the operation must certainly carry along with it a pernicious effect upon the already semi-asphyxiated patient. Needless to say that it is due to the presence of the obturator, which blocks up the cavity of the tube from the time the tip enters the larynx until it is well in place.

5. *Liability of the Tube to be Coughed Out.*—This occurs in almost every case, and is due, in my opinion, to the conformation of the tube, which exposes it to the action of the air-current during cough, and causes it to be influenced by it as if it were a foreign body.

The principal mechanical defect in this case is again the limited diameter of the interior of the tube, which is out of proportion to that of the column of air. The pressure is,

* "Jour. of the Am. Med. Assoc.," March 12, 1887, p. 291.

† "Cincinnati Lancet-Clinic," March 26, 1887.

* "Canadian Practitioner," January, 1887.

therefore, exerted *around* the instrument with sudden violence, assisting the suddenly narrowed portion of the air-current which passes *through* the tube, in lifting it bodily.

6. *Slipping of the Tube into the Trachea.*—Slipping of the tube into the trachea during efforts at withdrawal is probably due to narrowness of the head, the descent being also assisted by the weight of the instrument. Independently of these mechanical features, however, the accident principally depends upon the selection of an instrument too small for the cavity that it is to occupy.

Recapitulating, we have then: Obstruction of the tube by detached membrane, due to the limited diameter of its interior.

Crowding down of loose membrane during the introduction of the tube, due to its inordinate length.

Passage of food through the tube into the trachea, due principally to its weight.

Momentary arrest of respiration during the introduction of the tube, due to the presence of the obturator.

Liability of the tube to be coughed out, due principally to the limited diameter of the interior.

Slipping of the tube into the trachea, due to its weight and to the conformation of its head.

We have now considered the principal defects of intubation, and I have given you what to me seemed to be their origin. I may be right, I may be wrong in my conclusions. I give them to you for what they are worth—food for thought. Let me say, however, as an encouragement, that by eliminating from the statistics in my possession the cases of death that I thought might have been avoided, had the instruments reached the degree of perfection that they will some day reach, the proportion of recoveries, instead of 25 per cent., became 43 per cent. This is, of course, a mere estimate, imbued with a certain amount of guessing, but I feel confident that the time is not far distant when this record, at least, will stand to the credit of intubation. Then, even more than now, will O'Dwyer's patience and perseverance be appreciated. How many thousands of lives will it have saved!

In conclusion, I will show you a set of instruments that I have had constructed in which I have tried to incorporate the qualities that an intubation set should possess in accordance with the ideas set forth above. Their value will depend, of course, upon the correctness of my views. In devising them I based myself upon the principle that the natural conformation of the larynx should as much as possible be followed, in order to preserve for the patient, to the greatest degree possible, the natural physiological functions of the surrounding parts. They are more calculated to supply the larynx with a metallic coating to preserve its perviousness than with a tube, properly speaking. To construct the throat-piece, I took a plaster cast of a larynx, and this, in turn, served to sink a die, which was used to transfer its shape to thin sheets of metal (due attention being paid to strength). Each side being taken separately, two plates were obtained which, united on the sides, formed an accurate mold of the internal aspect of the laryngeal cavity from the ary-epiglottic folds down to below the vocal bands. You will notice, however, that the lower portion of the instrument

extends on an average one inch below the bands. The two side-pieces are united immediately above the middle, and in doing so the edges are bent so as to prevent close apposition of the joints to the parts adjoining them. In this manner neither the anterior commissure nor the inter-arytenoid space is touched by the instrument. The two pieces work freely around the pins holding them together, the upper portions becoming approximated when the lower separate, and *vice versa*. When the latter is the case, the instrument assumes the shape of a sharp V. When it is introduced into the larynx it assumes the shape of a capital A, with a funnel at the top. In this position the separated lower branches are in the trachea, the narrow portion of the funnel is at the vocal cords, and the edge of the broad portion of the funnel is just below the ary-epiglottic folds, its shape being such as to avoid any interference with the epiglottis. The mold presented on each side, near the top, two rounded protuberances corresponding with the ventricles of the larynx. Reproduced in the instrument, these protuberances form a convenient supporting point, resting as they do on the vocal bands below and within the ventricles above, the edge of the ventricular band resting in turn in the recess formed by the protuberance and the lower portion of the funnel on each side. It is thus held securely, the vocal band preventing its descent and the ventricular band its ascent. The internal portions of the protuberances serve for the hooks of the forceps. The general appearance of the instrument is that of a bivalve speculum. Dr. O'Dwyer's first idea was to use such an instrument. After experimenting a few times with one, he abandoned it to resort to tubes. The defect was that the mucous membrane of the inter-arytenoid space and adjoining parts "pressed forward between the edges of the separated valves and the dyspnoea returned."* The mechanical error in this case was that the valves were united near the top, so that, when they were separated by the action of the spring, a gap occurred opposite the inter-arytenoid space and adjoining parts below, and also opposite the anterior commissure, thus enabling the swollen membrane to invaginate itself into the interior of the instrument. In the instrument now shown the point of union is nearly half an inch *below* the level of the vocal band, so that when the instrument is in position a complete tube is formed extending from the top of the inter-arytenoid space to almost half an inch below the vocal bands. Although not fitting tightly within the larynx, the adjustment is such that, like a well-fitting shoe, it can not produce irritation in any particular spot. Its movements are automatic, the vocal bands opening and closing the valves, according to the relative position they occupy with them. When they are introduced, closed below, and pushed downward, the moment the point of junction is reached, the valves open below and close above, forming the tube. When the instrument is withdrawn it remains closed above until the joint is reached, when it suddenly opens, the lower portions closing. This arrangement renders introduction and withdrawal exceedingly easy. This mechanical arrangement should obtain the following advantages:

* Northrup, New York "Medical Record," Dec. 11, 1886.

1st. We have almost the same breathing space as in the normal larynx, thus preventing as much as possible obstruction by detached membrane.

2d. The comparative shortness of the instrument and the early separation of the lower portions of the valves reduce greatly the danger of crowding down loose pseudo-membrane.

3d. The light weight of the instrument and the shape of the head avoid interference with the act of deglutition.

4th. Separation of the valves a short distance above their tips, when closed, enables the patient to breathe freely while the instrument is being introduced.

5th. The fact that the force of the air-current is exerted in the center of the instrument and has sufficient space to pass freely, renders ejection during cough almost impossible.

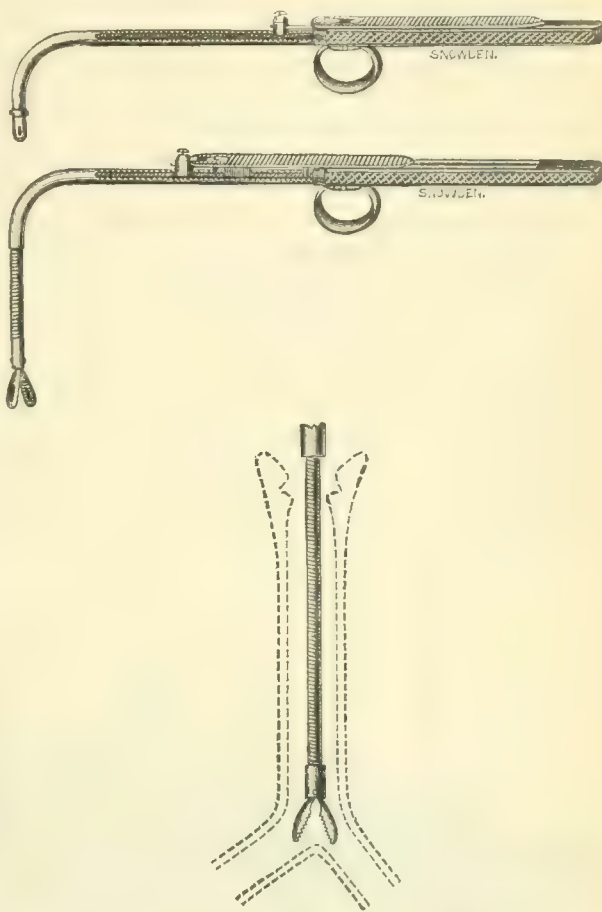
6th. The breadth of the head, the facility with which it can be grasped by the forceps, combined with the lightness of the instrument, make it impossible to force it into the trachea without fracturing the thyroid cartilage.

As to the forceps, it only differs from ordinary instruments of that class in having a side-hook at each tip to penetrate the ventricular cavities of the speculum and hold the instrument fast. The tips can be extended so as to render the instrument applicable to all ages and depths of larynges. To engage the speculum in the grasp of the forceps, the tips of the latter are passed into the funnel-shaped cavity and then allowed to open. When the speculum is in the larynx this procedure, prior to extraction, is extremely simple. The forceps acting automatically, their tips have merely to be passed behind the epiglottis and depressed until an obstruction (the bottom of the funnel) prevents further progress. Allowing the forceps to open, they grasp the speculum firmly, when slight traction will suffice to withdraw it. This has been tried repeatedly upon the cadaver. The manipulation of introduction is that recommended by Dr. O'Dwyer for his instrument.

I wish also to show you an instrument devised for the purpose of withdrawing detached membrane from any part of the trachea, from the bifurcation up. It consists, as you can see, of a spiral tube, which, pushed out through the shaft of the body of the instrument, can be lengthened at will from the handle. A small blunt forceps is mounted on the end of the spiral tube, which forceps opens while on the descent and closes as soon as the spiral tube is drawn home. This instrument can be used with the speculum *in situ*, and is so constructed as to not interfere with respiration. For the extraction of foreign bodies from the trachea it will also, I think, render valuable services. I have already had occasion to use it, with gratifying results.

You will pardon me for introducing the laryngeal specula to you before having tried them upon the living subject, the crucial test—the only one, in fact, that can render them worthy of your attention. You will kindly remember that they are merely brought before you to illustrate the ideas set forth in my paper, and that eighteen months will probably elapse before we meet again, and therefore eighteen months before I have an opportunity of showing them to you. My future plan of procedure with them will be to try

them in a number of cases, and when found satisfactory in my hands, I will place a number of sets at the disposal of as many general practitioners and request them to study the



defects that they may present in *their* hands (naturally not so accustomed to the manipulation of laryngeal instruments as mine), and, these defects once corrected to their and my satisfaction, I shall again have the pleasure of bringing them before you, but in a more mature form.

THE ANATOMY AND PHYSIOLOGY OF THE RECURRENT LARYNGEAL NERVES.

By FRANKLIN H. HOOPER, M.D., BOSTON,

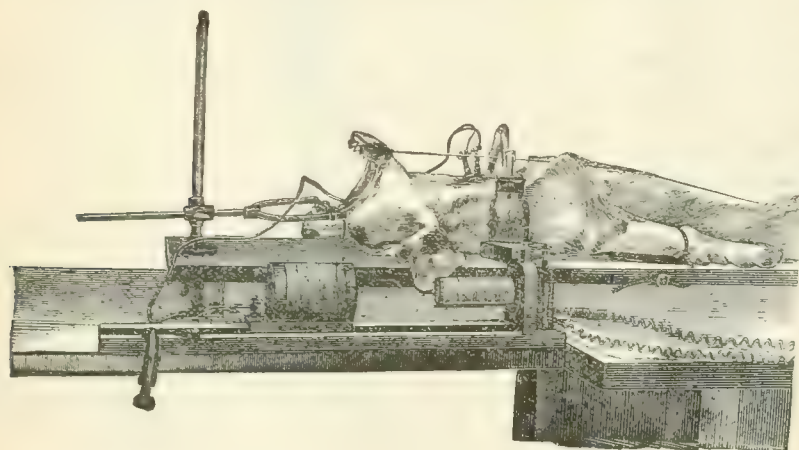
FROM THE PHYSIOLOGICAL LABORATORY OF THE HARVARD MEDICAL SCHOOL.

(Continued from page 66.)

"*Ether-Effect*" Method.—The accompanying figure will make our method clear.

The dog is here arranged in what we consider the most satisfactory manner to demonstrate the "ether-effect" in its different aspects. It will be seen that the animal is fixed on his back, with his upper jaw tied to a dog-holder, while the lower jaw is held open by a cord fastened to the lower end of the board. A perfect view of the glottis is now made easy by holding the tongue forward in one hand and lifting the tip of the epiglottis by a long forceps with the other. Tracheotomy has been performed, and the tracheal cannula is connected with a bottle containing

ether by a short piece of rubber tubing, which can readily be adjusted to or removed from the cannula. A shielded electrode is upon each recurrent nerve; the electrodes are connected with each other, and in communication with an induction apparatus, which is supplied from one Grove cell in a battery closet. The secondary coil of the apparatus is on a slide, so that it can be moved to and fro at will, according to the intensity desired. It is our custom to begin an experiment with the secondary coil so far removed from the primary that no effect is manifest on the glottis by opening the short-circuit key connected with the secondary coil, and then to slowly approach the secondary coil toward the primary until some effect on the vocal bands is produced. When a dog is very slightly etherized, the first movement noticed of the vocal bands is of a vibratory character, which changes into a closure of the glottis as the intensity of the current is increased. Now, having determined on a given dog the feeblest stimulation that will provoke a closure of the glottis with the smallest amount of ether, let us attach the ether-bottle to the tracheal cannula, and watch the evolution of the "ether-effect" through the mouth. By



irritating the recurrent nerves at intervals of a few moments (the intensity of the current, be it understood, being always the same), the following changes will be noticed as the animal consumes more and more ether: The constrictors soon show signs of failure to respond to stimulation, and, instead of a closure of the glottis, the mixed movement is seen, which in time gives way to complete dilatation when the dog is sufficiently saturated with ether. By now removing the ether at this point of complete dilatation, the reverse picture of the above phenomena can be traced as the animal emerges from profound ether narcosis. The dilatation will soon give way to the mixed movement; this mixed appearance will gradually become less and less until, finally, complete constriction supervenes, when we have returned to the starting-point of the experiment. The ether may now be again administered, and the experiment repeated. Mention has already been made of individual canine peculiarities, some of the animals being very susceptible to ether, while in others the mixed movement only can be demonstrated, no matter how much of the anæsthetic is given. In presenting detailed experiments, we shall select from our note-books the most typical cases,

which may be taken as representative of the average dog. The following experiment shows the time it may take to complete the circle of the "ether-effect" when the intensity of the stimulation remains the same as just described.

December 22, 1886.—Smooth-haired mongrel bitch, ten to eleven months old. Arranged for observation as previously described. Intensity of stimulation = 5, which was the feeblest current possible to produce a decided effect upon the vocal bands.

TABLE I.

	Time, A. M.	Result.
Ether applied.	10.15	Contraction.
	10.16	Mixed movement beginning.
	10.17	Mixed movement more marked.
Ether removed.	10.18½	Complete dilatation.
	10.20	Mixed movement.
	10.22	Almost complete contraction.
	10.23	Complete contraction.

It will be noticed that in this particular dog eight minutes were sufficient to exhibit the "ether-effect" in all its stages.

All our animals, we need hardly say, were etherized while being prepared for experimentation, which generally occupied from a half to three quarters of an hour. During that time the dog was given merely enough ether to keep him quiet and free from pain. Some dogs pass very quickly and quietly under the influence of ether, and come out of it with surprising rapidity, while others are very bad etherizers.

We may add another experiment here, like the one just detailed, solely for the sake of comparison, on an older dog than the last and one not quite as susceptible, but the variations are within narrow limits, as has been the case in all similar observations.

December 19, 1886.—Rough-haired terrier bitch, about two years old. Intensity of stimulation = 6, which was the weakest we were able to use, as a feebler current caused merely a vibratory movement of the vocal bands.

TABLE II.

	Time, A. M.	Result.
Ether applied.	11.13	Contraction.
	11.15	Mixed movement.
Ether removed.	11.18	Complete dilatation.
	11.19	Dilatation.
	11.20	Dilatation.
	11.21	Dilatation accompanied by slight vibration.
	11.22	Dilatation less marked; tendency toward mixed movement.
	11.23	Mixed movement.
	11.25	Almost complete contraction; on increasing the intensity of the stimulation at this point very slightly, a complete and vigorous contraction took place.

Leaving the question of the phenomena consequent upon the same stimulus in different stages of etherization, we will pass to a consideration of the effect of weak and strong stimuli rapidly applied in succession to the recurrent nerves,

according to the depth of the ether narcosis. For this purpose, let us start with a dog in the most profound state of etherization, at a point where stimulation with currents, from the weakest to the most powerful that it is reasonable to use, will fail to produce a closure of the glottis. When this condition is determined, remove the ether and proceed in the following manner until the experiment is completed: Place the secondary coil so far from the primary that there will be practically no current; then, leaving the short-circuit key open, move the secondary toward the primary coil at stated intervals, noting the different effects upon the glottis, according to the intensity of the stimulation, as the animal comes out of the ether. It will be found, under these circumstances, that dilatation or the mixed movement with *all* intensities soon gives way to dilatation or the mixed movement with weak stimuli only, and contraction with stronger; and that contraction is called forth by stimuli less and less strong as the dog becomes less and less etherized, until finally contraction only is produced by even the feeblest irritation. We submit the following table, showing in minutes the time it usually takes to demonstrate these phenomena.

November 28, 1886. — Well-bred collie bitch, six to seven months old. Arranged for observation as already described. Profoundly etherized. Ether removed at beginning of experiment, 10.39 A. M. (*a*). The intensity of the irritation necessary to produce the results indicated at the head of each column is shown by the numerals below.

TABLE III.

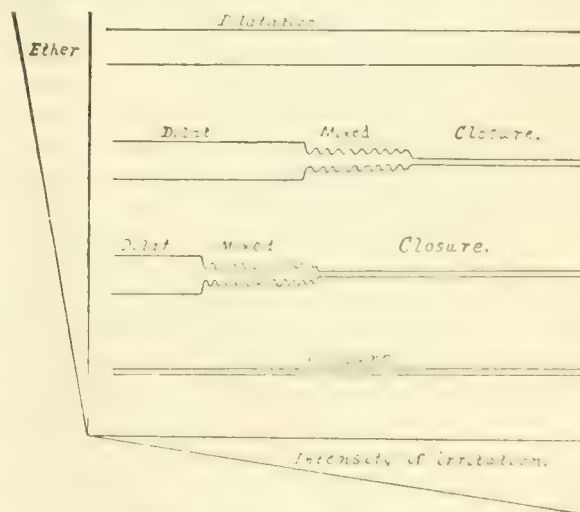
Time, A. M.	Vibration.	Dilatation.	Mixed.	Closure.
<i>a</i> . 10.39.....	2	5	22	....
<i>b</i> . 10.40.....	2	....	9.5	....
<i>c</i> . 10.41.....	2	....	4.8	....
<i>d</i> . 10.41½.....	1.5	....	4.8	22
<i>e</i> . 10.42.....	1.5	....	4.8	9
<i>f</i> . 10.42½.....	1.5	....	....	4.8
<i>g</i> . 10.43½.....	1.5	....	....	3

An analysis of this table shows that at the beginning of the experiment (*a*), when the dog was thoroughly saturated with ether, vibrations of the vocal bands were called forth by the excessively weak stimulus of 2; as the secondary coil was moved toward the primary, complete dilatation was manifested at 5, which persisted until the comparatively powerful intensity of 22 was reached, when the mixed movement supervened. No closure of the glottis could be obtained in this stage of etherization, even by the strongest stimulation. One minute later (*b*), the secondary coil being again started at the farthestmost point from the primary, vibrations were noticed at the same intensity as before, but dilatation was no longer obtainable, although the ether had been removed but one minute. The mixed movement, however, was seen to occur with a much feebler irritation (9.5). Still no closure. After another minute had elapsed (*c*) the mixed movement was elicited by a still feebler intensity (4.8); otherwise no change. At the next trial (*d*), half a minute later, a marked change was observed. The mixed movement remained the same, but vibration took place with a feebler stimulus (1.5), and now, for the first time, closure was effected at 22. Here it will be noticed

that closure of the glottis was brought about by the same intensity (22), which two minutes and a half before (*a*) had given rise to the mixed movement, and when it was impossible to close the glottis even with the strongest stimulation. Half a minute later (*e*) closure was produced by a stimulus less than one half as powerful as in the previous trial (*d*). The other conditions remained the same. At the expiration of another thirty seconds, the dog being now pretty well out of his ether (*f*), the mixed movement was no longer manifest, and closure was easily effected by a very feeble irritation (4.8). One minute after this (*g*), the animal having so little ether left in him that he was beginning to struggle, a complete closure was called forth by an intensity of 3. At this point ether was again administered. The duration of the experiment was four minutes and a half from the time (*a*) when a closure was impossible with the strongest stimulus to (*g*) when closure took place with an excessively weak stimulus.

The foregoing method of watching the "ether-effect" is very conclusive. The experiment may be repeated on the same dog several times with almost mathematical precision, and it has been a source of surprise to us that there should be so little variation in the transitional stages of the phenomena, even in the same dog; but it is quite natural that there should be differences in different dogs. The differences, however, are only in the *length of time* necessary to bring out the phenomena with ether, not in the character of the phenomena themselves. We have devoted eighteen separate dogs to the study of this particular question of the effects of intensity of varying strengths, according to the amount of ether in the animal, and the results on a susceptible dog are identical—namely, dilatation of the glottis is obtained with *all* intensities when the dog is profoundly etherized; but as there is less and less ether in the animal, dilatation is obtained *pari passu* by weaker and weaker stimuli and closure by stronger, until the normal closure is effected by *all* intensities when the dog is very slightly under the influence of the drug.

The "ether-effect" may be represented diagrammatically as follows:



The converging lines on the left represent the amount of ether, which diminishes from above downward. The

diverging lines at the bottom of the diagram, as read from left to right, indicate the increase in the intensity of the irritation. Starting now at the bottom of the diagram with a very small amount of ether, the two parallel lines close together indicate a closure of the glottis with all intensities. Going a trifle higher, we find with a larger amount of ether dilatation takes place with weak stimuli, which changes into the mixed movement as the intensity of irritation is increased and finally closure supervenes. The same general effect noted directly above is observed with a larger amount of ether, only the dilatation and the mixed movement do not give way so early to complete closure as the intensity is increased. Finally, with a full amount of ether, dilatation is elicited with all intensities.

Shortly after our first observations were published (autumn of 1885 and spring of 1886) Mr. J. W. Perkins, interne at the Children's Hospital, Boston, and Dr. F. W. Ellis undertook a series of investigations on the sciatic nerve of the frog in order to decide whether similar peripheral "ether-effects" could be elicited from this nerve, which, like the recurrent laryngeal, supplies groups of antagonistic muscles. The results of these observers have been embodied in a paper by Professor Bowditch, entitled "The Action of Sulphuric Ether on the Peripheral Nervous System," which may be found in the "American Journal of the Medical Sciences" for April, 1887. We must refer those interested in this question to the original paper for the details of the results of the experiments, for we shall quote here only such portions as are of importance in connection with our present study of the recurrent nerves, and which led to fresh experiments on our part. Perkins and Ellis found that stimulation of the sciatic nerve of the frog, treated by various methods with ether, produced opposite effects from those without ether. It was determined also that similar to the experiments on the recurrent nerve, the "ether-effect" was at the periphery, and from a study of the question, whether it was upon the nerve-trunks, the nerve terminations, or the muscular fibers, Professor Bowditch concludes that, as far as the sciatic nerve of the frog is concerned, the "ether-effect" is a phenomenon dependent upon the action of the drug upon the nerve-trunk, and that it exercises an elective and paralyzing action upon certain of the nerve-fibers. This explanation, however, of the "ether-effect" being a partial paralysis of the nerve-fibers, although justified from the studies on the sciatic nerve of the frog, is not applicable to the action of the drug on the recurrent nerves of the dog. Perkins and Ellis observed the "ether-effect" in the frog by applying the drug locally to the sciatic nerve. We determined, therefore, to pursue the same line of research in the dog. For this purpose chloralized dogs were used. Now, if the cause of the "ether-effect" resided in the nerve-fibers themselves, we might expect to obtain a dilatation of the glottis by subjecting the trunk of the recurrent to the local action of the drug. This procedure was accomplished by attaching a gutter to the shielded electrode, into which a solution of ether could be dropped directly on to the nerve-trunk, the effects on the glottis being watched through the mouth while stimulations were applied to the nerve below the point where the ether

was working its local action. We have tested this local effect of ether on seven dogs without being able in a single experiment to obtain a dilatation. A six-per-cent. solution of ether was generally used. This was found to gradually paralyze the nerve in from two to six minutes, according to the dog. It was observed also that when a nerve had become paralyzed in this manner and was afterward washed with a half-per-cent. solution of salt, the vocal band would in a few minutes regain its mobility. The shortest time that it took the vocal band to recover its motion was seven minutes and the longest twenty-two minutes. The only result of the stimulations of the recurrent nerve in chloralized dogs which had been subjected to the local action of ether was that, as the nerve became more and more paralyzed, it required a stronger and stronger stimulus to cause a contraction of the corresponding vocal band. Abduction was never obtained. We will describe one experiment in detail to show the different steps in the operations.

TABLE IV.

Time, A.M.	Intensity of irritation.	Results.	Remarks.
10.43....	2½	Contraction.	6% solution of ether applied locally to right recurrent nerve.
10.44....	2½	"	
10.45½....	2½	Contraction less vigorous; right vocal band paralyzed.	
10.46....	2½	Contraction feeble.	Necessary to increase intensity of stimulation.
10.47....	5½-7	Vibration, contraction.	
10.48....	5½-8	" "	
10.49....	7½-10	" "	
10.50....	9½-13	" "	
10.51....	10-15	" "	
10.52....	10-15	" "	More chloral given.
10.58....	12-18	" "	More ether on nerve.
11.01½....	12-20	" "	
11.03....	13-20	" "	
11.05....	15-25	" "	Contractions very feeble indeed; electrode changed to left recurrent; right recurrent washed with salt solution.
11.12....	....		Right vocal band has recovered its respiratory movements.
11.12½....	0.7-1	Vibration, contraction.	Stimulation of left recurrent; more chloral given.
11.18....	....		Ether locally on left recurrent.
11.18½....	0.7-1	Vibration, contraction.	
11.19½....	0.7-1	" "	
11.22....	7½-9	Vibration, contraction; left vocal band paralyzed.	
11.23....	7½-9	Vibration, contraction.	
11.24½....	7½-10	" "	More ether on nerve.
11.31....	9-12	" "	
11.34....	9-13	" "	More ether on nerve.
11.39....	10-15	" "	
11.40....	10-15	" "	Contractions very feeble.

January 27, 1887.—Collie dog, six months old. Ether was first administered. It was ascertained that the dog was most susceptible to the drug, and complete dilatation was obtained. The ether was now removed. The femoral vein was exposed and a cannula tied into it. Through this a twenty-five per cent. solution of chloral was slowly injected until the animal was thoroughly under its influence. The feeblest stimulus was then determined, which would pro-

duce a contraction of the glottis. This proved to be $I = 2\frac{1}{2}$ for the right side and $I = 1$ for the left; anything weaker caused merely a vibratory movement of the vocal bands. The results were as shown in Table IV.

It will be seen by this table that there was a slight difference in the behavior of the two nerves. Although the excessively weak stimulus of $2\frac{1}{2}$ (which was so feeble that it could not be perceived by placing the wires on the end of one's tongue) called forth a contraction of the right vocal band, the left responded to a still weaker current. We have not infrequently noticed a difference in this respect between the two nerves, and presume the condition of the electrodes or some slight accident in the preparation of the nerves, or the completeness with which they were freed from the connective tissue surrounding them, may account for it. But the general results were identical. Each nerve became paralyzed in from two and a half to four minutes, and, as the paralysis was more complete, it needed a more powerful stimulus to produce contraction. As before mentioned, not a trace of dilatation could be obtained. In order to show how different dogs may be affected as regards the details, though in the main the results agree perfectly, we will add here another experiment:

January 20, 1887.—Rough-haired mongrel dog, about nine months of age. Not very susceptible to ether, as the mixed movement only could be obtained. Dog chloralized.

TABLE V.

Time, A. M.	Intensity of irritation.	Results.	Remarks.
11.07...	2-3	Vibration, contraction.	6% solution locally on right nerve.
11.09½...	2-3	" "	
11.13...	150	Right nerve paralyzed, and only responds to this very powerful irritation.	
11.16...	....		Right nerve washed with salt solution.
11.23...	....		Electrode changed to left recurrent.
11.27...	3	Contraction.	6% ether locally on left recurrent.
11.28½...	3	"	
11.29½...	3	Contract'ns less marked; vocal band becoming paralyzed.	
11.30½...	....		Left nerve paralyzed.
11.31...	80	Slight contraction.	
11.33...	80-150	Vibration, slight contraction.	
11.35...	....		Respiratory movements of right vocal band just re-appeared.

In this dog the right vocal band became paralyzed in six minutes, and did not respond to any stimulus short of the very powerful one of 150. It regained its mobility in twenty-two minutes, and after this it responded as before (not included in the table) to weak stimuli. It will be understood that the differences are only in time and in the strength of the irritation necessary to produce the salient points in these experiments. The results were very constant and show, we think, that the cause of the "ether-effect" in dogs need not be sought in the nerve-trunks.

We have also tested the local effect of ether on the

nerve-trunk when the animal was under the constitutional influence of the drug. The only noticeable effect under these circumstances was that as the nerve became paralyzed it required a stronger and stronger stimulus to produce the dilatation.

We endeavored to determine the relative strength and endurance of the dilating and closing nerve-fibers by a series of "exhaustion" experiments conducted by applying a continuous stimulation to the recurrent trunks of dogs when the animals were under the influence of different drugs with the view of converting, if possible, the dilatation of ether into a closure by exhaustion of the abductor fibers, or changing the contraction of chloral into dilatation by exhaustion of the closing fibers. Our researches in this direction showed that it was not possible to produce a change of this sort as a result of fatigue. In no instance was dilatation changed into closure or closure into dilatation by long-continued irritation of the nerves. Continuous stimulation was kept up in different experiments for from ten to thirty minutes without altering the first effect. When the animal was kept in the same stage of etherization, dilatation lasted as long as the stimulation was maintained, while in chloralized dogs the normal closure showed no signs of weakening. In these observations the animals were tracheotomized and the weakest intensity used that was capable of causing a well-marked effect upon the glottis.

(To be concluded.)

Correspondence.

LETTER FROM LONDON.

Benign Intra-laryngeal Growths.—*Excision of a Portion of a Rib in Empyema.*—*The General Medical Council at fault.*—*Mr. Victor Horsley and Tumors of the Spinal Cord.*—*Hospital Sunday.*

LONDON, June 20, 1887.

A SOMEWHAT lengthy paper war has been waged between the laryngologists during the last few weeks as to whether there is a special tendency on the part of benign growths in the larynx to take on a malignant type in consequence of intra-laryngeal operations. This peculiarly untenable thesis has long been held by Mr. Lennox Browne, and, as he did not seem inclined to give it up, Dr. Felix Semon set to work to demolish it for him, and has certainly succeeded in doing so pretty effectually, as he has clearly shown that there are at most but 6 cases of such perversions on record out of a total of probably 3,000 operations. The discussion arose out of the illness of the Crown Prince of Germany, who is suffering from an intra-laryngeal growth, which has now been finally declared, on the authority of Professor Virchow, to be perfectly benign. The Prince is under the care of Dr. Morell Mackenzie, and is at present in this country, having come over for the Jubilee celebrations.

Another correspondence, carried on with less vehemence and in perhaps a more friendly spirit, has been going on between Dr. Goodhart and Mr. Godlee on the subject of the operative treatment of empyema. The former had at last felt bound to raise his voice in protest against the excision of a portion of rib in every case of empyema as wholly unnecessary.

and Mr. Godlee, as one of the chief champions of that operation, felt equally bound to answer him. It appears to me that Dr. Goodhart has much the best of the argument, his contention being that the patients generally do very well without the operation, and that, being unnecessary, it is therefore inexpedient. I can not but think that those who have been in such a hurry to perform and extol the operation can have had but little experience of empyema in children, for the vast majority of cases will certainly do perfectly well without any such severe measure.

The General Medical Council has just received a rebuff which it is to be hoped will do it good. It has always been the practice of the Council, on being informed by any of the licensing bodies that the name of a certain person had been removed from its roll, to remove that qualification from the register, and, when the last or only qualification was so removed, to proceed further and strike the person's name off also. About two years ago a dentist, whose only qualification had been granted by the Royal College of Surgeons in Ireland, fell foul of that august body, and was struck off their lists because he would advertise in the newspapers. The Council followed suit, and ordered his name to be removed from the register. The aggrieved dentist determined to try his luck at law, and has been so far successful that an order has been issued for the restoration of his name to the register. The section of the act which gives the Council power to strike a man's name off stipulates that they shall do so if they see fit—*i. e.*, they have a discretion in the matter; and it is further expressly stipulated that they shall not strike a man off for holding any particular theories, so that a man might have all his diplomas taken away by the various licensing bodies for becoming a homœopath or a disciple of Matteism, yet he could not for that reason only be deprived of his right to practice. It appears to me perfectly monstrous that the Council should attempt to uphold the doctrine that a dentist may not advertise; I do not believe they could strike a medical practitioner off the register for so doing, much less a dentist.

Mr. Victor Horsley, not content with his unprecedented successes in intra-cranial surgery, seems to have turned his hand to the still more difficult task of bringing the spinal cord and its diseases under the influence of the surgeon's knife. A few days ago he removed a tumor from the dorsal region of the spinal cord. The patient was under the care of Dr. Percy Kidd, who had called in Dr. Gowers, and between them they arrived at the opinion that a tumor on or in the immediate neighborhood of the sixth dorsal nerve was the cause of the symptoms. Mr. Horsley, by a carefully planned operation, cut down upon the cord in this region, and, after opening the dura mater, removed a tumor measuring about an inch and a quarter in length by half an inch across, which apparently grew from the ligamentum arcuatum in the situation indicated. The chief symptoms had been violent spasms, pain, and complete paraplegia. The operation, though prolonged, was followed by no untoward symptom, and at the time the case was reported the patient had already shown some signs of alleviation.

Yesterday was Hospital Sunday, and it is to be hoped that there may be a considerable increase in the amount raised over what has been collected in former years. Last year, after the most strenuous efforts, in which the late Dr. Wakley took a very prominent part, the total reached £40,000—a sum which exceeded any previous collection, but yet falls very far short of what those who have most to do with the hospitals declare to be absolutely necessary. This year London is unusually full owing to the Jubilee rejoicings, and the majority of the visitors, it may fairly be assumed, could well afford to give a trifle.

THE
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A Weekly Review of Medicine.

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FRANK P. FOSTER, M. D.

NEW YORK, SATURDAY, JULY 23, 1887.

INTUBATION OF THE LARYNX.

WE have before taken occasion to commend the judicious attitude taken by Dr. O'Dwyer with regard to the procedure of intubation of the larynx—a procedure of which, in spite of M. Bouchut's prior attempts, he is properly regarded as the author. But on that score not all that he is justly entitled to has yet been said of Dr. O'Dwyer. It would have been quite in accord with numerous precedents if he had adopted the course of imputing the failures and accidents reported from time to time as due, not to any shortcomings in the operation itself as he gave it to the world, but to unskillfulness on the part of the reporters; and to have insisted on every detail of the procedure corresponding with his own practice under like circumstances. In our opinion, Dr. O'Dwyer deserves the greatest credit for not having pursued such a course. He has never pretended that the device sprang from him in a perfected state, like Minerva from the head of Jove; on the contrary, he has steadily shown the most praiseworthy readiness to take into candid consideration the suggestions that the experience of others has led them to offer. Moreover, although the operation has been widely and appreciatively received by the profession, it has not been noticeably retarded in its progress by being over-advocated.

Such being the case, it may confidently be taken for granted that both Dr. O'Dwyer and every promoter of intubation will gladly pay all due attention to any further improvements in the operation, and any additional safeguards in the after-treatment, that may be proposed. It seems to us that two noteworthy articles have recently appeared in which suggestions to that end are contained. One of these articles, by Dr. Ingals, of Chicago, we published in the Journal for July 2d and July 9th, and the other, by Dr. Sajous, of Philadelphia, will be found in this issue. Prominent among the feelings likely to be called forth by these papers, both of which were read at the recent annual meeting of the American Laryngological Association, is that of gratification that an important therapeutical measure proposed by a general practitioner has engaged the serious and appreciative attention of specialists in laryngology. The salient point made by Dr. Ingals, it will be remembered, was with regard to the great danger of giving liquid food and drink by the mouth when the tube was present in the larynx. Whether or not we assume that the head of the tube interferes with the proper closure of the glottis during deglutition, it must be admitted, we think, that Dr. Ingals properly laid stress upon a most important matter; and, as we have now so many resources available in the way of satisfying hunger and thirst without calling the act of swallowing into play, it is to be

hoped that all who resort to intubation will see to it that his injunction is scrupulously carried out. In the light of Dr. Ingals's earnest warning, to allow mush to run into the trachea will be nothing short of criminal. It is possible that some further modification of the tube may do away with the danger, but until that is accomplished the course laid down by Dr. Ingals appears imperative.

Of no smaller importance are Dr. Sajous's painstaking attempts to point out some of the drawbacks to the operation as at present performed and to aid in overcoming them. It may not be that the particular mechanical devices that he has been led to adopt will turn out to be altogether the best adapted to their several purposes; indeed, he himself distinctly states that that matter will have to be decided by actual experience with them on the part of others, and the frankness with which he recognizes that fact quite warrants him in saying that, in putting forth his suggestions, he feels that he is "morally supported by Dr. O'Dwyer."

MINOR PARAGRAPHS.

A NEGLECTED SCIENCE.

It seems to us a reproach to our American medical colleges that so few of them make even the pretense of teaching botany. A fair knowledge of the natural sciences ought, of course, to have been acquired during that portion of a young man's education that precedes his matriculation in medicine, but the fact is notorious that few of the institutions in which he can pursue that part of his study make any considerable approach to adequate teaching in this branch. The medical school of the period we consider quite as much bound to supplement its pupils' defective opportunities in botany as in chemistry—a branch that no medical faculty could afford to ignore. Even in countries where this particular deficiency in the student's preliminary education is by no means so decided, if indeed it exists at all, botany is taught systematically and practically. In France, for example, there are frequent *herborisations*, conducted by men of world-wide fame and duly announced in the medical journals.

THE WESTERN PENNSYLVANIA MEDICAL COLLEGE.

We infer from the "Announcement" of this young institution, for the sessions of 1887 to '88, that it is creditably fulfilling the praiseworthy purpose of making Pittsburgh's undoubted clinical advantages fully available to students. We are glad to notice, too, that it has resolutely taken the stand—one requiring considerable courage even when taken by a well-established college—of insisting on an entrance examination in the cases of applicants who can not show documentary evidence of having pursued a course of study adequate to fit them for entering upon a professional course; also that candidates for graduation are examined in all the branches taught in the college. Finally, the faculty are to be commended for making botany, hygiene, and legal medicine the subjects of lectures by regular professors, hygiene and legal medicine constituting each a chair of itself.

A NEW COLOR-TEST FOR MORPHINE.

The "British Medical Journal" describes a new method of testing for morphine, capable of detecting the presence of so small a quantity as one two-hundredth of a grain. A few drops of strong sulphuric acid are added to the solution, together with about the same amount of a solution of sodium

sulphate (strength not stated). The mixture is heated in a porcelain capsule, and, as soon as it begins to give off sulphuric vapor, it is suddenly cooled, when, if morphine is present, it will assume an intense violet color. If it is further heated, it turns brown, and, after it has cooled, the addition of a few drops of water produces a vivid red color, which changes to a pale green on the addition of more water. If, now, an equal bulk of chloroform is added, and the mixture well shaken, the chloroform becomes of a bright blue color.

THE WORKMEN ON THE PANAMA CANAL.

THE "British Medical Journal," remarking upon the mortality among the laborers engaged in this undertaking, which it somewhat hopefully speaks of as "gradually approaching completion," cites a recent official publication to the effect that the average annual death-rate does not exceed ten per cent., and is not, therefore, so high as has been stated. "But even this figure," it properly adds, "is fearfully high." It seems that the promoters of the scheme have only lately come to recognize the expensiveness of this great mortality, and to take steps looking to its reduction.

HISTORY REPEATING ITSELF.

A CONTRIBUTOR to the "Wiener medicinische Presse" recommends xylol as a remedy in small-pox. He speaks of it as a hydrocarbon long known to chemists, but of recent introduction into therapeutics. If the author's article is correctly summarized in the "Gazette hebdomadaire de médecine et de chirurgie" (we have not seen the original), he seems to be unaware of the fact that xylol was extensively used in small-pox some fifteen years ago, especially in Germany.

THE INCONCLUSIVENESS OF THERAPEUTICAL OBSERVATIONS.

THE tendency of independent observations and experiments in therapeutics to lead to diverse conclusions was notably illustrated at a recent European congress, a report of the proceedings of which is in course of publication in the "Gazette hebdomadaire de médecine et de chirurgie." The question under discussion related to the antiseptic property of iodoform. One of the speakers had concluded that neither iodoform nor iodol, whether in powder or in solution, exerted any action on the development or the vitality of micro-organisms; but statements directly contrary to this were made by three well-known observers. The real point brought out was that it was not sufficient to draw therapeutical deductions from the action of a drug outside the body, as in cultivations.

THE "KLINISCHE ZEIT- UND STREITFRAGEN."

THIS is the title of a new serial publication edited by Professor Johann Schnitzler, of Vienna. In a general way, it resembles Volkmann's well-known "Sammlung klinischer Vorträge," but with a specified limitation of its scope to questions of pronounced interest at the present time. The parts thus far published include "The Present Status of Bacteriology and its Relations to Practical Medicine," by Professor Weichselbaum; "Hypnotism, with Special Reference to its Clinical and Forensic Significance," by Professor Obersteiner; and "Cardiac Dyspnea and Cardiac Asthma," by Professor von Jasselt. Others are announced as follows: "On Bronchial Asthma," by Professor Schnitzler; "On the Neuroses of the Stomach," by Professor Glax; "On Atony of the Stomach," by Dr. von Pfungen; "The Present State of the Therapeutics of Syphilis," by

Dr. von Zeissl; and "The Present State of the Therapeutics of Skin Diseases," by Dr. Grünfeld. The series will undoubtedly constitute an important addition to medical literature.

THE PREVENTION OF SEASICKNESS.

A CONTRIBUTOR to "Nouveaux remèdes," Dr. Ridreau, gives an elaborate description of a suspension apparatus devised by him for maintaining the equilibrium of the body at sea. The failure of the suspended saloon he attributes to the fact that its size and weight are such as to interfere with the due carrying out of the principle, but he thinks that his device, adapted at most to the suspension of a single state-room, will prove efficient. It is not stated that the contrivance has been tested practically, and it is to be presumed that owners of steamships will hardly be found willing to sacrifice the space that would be taken up by a number of independent swinging cabins.

THE "MONATSHEFTE FÜR PRAKTISCHE DERMATOLOGIE."

DURING the few years that this periodical has been published, it has constituted a pronounced feature in contemporary dermatological literature. Doubtless this is largely to be attributed to its having been edited, and in great measure written, by so energetic and progressive a man as Dr. Unna, of Hamburg. A noticeable feature of the fifth volume, for 1886, is the copious index with which it closes. The index proper covers thirty-nine pages, the list of authors of original communications and of articles epitomized from other publications nineteen pages, and an analytical index seventeen pages.

ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Fourth Division of the Health Department for the following statement of cases and deaths reported during the two weeks ending July 19, 1887:

DISEASES.	Week ending July 12.		Week ending July 19.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever.....	12	3	11	7
Scarlet fever.....	39	3	43	9
Cerebro-spinal meningitis....	5	4	4	4
Measles.....	24	7	33	8
Diphtheria.....	100	33	106	45
Small-pox.....	3	2	9	1

The Health of New York City.—During the four weeks ending Tuesday, July 19th, the following numbers of cases and deaths from infectious diseases were reported to the Sanitary Bureau of the Fourth Division of the Health Department: Typhoid fever, 40 cases and 19 deaths; scarlet fever, 167 cases and 33 deaths; cerebro-spinal meningitis, 14 cases and 12 deaths; measles, 106 cases and 23 deaths; diphtheria, 437 cases and 179 deaths; small-pox, 17 cases and 4 deaths.

The University of Vermont.—The thirty-fourth annual commencement of the medical department was held on Monday of this week, and the degree of doctor of medicine was conferred on fifty-three candidates.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from July 10, 1887, to July 16, 1887:*

Changes.

HEGAR, A., Lieutenant-Colonel and Surgeon. Ordered to Fort Columbus, New York Harbor.

JANEWAY, J. H., Major and Surgeon. Ordered to Benicia Barracks as Post Surgeon, also as Attending Surgeon at Benicia Arsenal, California.

BIRMINGHAM, H. P., Captain and Assistant Surgeon. Ordered to Fort Myer, Virginia.

WOODBUFF, C. E., First Lieutenant and Assistant Surgeon. Ordered to Fort Mackinaw, Michigan.

WINNE, C. K., Captain and Assistant Surgeon. Ordered to Fort Wadsworth, New York Harbor.

HAYARD, VALLERY, Captain and Assistant Surgeon. Ordered to Fort Abraham Lincoln, Dakota Territory.

MAUS, L. M., Captain and Assistant Surgeon. Ordered to Fort Schuyler, New York Harbor.

GIRARD, J. B., Captain and Assistant Surgeon. Ordered to Fort Lowell, Arizona.

POINDEXTER, J. D., First Lieutenant and Assistant Surgeon. Ordered to Camp Poplar River, Montana Territory.

MACAULEY, C. N. B., First Lieutenant and Assistant Surgeon. Ordered to Fort Gibson, Indian Territory.

BYRNE, C. B., Captain and Assistant Surgeon. Ordered to Washington Barracks, District of Columbia.

WILCOX, T. E., Captain and Assistant Surgeon. Ordered to Fort Niobrara, Nebraska.

LIPPINCOTT, H., Major and Surgeon. Ordered to Fort Union, New Mexico.

CLEARY, P. J. A., Major and Surgeon. Ordered to Fort D. A. Russell, Wyoming.

CALDWELL, D. G., Major and Surgeon. Ordered to Fort Assiniboine, Montana Territory.

TORNEY, G. H., Captain and Assistant Surgeon. Ordered to Fort Robinson, Nebraska.

REED, WALTER, Captain and Assistant Surgeon. Ordered to Mount Vernon Barracks, Alabama.

PATZKI, J. H., Captain and Assistant Surgeon. Ordered to Fort Huachuca, Arizona Territory.

EBERT, R. G., Captain and Assistant Surgeon. Ordered to Fort Custer, Montana Territory.

PILCHER, J. E., First Lieutenant and Assistant Surgeon. Ordered to Fort Monroe, Virginia.

GARDINER, J. DE B. W., Captain and Assistant Surgeon. Ordered to Fort Washakie, Wyoming Territory.

CHAPIN, A. R., First Lieutenant and Assistant Surgeon. Ordered to Newport Barracks, Kentucky.

FORWOOD, W. H., Major and Surgeon. Ordered to Fort Snelling, Minnesota.

PERLEY, H. O., Captain and Assistant Surgeon. Ordered to Fort Wayne, Michigan.

S. O. 156, A. G. O., July 8, 1887.

MATTHEWS, W., Captain and Assistant Surgeon. Assigned as member of Army Retiring Board at Washington, D. C., and to relieve Captain J. O. Skinner, Assistant Surgeon. S. O. 159, Par. 2, A. G. O., July 12, 1887.

MAUS, S. M., and PERLEY, H. O., Captains and Assistant Surgeons. Ordered to accompany the 11th Infantry in changing station from Department of Dakota to Department of the East. S. O. 158, A. G. O., July 11, 1887.

GARDNER, E. F., Captain and Assistant Surgeon. Ordered to accompany the 12th Infantry from Madison Barracks to Duluth, and to return with the 11th Infantry. S. O. 143, Division of the Atlantic, July 13, 1887.

EBERT, R. G., Captain and Assistant Surgeon, will, in changing station from Fort Hamilton, New York Harbor, to Fort Custer, Montana, accompany the 12th Infantry from Department of the East to Department of Dakota. S. O. 159, A. G. O., July 12, 1887.

WALKER, F. V., First Lieutenant and Assistant Surgeon. Grant-

ed leave of absence for four months. S. O. 160, A. G. O., July 13, 1887.

CABILL, JULIAN M., First Lieutenant and Assistant Surgeon. Ordered for duty as medical officer at Department Rifle Camp, near Bellevue, Nebraska, August 1st next. S. O. 66, Department of the Platte, July 8, 1887.

A board of medical officers, to consist of BILLINGS, J. S., Major and Surgeon; MATTHEWS, W., Captain and Assistant Surgeon; AINSWORTH, F. C., Captain and Assistant Surgeon, is constituted to meet in this city for the examination of a candidate for admission to the Medical Corps of the Army. S. O. 157, A. G. O., July 9, 1887.

Society Meetings for the Coming Week:

TUESDAY, July 26th: Medical Society of the County of Putnam (annual), N. Y.

WEDNESDAY, July 27th: Medical Society of the County of Albany, N. Y.; Auburn, N. Y., City Medical Association; Berkshire, Mass., Medical Society (Pittsfield); Middlesex, Mass., North District Medical Society (Lowell); Gloucester County, N. J., Medical Society (quarterly).

THURSDAY, July 28th: Cumberland, Me., County Medical Society (Portland).

Obituaries.

Joseph Chrisman Hutchison, M. D., LL. D., of Brooklyn, died on Sunday, the 17th inst., in the sixty-first year of his age. For some months he had been known to be affected with Bright's disease, and for a number of weeks preceding his death it was felt that that event could not be long delayed. Dr. Hutchison was born in Missouri, his father being a native of Armagh, Ireland, and his mother a Virginia lady. He pursued his academic course in the University of Missouri, which institution subsequently conferred upon him the degree of LL. D. His medical education was obtained partly at the Jefferson Medical College, of Philadelphia, and partly at the Medical Department of the University of Pennsylvania, from which latter he received his diploma, in 1848. He practiced in Missouri for a short time, but in 1853 he came to Brooklyn, and has since lived and practiced his profession there.

The deceased was a man of weight in the profession and in the community. With a preference for surgery, in which he achieved distinction, he nevertheless remained a general practitioner. He was a member of many medical organizations, and at various times he held offices in those bodies that were indicative of the high esteem in which he was held by his professional brethren. He was largely instrumental in building up the Long Island College Hospital, and in other ways he contributed materially to the honorable position occupied by the Brooklyn profession. Dr. Hutchison was not a voluminous writer, but he is known as the author of a number of notable essays. He was a most estimable, exemplary, and amiable gentleman, and one of the Brooklyn newspapers truly says of him: "Whether in afflictions, joys, or duties, the life of him who has gone was lived in the love of God and in the service of man."

OBITUARY NOTES.

David Davidson, M. D., of Philadelphia, died on Thursday, the 14th inst. The deceased was the son of Dr. J. Davidson, was a native of Philadelphia, and was graduated from the Medical Department of the University of Pennsylvania in 1871. At

the time of his death, which is said to have been due to Bright's disease, he was one of the consulting physicians to the Jewish Hospital, and was a member of the Philadelphia County Medical Society.

Letters to the Editor.

A CASE OF POISONING WITH PARIS GREEN.

June 20, 1887.

To the Editor of the New York Medical Journal:

SIR: My little boy, four years old, while at a neighbor's, secured some Paris green, and, in his play, "dosed it out," and took it in water. He was brought home and the fact made known to my wife. As I was away on professional business at the time, my wife called in another physician. The child was then complaining some, but the doctor thought he had not taken much of the poison, and would be over with it in a few minutes, so he left without prescribing for him. I returned in an hour, and found my child very sick; he had been vomiting, but was now getting stupid, so much so that I feared that apomorphine would not produce emesis. However, I injected an eighth of a grain, and the stomach was soon thoroughly evacuated, the apomorphine acting promptly and emesis not lasting more than twenty minutes. In a short time I noticed that he was becoming delirious. This lasted about an hour, and was followed by a state of collapse, the lowest I have ever seen. Breathing was seemingly entirely suspended, the pulse could not be felt, and it required the closest attention to recognize the heart's action. The temperature in the axilla fell to 95°, and the extremities were cold. At this time, though his life was despaired of, I ordered him wrapped in hot, dry cloths. This was promptly attended to by a lady whose skill and kindness will ever be remembered, and in half an hour the temperature rose to 97°, and the child began to rally. This was at 8 p. m.; the poisoning had occurred at 3 p. m. By midnight he had rallied enough to be considered out of immediate danger, and afterward made a complete recovery. After emesis had been produced I administered carbonate of iron and magnesium as an antidote, and, when collapse set in, I gave him about half a drachm of brandy, but he could not swallow well; I also sponged the body with brandy.

Now, since apomorphine as an emetic does not greatly depress the nervous system, and as the vomiting was not prolonged, I should like to hear from some of my brethren in the profession as to the probable cause of this extreme collapse, also of the lowering of the temperature. Were they due to arsenic or to some peculiarity of the compound, Paris green?

Very respectfully,

CHARLES W. PHILLIPS, M. D.

** Our correspondent is respectfully requested to inform us of his address.

Proceedings of Societies.

AMERICAN LARYNGOLOGICAL ASSOCIATION.

Ninth Annual Congress.

Intubation of the Larynx.—Papers on this subject were read by Dr. E. FLETCHER INGALLS, of Chicago (see pages 11 and 42), and Dr. F. E. SAJOURS, of Philadelphia (see page 95).

Dr. F. H. HOOPER, of Boston, said that he had had no experience with the operation, but had watched some of the cases at the Boston City Hospital, notes of which, furnished him by the house-officer, Mr. W. H. Prescott, showed that there had been ten intubations performed in the institution, with two recoveries. One attempt to introduce the tube caused spasm of the glottis, and tracheotomy was performed. In another case the tube could not be introduced, and tracheotomy was performed. In every case in which intubation was performed, the relief from dyspnoea was immediate and as complete as after tracheotomy. Three tubes had been coughed up and swallowed—two with the silk still attached, and one after it had been removed. Very little discharge had been set up by the tube, and there had been no trouble with regard to feeding. One patient nursed without difficulty with the tube in the larynx. There had been no trouble in extracting the tube. In one case the tube, after remaining in the larynx sixty hours, became plugged with membrane, and had to be removed, but was inserted again. In another case the tube became filled with membrane at its first insertion, and was coughed up; that, too, was inserted again. Another was stopped up with thick mucus, and had to be removed, to be inserted again. Two of the cases had seemed hopeless at the time of the operation, which was done simply to prevent strangulation. One patient, weakened by previous disease, died of exhaustion; one died of measles and pneumonia, three of septicæmia, two of septicæmia and complications, and one of heart failure. The diet employed was of milk, beef-tea, chicken-broth, and custard. A light steam was used in the treatment; poultices were applied to the chest and neck; a dropperful of a 1-to-15,000 solution of corrosive sublimate was instilled into the nose three times a day when there was any nasal discharge; the throat was sprayed with Dobell's solution; small doses of corrosive sublimate were given, with pepsin in one case; two drops of tincture of digitalis were given morning and evening when the urine was scanty; pepsin was used when the stomach was out of order; and a teaspoonful of brandy was given every three hours.

Dr. D. B. DELAVAN, of New York, said that that part of Dr. Ingals's paper which related to feeding the patient while the tube was in the larynx he regarded as very important. He had before proposed, and the point was worthy of consideration, that, when necessary, the patient might be fed through a small tube introduced into the œsophagus. More than a year ago Mr. Henry Butlin, of London, had written him stating that for some time he had practiced in his wards in St. Bartholomew's Hospital the method of feeding tracheotomized patients by means of a small œsophageal tube, and said that since he and his assistants had carried out this plan the percentage of recoveries had been materially increased. The speaker thought the method was a good one, and worthy of a trial in some of these cases of intubation. He regarded the constant presence of a thoroughly competent attendant as of great importance.

Dr. MORRIS J. ASCH, of New York, thought intubation of the larynx not only extremely interesting, but also extremely valuable; it had done a great deal of service in relieving patients of dyspnoea, even if it had not cured disease. Still, there were a few objections to it which he thought ought to be noticed. One was a very serious one, namely, that false membrane might be crowded down before the tube and create a dyspnoea which it was very difficult, if not impossible, to relieve, although tracheotomy was resorted to. Such a case had occurred very recently in New York. Intubation of the larynx was done in a grown person, false membrane was forced down before the tube, and tracheotomy had to be performed to save the patient's life. The other objection which general practitioners made to the tube was the extreme difficulty of removing

it, one or two patients having died during attempts at its extraction.

Dr. B. F. WESTBROOK, of Brooklyn, thought that, if there were some means of attaching a thread or fine wire to the tube by which it could be removed with ease by those not accustomed to laryngeal manipulation, it would be a great advantage. The general practitioner was more likely to be called upon to do intubation than the laryngologist or the surgeon; hence the importance of an easy method of removing the tube. With regard to the interference with deglutition, he did not think the tube was heavy enough to interfere with the movements of the larynx. The muscles which caused the movements of the larynx and trachea in the act of swallowing were very powerful, and a slight weight would not be any restraint upon them. It seemed to him that the difficulty with deglutition consisted in the presence of a rigid tube which left the entrance to the larynx open. Still, this seemed to be a necessary evil. No elastic instrument, he thought, would accomplish what the rigid tube had done.

Dr. J. SOLIS-COHEN, of Philadelphia, said it might seem strange for a man who had had no experience with intubation to have anything to say about it. Still, he had given the subject a good deal of thought; he had seen one or two cases of intubation; and on one or two occasions, when called upon to perform tracheotomy, he had been able to introduce the laryngeal tube when the gentleman in charge had failed to do it. He had been very much struck with Dr. Ingals's statement, that after intubation the patient required no more attention than if the operation had not been performed. That was undoubtedly not in accord with the views entertained by some writers, and also with some statistics which Dr. Ingals himself had given in his paper. He had mentioned one or two instances in which the patient died shortly after the tube had been coughed out, and in others we knew the patient had died because there was no one to remove the tube and it could not be coughed out. As the removal of the tube required much more skill than its introduction, the speaker would think it more important to have a skilled attendant at the bedside of the patient the next day or two after its introduction, ready to remove the tube in case of accident, than if tracheotomy had been performed. If a tracheotomy-tube became occluded, it was very easy for the nurse to remove it, and there would be the ordinary wound, through which the patient could breathe until the physician was called, or the sides of the wound could be held open.

With regard to the difficulty of taking food after intubation, if it were necessary, fluids and fluid nourishment could be given, as they were sometimes given to the insane, through a soft catheter passed through the nose into the œsophagus. The speaker had had no experience with this method; it might be impossible in children. Much had been said about the difficulty of withdrawing the tube by the forceps devised by Dr. O'Dwyer, and it would seem that this difficulty could be overcome by making a recess in the tube into which a corresponding projection on the forceps would fit.

With regard to Dr. Sajous's instrument, he had nothing to say further than that he would prefer to suspend judgment regarding his method until it had been used with success on the living subject.

Dr. S. H. CHAPMAN, of New Haven, said that, although the entrance of fluids into the trachea was dangerous, yet one of the most distressing symptoms after intubation was thirst. Could we not in these cases give sufficient fluids by the rectum for the few days during which the laryngeal tube was in place? Again, was it not possible to introduce mercury into the system by some other means, as by inunction, so that the distressing symptom of dryness of the mouth caused by giving it in that

way might be avoided? Was it not also possible, by means of washing and bathing the mouth with some fluid, to relieve the thirst?

Dr. INGALS would say, with regard to the withdrawal of the tube, and the necessity for having a trained attendant present ready to withdraw it should it become necessary, that at first he had held the same views presented by Dr. Cohen, but now he had no fear whatever of the tube becoming clogged and choking the child. The accident was so rare, and the child was so much more likely to die in some other way, that the possibility of the accident did not trouble him. The withdrawal of the tube was much more difficult than its introduction—so difficult that anæsthetics had been recommended. However, he did not know that much trouble had arisen in this respect. There had been two or three children killed in attempts to withdraw the tube by physicians who had too great faith in their skill and failed to send for a laryngologist when they recognized the difficulty. The laryngeal mirror, however, was not commonly used in accomplishing this.

The tube, if it became clogged, was almost sure to be coughed up if of proper size. A wire or a thread left attached to the tube, to facilitate its extraction, had been found to produce too much irritation.

Feeding through a tube introduced into the œsophagus had been practiced in a few instances in Chicago—he did not know with what success. The gentlemen who had practiced it seemed to have little to say about it.

Dr. SAGORS wished to say that he had presented his instruments merely in illustration of the principal objections to Dr. O'Dwyer's tubes, not because of their demonstrated superiority, for he had in the short time since they had been made had opportunity to use them only in experiments upon the dead body. They had been presented principally for the purpose of raising a discussion and of thus overcoming difficulties connected with intubation. He might say, with regard to his tube, that it could be extracted with the greatest ease. The upper end of the instrument formed a kind of funnel, and in extracting it the operator had simply to let the forceps drop into this funnel; then it would become firmly fixed in the tube, enabling the operator, if necessary, to use great extractive force.

NEW YORK ACADEMY OF MEDICINE.

SECTION IN MATERIA MEDICA AND THERAPEUTICS.

Meeting of May 27, 1887.

Dr. ANDREW H. SMITH, Chairman;

Dr. GEORGE DALTON HAYS, Secretary.

The Treatment of Pulmonary Diseases by Gaseous Enemata.—Dr. GEORGE DALTON HAYS read a paper with this title. (See page 91.)

Dr. SIMON BARUCH remarked that he had tried the method in the Montefiore Home for Chronic Invalids, but time enough had not yet elapsed for the test to have been a fair one. He was indebted to the house physician, Dr. Charles Sebramm, for notes of the cases. The apparatus used had been kindly obtained for the speaker by Dr. J. Solis-Cohen, of Philadelphia. The best results had been observed in those cases (two in number) that had been longest under the treatment. In two cases the appetite was improved, but nausea was produced in one case. In one instance the sweats, previously very abundant, had ceased entirely after nine days of the treatment. In all the cases the bowels were constipated or made regular if there had previously been diarrhœa. The cough was improved a little in one case; the expectoration was improved in three cases. In one case the patient lost weight. Râles became less abundant in two cases,

and the dullness less marked in one case. The temperature was not modified in any instance. In one case, that of an infant, sixteen months old, supposed to be suffering from pulmonary and general tuberculosis, the patient was in a hopeless condition when the treatment was tried, and, as there was excessive tympanites, the speaker believed that the distension of the large intestine from that cause interfered with the penetration of the gas injected, for its odor could not be detected in the breath. The child died three days after the trial. So far as these data went, the speaker was inclined to regard the results as favorable. It was true that there had been rather a uniform loss of weight, but we knew that the weight fluctuated in consumptives, according to the condition of their nutrition. The patients longest under the treatment had lost the least flesh. The data would lead to the conclusion that the method was an effectual remedy for the diarrhœa of phthisis, probably because the hydrogen sulphide had free access to the diseased surface. We might feel encouraged to continue the use of the treatment, in the hope that improved methods and perhaps more frequent administration might lead to better results.

Dr. F. P. KINNICUTT had employed the treatment in seven cases of well-advanced phthisis, and five of the patients had been greatly benefited. He felt much encouraged with the results thus far.

The CHAIRMAN thought that the difference in the results witnessed by different observers had, no doubt, been largely due to the use of various methods of generating the gas, so that varying quantities of it had been administered.

Dr. HAYS said that, while we were justified in viewing this new procedure very critically, the remarkable uniformity of the results thus far recorded warranted the hope that it was a valuable therapeutical agent.

Antipyrine in the Treatment of Headache was the subject of a paper by Dr. W. H. THOMSON, who said that he had used the drug on the recommendation of Dr. J. Blake White, but without expecting any success, for, although antipyrine reduced the temperature, it did not affect acute disease favorably, but sometimes made it worse. His first use of the drug in headache was on the 24th of September, 1886, and he had employed it with unfailing benefit ever since. He then gave the histories of some twenty cases of headache—nervous, malarial, and dyspeptic—in all of which he had used the drug successfully, in doses of from five to fifteen grains, repeated as often as was necessary to produce the desired effect. His conclusions were: That antipyrine was of great value in true migraine; that malarial headache was mitigated by its use, but not to so decided a degree; that dyspeptic headache was sometimes mitigated; that uræmic headache was not affected.

Dr. J. BLAKE WHITE had given the drug a thorough trial before reporting upon it. In two years' constant use of it he had never been disappointed with it. Its action, he thought, was exerted first upon the nervous system, then upon the circulation, and finally upon the respiration. He had always observed some hypnotic effect from it.

Dr. W. R. BIRDSALL considered antipyrine the most valuable single remedy for headache—useful, above all, in forms of migraine not amenable to other treatment. It was useful in the same cases as ergot and amyl nitrite. Given at the beginning of the attack, five grains would not infrequently suffice. The gastric headache following a debauch was promptly mitigated by one or two doses.

Dr. THOMSON said that he was strongly prejudiced against the use of antipyretics as such, unless the mere temperature was affecting the muscular tissue unfavorably—especially were they unsafe in pneumonia and in such continued fevers as typhoid.

Book Notices.

Hand-book of Materia Medica, Pharmacy, and Therapeutics, including the Physiological Action of Drugs, the Special Therapeutics of Disease, Official and Extemporaneous Pharmacy, and Minute Directions for Prescription Writing. By SAMUEL O. L. POTTER, M. A., M. D., Professor of the Theory and Practice of Medicine in the Cooper Medical College of San Francisco, etc. Philadelphia: P. Blakiston, Son, & Co., 1887. Pp. xx-17 to 828. [Price, \$3.]

So many valuable works upon materia medica and therapeutics are available to those who wish to study this branch that it would have seemed almost a work of supererogation for anybody to add another to the list. The works of Wood, Bartholow, Ringer, Waring, and Lauder Brunton, together with the National Dispensatory, the United States Dispensatory, and a host of smaller books for students, supply about all the knowledge that anybody could possibly master upon this subject; but, in spite of all this, we think that Dr. Potter's hand-book will find a place, and a very important one, in our colleges and the libraries of our practitioners. It contains almost everything that can be found in the larger works in a more concise form and brought up to a rather more recent date. In it will be found descriptions of such new drugs as antifebrine, boldine, hoang-nan, ichthyol, lanolin, urethane, etc., containing about all the information in regard to them that can be had without reference to recent journal articles.

The section on pharmacy and prescription-writing is very carefully prepared, all the pharmaceutical processes are described, and the composition of the official preparations is given. Under the head of prescription-writing considerable attention is paid to the subject of incompatibilities, and the student will here find many valuable hints for his guidance in this difficult subject. Besides this there are, under the head of special therapeutics, very many formulæ for the treatment of particular diseases and abnormal conditions, arranged alphabetically for easy reference. This will be especially valuable to young practitioners, and will frequently save the trouble of looking through large works and monographs for suitable formulæ in the treatment of special cases.

This department is fuller in this book than in any with which we are acquainted. The book begins with an introduction, in which the author takes pains to define the more important terms used in pharmacology, materia medica, etc. The old term *official* is dropped, and in place of it the author uses the word *official* as representing more exactly the status of those preparations which have received the sanction of the boards of pharmacy and been admitted into the United States Pharmacopœia. The subject of the administration of medicines receives all the attention that is necessary in the four pages devoted to it. From this we pass to Part First, which is devoted to materia medica and therapeutics. Here the plan of the Dispensatory is followed, the author beginning with a description of the medicinal agent, its natural history, chemistry, and so on, then giving a list of its preparations and the methods of preparing them, and concluding with an account of their physiological action and therapeutic application. This section is as full as can be desired in a work of this kind. It occupies some 425 pages. Next comes that on pharmacy and prescription-writing, already referred to, then special therapeutics, and finally an appendix, in which is contained a vast amount of miscellaneous information, such as the Latin terms, etc., used in prescriptions, formulæ for hypodermic medication, a section on patent medicines, the treatment of poisons, tables of differential diagnosis, obstet-

rical memoranda, clinical examination of the urine, etc. The most remarkable part of this section is that headed Ethics, which gives the Hippocratic oath and some extracts from the code, containing some of the more important directions for professional conduct, such as a young physician might sometimes desire to refer to, and a little miscellaneous advice, such as "A case should never be abandoned because it is supposed to be a hopeless one"; "Contumelious and sarcastic remarks relative to the Faculty as a body should always be avoided"; "It is held unprofessional to resort to public advertising, to hold a patent on an instrument, or to dispense or prescribe a secret nostrum"; "Gratuitous services should be given to a brother practitioner if compelled to temporarily suspend his practice on account of sickness. The attending physician should turn the fees over to the sick one save in surgical or obstetrical cases." We can conceive of no reason for the introduction of this extraordinary section into a work on materia medica and therapeutics. Taken as a whole, the work is a very valuable one, evidently the result of an immense amount of labor, and one which we can heartily recommend to every American practitioner.

Clinical Manual for the Study of Medical Cases. Edited by JAMES FINLAYSON, M. D., Physician and Lecturer on Clinical Medicine in the Glasgow Western Infirmary, etc. Second Edition, revised and enlarged. With One Hundred and Fifty-eight Illustrations. Philadelphia: Lea Brothers & Co., 1886. Pp. xii-13 to 683.

THE second edition of this manual is a very considerable improvement upon the first. Much new matter has been introduced, and the work has been brought up to the present time in all respects. The number of illustrations has been nearly doubled, much new matter has been added, and large portions of the book have been entirely rewritten. The plan of the work is somewhat different from that of Dr. Da Costa's, but its scope is about the same, and it is in no way inferior to it; in fact, as it stands it is one of the best manuals of diagnosis for beginners in the English language. The names of Dr. W. T. Gairdner, Dr. Alexander Robertson, Dr. Joseph Coats, and other gentlemen of great reputation in their special departments, are in themselves a sufficient guarantee of the value of the book and of the reliability of the statements contained in it. Dr. Gairdner's article on the Physiognomy of Disease will be found especially useful to senior students and young physicians just entering upon their clinical studies. The simple lucidity of its style does not in any way obscure the great erudition for which the author is renowned. It could only have been written by one who had had a vast clinical experience and had brought to its analysis the most rare and varied intellectual gifts. The notes on Case-taking by Dr. Finlayson are very carefully prepared, and his recommendations are evidently the outcome of large experience both in private practice and in the wards of hospitals. Dr. Robertson's section on the diagnosis of the various forms of insanity and mental weakness will prove instructive not only to beginners in medicine, but to those who, having pursued their studies before psychiatry had reached the advancement which it has attained at the present day, require some guide in the elucidation of the many problems which we encounter in the examination of this class of patients. Indeed, this subject has so entirely changed in the last few years, and the classification, which was formerly based upon purely metaphysical notions, has now assumed so many of the characters of exact science, that those who obtained their knowledge fifteen to twenty years ago, and have not since taken the pains to keep pace with the advances in this department, will be surprised at the almost complete revolution which has taken place,

both in our knowledge of the subject and in the nomenclature of the various forms of mental derangement.

In the section on the examination of the throat and nose we get a more complete description of the methods of investigation than can be found in most of the works on medicine, or even in the special treatises on laryngology, though, of course, we miss the illustrations of pathological conditions that are found in the larger works upon laryngology. The section on the examination of the urine is also very complete and well illustrated. It will serve as a sufficient guide to any beginner in the study of this department.

What has been said of the previous sections will apply equally well to those on the disorders of the female organs, by Dr. William Stevenson, and on the physical examination of the chest and abdomen, by Dr. Samson Gemmell, of Glasgow. In fact, the whole work is so complete and so simply written, and yet contains such an amount of valuable information, that it should be a part of the library of every practitioner.

GENERAL LITERARY NOTES.

AMONG recent foreign publications we note the following:

J. B. BAILLIÈRE & FILS, Paris.—F. Villar, "Tumeurs de l'ombilic." (3fr. 50.)

A. COCCOZ, Paris.—P. Latteux, "Manuel de technique microscopique." (13fr.)

A. DELAHAYE & E. LECROSNIER, Paris.—G. Sée and Labadie-Lagrave, "Médecine clinique." Vol. v. (4fr.)

O. DOIN, Paris.—L. E. Bertrand and J. Fontan, "De l'entéro-colite des pays chauds." (9fr.)

LAHGRE, Paris.—C. James, "M. Pasteur. Sa nouvelle méthode dite méthode intensive peut-elle communiquer la rage?" (1fr.)

F. HAYEZ, Brussels.—Stocquart, "Traitement chirurgical de l'ongle incarné."

J. F. BERGMANN, Wiesbaden.—L. Löwenfeld, "Die moderne Behandlung d. Nervenschwäche (Neurasthenie), d. Hysterie u. verwandter Leiden." (2M. 40.) — O. Reumer, "Der derzeitige Standpunkt d. Schutzimpfungen." (2M.)

W. BRAUMÜLLER, Vienna.—P. Profanter, "Die Massage in d. Gynäkologie." (2M. 50.) — G. Wertheim, "Differentialdiagnose d. verschiedenen syphilitischen Geschwüre." (0M. 40.) — E. Bock, "Zur Kenntniss d. bandförmigen Hornhauttrübung." (2M.)

F. ENKE, Stuttgart.—A. Villaret, "Handwörterbuch d. gesamten Medizin." Part 1. (2M.) — R. v. Krafft-Ebing, "Psychopathia sexualis, mit besonderer Berücksichtigung d. conträren Sexualempfindung." (3M. 60.) — C. F. Kunze, "Compendium d. prakt. Medicin." 9th ed. — Nussbaum, "Leitfaden zur antiseptischen Wundbehandlung." 5th ed. (6M.)

T. C. F. ENSLIN, Berlin.—Schuster, "Die Syphilis." (3M.)

F. W. GRUNOW, Leipsic.—F. Ahlfeld, "Ber. u. Arbeit. aus d. geburtsh.-gynäkolog. Klinik zu Marburg, 1885-'86." Vol. iii. (8M.)

A. HIRSCHWALD, Berlin.—J. Orth, "Aetiologisches u. Anatomisches über Lungenschwindsucht." (1M. 60.)

H. LAUPP, Tübingen.—C. Gerhardt, "Handbuch d. Kinderkrankheiten." 2d suppl. ("Die psychischen Störungen," by H. Emminghaus.) (6M.)

LIPSITZ & FISCHER, Kiel.—M. Petersen, "Ueber Hornhautflecke als Ursache d. Myopie u. Anisometropie." (0M. 80.) — M. Reimann, "Gesundheitslehre auf naturwissenschaftl. Grundlage." (7M. 50.)

M. PERLES, Vienna.—J. Grünfeld, "Kompendium d. Augenheilkunde." 4th ed. (10M. 80.)

M. RIEGER, Munich.—C. Schlösser, "Exper. Studie über traumatische Katarakte." (4M.)

H. STEINITZ, Berlin.—L. Löwe, "Das Ohr."

F. C. W. VOGEL, Leipsic.—G. Hünerfauth, "Handbuch d. Massage." (6M.) — C. Hueter, "Grundriss d. Chirurgie." 4th ed., vol. ii, part 5. (25M.) — A. Landerer, "Vorschriften f. d. Behandlung von Rückgratsverkrümmungen mit Massage." (0M. 50.) — C. Liebermeister, "Vorlesungen über specielle Pathol. u. Therap." Vol. iii. (6M.) —

A. Weil, "Ueber d. Aufgaben u. Methoden des medicinisch-klinischen Unterrichts." (0M. 80.)

F. WREDEN, Brunswick.—A. Seeligmüller, "Lehrbuch d. Krankheiten des Rückenmarks u. Gehirns sowie d. allg. Neurosen." Part ii. (10 M.) — A. Baginsky, "Lehrbuch d. Kinderkrankheiten." 2d ed.

G. JOVENE, Naples.—E. de Renzi and G. Amoroso, "Ricerche sperimentali sulla rabbia." 2d report.

FRATELLI RECHIEDEI, Milan.—F. Orsi, "Lezioni di patologia e terapia speciale medica." 2d ed. 12/.)

BOOKS AND PAMPHLETS RECEIVED.

Le Iniezioni intrapleurali e le crisi epilettiche; loro teoria. Comunicazione preventiva del Dott. Giovanni Pascale (atti dell' Accademia medico-chirurgica di Napoli). [Estratto dal "Morgagni."]

The Causes and Prevention of Infantile Diarrhoeal Diseases. By F. R. Campbell, A. M., M. D., etc. [Reprinted from the "Buffalo Medical and Surgical Journal."]

What to do in Cases of Poisoning. By William Murrell, M. D., F. R. C. P., Lecturer on Pharmacology and Therapeutics in the Westminster Hospital, etc., London. First American from the Fifth English Edition. Edited by Frank Woodbury, M. D., Fellow of the College of Physicians of Philadelphia, etc. Philadelphia: The "Medical Register" Company, 1887. Pp. 158.

The Mineral Waters of Vichy and the Diseases in which they are Indicated, followed by a Sketch of some of the Principal Excursions in the Environs. With Two Colored Maps. By Dr. C. E. Cormach, Laureate of the Faculty of Medicine of Paris, etc. London: J. & A. Churchill, 1887. Pp. xii-375.

Transactions of the New York State Medical Association for the Year 1886. Volume III. Edited for the Association by Alfred Ludlow Carroll, M. D., of Richmond County. Concord, N. H.: "Republican Press" Association, 1887. Pp. viii-601.

On the Pathology and Treatment of Gonorrhœa and Spermatorrhœa. By J. L. Milton, Senior Surgeon to St. John's Hospital for Diseases of the Skin, London. New York: William Wood & Company, 1887. Pp. x-474. [Price, \$4.]

Handbuch der physiologischen Optik. Von H. von Helmholtz. Zweite umgearbeitete Auflage. Mit zahlreichen in den Text eingedruckten Holzschnitten. Vierte Lieferung. Hamburg und Leipzig: Leopold Voss, 1887. Pp. 241 to 320.

Lehrbuch der Physiologie für akademische Vorlesungen und zum Selbststudium. Begründet von Rud. Wagner, fortgeführt von Otto Funke, neu herausgegeben von Dr. A. Gruenhagen, Professor der medizin. Physik an der Universität zu Königsberg im Pr. Siebente, neu bearbeitete Auflage. Mit zweihundertundfünfundachtzig in den Text eingedruckten Holzschnitten. Dreizehnte Lieferung. Hamburg und Leipzig: Leopold Voss, 1887. Pp. 561 to 758.

Caso classico di osteomalacia maschile. Considerazioni e ricerche del Dott. Carlo Burani, Assistente nel R. Istituto di farmacologia sperimentale e clinica terapeutica, etc. Tesi di laurea. Modena: G. T. Vincenzi e Nipoti, 1887.

The Diagnosis and Treatment of Uterine Flexions. By John Blake White, M. D., New York. [Reprinted from "Gaillard's Medical Journal."]

Observations upon the Habits of *Microtus Melanoleucus*, with Critical Notes on its Plumage and External Characters. By R. W. Shufeldt, C. M. Z. S., Captain Medical Corps, U. S. Army.

Importance and Value of Experimental Research. Doctorate Address delivered at the Graduating Exercises of the College of Physicians and Surgeons, Chicago, Ill., Feb. 21, 1887. By N. Senn, M. D., Milwaukee, Wis. [Reprinted from the "Western Medical Reporter."]

A Critical Comparison of a Series of Skulls of the Wild and Domesticated Turkeys (*Melagris gallopavo Mexicana* and *M. domestica*). By R. W. Shufeldt, C. M. Z. S., Captain Medical Corps, U. S. Army. [Reprinted from the "Journal of Comparative Medicine and Surgery."]

Eighteen Cases of External Perineal Urethrotomy. By H. O. Walker, M. D., Professor of Genito-urinary Diseases and Clinical Surgery in the Detroit College of Medicine. [Reprinted from the "Medical and Surgical Reporter."]

A Unique Case of Bilateral Athetosis. By C. H. Hughes, M. D., St. Louis. [Reprinted from the "Alienist and Neurologist."]

The Relation of the Nervous System to Haemophilia, Malarial Haematuria, etc. Second Paper. By C. H. Hughes, M. D., St. Louis. [Reprinted from the "Alienist and Neurologist."]

Reports on the Progress of Medicine.

CUTANEOUS AND VENEREAL DISEASES.

By GEORGE THOMAS JACKSON, M. D.

The Mechanical Treatment of Skin Diseases.—In the treatment of acne vulgaris, rosacea, sycosis in its chronic form, trichophytosis barbae with nodular lesions, and lupus erythematosus, Rosenthal ("Vrtljschr. f. Derm. u. Syph.") recommends multiple scarifications followed by massage. The scarifications should be made in all directions, and with a small, fine, sharp scalpel. He prefers this to any multiple-bladed instrument. After the bleeding following the scarifications has ceased, he strokes the part in a centripetal direction for five or ten minutes, using one or two fingers or a piece of dry lint. Then the part is to be washed and left uncovered. He thinks that he has produced better results with this method than with the parallel incisions commonly employed alone.

Tuberculosis of the Skin and Mucous Membranes.—Schwimmer (*ibid.*) does not doubt that both lupus and tuberculosis of the skin and mucous membranes are caused by a bacillus; still, he thinks that clinically they should be regarded as different, for the following reasons: 1. The great rarity of tuberculosis, the relative frequency of lupus, and the different development of both processes. In the past year and a half he has had only five cases of primary tuberculosis cutis, and ninety cases of lupus, at his clinic. The tubercular process very quickly breaks down, while the lupous process is very slow in its development and course. 2. Tuberculosis almost always begins on the mucous membrane, and from there passes over to the skin, while lupus nearly always takes the opposite course. 3. The different effect of the lupous and tubercular skin disease upon the general health. Among his ninety lupous patients, 68 per cent. were free from other evidences of tuberculosis. On the other hand, tuberculosis of the skin and mucous membranes is always an expression of a constitutional affection. 4. The relation of the bacillus of lupus to that of tuberculosis. He does not go so far as to question that the bacillus in both is identical, but believes that their identity is not completely proved. Inoculations with either tubercular or lupous elements have not yet produced lupus. The relationship of tuberculosis to lupus is not to be denied; still, the two diseases are not identical, and to say that lupus is the first grade of a general tuberculosis is going too far. The two diseases demand different modes of treatment. Lupus is curable by means that insure the destruction of the neoplastic growth. Tuberculosis is not so amenable to the same means. They answer well for tuberculosis of the skin, but not of the mucous membranes. For the latter, mild measures are better adapted, and he has had most success with a 5-per-cent. papayotin solution, which is of no use in lupus.

Epithelioma developing upon Lupus Vulgaris.—Raymond, after presenting a number of illustrative cases ("Ann. de dermat. et de syph."), makes the following deductions: 1. Epithelioma developing upon an active lupus is a very rare complication. It is probable that some cases diagnosticated as lupus vorax have been of this order. 2. Epithelioma develops upon tubercular lupus, principally upon the face. 3. This does not occur in infancy or adolescence. 4. It is more frequent in men than in women. 5. It occurs oftenest in cases of lupus of long standing. 6. Sometimes the pre-existing lupus is "non exedens," with or without central cicatrix. Sometimes it is "exedens," and then the epithelioma often appears to develop itself directly upon one of the ulcers, the lupoid granulations being replaced by cancerous elements. 7. Epithelioma may develop upon lupus which has been treated or has not been treated. When this accident occurs, the course of the disease

is rapid, the patient dying within a few months. When a case of this description is met with, the neoplasm should be operated upon at once, and with a free incision.

Lichen Planus Atrophicus.—Hallopeau, in a series of lectures upon skin diseases delivered at the Hôpital St. Louis ("Union méd."), describes an atrophic form of lichen planus. It begins with the papules of common lichen planus, though they are somewhat lighter colored; gives rise to pruritus; grows paler and depressed; and forms white spots cicatricial in appearance, and remarkable on account of their punctiform depressions. The papules often run together and form surfaces of considerable extent and irregular outline, with a sieve-like-looking cicatricial surface. At the periphery of the patches there are isolated papules in different stages of development and disappearance. The patches are disseminated on the trunk and limbs.

Hyperkeratosis Subungualis is the name given by Hebra ("Monatschr. f. prakt. Derm.") to that condition of the nails in which we meet with more or less deformity of the nail in front of the lunula, and a mass of soft, crumbly substance between the nail and its bed. At times the nail is raised from 1 to 5 mm. by this gray or greenish-black mass. This is due to a hyperkeratosis, and occurs idiopathically. The author was successful in curing the case reported in his paper by the use of the Paquelin cautery. He burned away the mass and the nail in a series of sittings, eighteen in all. Then the nail grew in a healthy way, and remained sound up to the time of his reporting the case, more than a year in all.

Impetigo Herpetiformis.—In the "Vierteljahresschrift für Derm. und Syph." Kaposi makes an earnest plea for the independence of the impetigo herpetiformis of Hebra, and protests against its being made only a variety of Dubring's dermatitis herpetiformis. The latter is described as marked by erythema and vesiculation, occurring as often in men as in women, and relapsing very frequently. By Dubring the name is made to cover herpes iris et circinatus, pemphigus circinatus et pruriginosus, and impetigo herpetiformis. Kaposi emphasizes the fact that the name impetigo herpetiformis expresses exactly the characteristics of the disease—namely, *pustules* (that is, efflorescences filled with pus) that appear in groups, which spread peripherally while undergoing involution at the center, just like the groups of herpes. *Only pustules seated upon an inflammatory base appear in the disease.* As vesicles are absent, the name "impetigo circinata et iris" might be more fitting. The disease is accompanied with chills and fever, has a predilection for the genito-crural region, the mammae, and the mucous membranes, and ends fatally either in the first outbreak or in a relapse. It occurs in pregnant women or in the puerperal state in the vast majority of cases. Only one man has been reported with the disease. Kaposi is inclined to think that it is caused by some pyæmic process, though he is unable to prove it.

The Treatment of Alopecia Areata.—Schachmann has found the treatment of this disease with blisters to be the most efficient, and reports ("Ann. de dermat. et de syph.") twenty-nine cases treated by him in this way. The duration of his treatment was never more than three months, and generally less than two. In no case were the blisters followed by erysipelas or other complications. His mode of employing blistering was as follows: A blister as large as the denuded area is applied upon the patch and left on until the bullæ form, then removed, and the blister dressed. When the skin is dry, usually on the third day, a new blister is applied, and so on up to three, six, or even ten blisters. The remainder of the head is rubbed morning and night with oil of turpentine 20 parts, ammonia-water 5 parts, and water 100 parts. If there is but one moderate-sized patch or a few small ones, blisters are applied to all simultaneously. But if the patch is very large, or when the whole scalp is affected, the head is divided into districts, and these are attacked successively. The hair is shaved from about the patches.

The Continuous Treatment of Syphilis with Mercury.—Caspary ("Vrtljschr. f. Derm. u. Syph.") speaks very decidedly against the continuous administration of mercury in the treatment of syphilis. He regards the drug as a means of combating symptoms, but not suitable for continuous use. He does not believe in Fournier's teaching that cases of syphilis, either untreated or inadequately treated, are always followed by severe tertiary manifestations. He, therefore, while by no

means believing that the disappearance of the symptoms is the same as a cure of the disease, does not think it necessary to continue the use of mercury long after their disappearance. He holds that the continuous use of mercury is capable of causing ulceration in the lower parts of the intestines, and experimentally he has produced such ulcerations in dogs with doses too small to affect their general health. He therefore believes that the continuous administration of the drug is dangerous. Moreover, he regards it as quite likely that mercury is not so active an agent for the treatment of the latent periods of syphilis as for the more active periods; just as salicylic acid is a more useful means of treating the acute than the chronic forms of rheumatism.

Miscellany.

The Bergeon Treatment of Phthisis.—In a recent communication to the *Académie des sciences*, published in the "Union médicale," M. Bergeon says that, when very pure carbonic-acid gas is injected into the rectum of either a healthy man or a sick one, it may be found in the products of expiration, provided the operation has been properly performed. The gas is apparently absorbed from the lower part of the large intestine, for no distension of the abdomen is observed, even when a certain volume of gas is injected somewhat rapidly; he has often injected two or three quarts in the course of ten or fifteen minutes without producing the slightest meteorism. It is eliminated by the lungs as fast as it is injected, the pulmonary interchange of gases being accelerated to what may be termed a pulmonary diuresis. In this matter, the carbonic acid seems to play in the respiration a part analogous to that of the water in the renal secretion; the gas, traversing the tissues, becomes charged with excretory products, of which it serves to rid the system, cleansing the venous blood, the lungs, the bronchi, and the air-passages. To produce these effects, and especially to act therapeutically, it is indispensable that the gas injected should really traverse the lungs and escape by the glottis. Gas made with impure materials, or kept for a certain length of time in rubber bags, as is sometimes the case, produces tympanites and colic. Under such circumstances the gas does not pass through the lungs, and it is not strange that it does not produce the desired therapeutical effects. As nothing is more difficult than to cleanse impure carbonic-acid gas, M. Bergeon recommends its formation from faultless materials and the use of a glass apparatus from which it is conducted directly into the rectum. He is convinced that most of the failures reported have been coincident with colics due to the use of defective apparatus or impure gases.

The American Neurological Association held its thirteenth annual meeting at the West End Hotel, Long Branch, N. J., on Wednesday, Thursday, and Friday, the 20th, 21st, and 22d inst.

Government Health Reports.—By direction of the Secretary of the Treasury, Dr. John B. Hamilton, Surgeon-General of the Marine-Hospital Service, has issued the following abstract of sanitary reports received during the week ending July 14th:

England and Wales.—The deaths registered in twenty-eight great towns of England and Wales during the week ending June 25th corresponded to an annual rate of 17.6 in a thousand of the aggregate population, which is estimated at 9,245,099. The lowest rate was recorded in Halifax, viz., 7.2, and the highest in Preston, viz., 30.1 in a thousand.

London.—One thousand two hundred and eighty-seven deaths were registered during the week ending June 25th, including 98 from measles, 14 from scarlet fever, 19 from diphtheria, 79 from whooping-cough, 6 from enteric fever, 30 from diarrhoea and dysentery, and 2 from cholera and choleraic diarrhoea. There were 213 deaths from diseases of the respiratory organs. Different forms of violence caused 55 deaths, and 9 suicides were registered. The deaths from all causes corresponded to an annual rate of 15.9 in a thousand. In greater London, 1,608 deaths were registered, corresponding to an annual rate of 15.5 in a thousand

of the population. In the "outer ring" 14 deaths from measles and 9 from whooping-cough were registered.

Ireland.—The average annual death rate represented by the deaths registered during the week ending June 25th, in the sixteen principal town districts of Ireland, was 23.2 in a thousand of the population. The lowest rate was recorded in Sligo, viz., 0, and the highest in Dundalk, viz., 34.9 in a thousand.

Dublin.—One hundred and eighty-seven deaths were registered during the week ending June 25th, including 21 from measles, 1 from whooping-cough, 1 from diphtheria, and 4 from scarlet fever. Diseases of the respiratory organs caused 30 deaths. Eight accidental deaths were registered, and in twenty-nine instances the causes of death were uncertified. The deaths from all causes corresponded to an annual rate of 27.6 in a thousand.

Scotland.—The deaths registered in eight principal towns during the week ending June 25th corresponded to an annual rate of 20.3 in a thousand of the population, which is estimated at 1,299,000. The lowest mortality was recorded in Perth, viz., 14.6, and the highest in Paisley, viz., 34.2 in a thousand. The aggregate number of deaths registered from all causes was 507, including 9 from measles, 8 from scarlet fever, 5 from diphtheria, 38 from whooping-cough, and 10 from diarrhoea.

Germany.—The deaths registered in fifty-two cities of Germany, having an aggregate population of 6,821,222, during the week ending June 18th, corresponded to an annual rate of 22.6. The lowest rate was recorded in Wiesbaden, viz., 10.9, and the highest in Bochum, viz., 32.6.

Callao.—The United States consul, in his dispatch under date of June 7, 1887, states that "the Government of Peru has removed the restrictions adopted respecting vessels from Chilean ports during the prevalence of cholera in that republic. Now that official advices have been received announcing the total disappearance of the epidemic in Chili, the ports of Peru are reopened to shipping proceeding from those of Chili after a medical examination has been practiced, and the vessel declared in full pratique. The effects of this measure will be beneficial in the extreme to Callao."

Palermo.—The United States consul reports, under date of July 6th, "two sudden deaths; believed cholera."

MORTALITY TABLE, FOREIGN CITIES.

CITIES.	Week ending—	Estimated population.	Total deaths from all causes.	DEATHS FROM—							
				Cholera.	Yellow fever.	Small-pox.	Typhus fever.	Eber.	Scarlet fever.	Diphtheria.	Other.
Paris	June 18.	2,260,045	1,000					13	18	4	25
Paris	June 25.	2,260,045	999						10	6	21
Glasgow	June 18.	545,678	217			5			3	6	2
Glasgow	June 25.	545,678	207								
Warsaw	June 11.	439,174	214					13	1	5	3
Warsaw	June 18.	439,174	195					15			
Calcutta	May 18.	433,219	155	21							
Calcutta	May 21.	433,219	210	72							
Amsterdam	June 18.	378,686	135			1		1			3
Amsterdam	June 25.		148								2
Munich	June 11.	269,000	212						1	3	4
Edinburgh	June 11.	258,329	191							1	1
Palermo	June 25.	250,000	93						1	10	3
Belfast	June 18.	224,492	102						2	1	1
Bristol	June 18.	224,005	76						1	2	
Havana	June 30.	208,000	178		36	12					
Trieste	June 18.	159,175	65			2					1
Stuttgart	June 25.	125,510	52								1
Toronto	July 1.	12,000	19								1
Bremen	June 18.	119,000	50								1
Havre	June 25.	112,074	56			2			2		1
Pernambuco	May 31.	111,000	75			1					
Reims	June 25.	97,000	40								
Guayaquil	June 3.	35,000	60						2	1	
Guayaquil	June 10.	35,000	55			1			23		
Agra Cruz	June 30.	21,800	18			1					
Gibraltar	June 12.	21,001	11								1
Tampico	June 19.	7,300	10						1		

UNITED STATES.

Key West—Yellow Fever.—The medical officer in charge of the United States Marine-Hospital Service (Passed Assistant Surgeon John Guitéras) reports, under date of July 14th, 110 cases and 50 deaths; and that Hospital Steward W. L. Wells, who was stricken with the disease, has recovered.

The Health of Boston.—During the week ending Saturday, July 16th, the following numbers of cases and deaths from infectious diseases were reported to the Board of Health: Diphtheria, 14 cases and 3 deaths; scarlet fever, 6 cases and 1 death; typhoid fever, 8 cases and 3 deaths; measles, 71 cases and 2 deaths. There were also 25 deaths from consumption, 6 from pneumonia, and 11 from marasmus. The total number of deaths was 211, against 181 in the corresponding week last year. This is said to be the largest number of deaths that has occurred in the same length of time for many years. More than one half of the deaths were those of children under five years of age, the deaths from cholera infantum alone being 54 in number.

An Abortionist was sentenced last week, in Philadelphia, to seven years in the Eastern Penitentiary, a woman having died from the effects of a criminal operation performed by him.

THERAPEUTICAL NOTES.

Iodide of Mercury and Morphine.—Herding ("Pharm. Ztg."; "Dtsch. Med.-Ztg.") calls attention to the danger of prescribing morphine and iodide of mercury at the same time, on account of the formation of a double iodide of the two bases, which is highly poisonous.

Cyanide of Mercury in the Treatment of Diphtheria.—Bree ("Inaug. Dissert."; "Allg. med. Ctrl.-Ztg."; "Ctrlbl. f. d. ges. Therap.") reports 318 cases of diphtheria treated with mercury cyanide, with only 4 deaths. At the outset he gives from two to three drops of a 1-to-1,000 solution in alcohol, every four hours, afterward diminishing the dose progressively. The remedy is said to oppose the extension of the morbid process and to ameliorate the subjective symptoms. In the course of a night, a threatening case has been so mitigated as to come to an end in three days. Thus involvement of the larynx or the nasal passages and the occurrence of sequelæ are prevented with almost absolute certainty, and the convalescence is shortened.

Croton-Oil as a Remedy against Tapeworm.—The "Gazette médicale de Montréal" attributes the following formula to Persh:

Croton-oil.....	1 drop;
Chloroform.....	1 drachm;
Glycerin.....	1 ounce.

To be given early in the morning, a saline purgative having been given the night before.

A Substitute for Iodoform.—Chassaignac ("New Orleans Med. and Surg. Jour.") recommends the oxyiodide (subiodide) of bismuth as an efficient substitute for iodoform. He describes it as of a bright brick-red color, impalpable when well powdered, almost odorless and tasteless, insoluble in water, alcohol, ether, or chloroform, and not imparting its color to linen. It may be made, he says, so as to cost only from \$3 to \$3.50 a pound, although ten years ago, when it was recommended by Dr. A. S. Reynolds, its cost was a bar to its general adoption. Dusted on a raw surface, it produces a thin, silvery film, but causes no stinging. The author gives the following formula for its preparation, devised by Mr. J. W. England, and published in the "American Journal of Pharmacy":

Bismuth subnitrate.....	174 grains;
Nitric acid.....	3 fluidounces;
Hot water.....	12 "

Dissolve the bismuth salt in the acid in a porcelain capsule with the aid of heat, and add the hot water gradually, stirring after each addition; then add the solution gradually to a solution of 663 grains of potassium iodide in twenty-eight ounces of hot water, agitating well after each addition. The agitation should be continued until the decomposition is complete; then the precipitate should be filtered out at once, washed with warm water, dried, and powdered.

ANSWERS TO CORRESPONDENTS.

No. 9.—The arrangement is such that you can attend both the courses mentioned. Kaposi's clinic is announced for Mondays, Tuesdays, Wednesdays, Thursdays, and Fridays in August, from 9 to 10 A. M.; Lustgarten's for the same days and hours in September.

No. 10.—The work is published by Messrs. P. Blakiston, Son, & Co., Philadelphia.

No. 11.—We think you are in error. Opium is regarded as an exceedingly valuable agent in the treatment of shock, especially where there is a tendency to syncope or sleeplessness. It seems to have a sustaining action quite independent of the benefit it produces by allaying pain and procuring sleep. But it should not be used if there is a tendency to coma, and care should be taken not to give repeated doses by the stomach or the rectum when there is reason to think that absorption from those organs is in abeyance, for it may accumulate and finally be absorbed all at once. It is true that an opium pill is sometimes the most efficient, but usually the safest way is to give morphine subcutaneously.

No. 12.—There is abundant testimony from the most capable and cautious observers that the treatment of phthisis by gaseous enemata is of decided efficiency as a palliative. Further than this, if the disease is not too far advanced, there seems to be good reason for regarding the method as really curative, but it would be premature to express a positive opinion to that effect. You will find important statements concerning it elsewhere in this number of the Journal.

To Contributors and Correspondents.—*The attention of all who purpose favoring us with communications is respectfully called to the following:*

Authors of articles intended for publication under the head of "original contributions" are respectfully informed that, in accepting such articles, we always do so with the understanding that the following conditions are to be observed: (1) when a manuscript is sent to this journal, a similar manuscript or any abstract thereof must not be or have been sent to any other periodical, unless we are specially notified of the fact at the time the article is sent to us; (2) accepted articles are subject to the customary rules of editorial revision, and will be published as promptly as our other engagements will admit of—we can not engage to publish an article in any specified issue; (3) any conditions which an author wishes complied with must be distinctly stated in a communication accompanying the manuscript, and no new conditions can be considered after the manuscript has been put into the type-setters' hands. We are often constrained to decline articles which, although they may be creditable to their authors, are not suitable for publication in this journal, either because they are too long, or are loaded with tabular matter or prolix histories of cases, or deal with subjects of little interest to the medical profession at large. We can not enter into any correspondence concerning our reasons for declining an article.

All letters, whether intended for publication or not, must contain the writer's name and address, not necessarily for publication. No attention will be paid to anonymous communications. Hereafter, correspondents asking for information that we are capable of giving, and that can properly be given in this journal, will be answered by number, a private communication being previously sent to each correspondent informing him under what number the answer to his note is to be looked for. All communications not intended for publication under the author's name are treated as strictly confidential. We can not give advice to laymen as to particular cases or recommend individual practitioners.

Secretaries of medical societies will confer a favor by keeping us informed of the dates of their societies' regular meetings. Brief notifications of matters that are expected to come up at particular meetings will be inserted when they are received in time.

Newspapers and other publications containing matter which the person sending them desires to bring to our notice should be marked. Members of the profession who send us information of matters of interest to our readers will be considered as doing them and us a favor, and, if the space at our command admits of it, we shall take pleasure in inserting the substance of such communications.

All communications intended for the editor should be addressed to him in care of the publishers.

All communications relating to the business of the journal should be addressed to the publishers.

Original Communications.

THE MEDICO-LEGAL RELATIONS OF HYPNOTISM OR SYGGIGNOSCISM.*

By WILLIAM A. HAMMOND, M. D.

DR. HAMMOND introduced the subject of hypnotism by saying that it was one that had received great attention, both here and abroad, and, indeed, the first intelligent comprehension of it was due to American thought. There was reason to assume that the ancients were also well acquainted with it. About one hundred years ago, however, Mesmer first attracted the profound attention of Europeans to it. He, however, started from an erroneous basis—namely, that there was an inherent quality or power in the person operating which accounted for the effects produced. This was a very erroneous notion. "It is one," continued the speaker, "which I am anxious you should all discard. What I am going to do is not the result of any power inherent in me, but simply in the person who is operated upon. Any of you could do it, or he himself could involuntarily pass into this condition of hypnotism. Though we probably shall all agree that I have given no complete rational explanation of the phenomena I am about to present, it is yet better that we should have erroneous notions than none at all. It is the people who have no notions whatever who die and are forgotten, while those who seek the truth will probably evolve something from their erroneous notions approximating the truth.

"The condition of hypnotism," said Dr. Hammond, "or, as I prefer to call it, syggignoscism (meaning the agreeing of one mind with another mind), is, in reality, a condition of automatism, in which acts are performed without the conscious willing of the subject. We are all more or less automata, for a great many of our acts are performed not only without, but against our will. For instance, when a person, thinking intently upon some serious subject and at the same time endeavoring to read a book, turns over leaf after leaf, his eye having carefully perused every line upon the pages, and suddenly comes to himself, as it were, and finds that he has no knowledge of what he has read, his acts in reading and turning over the leaves are automatic. Again, we have all walked the streets on our way home, thinking engrossingly upon some subject, and have found ourselves at our street-door without being conscious

of having taken a single step or having seen a single thing on our way there. Such acts are automatic. They are done unconsciously and without a voluntary effort so far as we know. Cases of what we ordinarily call absence of mind are cases of automatism; and the phenomena of reverie are scarcely to be distinguished in some of their aspects from those which I shall exhibit to you this evening; and natural somnambulism is still more akin to the condition in question. We can induce in animals, by certain experiments, a state the phenomena of which are very similar to those which I shall present to you this evening.

"By removing the brain of a pigeon, we do not by any means destroy the animal, or even abolish all its mental faculties. Such a pigeon hears, sees, feels, will swallow food that is put into its mouth, but is incapable of originating any impulse. It will stand still in the attitude in which it is placed till it dies of starvation, but if a candle is moved before it, it follows it with its eyes. If it is thrown into the air, it flies. If loud noises are made near by, it is startled. If the foot is pinched, the member is withdrawn. It is to all intents and purposes an automaton.

"Now, until quite recently, it has been thought to be impossible to perform experiments of this kind to any extent upon warm-blooded animals. You have all seen some experiments of this sort upon warm-blooded animals. You have all seen a hen when its head has been cut off, and you have seen that hen stagger around the yard in a rather indeterminate way. Sometimes it will walk six or eight steps, in a staggering fashion, it is true, but nevertheless it does walk. But experiments of this kind are difficult with warm-blooded animals, because the stimulus of the heart is so soon gone that death takes place quite rapidly. But recently Kuss, of Strassburg, by means of an apparatus made for the purpose, severed the head of a rabbit in such a way as to prevent any great loss of blood. He did it by a sort of hacking movement, so that the vessels were torn in a jagged way and the blood did not flow readily, and consequently the animal did not die rapidly from loss of blood. Under these circumstances, when he attempted to rub the hair of the rabbit, it ran around the room several times in a circle in its efforts to get away. Some time ago I applied some experiments of an analogous character to a pigeon, using a cutting instrument, which, however, had not a sharp edge, and I succeeded in severing the pigeon's head without the loss of ten drops of blood. The pigeon remained stationary, but when I caught hold of it and threw it into the air it flew about the room. When I pricked the sole of its foot it drew it away.

"Similar experiments have also led to like results with other members of the animal kingdom. Maine de Biran, a French physiologist, mentions that upon one occasion a man cut off the head of a snake while it was on its way to a hole in the wall, and, notwithstanding the fact that the head was cut off, the animal continued to go toward its hole, found it, and went in. I have repeatedly, when on the plains in the West, seen rattlesnakes perform apparently determinate movements after their heads were cut off. In one instance that came to my knowledge, a rattlesnake was

* A great deal of interest has lately been excited in France by the experiments of Charcot, Gilles de la Tourette, Azam, and others, with the subject of hypnotism. Persons put into the hypnotic state have been made to commit imaginary crimes which to them had all the elements of reality. The account here published is a stenographic report of remarks made by me and others at a meeting of the New York Medico-Legal Society, April 6, 1881. The account of my remarks and demonstrations on that occasion was not published at the time, because the society's publication committee, although the matter was in type, thought it might be misconstrued by readers. It is now published in the "New York Medical Journal" for the purpose of showing that experiments such as are now attracting such attention in Europe were made in New York several years ago.

coiled up in the road, and a teamster came along and with his whip cut off its head. The snake remained coiled as if nothing had happened to it. It did not budge. Its head had been cut off at a single blow of the whip. The man ran up to the snake, stooped over it, and I suppose touched it in some way. Instantly the snake uncoiled itself, sprang forward, and struck him full in the forehead with its headless trunk. The man was so horrified that he fainted away.

"All these facts go to show that there is something in an animal's organization besides its brain which is capable of carrying on the functions of life. In hypnotism there is an apparent cutting off of certain portions of the brain. The basal ganglia—all that mass of gray matter at the base of the brain—may be able to act, but the higher portions of the brain appear to be—I will not say removed—but their functions so far impaired as to give rise to the very curious phenomena which you will see to-night. While these portions of the brain are not removed, their functions are certainly altered. Now, we are all conscious of our existence, we are all conscious of our identity. In these cases of hypnotism the consciousness seems to be so altered that the individual is not aware of his identity. It is the condition of double consciousness, which is beginning to attract a good deal of attention. I have had several examples of the sort; one case, which I have related elsewhere, was that of a gentleman of this city, who passed into this condition spontaneously as he was coming out of a flower shop in the lower part of the town. He went there to buy some tulip-bulbs, and that was the last he knew about himself. After that, he apparently went through the city of New York, walked the streets, went into a place on Sixth Avenue called the 'Leeds Arms,' where he played dominoes, though it was shown that he drank no liquor except one glass of ale. He then started on the cars for Easton, Pa., but, as he was unable to pay his fare, the conductor put him off the train, and he walked all the way back to New York, and found himself in French's Hotel, without being aware of anything that had taken place during the eight days that he was in this condition. He was conscious during that time, but after his return to his normal consciousness had no memory of what had occurred during that period; so that he was really the subject of double consciousness—normal consciousness and abnormal consciousness.

"Again, you recollect seeing in the newspapers here the case of a clergyman who disappeared and was absent several weeks and came back, and was unable to give any account of himself, and from the circumstances detailed there can be little doubt that he was also in the hypnotic condition, the condition of double consciousness. This condition we are able to produce in certain individuals. The proportion of persons who are subject to this state, and who are fit subjects for experiments of this kind, is about two in ten of males, and about four in ten of females.

"When you ask me what parts of the brain are involved in these phenomena of hypnotism, or syggignoscism, I shall have to confess my ignorance. I do not know. But the matter may be explained somewhat by a reference to this diagram, which will give you some idea of what I mean

when I say that the superior parts of the brain are removed, and that the individual acts solely by impressions that he receives from without, and does not originate anything of his own volition. You know the brain gets ideas only from without; there is no such thing as the brain originating anything from the beginning. It will take the impressions that are furnished to it, and it may elaborate them and work them up, but it can not start anything; and an individual born without his five senses of smell, touch, taste, hearing, and sight, would be absolutely incapable of ever having an idea." (Explains the diagram.)

"Suppose you assume that an impression on this part, *A* (for instance the eye), is transmitted through that nerve, *B*, to a mass of gray matter which we will call *C*. Now, that is one of the ganglia that I spoke of as existing at the base of the brain, a mass of gray matter which is capable of perceiving. This image is presented to it and it perceives it—its size, its color, its shape, and everything of that kind. Now, suppose that the upper part of the brain, the cortex, is cut off or asleep, the lower part is capable still of transmitting an impulse downward to certain muscles of the body; and therefore a man may act in accordance with a perception without having an idea of the image which is perceived. We see that sometimes, perhaps, in cases of fright. We act from an impression made upon our sense of sight, without stopping to consider, or without having time to form an idea of what the thing is, and we will nearly kill ourselves in our efforts to escape from some supposed danger.

"Now, these instances of syggignoscism are cases where the impressions are received in the lower portions of the brain. In such cases people are capable of doing things which they would not do if they had their normal consciousness—their intellect—their full faculties, which are imparted by the cortex of the brain—the cortex of the individual who is experimenting upon them. It is his cortex which influences them, and they act in accordance with that.

"You may call it a lame explanation, and say that it does not explain it, and I do not know that it does. We do not yet know enough about the physiology of the brain itself in its normal condition to be enabled thoroughly to explain the aberrations to which the brain is subject.

"As I say, all this is scarcely proper matter for a medico-legal society, except in one relation: it is possible—and it is important that the law should take cognizance of this state. Laws are made in accordance with the advancement of science. Laws are made now to comprehend the developments of electricity in the way of telegraphs and various other things—laws that were not required a great many years ago—and doubtless, as we go on with science, we shall have new laws to cover the advancement.

"I think there is a good deal in this syggignostic condition which ought to be taken cognizance of by the legal authorities, and I think I shall show you that there is really reason why the law should take this matter up.

"There are various ways of bringing an individual into the syggignostic condition. A very simple way with this Mr. Gray here is by simply causing him to look at some-

thing intently. Mr. Gray is a gentleman in good general health. So far as I can perceive, he is simply an impressionable individual. He is a man of good character, and in his normal condition he would not do any of these things that I am going to make him do. When he was a child he was in the habit of walking in his sleep. He is twenty-six years of age. Now, a very convenient way for him to go into the state is by simply looking at something—a piece of glass or a nickel penny will answer the purpose.

"I must tell you again that it is nothing in me at all. These experiments have become somewhat familiar, and I suppose I have received fifty letters of inquiry, and I have no doubt he has too, from people all over the country as to the methods of doing this thing. One gentleman wrote to me a few days ago from California—said he had heard of some of the experiments, and he wanted to know what my fee was for enabling him to have this power over people!

"There is nothing in that at all. I could hang this bit of glass up by a string and have him look at it, and the result would be the same. It is not in the person who does it; it is in the person to whom it is done." (Holds a bit of glass before the young man's eyes, who immediately becomes syggignoscized.) "He is in that state now. He is now oblivious of what is going on about him. I will show you that he is unconscious directly. I will put him through a series of tests which will show conclusively that he is incapable of feeling. As regards the people here now, he knows nothing whatever about them." (By snapping his fingers and saying "All right!" the doctor restores the young man to consciousness.)

"Now, to show you that it is not from simply looking at something, I will strike this tuning-fork, and by his listening to it he will become hypnotic as readily as by looking at the piece of glass." (Strikes the tuning-fork, and directs the young man to listen, who becomes hypnotized as before.)

"He would never originate anything as long as he remains in that condition. He will see things just as I tell him to see them; but as long as he receives no excitation from without, as long as he depends entirely upon his own brain, he will originate nothing, and he will sit just as the pigeon does with its brain out."

(In answer to a question as to whether the young man would remain there and die of starvation.) "I don't know that he would die of starvation."

Dr. BEARD, to a question as to what was the length of time that a hypnotized subject would continue in the state, replied: "All the way from one minute to two years. I have had several subjects who passed out of it with a start in about three minutes, and others have stayed in it so long that I have got tired and left them after they had been in the condition several hours."

Dr. HAMMOND resumes: "I am going to make him commit crime. I want to show that this is a matter that the law should take cognizance of; that an unscrupulous individual can take a subject like this and make him commit a burglary, or a forgery, or anything else that he chooses to tell him to do, and he would go and do it, while the real per-

petrator remained at a distance—at his own home. I could send him down there and tell him to kill the gentleman who is sitting in that chair, and he would do it. I could tell him to commit a burglary in the house opposite, and he would go and do it.

"Now, in the first place, I am going to have him commit a burglary."

(To Mr. Gray.) "Do you see that stone house?" (Points to the wall.)

"Yes."

"You see that second-story window up there?"

"Yes."

"Well, in that room, at the foot of the bed, there is a chest which contains a large amount of money. I want you to go and get that money."

"Why don't you go?"

"I want you to go. You see the basement window there. You had better go through the basement and up the steps, and then get the money and bring it to me."

(The young man goes through the performance of securing the money exactly as directed, and returns with it to the doctor.)

"Do you know what you have done?"

"Yes."

"What did you do?"

"I got the money."

"Are you going to commit a burglary because a man tells you to? That money is the property of a poor woman."

"She had no business to keep it in a chest anyhow."

"What are you going to do with it?"

"I can use it just like any other money."

"Well, you have got yourself into trouble. A policeman saw you enter that house."

"You are trying to fool me. I looked up and down the street."

"There was a policeman there, and he is coming now after you. You dropped one of the notes, and there he comes with the note. Here he is. He wants to know what you were doing in that house. He wants to know whether you did not go in through that window?"

"I did not go in by any window."

"You did not go in by any window? He says he saw you."

"He has got to prove it."

"You will have to be tried for this—what will you do then? You had better get rid of the money. (He is looking around now for some place to hide that money.) I will let him work that out himself."

(The young man conceals the money in a corner and returns.)

"The policeman wants to know where that money is."

"I haven't got any money."

"He says he saw you go into that house. He says you have got it. He is going to arrest you."

"If you tell him I have got it, he might arrest me."

"Haven't you got the money now in your possession?"

"I haven't got the money—no. You may search me."

"I think you had better take that money and found a hospital with it. What do you think of that?"

"I don't want to found any hospital."

"You want the money for yourself?"

"I haven't got any money."

"Didn't you go into that house and take some money out of it?"

"No, sir, I didn't go into that house. Now what are you going to do about it?"

"The policeman found this handkerchief in the house. It has your name on it. He wants to know where you got that money. Young men like you don't go around with a hundred thousand dollars in their pocket."

"A person could lose a handkerchief, and another person might find it and put the money in it."

(*To the audience.*) "How very imperfect his reasoning must be, when he is not aware of all the circumstances. He reasons only from the limited idea which he has received, and certainly some very low point of his brain must be the starting-point of that reasoning."

(*To the young man.*) "He has the handkerchief with the money in it, and you see your name on it. Now you have got to go to jail, he says, and be tried. He has got hold of you by the arm, and he says you have got to go. There is the station-house over there. He says he is going to take you up for stealing that money." (The young man walks to the point indicated as the station-house as if led by the policeman.) "What would your friends say if they knew you were in the station-house for stealing a hundred thousand dollars?"

"I don't know what they would say. Didn't you tell me to do it?"

"That has nothing to do with it."

"You have got me in a hole, and I will get you in a hole."

"(You see he is logical to a certain extent.) There, you are released on bail, but you have got to be tried. What are you going to do at your trial?"

"Get a lawyer."

"You think a lawyer will get you out of this scrape?"

"If I got a good one he might."

"You have not money enough to pay him. How will you arrange that?"

"I will get a lawyer who won't charge anything."

"I don't know where they are—I never saw one."

"He might charge something."

"Here is the handkerchief with the money in it; you had better take it and put it into your pocket while nobody is looking."

(*To the audience.*) "Now the point I want to establish is that he is not conscious. Otherwise you may say this is all a put-up job—that he knows perfectly well what he is doing. It is a very difficult thing to show that he does not. If there is any test that you think will convince you that he is insensible, I will apply that test to him. Now I will go on talking with him, and I will heat this cauterizer and score his neck with it. On second thought, however, I will do something a little milder than that." (With a pin he pricks the young man in the neck.)

(*To the young man.*) "Are you sorry you took it?"

(*To the audience.*) "I am boring a hole in his neck and he does not feel it at all."

(*To the young man.*) "Perhaps if you were to give it to the poor it might atone for your having taken it. What do you say to that? Suppose you give it to the poor?"

"If that will get me off."

"You are more afraid of going to Sing Sing than anything else?"

"I don't want to go there—no."

"Are you really sorry you took it?"

"Yes, but I would like to have the money just the same. But if I must go to Sing Sing—I'll give it up."

"Sit down and think it over a moment or two. I have a friend who will talk to the Governor about it, and perhaps he will let you off. He says, take the money and put it back." What do you say to that?"

"I don't want any hocus-pocus business—being found there twice."

"I will keep the coast clear while you go in. I will see that there are no policemen around."

"Why not go to the house and watch?"

"I will walk around here in the street and watch."

(The young man enters the house in exactly the same way as before, puts back the money in the chest, and returns.)

"Did you put it back?"

"Yes, I put it back."

"Did you see anybody?"

"No."

"Now you (*to the audience*) understand that whatever I tell him a thing is, it is that to him. If I tell him that is a dagger (exhibiting a small piece of card), it is a dagger so far as he is concerned."

"You see (*to the young man*) that man down there at the door? That man murdered your mother. What should be done with him?"

"He ought to be arrested."

"Go and kill him. Take that dagger and creep up to him slyly and stick him in the breast."

"He will see me coming."

(The doctor requests the gentleman at the door to turn his back to the young man.)

"Now you go and stick him in the back with that dagger."

(The young man goes through the motions of creeping up to the gentleman and stabbing him twice in the back, and returns to the platform.)

"Did you finish him?"

"Yes."

"What did you do with the dagger?"

"Threw it away."

"It has your name on it."

"How can it have my name on it—you gave it to me?"

"Nevertheless, it has got your name on it; you had better go back and get it."

"I'd rather take the chances. There would be a crowd around the body, and they would see me."

"What are you going to do?"

"I don't know what to do."

"Here is a policeman who wants to know what you did to that man. Here is blood on your hand—there is blood all over your coat—your whole shirt-front is covered with blood."

"What did you want to get me into this trouble for?"

"He killed your mother."

"Well, what are you going to do about it?"

"Now the policeman has got you—now he is shaking you. He wants to know what you did that for. Now he is taking you to the station-house again—and now you are in the station-house, for murder. What are you going to do about that? You actually killed a man."

"Did he die?"

"Oh, he is dead. Do you see that angel coming down there, with the flaming sword?"

(The young man gazes upward and stares at the supposed descending angel with a horrified expression, and, finally, in a frenzy of fear, he plunges forward with a shriek and falls headlong on his face. At this point the doctor pronounces the words "All right," and restores the young man to consciousness.)

"What are you doing on the floor?"

"You see (*to the audience*) there is no shamming about that. I carried the test to this extreme point to show you that he is not acting a part.

(*To the young man.*) "Do you know what you have been doing? Have you any recollection of what you have been doing?"

"No."

"What is the last thing you remember?"

"I remember looking at that piece of glass."

"Don't you recollect my putting that tuning-fork to your ear?"

"Yes, I remember that."

(*To the audience.*) "The last thing he recollects is my bringing him into that condition."

(*To the young man.*) "But as to what you have been doing, you have not the slightest idea?"

"No, sir."

"How do you feel?"

"All right. My neck feels stiff."

"Does it hurt you?"

"No, sir. It's all right except the stiffness."

"You feel all right?"

"Yes, sir."

(*To the audience.*) "Anybody can put him into that condition. A child can do it. As soon as the eyes are fixed he is in that condition. He is the quickest to go into it of anybody I have ever seen.

"Now I want to show you something a little more elaborate—something I have not fully tried on him yet. I want to see the manner in which his mind, thus limited in its powers, will proceed in the act that I am going to suggest to him." (Again places him in the syggignostic state.)

(*To the young man.*) "Are you a rich man?"

"No, sir."

"How much are you worth—what is your salary—about how much do you make a week?"

"Fifteen or twenty dollars."

"Fifteen or twenty dollars? You would like to be rich?"

"Yes, sir."

"Suppose you could make a hundred thousand dollars by simply signing another man's name—wouldn't you do it?"

"I might do it, and I might get caught, too."

"Suppose you could do it and not get caught—what then?"

"Guess I could do it."

"Well, there is a gentleman I know, whose name is Wood, and he has a lot of money in the bank. If you would write his name on this check, you would get that money."

"Won't you do it?"

"No, I want you to do it."

"Won't you tell on me?"

"No, I won't tell on you. Fill it up for \$25,000. Do you think you could imitate Dr. Wood's writing if I showed you a specimen of it?"

"I don't know why I shouldn't."

"Well, there it is. Do you think you can do it?"

"Yes, but I want some paper to practice on first."

"Just sit down there, and I will give you some paper. Now you can try it and see what you can do with it.

"Now, while he is doing that, I will burn his neck with this iron. I do not think you will see any change in his features." (Dr. Hammond presses the red-hot iron against the back of the subject's neck and burns him, but no sign of pain is exhibited.)

Question by one of the audience: "Is he troubled in his ordinary business, Doctor, with going into this state?"

Dr. HAMMOND: "No, he never goes into it spontaneously.

"I think it is worth while to call attention to the fact that such a condition exists, and how easy it is to get such a person as this young man into the condition and make him perpetrate crimes. It seems to me that it is a matter that really requires legislative action. This would be a new crime, arisen in consequence of the advancement of science. We now know that we can make people do these things. It seems to me that if the law does not take some notice of the matter, after a while we shall find a class of sharpers who know how to use this influence, and they will employ the innocent as instruments of their unlawful schemes, while they, the real perpetrators, remain invisible to the eye of the law and secure from detection."

Remark by one of the audience: "The difficulty, Doctor, would be about the proof."

Dr. HAMMOND: "I am not lawyer enough to know about that; but I think the law is sufficiently comprehensive to include a case of this kind."

Mr. J. F. MILLER: "If what you do here is true, you are the only man that is guilty."

Dr. HAMMOND: "That is what I mean. He is not responsible at all. There ought to be some law for punishing an offense of this kind."

Mr. MILLER: "There is law enough for that."

The question is asked as to the facility with which different subjects go into this state.

Dr. HAMMOND: "One who has never been in the condition before goes into it with much more difficulty than at subsequent times."

(The experiment is tried to hypnotize one or two gentlemen, but unsuccessfully.)

The opinion of Dr. Beard is asked as to the proportion of subjects to the population, who replies that there is no proportion known. It depends entirely upon the class that you take them from.

Question: "How is it among your own patients, Doctor?"

Dr. BEARD: "I never experiment on my patients—only on outsiders."

Q. "Does the young man know he is liable to these states?"

Dr. HAMMOND: "He knows it when he is awake. He does not know it now." (*To the young man.*) "Where are you?"

"I am here!"

"What's your name?"

"That's a strange question to ask a man!"

"I am General Garfield, the President of the United States."

"I don't care if you are. That is no reason why you should go around asking people's names."

(Asks him several questions—what street he is in, etc.)

Dr. HAMMOND: "It is not pretended that all previous impressions of a man in this condition fade out. He knows this is Thirty-first Street, because he knows it was the place he was to come to."

One of the audience requests Dr. Hammond to ask him what he has been doing to-day.

Dr. HAMMOND: "What have you been doing to-day?"

"I don't know."

By one of the audience: "What did Dr. Hammond tell you to come here for?"

"To see some experiments. I am here, and I have not seen any."

Dr. HAMMOND: "He has a general idea that he came here for some such purpose; but of what has occurred here since he came, he has not the slightest knowledge. Now you may say that he falsifies; but I will apply any test that you think proper to convince you that he is not deceiving."

Dr. J. C. HANNAN: "Would he reply to anybody else?"

Dr. HAMMOND: "Oh, yes!"

Dr. HANNAN: "Could you ask him if he has any ideas of morality or honesty while he is in that condition? You say the organs in the upper part of the brain are entirely inoperative at the time. Suppose you ask him something in reference to the higher ideas—for instance, is it a crime to kill a man, or to take a man's character?"

Dr. HAMMOND: "Oh, he will say yes."

Dr. HANNAN: "I would like to ask you whether you have any test that you think is decisive in the matter?"

Dr. HAMMOND: "I do not know what test you may require to convince you that he is not committing a fraud upon you."

(At this point there was some discussion as to the relative severity of various tests—cauterizing, pinching the skin with pinchers, pricking with a needle, etc.)

Dr. BEARD remarked that it was impossible to demonstrate the man's unconsciousness in so short a time.

Dr. HAMMOND: "I think you can demonstrate it as accurately as you can anything else. You apply the ordinary tests of sensibility to a man; if he does not respond to them, you are bound to suppose that he does not feel."

Dr. BEARD suggested that a better test with the cautery than that tried was to press it on, and hold it on. But he presumed the subject would object to this.

Dr. BIRDSALL: "I do not think he can be tested satisfactorily. I do not think any test can be applied that will be satisfactory."

A motion is made that the subject be taken up at the next meeting.

Dr. HAMMOND: "I hope that suggestion will prevail."

Mr. YEAMAN: "In seconding the further discussion of this subject, I wish to add a further reason why the legal side of the house desires more light on this subject in its supposed legal aspects, as suggested by Professor Hammond. When Professor Hammond suggested the possibility of crime being committed by a hypnotized person used as the instrument of the instigator of the crime, it was answered by several members of the bar present, that the law is ample as it now stands for that purpose. Now that is true within certain bounds. Certainly it is well established law that what a man does by another he does himself, and if I command my instrument to go and murder Dr. Hammond, I am the guilty man as well as he who strikes the blow. But as far as the legal, or the medico-legal, aspects of this matter are concerned, the question to be determined is, first, whether this condition is a fact—a fact established and admitted by scientific men; next, whether the law would recognize it as such; would judges and juries recognize it as such; or must they depend on what is called expert testimony? Now, if they depend on that, it is very evident from what we have seen this evening that they would be immensely troubled ever to come to a conclusion. But if this thing can be established as a scientific fact, then, as has been suggested, its medico-legal aspect is an important one, and therefore I think that it is eminently proper that the matter should be further investigated, if need be by further experiment as well as by further discussion."

Dr. BEARD: "I will only say this in answer to the gentleman who has just sat down—that the medico-legal relations of this subject are of the most profound interest, and are going to assume an importance that we do not dream of at present. I think Dr. Hammond agrees with me on this point. There are various persons here whose views on this subject would be valuable to the society, and I hope that they will be heard even if I say nothing, and I should like to have the subject taken up. I read a paper six or seven years ago before this society on this subject, and we all of us know a good deal more about it now than we did then. Several times this subject has been brought into court within a few years, in Europe and in this country, and it is time

the society thoroughly discussed it. I was very glad that Dr. Hammond brought this paper up."

The motion to discuss the subject at the next meeting was put and carried.

Dr. BIRDSALL: "I should like to make one statement. Dr. Hammond asks me the evidence that I would require to test this matter. I would not accept the evidence of experiments that I could repeat on myself—experiments that I could repeat voluntarily. Such tests would not satisfy me of the unconsciousness of the individual. I should want further proof than that."

Dr. HAMMOND: "Couldn't you suggest what?"

Dr. BIRDSALL: "I do not know of any. I have been interested in this subject, and have been endeavoring to find a true test—for I believe there is a true hypnotism. But I have failed to find any such test; consequently, I maintain that we have no proof that this young man is in the hypnotic condition. I do not know whether Dr. Hammond has been experimenting upon this young man, or whether this young man has been experimenting upon Dr. Hammond!"

Dr. HAMMOND: "People who are educated, and who are accustomed to direct others, are not so easily rendered hypnotic as those who have always occupied subordinate positions. If you will find some person who fulfills these conditions, we will see what we can do with him. If a member of the society will bring such a person here, I think we can put him into the hypnotic state. I do not believe these things myself unless I see them. But I will take people who are entirely above suspicion, and they will go into this state and do just as this man does."

A CLINICAL STUDY OF NEURALGIAS, AND OF THE ORIGIN OF REFLEX OR TRANSFERRED PAINS.

By C. L. DANA, M. D.

(Concluded from page 91.)

Cervico-occipital and Occipito-frontal Neuralgias.—Total cases, 18.

Sex.—Male, 4; female, 14.

Cause.—Sequel to cerebro-spinal meningitis, 2; hysteria, neurasthenia, 6; anemia and miscarriages, 1; neurasthenic and rheumatic, 3; syphilis, 2.

Season.—Autumn and spring, 8; winter and summer, 3.

Age.—Three fourths between the ages of 20 and 36; none below 20.

There are three types of neuralgic pains in the four upper cervico-occipital nerves.

I. One of these is the migrainous, and has been already described.

II. The second type is one of typical neuralgia with tender points, and a continuous course lasting for days or weeks. It is unilateral, and has the characters ordinarily described in the text books. I have now a patient who has this true neuralgia with occasionally pseudo-migrainous attacks. The pains sometimes reach the character and intensity of true ties.

III. The third type is one found in hysteria and spinal

irritation. In this disorder the pain is more bilateral or central, or perhaps shifting, and it is especially characterized by a sharp boring pain just below the occiput. With it there may be evidences of cerebral congestion or anæmia, with vertigo and faintness, but not vomiting. It is one of the hysterical neuralgias and indicates cervico-spinal irritation. The boring pain is almost pathognomonic.

It is a noticeable fact that the four upper cervical nerves supplying motion and sensation to the back and base of the skull are attacked by three painful neuroses just as with the fifth nerve, viz.: migrainous pains, ordinary neuralgic ties, hysterical neuralgias (clavus).

Lumbar Neuralgias.—While lumbar pains of muscular and reflex origin are as common as humanity, true dorso-lumbar neuralgias are comparatively rare. I have notes of only eleven cases.

Dorso-lumbar neuralgias affect either the upper and short branches or the lower and longer branches of the lumbar plexus.

I. In the former case we have pains in the small of the back, the upper part of the buttocks, the neighborhood of the crest of the ilium, and, more rarely, in the hypogastrium, inguinal region, and scrotum or labia.

These pains form the upper lumbar or lumbo-abdominal neuralgias. They are affections of the branches of the first and second lumbar nerves.

Lumbo-abdominal neuralgias occur usually in women after the thirtieth year. They come on late in life like sciatica.

It is upon the upper half of the lumbar plexus also that the lumbo-abdominal pains are reflected which result from uterine displacements or from other irritations of the pelvic organs.

II. The neuralgias of the lower branches of the lumbar plexus produce pains in the outer, anterior, and inner part of the thigh, external cutaneous nerve, genito-crural and anterior crural nerves, the front of the knee, and inner part of the leg (crural nerve and obturator nerve). These form what are generally known as femoral or crural neuralgias. True neuralgias of these branches are very rare, according to both Anstie and Valleix; but here again reflex or transferred pains from the pelvic organs are not infrequently felt. Crural neuralgia is also sometimes felt in connection with sciatica.

Painful Thigh.—It appears to me that crural neuralgias of a certain type are not so very uncommon. Certainly I have met with several cases of what might be called, in a general way, "painful thigh." The patients in age and history are like those suffering from sciatica. They complain of pain in the front of the knee and the anterior and outer parts of the thigh, but have no pain posteriorly, and none below the knee. The internal branches of the anterior crural nerve do not seem to be affected, while the middle and external cutaneous branches and the genito-crural nerve are involved. In one case I observed anesthesia of the skin.

These cases do not correspond with classical descriptions of crural neuralgia, and they are sometimes regarded as irregular forms of sciatica, because of the diffused pain and

stiffness of the thigh. They should be treated in the same way as sciaticas.

The upper lumbar neuralgias may be mistaken for lumbago or hip-joint disease. The lower lumbar neuralgias often present a general resemblance to irregular sciaticas. It should be remembered that neuralgic pains in the thigh alone are generally to be referred to a lumbar plexus.

Sciatica.—The total number of sciaticas available for statistical purposes is 73; 25 of these were in females, 48 in males, giving a proportion of 1 to 2. This gives a larger proportion to women than the German statistics of Erb and Eulenburg (65 to 17), while it gives a smaller proportion than the French statistics of Valleix, 72 to 52. The facts regarding age and season are summarized below, and show a rather larger number of cases in early life than is usually believed to occur, and also a decided preponderance of the disease in the autumn.

Age.—Fifteen to 25, 9; 25 to 35, 17; 35 to 45, 23; 45 to 55, 15; 55 to 65, 7; above 65, 2. As there are twice as many people living between 15 and 35 as between 35 and 65, and only 26 sciaticas to 47, sciatica is relatively nearly four times as frequent between the ages of 35 and 65. Winter, 21; spring, 9; summer, 8; autumn, 24.

As to the causes: Twelve gave a history of exposure and muscular strain. Ten gave a muscular rheumatic history. Only one had ever had acute rheumatism. Nine gave a distinctly neurotic history, having previously had other forms of neuralgia (3), epilepsy (2), or hysteria (1).

In 3 there was a phthisical taint, in 1 sexual irritation, in 1 probably malaria, in 2 syphilis, and in 1 constipation with piles and a very sedentary life.

Thus it appears that the age of forty and the male sex, and a tendency to muscular rheumatism or a neurotic, especially a lithæmic, constitution, prepare the way for sciatica, and that exposure and muscular strain or some nervous irritation precipitate it.

In many cases one gets every evidence of there being a neuritis—such as anæsthetic patches, coldness of the limbs, atrophy, and even slight partial degenerative reactions in the muscles.

THE ORIGIN OF "REFLEX" OR TRANSFERRED NEURALGIAS AND PAINS.—No point connected with the clinical history of neuralgias is of more interest than that of their so-called "reflex" origin. The production of migraine has been attributed, as we have seen, to the stomach and liver, to the eye, the tonsils, and the nose. Digital, plantar, cardiac, intercostal, and, in fact, all the neuralgias have been attributed to extrinsic causes. So much has appeared in literature regarding the effects of such remote irritation that the importance of this influence has perhaps become exaggerated. At the same time the subject is one deserving of further and persistent study until its present many obscurities are removed.

In this study it is to be remembered that the term reflex used here is not technically a correct one. An irritation in the stomach may cause a pain which is felt in the forehead. The impulse, starting in the stomach nerves, is conveyed to the cortex of the brain, and this is felt as a sensation excited by the trigeminal nerve. It is a transferred sensation,

not a reflex one, since the impulse is afferent only, and the outward reference of the pain is purely psychological.

Reflex pains are, therefore, really "transferred pains" as a rule. In some cases it may be, however, that irritations provoke reflex vaso-motor changes in remote parts, and the anæmia or congestion thus produced causes pain. There may be, therefore, "indirectly produced reflex pains." The term reflex pain is so widely used that I can not attempt to discard it. I use it, however, with the explanation here given.

From a study of many cases of my own for the several years in which my attention has been directed to this subject, from a study of the very meager literature bearing on it, and from personal inquiry among gentlemen who have had large experience in various special fields, I am able to collect the following facts regarding the various organs, the viscera, and their relation to transferred or reflex pains:

With regard to the Eye.—In the accurate determination of reflex pains the ophthalmologists have made much progress. I am greatly indebted to my friend, Dr. William O. Moore, for furnishing me, in an admirably succinct form, the results of his studies and experience in this direction. In general terms, the following statements may be accepted:

Reflex pains are produced by asthenopia, of which there are four types, as follows:

Asthenopia.—One, refractive; 2, accommodative; 3, muscular; 4, neurasthenic.

The pain in No. 1 (refractive asthenopia) is usually of a dull, heavy character, and is felt in the forehead and along the supra-orbital branches after the eyes have been used for some time.

In No. 2 (accommodative) the pain is felt in the eye, and is one of fatigue. It is of a dull character. This pain, however, is not reflex.

In No. 3 (muscular) there is a sense of pain or, rather, of drawing, often referred to the back of the orbit, sometimes to the back of the head.

In No. 4 (neurasthenic) the sensations are much the same as in No. 3.

In addition, it appears to be established that refractive asthenopia in one eye may give rise to migraine.

The view that nearly all migraines are due to refractive errors, or to imperfection in the muscular apparatus of the eye, is certainly, in my experience, incorrect. It is well to remember that, while eye troubles may cause neuralgia, so, on the other hand, neuralgias of the fifth may cause eye troubles—such as blepharospasm, mydriasis, myosis, and asthenopia (Faucheron, "Rec. d'ophthal.," March, 1881). Occasionally eye irritation causes occipital or fronto-occipital pain, but this does not seem to be the rule. Iritis may cause pain felt over one half of the cranium, like a migraine.

Chronic diseases of the ear have been known to produce trigeminal neuralgias in very rare instances. It is more often that irritations of the maxillary branches of the fifth cause otalgia. My friend, Dr. Sexton, informs me that, as the result of examining the records in a large number of cases, he could not formulate any rule as to reflex pains of

aural origin—*i. e.*, from chronic aural disease. Dr. E. Legal ("Dent. Arch. f. klin. Med.," xl, 2, p. 201) says that patients with pains in the occipital or temporal region should be examined for pharyngeal or middle-ear trouble. He reports ten cases in which, by using Politzer's method, or by catheterizing the tubes and treating the throat, the pains were relieved.

Dental caries may cause severe and intractable trigeminal neuralgia. The relation between the two was first studied by Neucourt ("Arch. gén. de méd.," June, 1849), who gave some striking examples. Lauder Brunton ("Lectures on Diseases of the Stomach") has also studied the matter in reference to localization, and believes that reflex pain from dental caries is usually felt in the temple, or, more specifically, a decayed molar in the lower jaw gives a temporal or occipital headache, a decayed molar in the upper jaw a temporal headache farther forward. Decayed canine or incisor teeth are likely to cause frontal or vertical headache. Such pains may be accompanied by sympathetic dilatation of the pupil.

The results of nasal and pharyngeal irritation have been fully discussed in late years. It seems to be well established that there are sensitive areas in the nose, usually in the region of the inferior turbinated bone and its cavernous tissue, which may give rise to frontal headache, migraine, neuralgia of the larynx, and of the tongue (B. Robinson, "Med. Record," Jan. 30, 1886). Chronic pharyngitis and amygdalitis may cause migraine (Lorent, A. Jacobi, "Med. Record," Jan. 30, 1886), and the same trouble, according to Trautmann, is produced by chronic or subacute inflammation of the pharyngeal tonsil.

We have one authority (Hack) curing 240 cases of hemicrania by cauterizing the inferior turbinated bone; another, Trautmann, curing 85 out of 87 cases of the same disease by destroying the pharyngeal tonsil. Lauder Brunton attributes migraine in some cases to the reflex effect of dental caries ("Dis. of Digestion," p. 84).

As others have reported almost equally extraordinary results from treating the eyes, it is plain that there are some errors here not alone of refraction, but also of observation or deduction. The inference is that almost any active surgical interference in the region of the head will cure 90 per cent. of migraines, or of so-called migraines. I am forced to the conclusion that the diagnosis in many of these cases was incorrectly made, and that in others the patients were not followed up for a very long time. We know that migrainous patients will sometimes go for months without any attack of pain.

According to Dr. C. C. Benson ("Medical World"), but

on what authority I do not know, "when pain is located below the superciliary ridges, including upper eyelids, to the external angular processes on either side, the nasal passages and buccal cavity will be the seats of disturbance."

Irritations from the stomach cause reflexly a large variety of pains. It is not possible to decide always whether these pains are reflex or are due to vaso-motor disturbances, or the circulation of morbid products in the blood, as in cases of fermentative dyspepsia and of constipation associated with dyspepsia.

We all know that the simple ingestion of a glass of ice-water will cause a sharp frontal or temporal pain. Lauder Brunton finds that constipation and presumable intestinal irritation cause a diffuse frontal headache over the whole brow. When there is no constipation and the condition is one of gastric irritation, the pain is either just above the eyes, or more rarely in the occiput (when it will be relieved by acids), or just at the roots of the hair (when it will be relieved by alkalis). (*Loc. cit.*)

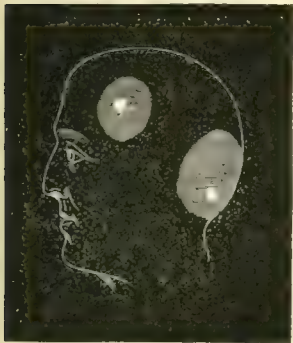
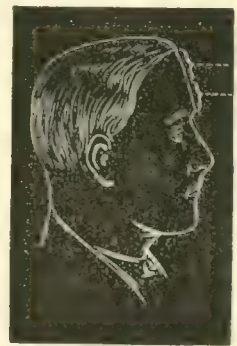


Diagram showing the seat of pain in migraine or occipital headache depending on decayed teeth or defects of the eyes. The shaded area shows the seat of the pain; the spot in each area indicates the seat of tenderness on pressure.—Brunton.



Showing the position of the frontal headache which in cases of constipation is relieved by salines.—Brunton.



Showing the position of the frontal headaches relieved by acids and alkalis in the absence of constipation. The lower is relieved by acids, the upper by alkalis before meals. The lower one also indicates the occasional position of headache caused by straining the eyes. Brunton.

Gastric irritation, according to Lange, more often causes thoracic pains and pains in the arms, but especially pains in the epigastrium and hypochondrium. Left-sided pains, resembling intercostal neuralgia, have been thought to be due sometimes to stomach disorder. Leoni, from his studies of cases, maintained that dyspepsia was sometimes a cause of intercostal neuralgia. (Axenfeld and Huchard, "Traité des névroses.") Revillout ("Gaz. des hôp.," 1873) makes the same statement. Desnos reports a case of intercostal neuralgia (Desnos, "Dict. de méd. et chirurg. prat.") caused by ulcer of the stomach. Besides this, both functional and organic diseases of the stomach produce transferred pains referred to the cardiac plexus, producing symptoms resembling angina pectoris.

I have met with a number of cases of neurotic, anæmic young women who complained of attacks of heart-pain and respiratory oppression resembling angina; and the clinical picture is so distinct that I think we may speak of a "pseudo-angina pectoris of gastric origin." Dr. Long Fox ("Dis-

eases of the Sympathetic") reports the case of the distinguished surgeon, Mr. Hilton, who was attacked three years before his death with severe angina pectoris. After suffering intensely from this for several months, the pain gradually wore away, and the symptoms of cancer of the stomach developed. Dr. Moxon (*loc. cit.*) speaks of a heartache of gastric origin, and its occurrence is no doubt familiar to all.

The scapular or shoulder pains in dyspepsia, and the pains felt between the scapulæ, due to the involvement of the posterior branches of the second to the sixth intercostal nerves, are common phenomena familiar to all.

Gastric irritations must have a certain severity to be felt as pain in the stomach or epigastrium, and in these cases there is doubtless, as a rule, some muscular spasm of the stomach-walls.

The milder irritations produced by gas, undigested food, excess of acid, etc., seem to be reflected most often upon the upper intercostal nerves or the cardiac nerves, vagal or sympathetic. The headaches in gastric irritation so often involve some toxic element that we can not speak of their origin with much positiveness.

The stomach and intestines are probably the most frequent cause of transferred pains; after this I would place the uterus and its appendages, and next the eye or heart. Lange considers that the heart ranks second.

In kidney disease neuralgic pains may be felt in the lumbar region, radiating forward to the lower abdomen and genitals—in other words, a lumbo-abdominal neuralgia is produced. In a case of renal colic I have observed the pain to be repeatedly centered about the anterior superior crest of the ilium.

Pains started up by the gall-bladder are felt in the right side of the thorax and right arm, while it is one of the aphorisms of medicine that disorders of the liver may cause pain in the right shoulder. Bilious headaches cured by a dose of calomel I have observed to be located sometimes in the vertex and occiput.

In abscess of the spleen there is a pain felt in the left shoulder (Grononelli, Wardell).

I am unable to make any very definite statements as to what are the most frequent and characteristic neuralgias produced by pelvic disorders. In answer to letters of inquiry on the subject, my friends, Dr. A. J. C. Skene and Dr. H. T. Hanks, write that they are unable to formulate any rule. Vertical headaches, infra-mammary pains, and lumbo-abdominal pains, are all very frequent. Valleix thought that headaches were most frequently caused by uterine trouble. The vertex pain so often spoken and written of as a pelvic reflex is often, in my experience, an indication simply of anæmia. In this view I find I am corroborated by Dr. Lauder Brunton, in the work cited.

Lange says (*loc. cit.*) that in uterine troubles the reflex pains occur oftenest in the form of arthralgias. I have had a patient suffering with painful spasms of the bladder who had intense pain in the palms of the hands every time she had a bladder spasm ("Med. Record," July 25, 1885); another patient, while pregnant, suffered from digital neuralgia, and in a third case reported by myself, a patient of Dr. Nilsen's, suffering from ovarian prolapse, had

severe and continuous neuralgic pains in the wrist. Studies of the cause of reflex pains in the feet show that they may be referred in almost all cases to irritation of the genito-urinary tract, and occur more often in the male ("Med. Record," July 25, 1885). The pains of uterine disorder, when reflected down, appear rarely to go below the knee; in other words, they affect the lower branches of the lumbar plexus, and not the sacral nerves.

It has been stated that pain in the heels may be caused by ovarian abscess. In my experience, such pains are due to lithæmic and neurasthenic conditions, and will be relieved by remedies addressed to such states. It may be said in general, then, that pelvic irritations are felt most frequently in the upper and short branches of the lumbar plexus, next perhaps in the intercostal nerves and upper cervical nerves, then in the trigeminus, and last in the hands and feet.

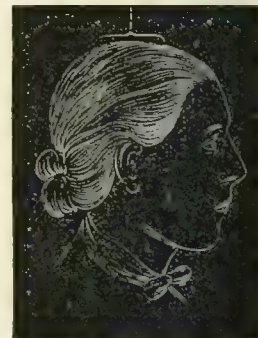
Lesions in the lung itself cause reflex pains in the form of intercostal neuralgia. Slight pulmonary congestions, such as occur at the very onset of phthisis, may cause intercostal neuralgia, and Anstie speaks of the value of these pains as warnings of the approach of phthisical disease. Apart from these neuralgias, the lung is very rarely an excitant of reflex pains, perhaps because its nerve-supply is small, aside from the sensory fibers of the vagus. Further study, however, may show that lung irritation may cause some of the painful affections of the larynx, tongue, or throat.

The question now arises whether, with these various facts before us, any general statements can be made with regard to the production of transferred pains. If we study them in connection with the anatomical arrangements of the cerebro-spinal and so-called sympathetic system, it is possible that the diffusion and transference of pain, though in a "mighty maze," will not appear entirely without a plan.

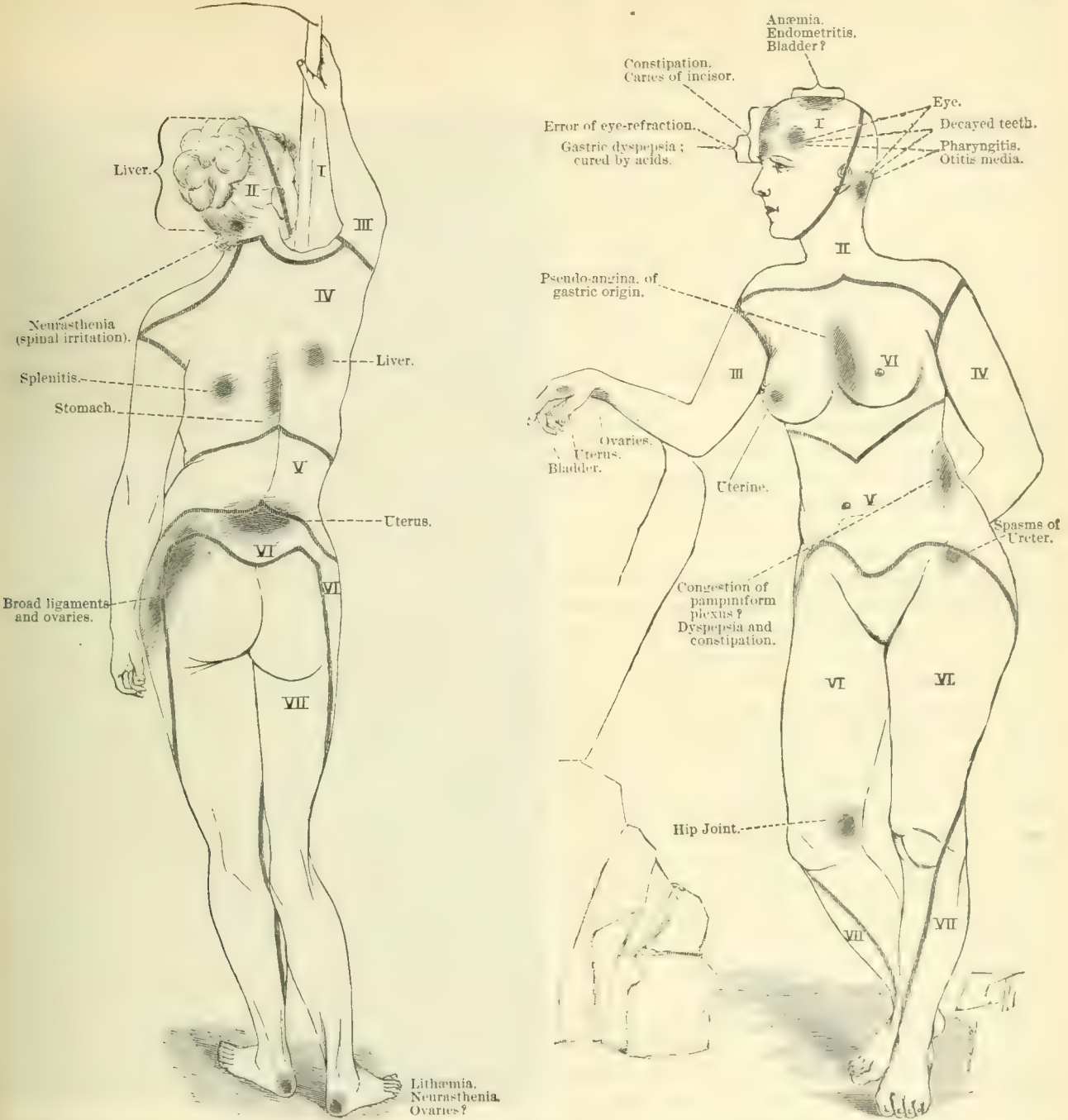
The cerebro-spinal nerves are sent out from their centers in divisions or companies of seven, and each company acts together and serves a common definite physiological purpose. These divisions are:

1. The ocular motor nerves, the trifacial, and the seventh—which supply motion and feeling to the face and anterior scalp. The remaining cranial nerves supply internal parts.
2. The four upper cervical nerves forming the cervical plexus. This leash of nerves supplies motion and sensation to the neck and occiput, and controls the movements of the cephalic extremity. It is in close connection with the trifacial, both at its origin and periphery, both directly and *via* the sympathetic. It is subjected to much the same disturbances, and may be looked upon as physiologically almost a part of the first set—*i. e.*, of the common sensorimotor cranial nerves.

3. The third leash of nerves is composed of the last four cervical and first dorsal. They form the brachial



Anæmic headache.—Brunton.



Strands of cerebro-spinal nerves.		Distribution.	Associated ganglia of sympathet.	Max. distribution.
Area I.....	Trigeminus, facial, etc.	Face and its orifices, anterior scalp.	4 cerebral.	Head.
Area II.....	Upper 4 cervical.	Occipital region, neck.	1-4 cervical.	Head slightly to heart.
Area III.....	Lower 4 cervical and 1st dorsal.	Upper extremities.	2d and 3d cervical, 1st dorsal.	Heart.
Area IV.....	Upper 6 dorsal.	Thoracic wall.	1st to 6th dorsal.	Lungs.
Area V.....	Lower 6 dorsal except last.	Abdominal wall, upper lumbar, upper lateral thigh surface.	5th to 12th dorsal.	Abdominal viscera, testes, ovary, fundus uteri via renal plexus.
Area VI.....	12th dorsal, 1 lumbar.	Lumbar region, upper gluteal, anterior and inner thigh and knee.	1st to 4th lumbar.	Pelvic organs.
Area VII.....	5th lumbar and 5 sacral.	Lower gluteal, posterior thigh, leg	1st to 5th sacral.	To pelvic organs, the sympathetic supply being small.

Diagram showing the distribution of the seven cerebro-spinal strands of nerves, and the location of transferred pains and neuralgia.

plexus, and furnish motion and sensation to the upper extremities.

4. The fourth set includes the dorsal nerves from the second to the sixth. This supplies the chest-wall, including the pleura, and with the sympathetic the lungs beneath.

5. The fifth set consists of the lower seventh to eleventh intercostals, which supply motion and sensation to the abdominal walls, to the lower dorsal muscles, and the skin over them.

6. The sixth set consists of the first four lumbar nerves

with part of the twelfth dorsal, which is really a lumbar nerve. This supplies motion and sensation to, in general words, the hip-girdle—*i. e.*, the muscles (erector spinæ, etc.) of the loins, those of the anterior, inner, and outer portion of the thigh, and the skin over these regions, extending down to the upper half of the buttock and to the groin, scrotum, and labia. It is the lumbar plexus which furnishes most of this supply.

7. The seventh and last set consists of the sacral nerves, whose anterior branches (those of the first four, with the lumbo-sacral cord) form the sacral plexus. This supplies the external genitals of the male, the clitoris and part of the vagina, the perinæum and external sphincter and the lower buttocks, and the posterior part of the thigh and leg, except its inner side. In a general way we may state that the lower portion gives motion and sensation to the legs and posterior thigh (the sciatic); the upper portion to the genitals and the gluteal, perineal, and anal region (sup. gluteal, small sciatic, pudic).*

Now each of these seven sets of nerves is in intimate connection by two branches with the sympathetic ganglia, and through these with the viscera of the different cavities.† The accompanying diagram shows better than any description what this relation is.

I. The first two leashes of nerves are connected most intimately with the four cerebral sympathetic ganglia (ophthalmic, otic, submaxillary, sphenopalatine) and with the upper cervical ganglion.

We can understand how irritations in the cranial cavity may be reflected almost indifferently upon the trigeminal or upper cervical nerves.

II. The third leash of nerves to the upper extremity is connected with the three cervical and first intercostal ganglia, all of which go to make up the cardiac nerves.

Hence irritations of the heart are reflected so often in the shoulder and down the arm.

III. The first six nerves of the thoracic wall are connected with the corresponding sympathetic ganglia which supply the lung tissue, and this anatomical fact may explain why in slight pulmonary congestions pain may be referred to the intercostal nerves.

IV. The fifth leash of nerves, fifth to the eleventh intercostal, is connected with the sympathetic ganglia,

which supply nerves to the abdominal viscera *via* the splanchnic nerves. The great splanchnic supplies all the abdominal viscera, including the visceral serous membranes, except the

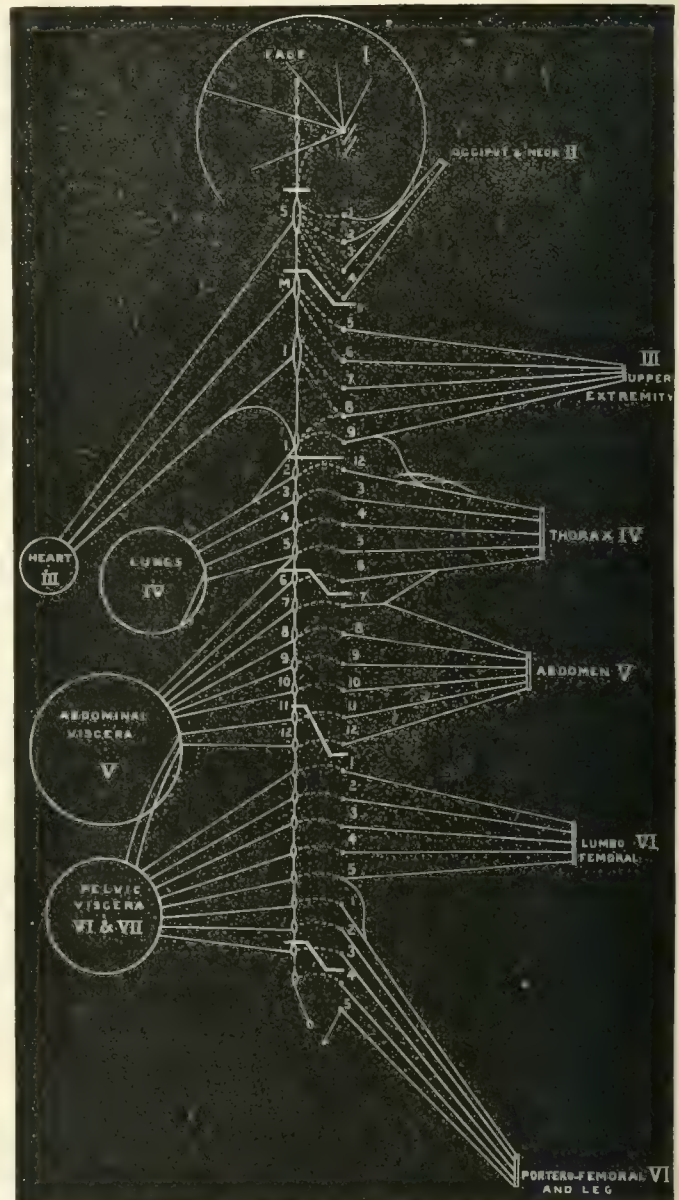


Chart showing the different levels of the cerebro-spinal and sympathetic nerve-supply. Cerebro-spinal nerves represented on the right side; sympathetic nerves on the left side.

* The sides of the body and both upper and lower extremities, except a portion of the legs, are supplied by lateral branches of the spinal nerves; the back, from occiput to iliac crest, by dorsal branches.

† Gaskill's recent studies of the visceral nerves show what I have taught for several years to my classes—*viz.*, that the sympathetic nervous system is in reality only an outflow from the cerebro-spinal. He also maintains that it is made up of fibers of a peculiarly small size which pass out through the roots to the viscera. The outflow of these visceral or sympathetic nerves takes place in the upper cervical region, *via* the glosso-pharyngeal and vagus; in the dorsal region, from the second dorsal to the second lumbar in the dog; in the sacral region, *via* the second and third sacral nerves. Gaskill's investigations so far cover only the subject of efferent nerves (probably vaso-motor) in dogs, and can not be yet applied to our present subject.

kidneys. These are more largely supplied by the small splanchnic which arises from the eleventh and twelfth thoracic ganglia. The renal plexus in turn sends branches to the spermatic cord, testes, ovary, and fundus uteri, so that those parts of the pelvic organs are especially connected with the lower dorsal nerves; hence irritations of ovary, testes, cord, part of the uterus and kidneys, are often reflected as pains in the region of the kidneys and in the groins. It is, perhaps, over this arc that the low-down one-sided pains so often felt over the ninth to twelfth ribs originate.

V. The lumbar strand of nerves is connected with the lumbar ganglia and *via* the aortic plexus with the descend-

ing colon, sigmoid flexure, and upper part of the rectum; through the hypogastric plexus with the pelvic organs, which it joins the sacral nerves and ganglia in supplying.

VI. The genital organs (vagina, cervix uteri, penis, prostate), except the testes and ovaries, are in close connection with the sacral strand of nerves (the seventh); the other pelvic viscera are more abundantly supplied by the lumbar and lower dorsal strands. Hence we find sciaticas and podalgia, and reflex pains throughout the lower extremity in urethral irritations, rarely in irritations of the testes, ovary, or higher parts of the pelvis. These latter cause more often lumbo-abdominal neuralgias.

In attempting to explain the reflex pains from the viscera, I am led to the belief that the pneumogastric nerve must be left out of account as a direct factor. The mass of the sympathetic nerves to the sensitive thoracic, abdominal, and pelvic viscera, are made up of white, medullated nerves that come directly from the cord. These nerves carry sensory fibers, and their excitation is painful (Ludwig, O. Nasse).

Whether it be the heart, stomach, or uterus, therefore, irritations that excite pain more probably pass up to the brain *via* the spinal nerves, their posterior roots, and the spinal cord. Having, however, to travel through two or three sets of ganglia, it is easy to understand how they may become diffused, and travel up paths belonging to another strand of nerves, and so be referred by the mind to a place remote from their origin.

THE STUDY OF CONSUMPTION AMONG THE INDIANS.

A REPLY TO DR. THOMAS J. MAYS, OF PHILADELPHIA.

By WASHINGTON MATTHEWS, M. D.,

U. S. ARMY.

In the "New York Medical Journal" for May 7, 1887, appears an article entitled "Does Pulmonary Consumption tend to exterminate the American Indian?" by Thomas J. Mays, M. D., of Philadelphia, which purports to be a refutation of a paper of mine entitled "Consumption among the Indians," published in this journal in the issue of January 1, 1887.

It would occupy too much valuable space to review all the items in Dr. Mays's paper which invite criticism. It will only be necessary to examine a few of the more important in order to show the nature of the work and allow the reader to estimate its value.

Dr. Mays objects to the system I pursue in endeavoring to estimate the prevalence of consumption among the Indians, and announces as a substitute for it a method of his own in the following words: "Hence more reliable results can be obtained when the number of deaths from any given disease is compared with the whole population or class among which it prevails; this latter method is the one adopted here." This method would undoubtedly be the best if it were possible to obtain data to sustain it. It is a method which in the beginning of the investigation occurred to the present writer, but which he soon felt constrained to abandon for want of material to work with. In

order to utilize this method it is necessary that all deaths occurring on a reservation during a year or some other specified time, with their causes, should be correctly reported; otherwise the ratio between deaths and population can not be computed. In the majority of Indian reservations, however, this is practically impossible. In some of the largest reservations, where the Indians are scattered over wild tracts larger than many of our States, it is impossible that the agent or physician, no matter how zealous or active he may be, can become cognizant of one death in ten that occurs; and the census-takers during the census year were not able to do much better. The agency physicians are supposed to report only cases that come under their observation or treatment, and it is from their reports that the statistics which Dr. Mays has consulted are prepared in the office of the Commissioner of Indian Affairs. If, in some of the smaller reservations, the physicians can approximate more closely to the actual number of deaths in making their reports, it only renders comparison more uncertain.

But I must do Dr. Mays the justice to say that he seems to be well aware of the practical worthlessness of his "method," for he tells us of the only documents he professes to have consulted—"The Reports of the Indian Commissioners"—that "at no time do these reports furnish the number of deaths from consumption"; nowhere else in his paper does he make any allusion to his "adopted" method, nowhere does he base any argument on it, and nowhere does he advance data to sustain it. A "table" which he gives might seem at a first glance to be the desired data, but a little examination shows that it is not. The only column headings in this table are the following: "Names of Agencies," "Population," "Proportionate Number of *Cases* of Consumption to Population from 1882 to 1886," "Proportionate Number of *Deaths* from *all Causes* to Population in 1886," and "How and When they were brought under the Influences of Civilization" (*Italics mine*). A column of "deaths from consumption," which would be an essential element in the table to render the method of Dr. Mays valid, is not to be found.

There is no part of the paper under consideration on which more labor seems to have been expended than on this "table," yet there is no part on which labor has been expended more vainly. Its value should depend chiefly on the chronological order of the column headed "How and When they were brought under the Influences of Civilization," for upon this order are based three "groups" from the disease- and death-rates of which we are asked to draw important inferences. Let us take for consideration the first item on the list—the Mission Indians of California ("Mission, Cal."). These, we are told, "were brought under the influences of civilization" "by treaty with Hidalgo." Although this statement is worded so as to make it appear that the treaty was with some individual of the name of Hidalgo, and although no date is given, it may be presumed that reference is made to the treaty between the United States and Mexico, which was concluded at the town of Guadalupe de Hidalgo, Republic of Mexico, in 1848, and which is often called by American historians the treaty of Guadalupe-Hidalgo. By this treaty the present State of

California (with its Mission Indians) was formally ceded to our republic. But why has Dr. Mays seized upon this episode in history as showing when these Indians were brought under the influences of civilization? The Round Valley Indians of California, the Colorado River Indians of Arizona, the Nevada Indians of Nevada, and the Navajo Indians of New Mexico, all passed into our jurisdiction under this same treaty, yet Dr. Mays assigns to the four peoples just mentioned dates for their dawn of civilization quite different—so different in two cases as to throw the individuals concerned into his second group, while the Mission Indians come in the first group. The Pueblo Indians of New Mexico, too, fell to our lot by the same treaty, and, while the date in their case is given correctly (1848), the irrelevant and misleading remark, "Received under old Spanish grant," is added.

But this is not all that our author has to say about the Mission Indians. He further informs us concerning them: "As a rule, they live now as they have lived during the last three centuries." The facts in the case are that few unpatriated peoples on the face of the earth have, within the last three centuries, suffered greater vicissitudes or experienced greater changes in their mode of living than these Mission Indians. They are the people in whose cause Mrs. Jackson wrote her immortal work of "Ramona," and in which she has attempted to portray but a few of their more recent calamities. When, in 1769, the Franciscans began to establish missions in Alta California, the natives were in a low state of savagery, having no knowledge of agriculture, living on the spontaneous productions of the land and water, going naked, or dressed only in skins and rushes (*tule*). At the close of the eighteenth century the converted Indians of the country numbered thirteen thousand well-fed and industrious people, with habits of life totally changed, tending vast herds of cattle, practicing weaving, agriculture, and other civilized arts, and conforming to the rites of the Catholic Church. They continued to increase rapidly in numbers until the fall of the Spanish power in 1822, since which time, and particularly since they have come under our jurisdiction, they have been robbed of their lands, reduced to poverty, and vastly diminished in numbers.

We might very properly assign as an initial date to the civilization of the Mission Indians that of the first permanent establishment of these missions among them, for the missions wrought marked and rapid changes. But, if we do so with the Californians, we must do the same in the case of the Papago Indians of Arizona. Among this tribe similar missions were established long before the Californian missions came into existence—as early, undoubtedly, as 1720, and perhaps as early as 1694. Their fine old church of San Xavier del Bac, which took fourteen years to build, was finished in 1797. Dr. Mays properly describes them as "industrious and friendly," and as having a form of government "much like that of the Mexicans and Pueblos"; but such as they are now they have been for over a century and a half. Nevertheless, this long-civilized tribe comes next to the last in Dr. Mays's third group (as civilized since 1880), while the Mission Indians head his first group.

But time fails for the further pursuit of this criticism. The samples given fairly represent the character of the whole compilation, which the author assures us he has added "for the sake of clearness and comparison." How it can serve either purpose it is left to the reader to imagine, and also to determine for himself what value the deductions can have which are based on such material.

TREATMENT OF ANAL FISSURE AND HÆMORRHOIDS BY GRADUAL DILATATION.*

WITH A REPORT OF CASES.

By H. O. WALKER, M. D.,

PROFESSOR OF ORTHOPEDIC SURGERY, GENITO-URINARY DISEASES, AND
CLINICAL SURGERY, DETROIT, MICH.

ANAL fissure, or irritable ulcer, according to statistics, ranks third in frequency among the diseases of the rectum, is found in the infant as well as in the octogenarian, and is due principally to the passage of hardened feces through the sphincters. Although insignificant in character, it causes fully as much exquisite agony as any ill that human flesh is heir to. Very many simple fissures get well promptly, but where, by frequent mechanical irritation, they come to stay, it is then that beneficial treatment is desirable, and it is for this reason that I offer a report of a few cases treated by a method which is both simple and efficacious.

CASE I.—L. M., aged forty-one years, book-keeper by occupation, consulted me in January, 1874, for a rectal trouble which he called "piles," that had troubled him more or less for several years, and for several months had been very annoying. Lately he stated defecation was followed for several hours with excruciating pain, and at times there was considerable loss of blood while at stool. On examination, I found a marked protrusion of hæmorrhoids, and, by separating the parts exposed to view posteriorly, a fissure of the anus extending well up.

The nature of the trouble was explained to him, and the necessity of an operation for its cure. The operation proposed was forcible dilatation of the external sphincter, and ligation of the hæmorrhoids.

This he emphatically refused to have done, and asked if I could not do something in a palliative way. I accordingly directed the use of ext. belladonnæ, gr. $\frac{1}{4}$, ext. stramonii, gr. $\frac{1}{2}$, in the form of a suppository at bed-time, together with the following application to the parts: Glycerin, 3 vij, and tannic acid, 3 j. After following this treatment for some time with little or no benefit, he consented to allow me to introduce my index-finger into the rectum, which I did. Next day he returned, stating that he felt better. I then, after considerable solicitation, introduced a bivalve rectal speculum, slightly separating the blades, and allowing it to remain *in situ* for about two minutes. This procedure I continued daily, gradually increasing the dilatation at each sitting until the blades were separated to their fullest extent, about two inches in diameter. My patient continued to improve gradually until there was an entire subsidence of all previous symptoms, with a thorough healing of the fissure and an absorption of the hæmorrhoidal tumors. The constipation (which I forgot to mention) also disappeared. The entire treatment lasted about five weeks, not being em-

* Read before the Michigan State Medical Society, May 13, 1887.

played daily, after the first week, but at intervals of every two to four days. Since that time there has been no return of the trouble.

CASE II.—T. E., aged forty-five years, merchant by occupation, first consulted me in February of 1880 for the relief of a violent pain in the rectum following the act of defecation, which had been in progress for nearly a year, and had been gradually growing worse. Inspection revealed what I suspected—a fissure on the left anal margin, together with hæmorrhoids. This patient had been the victim of obstinate constipation for many years, had tried dieting, various laxatives and cathartics, and latterly used cold water enemas every morning, without which he failed to have a daily evacuation of the bowels.

I advised forcible dilatation, but, owing to the fact that it would necessitate his keeping quiet for several days, and not wishing to be away from business, he objected. I then commenced gradual dilatation of the external sphincter every third day, until the blades of the speculum were separated to their fullest extent. I directed him to use at bed-time a suppository of iodoform and balsam of Peru, five grains each. He continued to improve after the second dilatation, and made a perfect recovery in about six weeks. The constipation was also entirely relieved. I saw this patient a short time ago, and he stated that he had been absolutely free from constipation and any rectal irritation since his last visit.

CASE III.—J. B., aged forty years, manufacturer, came to me in September, 1883, having had rectal symptoms for over a year, and having suffered from constipation for a much longer period. I discovered on examination a fissure with several hæmorrhoidal tumors. As he was unwilling to submit to forcible dilatation, I resorted to gradual dilatation, as in the preceding cases, and after two months of rather irregular treatment he was pronounced cured. Since which time he has had no recurrence of the trouble.

CASE IV.—Mrs. K., aged thirty-five, a large, fleshy woman, consulted me July 7, 1884, for treatment of "piles," as she termed the difficulty. She informed me that ten years previous she had been operated upon for the removal of several hæmorrhoidal tumors by ligature. On examination, I found two or three small hæmorrhoids, and posteriorly a good-sized fissure. About a year previous to the time she sent for me she experienced some pain at stool, which gradually increased so that she was compelled to resort to morphine for relief. She had been treated by two or three physicians by the application of ointments and internal medication without benefit. My first treatment consisted of the introduction of a bivalve speculum and a slight separation of the blades, which I continued daily for about ten days, with marked improvement, each day increasing the distension. At the expiration of three weeks my patient was better of the fissure, there was an entire disappearance of the hæmorrhoids, and there has been no trouble since.

CASE V.—Major L., aged fifty, a banker, of Ontario, sent for me in October, 1885, to operate upon him for piles, from which he had been a sufferer for several years.

Examination revealed several hæmorrhoids, which he said bled freely at times; also an extensive fissure on the left side of the anus. In this case I dilated with the bivalve, and, as it was not possible for him to come to Detroit at once for continuance of treatment, I directed that until he could do that he first introduce one finger (anointed with tannin and glycerin), and then another, gradually distending the sphincter. About two weeks after, he wrote me that he considered himself nearly well. I examined him about a month after I first saw him, when I found the fissure healed, and a great diminution of size of the hæmorrhoids.

These reports are taken from a record of upward of fifty cases that I have treated by this method, and are fair representatives of the character and results of the whole. I am firmly of the opinion that this treatment is equally applicable in hæmorrhoids and constipation as in the treatment of fissure, as has been illustrated in these and other cases that have come under my observation.

Monod and Verneuil both speak of a "New Treatment of Strangulated Hæmorrhoids" by forcible dilatation, Verneuil recommending it for simple piles, while Monod goes still further by forcibly dilating the sphincters while the hæmorrhoids are in a state of painful strangulation, using his fingers instead of a speculum.

Kelsey, in his recent work on "Diseases of the Rectum and Anus," in speaking of the treatment of hæmorrhoids by ligature, says that "the sphincter should be carefully dilated first, and this is a step of great practical importance, as the securing of complete paralysis of the muscle will do more than anything else to prevent pain and spasm after the operation. Where this is omitted as unnecessary by the surgeon, I have observed a week of great suffering to the patient follow the omission." He, however, does not speak of this as a treatment for hæmorrhoids. Allingham mentions forcible dilatation as one of the measures for relief of hæmorrhoids, but does not regard it as available in all cases. Gradual dilatation is not spoken of, as far as I know, by any writer, as a means of cure in these cases.

Forcible dilatation is the accepted method for the relief of fissure in ano, and in most cases gives very speedy results.

In conclusion, the treatment of anal fissure and hæmorrhoids by gradual dilatation:

1st. Is almost painless, at least after the first two or three distensions.

2d. It does not tear the parts; nor does it produce paresis, as occasionally occurs after forcible dilatation.

3d. Neither does it leave cicatrices that are apt to produce stricture, as in the method of hypodermic injection or ligature of hæmorrhoids.

33 LAFAYETTE AVENUE.

Cholera and Milk.—The "British Medical Journal" says: An instructive example of the facility with which milk may become the medium for the propagation of a zymotic disease is afforded by a limited epidemic of cholera which occurred on board a sailing ship, the "Ardenclutha," lying in the port of Calcutta. Dr. W. J. Simpson, the health officer of Calcutta, investigated the outbreak with great care, and in a most admirable report, published in the "Indian Medical Gazette," offers strong evidence that the outbreak was not to be traced to any peculiar climatic condition, to the state of the ship, to the water, or to any circumstances connected with the visits of the men on shore. Pursuing the inquiry, it was ascertained that ten of the men had used milk supplied by a native who visited the ship daily; of these ten men nine were affected; four died of cholera, and five had severe diarrhoea. . . . The native who supplied the milk kept one cow, which was in good health, but he frankly admitted that the milk he supplied to the sailors contained about 25 per cent. of added water; and it also came out that several of his neighbors had suffered from cholera. A case had been imported on March 24; the dejecta from this patient drained into the tank on which the milkman's house stood. . . . The milk was clearly the connecting link between the epidemic in the hamlet and on board the ship, and it was without much doubt rendered infective by the addition of the tank water fouled by the dejecta of the imported case. . . ."

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NEW YORK, SATURDAY, JULY 30, 1887.

THE QUESTION OF THE DISINFECTION OF IMPORTED RAGS.

THE admitted agency of rags in conveying disease was lately mentioned by one of our contemporaries, and the remark was coupled with the statement that the reported reappearance of cholera in France brought the matter again into prominence. From this context a reader might have inferred that our contemporary meant to imply that the conveyance of cholera by rags was not very infrequent, but that can not have been its intention, for there is abundant reason to believe that quite the contrary is the case. In an admirable essay by Dr. Charles F. Withington, entitled "An Inquiry into the Transmission of Infectious Diseases through the Medium of Rags," published in the last "Annual Report of the State Board of Health of Massachusetts," the author says that textile fabrics infected with choleraic discharges are among the rarer agencies by which cholera is transmitted. There is evidence, he adds, that clothing from cholera patients, and possibly clothing merely packed in an infected locality, has, when transported to a distance and there unpacked, caused the disease in those who have handled it, thus starting a fresh cholera focus. But Dr. Withington goes on to say that it is proper to distinguish between clothing recently removed from the body and soon to be worn again, and rags which, if transported to this country, are certain to have undergone a carefully discriminative sorting and drying, and to have been kept for a considerable time in warehouse and on shipboard. He further remarks that the statement that cholera has been transmitted by paper-rags rests upon a solitary case, the details of which are not complete, and on the reliability of which some of the highest authorities on cholera have cast doubt; but, he says, admitting the genuineness of the case, it was one of infection by domestic rags carried only fifty miles from the place where they were collected. This accords with what we long ago expressed as an inference from Koch's researches into the life history of the comma bacillus—that, in the absence of moisture and a suitable soil on which to continue its existence, the cholera contagium was very short lived. If that inference was correct—and, thus far, there are no facts made public to invalidate it—it seems to us chimerical to fear the importation of cholera into the United States from Europe through the medium of paper-rags.

It is, of course, perfectly proper to insist upon the disinfection of imported rags under certain circumstances, but the hardship imposed upon the paper trade by insisting upon their inviolable disinfection, and that, too, by an expensive process monopolized by a particular company, we must regard as wholly uncalled for and unjust. There can be little doubt that every reasonable precaution of a sanitary nature would be sufficiently

carried out by limiting, as Dr. Withington suggests, the prohibition of the landing of rags without their disinfection to those gathered in localities where there is epidemic infection at the time. As to disinfection by the introduction of steam into the unopened bales, under pressure, it has not yet been demonstrated that the method, as at present carried out, accomplishes the purpose, but it is overwhelmingly evident that the process made compulsory at the port of New York is the source of much unnecessary embarrassment in the prosecution of one of the most important industries of the country. Confirmatory of this position is the recent decided modification that Dr. Sternberg, of the army, states has taken place in his views as to the matter of rags as vehicles of the cholera infection and the necessity of their disinfection by steam.

TABETIC ANGINA PECTORIS.

It is well known that, in the long and tedious course of the affection termed *tabes dorsalis*, the functions of various viscera may show certain derangements constituting the "visceral crises" of authors. These functional derangements have been somewhat fully treated of in recent medical writings, but those of the heart—the "cardiac crises"—have not engaged so much attention, and as yet the literature pertaining to them is meager and unsatisfactory. A report of four cases, by Leyden, in the "Centralblatt für klinische Medizin," may therefore be looked upon as a noteworthy contribution to the data at our disposal. In those cases the attacks bore a close resemblance to those of angina pectoris, and they were considered by the author as examples of neuralgia affecting the vagi nerves. Like the other sensory disturbances incident to *tabes*, they varied widely in intensity and duration, but some of them were severe enough to be alarming and to threaten life. That they were well-marked examples of angina pectoris is shown by the sense of oppression and severe pain in the precordial region, the pain radiating to the left shoulder and sometimes extending down the arm, the feeling of anxiety and sense of impending death, the difficulty of breathing, and the coldness and clamminess of the surface.

In these cases of Leyden's, the attacks made their appearance rather late in the course of the disease, but Vulpian has observed a case in which cardiac crises were among the early manifestations. Most of the attacks are associated with gastric crises, but in all of Leyden's patients they were free from any such association. In the few instances in which there has been a post-mortem examination, no changes in the heart have been detected; still, in the light of recent researches into the condition of the nerves in *tabes*, it seems not unreasonable to assume that the deranged function of the heart is due to a degenerative peripheral neuritis affecting the vagus. This view receives material support from a case of gastric crises described by Oppenheim, in which decided atrophy of the vagus was found, and in which, indeed, there had been attacks of angina pectoris. Regarding the treatment of tabetic angina pectoris, it is worthy of mention that in Vulpian's case the attacks rapidly disappeared under the use of nitrate of silver. Ley-

den seems to have contented himself with palliative treatment during the seizures, using measures that are commonly employed for paroxysms of angina pectoris due to other causes.

MINOR PARAGRAPHS.

THE POLLUTION OF DRINKING-WATER.

WITH the pointed example shown in Pennsylvania only two or three years ago of the devastation that can be accomplished by disease spread by polluted drinking-water, and the publicity that the case acquired, it is almost inconceivable that town authorities and keepers of country hotels and boarding-houses should go on ignoring the danger as they do. One might naturally suppose that, in the interest of their own ultimate prosperity, if for no more creditable reason, they would take the simple precautions that suffice to prevent the evil. But this, it seems, they are in many instances too incredulous or too shiftless to attend to, as appears to be shown by recent outbreaks of typhoid fever traceable to water-pollution in Narragansett and in Mount Holly, N. J.

THE WEST VIRGINIA STATE BOARD OF HEALTH.

It is much to be regretted that a serious impediment to the continued good work of the West Virginia board is met with in the hostility of the present Governor of the State. The Wheeling "Intelligencer" charges that official with having long delayed to appoint successors to six members of the board whose terms had expired—a duty that plainly devolved on him under the law—and with having at last appointed a man who is ineligible, besides laboring under the disadvantage of having incurred the opposition of nearly every physician in Wheeling, where he lives, to his taking a seat in the board. This opposition appears to have been backed up by the State Medical Association at its recent meeting. Even if not thoroughly well founded—and we know of nothing to show that it is not—this general disapproval by the medical profession would cripple the appointee's official usefulness, and, for that reason alone, a prudent Governor devoted to the public interests would reconsider his action in the matter.

THE RIGHT TO PRACTICE DENTISTRY IN NEW YORK.

A CASE having recently arisen in which a legally qualified practitioner of medicine was prosecuted by the New York State Dental Society for practicing dentistry illegally, Mr. Justice Gorman decided that the medical qualification carried with it the right to practice dentistry. It was urged in behalf of the prosecution that the defendant was a graduate of the Eclectic Medical College, and that he had been convicted of malpractice; but it was shown that, whatever the standing of the college might be, it was legally empowered to grant the medical degree, carrying with it the license to practice, and that, as regarded the conviction for malpractice, the defendant said that he had been pardoned by the Governor. The judge promised to dismiss the complaint if the defendant brought proof of his having been pardoned.

MORE NEWSPAPER MEDICINE.

THERE seems to be no limit to the wonders in medicine and surgery that the newspapers have in store for us. One of the city papers publishes a circumstantial account of a case of tracheotomy with inflation that lately occurred in Buffalo, and intimates that the procedure never presented itself to the mind of man before; and a London paper, descanting on the treat-

ment of baldness, says: "Of course, when the hair follicles have dropped off nothing can be of any avail."

AN AMPUTATION BY A SQUIRREL.

THE "San Francisco Examiner" tells a curious story of a pet squirrel that had one of its feet so strangulated, in consequence of its becoming entangled in a strand of thread, that sloughing took place, whereupon the animal gnawed the bones apart at a joint, thus completing the amputation. But in the course of a few days it became evident that there was not enough flap to cover the bone, and then the squirrel pushed aside the soft parts with its nose, and gnawed off the bone at a higher point. The result of this was, that in a fortnight the stump had healed and looked "as perfect as if a surgeon had done the work."

THE MEDICAL LITERATURE OF BUENOS AYRES.

THE "Revista Argentina de Ciencias Médicas," edited by Dr. Don Pedro Lagleyze, assisted by a corps of collaborators representing the *Círculo Médico Argentino*, is a monthly publication now in its fourth year. It is a most creditable work, and one that must be of exceeding value to the profession in the Argentine Republic, one of the most prosperous and progressive of South American countries. More noticeable still is another publication, also edited by Dr. Lagleyze, the "Revista Argentina de Oftalmología Práctica," a beautifully printed and superbly illustrated quarto. The twelve numbers of the first year contain ninety-six pages of text, together with eleven fine lithographic plates, mostly in colors, and showing various pathological states of the fundus oculi. We congratulate Dr. Lagleyze and his associates on the great value of their publications.

THE GREENLAND FISHERMEN'S VERTIGO.

THIS curious affection, the *Svimmelhed i Kajak* of the Danes, has lately been made the subject of study by Hastrup, and the "Revista Argentina de Ciencias Médicas" quotes an account of it from the "Revue internationale des sciences médicales." The first attack occurs to an Esquimaux fisherman when he finds himself alone in his boat with no land or any other boat in view, and is characterized by the hallucination that his boat has lost its balance, so that he rushes from one end of it to the other, in order to restore its equilibrium. The illusion ceases when land or another boat comes into view. Hastrup considers it a pure hallucination, and finds no evidence that it is caused by the abuse of coffee, tobacco, etc., as has been supposed. A mysterious feature of the affection is, that a person who has had one attack remains subject to others under like circumstances, and is in great measure unfitted to pursue the life of a fisherman.

KOLISCHER'S TREATMENT OF WHITE SWELLING.

THE method of treating localized tuberculosis lately presented before a Vienna medical society by Dr. Kolischer is beginning to attract considerable attention. Assuming calcification to be the natural process of cure, Kolischer conceived the idea of initiating or hastening that metamorphosis by injecting calcareous salts into the tubercular deposits, and used phosphate of calcium held in solution by means of an excess of phosphoric acid. According to an article in the "Bulletin médical," summarized in "Lyon médical," after an injection into the fungosities of a diseased joint, an inflammation develops, accompanied by fever of three or four days' duration, and then the process of calcification begins, occupying on an average

from twenty to twenty-five days, during which time the fungosities become indurated. Finally, after a few weeks more, the calcified tissue undergoes absorption and a cure with considerable mobility of the joint in the result. Professor Albert is quoted as having expressed the opinion that the procedure constitutes a distinct advance in therapeutics, and it is suggested that it would produce equally good results in cases of scrofulous degeneration of lymphatic glands and other localized tuberculous processes.

THE QUESTION OF CONSCIOUSNESS AFTER DECAPITATION.

Nor long ago we referred to certain investigations of this question in France, in the case of the lower animals. In a recent issue of the "Progrès médical," M. Paul Regnard and M. Paul Loye give an account of their observations in the case of a criminal beheaded at Amiens. They concluded that there was no sign of conscious life at the end of two seconds, but, by irritating the cornea, they were able to evoke reflex movements up to the sixth second. The contractions of the cardiac ventricles continued for twenty-five minutes, and those of the auricles for an hour. The death was calm and without agony, contrary to what one of the authors has observed in the lower animals, and was due not to asphyxia, but to an inhibition analogous to that studied by Brown-Séquard in animals that died of the effects of certain irritations of the nervous system.

THE SUDDEN DISAPPEARANCE OF A HYDROCELE.

In a recent number of the "Gazette hebdomadaire des sciences médicales," M. Dumas, of Lédignan, gives a detailed account, largely in the patient's own words, of the sudden disappearance of a large hydrocele, apparently by the fluid making its way into the peritoneal cavity. The disappearance of the hydrocele was immediately followed by a greatly increased discharge of urine. M. Dumas states that this mode of termination must be exceedingly rare, although Vidal de Cassis seems to have been informed of a case, but regrets that more details concerning it had not been furnished.

ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Fourth Division of the Health Department for the following statement of cases and deaths reported during the two weeks ending July 26, 1887:

DISEASES.	Week ending July 19.		Week ending July 26.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever.....	11	7	14	5
Scarlet fever.....	43	9	42	6
Cerebro-spinal meningitis....	4	4	2	1
Measles.....	33	8	33	4
Diphtheria.....	106	45	88	27
Small-pox.....	9	1	2	2

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from July 17, 1887, to July 23, 1887:*

HEGER, A., Lieutenant-Colonel and Surgeon. Assigned to duty as member of Army Retiring Board convened at Governor's Island, New York Harbor, N. Y., vice Colonel CHARLES SUTHERLAND, Surgeon, hereby relieved. Par. 13, S. O. 167, A. G. O., July 21, 1887.

So much of Par. 1, S. O. 156, c. s., A. G. O., as directs JOHN DE B. W. GARDINER, Captain and Assistant Surgeon, to report

for duty at Fort Washakie, Wyoming Territory, is revoked by Par. 43, S. O. 162, A. G. O., July 15, 1887.

BARNETT, R., Captain and Assistant Surgeon. Sick leave still further extended six months on account of sickness. S. O. 162, A. G. O., July 15, 1887.

So much of Par. 1, S. O. 156, c. s., A. G. O., as relieves GEORGE H. TORNEY, Captain and Assistant Surgeon, from duty at Fort Monroe, Virginia, is revoked by Par. 42, S. O. 162, A. G. O., July 15, 1887.

TAYLOR, A. W., Captain and Assistant Surgeon, now at Fort Laramie, Wyoming, is ordered for temporary duty at Fort Robinson, Nebraska. S. O. 162, A. G. O., July 15, 1887.

Marine-Hospital Service.—*Official List of Changes of Stations and Duties of Medical Officers of the United States Marine-Hospital Service for the three weeks ending July 23, 1887:*

LONG, W. H., Surgeon. Granted leave of absence for thirty days on account of sickness. July 12, 1887.

AUSTIN, H. W., Surgeon. Granted leave of absence for thirty days. July 16, 1887.

WATKINS, R. B., Assistant Surgeon. Relieved from duty at Marine Hospital, Detroit, Mich.; ordered to assume charge of service at Evansville, Ind. July 9, 1887.

FESSENDEN, C. S. D., Surgeon. Granted leave of absence for thirty days on account of sickness. July 18, 1887.

MEAD, F. W., Passed Assistant Surgeon. Granted leave of absence for thirty days. July 19, 1887.

YEMANS, H. W., Passed Assistant Surgeon. Granted leave of absence for thirty days. July 23, 1887.

BROOKS, S. D., Passed Assistant Surgeon. Promoted and appointed passed assistant surgeon from July 1, 1887. July 21, 1887.

WHITE, J. H., Assistant Surgeon. To proceed to Washington, D. C., as escort to an insane seaman. July 18, 1887. Ordered to examination for promotion. July 23, 1887.

WATKINS, R. B., Assistant Surgeon. Leave extended fourteen days on account of sickness. July 20, 1887.

MAGRUDER, G. M., Assistant Surgeon. To proceed to Galveston, Texas, for temporary duty. July 21, 1887.

Society Meetings for the Coming Week:

MONDAY, August 1st: Morrisania, N. Y., Medical Society (private); Utica, N. Y., Medical Library Association; St. Albans, Vt., Medical Association; Providence, R. I., Medical Association; Hartford, Conn., City Medical Association.

TUESDAY, August 2d: Elmira, N. Y., Academy of Medicine; Buffalo, N. Y., Medical and Surgical Association; Ogdensburg, N. Y., Medical Association; Androscoggin, Me., Medical Association (Lewiston); Hampden, Mass., District Medical Society (Springfield).

WEDNESDAY, August 3d: Medical Society of the County of Richmond, N. Y. (Stapleton); Bridgeport, Conn., Medical Association.

THURSDAY, August 4th: Society of Physicians of the Village of Canandaigua, N. Y.

SATURDAY, August 6th: Clinical Society of the New York Post-graduate Medical School and Hospital; Miller's River, Mass., Medical Society.

OBITUARY NOTES.

Jeremiah P. Bliven, M. D., of Brooklyn, died on Tuesday, the 12th inst. The deceased was a native of Rhode Island and was graduated from the Medical Department of Yale College in 1834. He formerly practiced in New York, and for a number

of years he was a police surgeon. In 1872 he moved to Brooklyn. He was a member of the Medical Society of the County of New York, of the Academy of Medicine, and of the Physicians' Mutual Aid Association.

Ariel Ballou, M. D., of Woonsocket, R. I., a well-known and aged physician, died in Providence on the 15th inst., at the age of eighty-two. He was born in Cumberland, R. I., in 1805, and graduated at Bowdoin Medical College in 1830. For fifty years he practiced his profession in Woonsocket. Dr. Ballou filled, in his long and busy life, many responsible and honorable positions in the political and medical history of Rhode Island. He was beloved and respected by a large circle of friends.

Horace Chapin, M. D., of Lincoln, Neb., died on the 15th inst. in the sixty-fourth year of his age. The deceased was a native of Massachusetts, and was graduated from Harvard Medical School in 1859. After practicing for about twenty years in Somerville, Mass., he moved to Lincoln, where he has since resided. His death was due to rheumatism affecting the heart. Dr. Chapin was a man of superior mental attainments, decided in his opinions, a safe counselor, and a firm friend. He was a member of the Massachusetts Medical Society and of the Middlesex, Mass., South District Medical Society.

O. F. Fassett, M. D., of St. Albans, Vt., died recently at the age of sixty. The deceased was a native of Enosburg, Vt., and in 1851 was graduated from the Vermont Medical College, Woodstock, an institution that became extinct in 1856. He began practice at Berkshire, Vt., where he remained until 1865, when he moved to St. Albans. He was a member of the Vermont Medical Society, of which he was president in 1863, and of the Franklin, Vt., County Medical Association, of which he was president in 1875 and 1876.

Letters to the Editor.

VAGINAL HYSTERECTOMY.

20 WEST FORTY-FIFTH STREET, July 25, 1887.

To the Editor of the New York Medical Journal:

SIR: In an article on "Vaginal Hysterectomy," by Dr. A. P. Dudley, published in your Journal for July 9th and 16th, credit is given me for three operations of complete removal of the cancerous uterus *per vaginam*, with one recovery. I desire to add to this number two cases in which I operated on February 2 and 23, 1887, with recovery; also a third, in which I operated on the 19th inst., which has thus far progressed so favorably that I have no reason to doubt that the patient will recover. I am induced to ask you to publish this note partly because I wish to place my improved results on record (six cases with four recoveries), and partly because I feel compelled to differ with Dr. Dudley in his recommendation of the lateral posture with Sims's speculum as the best for the operation. My last three operations were performed with the patient in the dorsal posture, the uterus being removed *in situ*, according to the methods of Fritsch and Leopold, with modifications to suit the case, perineal and lateral retractors being used only at the beginning of the operation, and occasionally later on. The duration of the operations did not exceed an hour and a half, and the recoveries were uninterrupted. I am convinced that increased familiarity with the technical details of this operation will enable us to achieve as good results, so far as immediate recovery is concerned, as are reported by Fritsch (60 cases

with 7 deaths) and Leopold (48 cases with 3 deaths). Had I then been as familiar with the details of the operation as I am now, and had I performed it then in the dorsal posture, I am confident that I should not have lost my second and third patients, who died of shock from concealed hemorrhage, the Sims's speculum having hidden the bleeding points.

Yours truly,

PAUL F. MUNDÉ.

KEENE, N. H., July 25, 1887.

To the Editor of the New York Medical Journal:

SIR: In a paper read by Dr. A. Palmer Dudley at the third meeting of the Alumni Association of the Woman's Hospital, and published in your Journal for July 9th and 16th, entitled "Vaginal Hysterectomy in America," there is one statement that is misleading. In speaking of the extirpation of the uterus by abdominal section, Dr. Dudley says: "As early as July 25, 1853, Dr. Walter Burnham, of Lowell, Mass., operated by this method, and was followed in August of the same year by Dr. Gilman Kimball, of the same city." This naturally conveys the idea that Burnham was the first successful operator and entitled to the credit of the same. This is contrary to fact. To Dr. Gilman Kimball belongs, and has been given, the credit of having been the first to operate with success after a correct and clearly determined diagnosis had been made. The case occurred in Vernon, Conn., and the operation was performed on September 1, 1853, for the removal of a uterine fibroid. It was in every way a success, the patient being fully restored to health. A full history of the case was published in the "Boston Medical and Surgical Journal" in May, 1855. The case reported by Burnham and one reported by another operator in a neighboring city were cases of *mistaken* diagnosis. An operation was undertaken in each case for the removal of an ovarian tumor, but resulted in the removal of a uterine fibroid, and in one case the operator did not know he had removed a fibroid until he was told so by a pathologist to whom it had been sent for examination. The accounts of the cases were published and widely distributed, but for some mysterious reason the error in diagnosis was not mentioned.

I will mention a few of the leading men who give the full credit of the operation to him to whom it belongs. Kœberlé, of Strassburg, in a pamphlet on "Extirpation of the Uterus," describes the case of Dr. Kimball as the first successful one on record. Bantock, of London, in an exhaustive article in the "British Medical Journal," after reviewing the whole subject, unhesitatingly gives the credit of having been the first to operate successfully in this line of surgery to Dr. Gilman Kimball, of Lowell. Baron von Langenbeck, of Berlin, speaks of this case as having no precedent in surgical literature. Keith, of Edinburgh, also ascribes to him the full credit for priority in the operation. In a paper by Dr. T. G. Thomas, of New York, published in the "American Journal of the Medical Sciences," in 1876, reviewing the progress made in gynecology in this century in America, in speaking of the procedure, the author says: "In 1853 the first operation was performed in this country for this purpose by Kimball, of Lowell, the tumor weighing six pounds, and the patient recovering. . . . Kimball has, thus far, performed ten operations, with four recoveries and six deaths." It is thus seen that the most eminent authorities, both at home and abroad, place the credit where it rightfully belongs, and it does not seem as if any one who knows the true history of the operation will presume to question the correctness of what is now acknowledged by the highest authorities on the subject.

Yours respectfully,

IRA J. PROUTY.

Proceedings of Societies.

AMERICAN NEUROLOGICAL ASSOCIATION.

Thirteenth Annual Meeting, held at Long Branch, N. J., Wednesday, Thursday, and Friday, July 20, 21, and 22, 1887.

THE meeting was called to order at the West End Hotel, at 11 o'clock, by the retiring president, Dr. CHARLES K. MILLS, of Philadelphia. New members were elected as follows: Dr. Henry Hun, of Albany, Dr. Henry M. Lyman, of Chicago, Dr. Irvine C. Rosse, of Washington, Dr. Theodore H. Kellogg, of New York, Dr. Philip Coombs Knapp, of Boston, and Dr. Nathan E. Brill, of New York. The following-named gentlemen were made members by invitation: Dr. Samuel Ayers, of Pittsburgh, Pa., and Professor J. Jastrow, of Johns Hopkins University, Baltimore. Dr. William A. Hammond, of New York, was elected an honorary member.

The Address of the Retiring President favored the association's participation in the movement to form an American Congress of Physicians and Surgeons, and closed with a special reference to the address of last year and the reading of a letter received from Professor Benedikt, of Vienna, to whose work on the brains of criminals it had directed attention.

The Address of the President-elect, Dr. Landon Carter Gray, of Brooklyn, was a brief review of the history of neurology in this country and a comparison of its position with that occupied in Europe. It then made brief mention of the progress which had been made in this department of medicine during the last quarter of a century.

Some Points regarding Therapeutical and other Injuries of the Brain.—Dr. E. C. SPITZKA, of New York, read a paper with this title, in which he detailed observations made with hypodermic and other needles on the brains of dogs, and the introduction of foreign substances into the arachnoid cavity. While hypodermic needles could with impunity be introduced into the brain, he concluded that exploratory needles should never be introduced into the internal capsule, the contiguous ganglia, or the lateral ventricles merely for exploratory purposes unaided by positive clinical indications of the location of disease; that exposures of large surfaces of brain were not feasible in persons with feeble vascular walls, owing to the danger of intra-central hæmorrhage; and that buttons of bone, removed by the trephine, might in young persons become reunited with the cranium, even though perfect coaptation was not secured, and that, reinserted, under antiseptic precautions, they were entirely harmless, even in the event of non-union.

Dystrophy of the Face and Head.—Dr. J. J. PUTNAM, of Boston, read a paper with this title, and reported a case due to general hyperostosis of the cranium occurring in a woman, a native of Sweden, and twenty-nine years old. She was in good health up to nine years ago, the time of her confinement with her first child. Two years later she had a miscarriage, and the next year it was noticed that her face was broadening and that her eyes were prominent. There was headache. There was no evidence of syphilis or rachitis. The deformity steadily increased. Three years ago her teeth began to fall out, and all of them disappeared. A year later she began to have purulent discharge from both ears, hearing became impaired, and complete deafness ensued. Her intelligence remained good, although she suffered from some cerebral symptoms. The left crystalline lens became partly opaque, and the exophthalmia was most marked in that eye. The patient died in Sweden. The circumference of the head was 59 ctm., and its greatest width 16 ctm. when she was last seen by the author. In the museum of the

Harvard Medical School there was a skull which showed general thickening to the extent of an inch and a half, with narrowing of all its cavities, especially the orbital.

Intra-cranial Tumor.—Dr. PUTNAM also presented a specimen removed from the brain of a woman, thirty-eight years old, who suffered from periodical headaches, but in whom no unequivocal symptoms of brain tumor had been detected until four months and a half before her death. The entire course of the disease was twenty-one months. A terrific headache lasting two days ushered in an almost unbroken series of attacks, mainly frontal, which he regarded as the first positive symptom of tumor of the brain. Vision was slightly indistinct, and marked optic neuritis was present. There were no localizing symptoms of cerebral disease. For six weeks before death she was nearly unconscious, the power of speech became more and more limited, and she lay with her right hand constantly to her head. When conscious she complained of severe pain in the second and third fingers of the left hand, running upward to the elbow. The temperature remained normal. There was paresis of the right buccal muscles. The autopsy revealed a tumor, partly cystic, unattached to the brain except by vessels, in the caudal extremity of the second and third left frontal convolutions and beneath the frontal lobe, reaching toward the median line so far as to push the left olfactory nerve to one side.

Hereditary Tremor.—Dr. C. L. DANA, of New York, read a paper in which he described a new affection, of neuropathic origin, consisting of a fine tremor, like that of neurasthenia or that of ataxia, constantly present, except during sleep, and hereditary.

Pseudo-hypertrophic Paralysis.—Dr. GEORGE W. JACOBY, of New York, gave the results of microscopical studies in a case of this disease occurring in a boy fifteen years old. His conclusions were that, in his patient, the disease was essentially a chronic inflammation invading both the perimysium and the muscle tissue. The process consisted of a gradual reduction of the muscle fibers into medullary or inflammatory corpuscles, which in turn went to form partly fibrous, partly cartilaginous, and partly fat connective tissue. This extremely slow process gradually led to augmentation of myomatous or other varieties of connective tissue, at the expense of the muscle tissue. Either the disease in the tissue of the muscle was primary and that of the connective tissue secondary, or the process in both occurred simultaneously both in the muscle and in the perimysium. He regarded the entire process as one belonging to the same class as myositis ossificans progressiva.

Dr. DERCUM was in doubt as to which was primarily affected, the muscle tissue or the connective tissue; and Dr. PUTNAM thought that a mixture occurred.

Arrested Cerebral Development.—Dr. B. SACHS, of New York, read a paper on this subject, with special reference to its pathology, which, from the microscopical study of a case, he said consisted of changes affecting the pyramid cells of the cortex. The case occurred in a child two years old with absolute lack of mental development. There was a distinct history of traumatism, but no history of either syphilis or rachitis. The brain presented the characteristics of the low-type brain. The positive histological changes concerned the pyramid cells of the cortex, of which there was scarcely one that was normal. The glia, the neuroglia, the blood-vessels, and the white fibers were normal. There was no evidence of an inflammatory process, and for that reason the author thought that the changes proved that it was a case of inhibited development, pure and simple, without previous inflammation.

Sarcoma involving the Intra-pelvic Nerves.—Dr. PUTNAM reported the case and presented microscopic sections as a contribution to the study of "paraplegia dolorosa," due to the in-

vasion of the intra-abdominal nerves. The patient was a man, seventy-two years old, of excellent history and habits. About a year and a half before his death he complained first of pain in the middle toe of the left foot. This recurred frequently for some months, and was occasionally felt throughout the rest of his life. The left leg was involved about six months before the right, and in the mean time the pain in the left limb had greatly lessened. No glandular enlargements could be detected until about two months before death. The new growth toward the last invaded the skin of the buttocks and abdomen.

Insanity of Doubt.—Dr. JAMES HENDRIC LLOYD, of Philadelphia, read a paper on this subject, and reported one of a number of cases which he had had under observation belonging to this class. The delusions of doubt were changeable and negative, and somewhat allied to those of melancholia. It was a species of reasoning mania in which the subjects would reason concerning their condition, proposed treatment, etc., but in which, as soon as one doubt had been removed, many others came to take its place.

Dr. MILLS and the PRESIDENT entertained somewhat different opinions as to the proper course to pursue in the management of such cases.

Chorea.—The PRESIDENT then read a paper the central point of which was the idea that chorea was not the slight disease that many supposed it to be. The following classes of cases should be regarded with care: Those in which convulsive phenomena had appeared; those with spasmodic contraction of the muscles of respiration; those with marked hysterical symptoms; those with rapid pulse or dyspnoea without evident pulmonary or cardiac lesions; and those in which there were cardiac and pulmonary complications. In regard to treatment, he had no faith in the efficacy of arsenic, except for affording temporary relief, and then it should be given only in medium doses. He relied, for effecting a cure, upon absolute rest, which was a *sine qua non*; iron, the dialyzed preferably; galvanism in large doses to the spinal cord in chronic cases; the bromides; and sometimes hyoseyamine.

The discussion included the consideration of some of the complications of chorea, the use of other drugs than those mentioned, and the relation of different experiences concerning the beneficial effect produced by arsenic. It included remarks by Dr. M. A. STARR, Dr. G. W. JACOBY, and Dr. G. M. HAMMOND, of New York; Dr. WHARTON SINKLER, Dr. F. X. DERGUM, and Dr. J. H. LLOYD, of Philadelphia; Dr. F. T. MILES, of Baltimore; and Dr. R. T. EDES, of Washington.

Weigert's Staining.—Dr. M. ALLEN STAER, of New York, exhibited microscopic specimens which showed some of the extraordinary details that could be brought out by this method.

Hemichorea associated with Bright's Disease.—Dr. FRANCIS X. DERGUM, of Philadelphia, reported two cases, and in his remarks maintained that the weight of evidence sustained the theory that a causal relation existed between the two diseases. It might seem strange that, if chorea was really related to Bright's disease, it should be so limited. Disturbances of the nervous system, limited to one half of the body, however, did occur in Bright's disease, and the one-sided action of the nervous system in uræmia was by no means limited to old persons.

Dr. EDES and Dr. MILLS were inclined to the opinion that the association of the two diseases was accidental.

Acute, or Grave, Delirium.—Dr. SPITZKA described this affection, first recognized by Dr. Luther Bell, of Massachusetts, as a form of delirium the outbreak of which was preceded by insomnia, malaise, inability to think, a bursting sense of pressure in the head, increasing irritability, and the sense of impending misfortune. The outbreak was often so sudden as to suggest

the fulminating type of typhus or epidemic meningitis. The patient was bilious, and shouted and indulged in imagery, to pass into apathy, or become the subject of a wild aggressive delirium, or of a panphobic delirium. The changes in the brain varied from none to the most profound structural alterations, all being the collateral results of hyperæmia. In the absence of light on the pathological foundation of the disease, he asked that attention be directed to the very important question of the ability of predisposed and overburdened nervous centers to poison themselves. In the treatment of this form of delirium, "chemical restraint," used in a manner that would be justifiable, failed.

Gliomatous Hypertrophy of the Pons Varolii.—Dr. HENRY HUN, of Albany, read a paper with this title. The disease in a case that he reported occurred in a girl six years old, and gave rise to no symptoms of irritation, no convulsions, and but little headache. There was simply steadily increasing loss of function of those nervous elements which were subjected to the pressure of a growing tumor that occupied the pons, and increased its size to three or four times the normal. It was remarkable that, notwithstanding the great amount of œdema of the brain present in this case, and an internal hydrocephalus so extensive as to cause a perceptible enlargement of the head, consciousness—even intelligence—was preserved to the end of life. The growth was glio-sarcomatous.

Paramyoclonus Multiplex.—Dr. STARR read a paper on this affection, first described by Friedreich, and reported a case. The characteristics of the disease were as follows: It was a spasmodic affection of the muscular system, occurring bilaterally in symmetrically situated muscles attached at one or both ends to the trunk, and to muscles functionally associated with these, consisting of a series of violent clonic spasms of considerable rapidity and severity, occurring only at intervals, and associated with fascicular tremors of the affected muscles, persisting during the intervals between the spasms. It occurred after some mental or physical strain, and was not accompanied by any disturbance of sensory or motor functions, excepting by an increase of the superficial and deep reflexes. It could be excited by irritation of the skin or tendons. The prognosis was favorable, but relapses might occur. The treatment which had given the best results had been the use of the strong galvanic current to the spine and neck, and the application of the anode to sensitive areas if they were present.

The Thermogenetic Apparatus.—Dr. ISAAC OTT, of Easton, Pa., in a paper on this subject, said that the weight of evidence was in favor of the theory of spinal heat-centers. He had experimented on cats and rabbits with atropine, and the conclusion which he had reached was that this drug increased the temperature by stimulating the thermogenetic centers in the spinal cord.

Anencephalia.—Dr. DANA described a case in which there was complete absence of the corpora striata and both central hemispheres.

The Treatment of Neuralgia by means of Intense Cold.—Dr. JACOBY read a paper on this subject, in which he set forth the advantages attending the use of chloride of methyl and liquid carbonic acid. His general impression was that we had in chloride of methyl a reliable analgesic which did not affect the general condition of the patient, and that it was invaluable in the treatment of neuralgia for the immediate relief of severe pain. It was used in the form of spray under high pressure. The objections to be overcome were the expense of the apparatus and the difficulties of getting the drug. From his experience in the use of condensed carbonic acid, his conclusions were that, in the absence of chloride of methyl, it was able to take the place of that remedy in the treatment of sei-

atica; that the pain was relieved very promptly by it, but that its curative effect was not so great as that attributed to the chloride of methyl by other observers.

Dr. EDDES and Dr. DANA had used rhigolene with benefit in the treatment of neuralgia, and so had Dr. JACOBY, but he had found it objectionable because of the less intense degree of cold produced, and also because it could not be applied to a sufficiently large surface.

Poliomyelitis and Multiple Neuritis of Syphilitic Origin.

—Dr. MILLS read a paper in which he said that cases of multiple neuritis were met with in practice, also poliomyelitis, and also cases in which there was a concurrence of these inflammatory conditions. He regarded cases of pure and simple multiple neuritis as rare. He reported three cases which had a distinctly syphilitic history, and in one there was a history of traumatism. These cases corresponded very closely with Dr. Starr's description of multiple neuritis given in the Middleton Goldsmith Lectures, and yet Dr. Starr had practically excluded syphilis as a cause. The questions for discussion were, what symptoms were due to myelitis, what to multiple neuritis, and what to both, and he believed that there were no clear diagnostic points between these affections which would enable us to say positively that here was a case of multiple neuritis, there one of diffuse myelitis, and still further one of poliomyelitis anterior. The fact of recovery, the marked sensory symptoms, or the gradual onset, he regarded as unreliable for making a positive diagnosis. There were symptoms which rendered the diagnosis probable, but more than that in certain cases could not be said with safety.

Dr. MILES thought that he had seen a mixture of the two affections in several cases, and even then it was difficult to say which began first.

Dr. EDDES thought that Dr. Miles was correct in his opinion that the two diseases frequently co-existed.

Dr. PUTNAM had seen a case in which the symptoms were absolutely typical of multiple neuritis, and in which the cord was examined and found healthy, but the brain contained a number of spots of softening.

Bulbar Paralysis.—Dr. E. D. FISHER, of New York, reported a case with remarks. It was one which he had had an opportunity to observe throughout its course. Microscopical examination of the medulla revealed nearly complete absence of the hypoglossal cells and atrophy of the nerves themselves.

Dr. G. M. HAMMOND mentioned a case which began in 1881 and terminated in 1887.

Hydrotherapy in Mental Disease.—Dr. THEODORE H. KELLOGG, of New York, first gave an outline of the history of hydrotherapeutics among the ancient and more modern nations, then spoke of the principles which should guide one in its use, and closed with the indications for hydrotherapy in mental diseases, which were to control bodily temperature, to stimulate local and general circulation, to produce diaphoresis, to allay irritability of peripheral nerves, to procure sleep and relieve central hyperæmia, to improve the general nutrition, and in a measure to take the place of drugs.

Dr. RALPH L. PARSONS, of New York, referred to the good effects of hydrotherapy, the caution which should be observed in the use of the shower-bath, etc.

Dr. MILLS spoke of the benefit to be derived from the judicious use of this remedy.

Officers for the Ensuing Year were elected as follows: President, Dr. J. J. Putnam, of Boston; vice-presidents, Dr. Wharton Sinkler, of Philadelphia, and Dr. B. Sachs, of New York; secretary and treasurer, Dr. Græme M. Hammond, of New York; councilors, Dr. George W. Jacoby, of New York, and Dr. Robert T. Edes, of Washington.

Papers were read by title as follows: By Dr. H. M. Lyman, of Chicago, on "The Treatment of Progressive Locomotor Ataxia with Rarefied Air"; by Dr. Philip Coombs Knapp, of Boston, on "Hemiplegia in Childhood"; by Dr. Irvine C. Rosse, of Washington, on "Illustrations of Error in the Diagnosis of some Nervous Diseases"; and by Dr. Nathan E. Brill, of New York, on "The Anatomical and Physiological Relations of the Tract usually designated as the Column of Goll."

The association voted to join the Congress of American Physicians and Surgeons. Dr. L. C. Gray, of Brooklyn, was elected delegate, and Dr. Charles K. Mills, of Philadelphia, alternate, to attend the meeting of the Conference Committee to be held in September, in Washington.

Dr. E. C. Seguin, of New York, was added to the Committee on Encephalic Nomenclature, to fill the vacancy caused by the death of Dr. McBride, of New York, and the committee was continued.

NEW YORK PATHOLOGICAL SOCIETY.

Meeting of March 9, 1887.

The President, Dr. T. MITCHELL PRUDDEN, in the Chair.

Numerous Calculi from the Spleen.—Dr. W. H. PORTER presented a number of small calculi from a man's spleen, in which he had found over a hundred, varying in size from that of a filbert down. There was no lesion of the heart, no stones were found elsewhere in the body, and there were no infarctions. The case, he thought, was unique.

Lesions following the Use of Antipyretic Drugs.—Dr. PORTER also presented the liver and kidneys of a patient to whom large doses of antipyrine had been given, in which, as a result of the action of that drug, it was thought, extensive fatty and granular metamorphosis had taken place. The patient had had only a moderate attack of rheumatism with some elevation of temperature, for the reduction of which pretty full doses of antipyrine were given at rather short intervals. It did not seem to affect the temperature very much. After the patient entered the hospital the temperature went up to 105° F., and following the use of antipyrine it went up to 107° F. The use of antipyrine was then stopped, and salicylic acid was administered. The temperature then fell to 103° F. Antipyrine was given again, and the temperature rose again. Antifebrine also was used, but the temperature went higher and higher, and the patient died with a temperature of 109° or 110° F. The speaker had seen in literature that men who had experimented with antipyretics, such as antipyrine, antifebrine, and thalline, had found extensive changes in the liver and kidneys, and during life casts and albumin in the urine, but they maintained that it was of no practical importance. They also had made the observation that patients treated with these antipyretics recovered less quickly, especially patients with typhoid fever, the duration of the disease being about forty-two days, whereas in those treated with other antipyretic measures, such as baths, it lasted only about thirty-two days. One writer had said that when he used antipyrine he succeeded in getting the highest death rate, but he was inclined to think the patients were more comfortable while they lived. The speaker had noticed for some time that in the bodies of patients who had been treated with antipyrine there was very frequently granular and fatty metamorphosis of the liver and kidneys. He had therefore come to believe that antifebrine, antipyrine, and thalline were not such safe antipyretics as had been maintained.

Syphilitic Salpingitis.—Dr. H. J. BOLDT presented the uterine appendages of a woman who gave no history of gonorrhœa, but who had had a chancre, and was then suffering from

extensive secondary lesions of syphilis. She had severe pelvic pain. He thought the cause of the salpingitis was syphilitic. She made a good recovery after the removal of the appendages.

Carcinoma of the Bladder.—Dr. FRANK FERGUSON presented the bladder and kidneys of a man sixty-one years of age, who had died in the hospital. The autopsy revealed a tumor at the base of the bladder, slightly raised above the surrounding mucous membrane, circular in outline, an inch and a quarter in diameter, involving the entrance of both ureters, which were nearly occluded. The rectum and seminal vesicles had been invaded by the growth, which was found to be cancerous. The ureters were dilated, as well as the pelves of the kidneys, and there was chronic diffuse nephritis.

Removal of a Foreign Body from the Brain.—Dr. JOHN A. WYETH presented a drawing of a piece of fence-rail, measuring two inches and three quarters by three quarters of an inch, removed by Dr. Cross, of Alabama, from the brain of a negro four years ago. The patient had been thrown from a moving railway train against some rails, and was rendered unconscious. An eye lay upon the cheek, and was removed, and the piece of wood, which had penetrated the orbital plate, was removed from the brain. About a teaspoonful of brain substance was lost. The patient was now well and at work on the railroad.

Dr. W. M. CARPENTER referred to two cases of fracture of the orbital plate and exposure of the brain in boys, resulting from the kick of a horse, seen by him in the country. In one the wound sloughed and the tissues could not be kept in apposition until swelling from erysipelatous inflammation brought them in contact, when they united, and the patient made a good recovery. The eyeball, which had been thrown out upon the cheek, was replaced, sight was lost, and the ball slightly flattened. The brain had been exposed. In the other case the wound was similar, but the eyeball was lost. Neither of the patients had since shown mental symptoms.

Large Fibroid of the Uterus; Hysterectomy.—Dr. A. P. DUDLEY presented a uterus, with a solid fibroid tumor weighing over nine pounds, together with the ovaries and tubes. The patient had not known that she had a tumor until about ten days before, when the speaker was asked to see her with another physician, on account of swelling of the right leg, and discovered the large abdominal tumor. She was doing well since the operation, which was performed the day before.

Misplaced Kidney.—Dr. I. VAN GIESON presented the right kidney of a man aged thirty. It had been situated in the pelvic cavity, against the sacrum and behind the peritonæum, its superior apex being on a line with the pelvic brim, and its internal border on the median line of the sacrum. The renal artery was given off at the bifurcation of the aorta. At the hilum the relation of the vessels was as follows: The ureters were situated inferiorly; the arteries superiorly; the veins lying between them.

General Tuberculosis in an Infant.—Dr. W. P. NORTHROP presented the lungs and brain of a mulatto child, aged two years, which had been returned by the nurse to the asylum two days before its death. There was no further history than that it had been suffering almost uninterrupted convulsions; there was no diarrhoea and no vomiting. The following points were observed at the autopsy: A large tubercular nodule within the cerebellum, and lesions of general tuberculosis in the brain; extreme enlargement of the bronchial and mesenteric glands; extensive and advanced ulceration of Peyer's patches; the absence of tubercles in the spleen—an organ which was generally largely involved in general tuberculosis; lastly, tubercular meningitis, with extensive tuberculosis of the thoracic and abdominal organs. It was more common in such cases for the brain not to be involved.

A New Stain for Microscopic Work.—Dr. J. W. ROOSEVELT presented a specimen, and described a new stain which he had found satisfactory for micro-photographic specimens. It was practically an iron ink, made of ferrous sulphate and pyrogalllic acid. The specimen was of a peculiar brownish gray, well suited for photographing.

NEW YORK COUNTY MEDICAL ASSOCIATION.

Meeting of March 21, 1887.

The President, Dr. JOHN SHRADY, in the Chair.

The Aneurysmal Diathesis.—The PRESIDENT read a paper in which he pointed out some of the supposed indications of a predisposition to aneurysm. Every human being had within him tendencies to final decay. Those tendencies were not the same in all persons. In some, life ceased by decay advancing most rapidly in the circulatory system. They were much more prone to aneurysmal difficulties than others were. There ought to be some way of recognizing at once the aneurysmal diathesis, and he would point out some features which he thought were indicative of it. He would not approach the debatable ground of syphilis, nor even of rheumatism, as causes of aneurysm. These two diseases were referable to disturbed nutrition, and they should not be looked upon as causing the aneurysmal tendency any more than dropsy should be regarded as a disease, pure and simple. In a general way, the term sanguine temperament could be applied to persons who had a tendency to aneurysm. The development of the heart, and of the circulatory apparatus as a whole, also of the emotional nature in these persons, tended to an overstraining of the arterial system. The heart was large, perhaps somewhat hypertrophied from its earnest and continued work; it beat rather rapidly and forcibly. The build was square, the frame gained in height from the body rather than from the thighs; the neck was bulky and short, the face heavy and massive, the nose bulbous. The subject was muscular, with a relatively poor development of the osseous system. This diathesis might be cultivated by athletic sports, primarily overtaxing the heart and secondarily the remainder of the circulatory system. The diathesis might be latent from lack of circumstances to awaken it. The absence or retardation of the emotional temperament might altogether avert the final catastrophe. Aneurysm did not occur in early life, when the glandular system was undergoing the process of evolution, and when one's vocation had not intensified and kept up the tendency to this condition. The resiliency of the organs at this time was greater, and recovery from undue taxation of the circulatory system was much more prompt than in later years.

Dr. J. W. S. GORLEY objected to the term hypertrophy when applied to enlargement of the heart, of the muscles, etc. It meant over-nourishment, whereas there was only just sufficient nutrition to meet the needs of the enlarged organ. It was better to use the simple term enlargement. When there was hypertrophy, as in dermatitis, inflammation developed, and finally decay or atrophy.

Dr. A. L. CARROLL thought that, inasmuch as the enlargement of the heart was due to increased nourishment, it was not improper to speak of the condition as one of hypertrophy. If it were not enlarged, a lesser degree of nourishment would be required.

Removal of the Uterine Appendages.—Dr. A. P. DUDLEY presented the uterine appendages of a woman whom he had kept under observation and treated by various other measures for a year without marked benefit. A peculiarity in the case, and one which had rendered the diagnosis obscure, was the fact that one tube, after leaving the uterus in the usual direction,

became deflected downward, and returned to the side of the uterus lower down, where it was spread over the enlarged and misplaced ovary. This relation of the tube and ovary would have made a cure by other measures than removal impossible.

A very Large Hernia; Diabetes.—Dr. GOUTLEY related the history of a case in which a multiplicity of lesions was found at the autopsy. The patient was a woman, seventy-two years of age, who had for thirteen years been under his observation, being during that time bedridden. She had a hernia, and at the autopsy the inguinal ring was found to have attained to a diameter of nine inches; all the intestines were in the sac except the duodenum, cæcum, and rectum. She had had what the French called intermittent diabetes mellitus. She died of exhaustion and bronchitis.

Dr. A. FLINT, who had seen this patient two or three times, said the case was interesting to him in two respects. First, it was the only case of saccharine diabetes of long standing which he had seen in which the intermittent element seemed to be independent of diet and treatment. He had seen several cases, however, in which sugar would disappear from the urine under treatment, to return again on the resumption of a faulty diet. The second point was the fact that there had not been the slightest indication of so-called diabetic coma. The only patients who had come under his observation and subsequently developed diabetic coma were those who had failed to carry out his instructions with regard to diet. He believed that the anti-diabetic diet guarded against diabetic coma.

Book Notices.

On Diseases of the Lungs and Pleura, including Consumption.

By R. DOUGLAS POWELL, M.D. Lond., Fellow of the Royal College of Physicians, etc. Third Edition, rewritten and enlarged, with Illustrations. New York: William Wood & Company, 1886. Pp. xii-347. [Wood's Library of Standard Medical Authors.]

THE present volume, as the author states in the preface, is an amplified edition of the work on consumption and on certain diseases of the lungs and pleura which was published in 1878. It has, however, been almost completely remodeled and new chapters have been added on the physical examination of the chest, on asthma, on the pathology of phthisis, on the complications of phthisis, on the surgical treatment of pulmonary cavities, on hydatids of the lungs, and on mediastinal tumors. By these additions the value of the work has been correspondingly increased. In the first chapter, on the anatomy and functions of the lungs, the author gives an interesting, though somewhat too brief, *résumé* of these subjects. We are particularly interested in the description of the apparatus of his own invention, designed to show the relations of the pleural cavities and mediastinum. In his description of the physiology of respiration due credit is given to our countryman, Dr. G. M. Garland, of Boston, for his interesting and valuable researches in pneumo-dynamics, and both here and in the sections upon the diseases of the pleura Dr. Garland's views are adopted almost in their entirety. The methods of physical examination of the chest are very carefully discussed in the next chapter, and nothing is wanting here, except that American readers will notice some differences from the nomenclature ordinarily used in this country. In the nomenclature of physical signs, Dr. Powell has adopted the recommendations of the report of the committee, of which the late Dr. Austin Flint was chairman. The

chapter on diseases of the pleura, though somewhat too brief, a criticism which might be made in regard to the work in general, is very carefully written and contains a very lucid and reliable description of the clinical history and diagnostic signs of pleuritic effusion. Perhaps too much stress is laid upon the presence of Skodaic resonance, and too little upon the curved line of flatness first described by Dr. Ellis, in the "Boston Medical and Surgical Journal," and subsequently more scientifically explained by Dr. Garland. After a careful reading of the chapter, it seems to us either that the author has not entirely grasped Dr. Garland's argument, or else that his explanation of it is not sufficiently clear for the general reader. The subject of thoracentesis is ably discussed. Dr. Powell depends more upon the siphon for the extraction of fluids from the pleural cavity than most practitioners, and apparently attaches less value to the aspirator than we have been accustomed to ascribe to it. His rules for the treatment of empyema are very reliable, though the radical operation for chronic empyema, Estlander's operation, is scarcely referred to, and Langenbeck's operation of trephining the rib receives simply a passing notice. The statement that serous or purulent effusion in the pleural cavity may retard the development of phthisis pulmonalis will hardly be accepted, we think, by the majority of clinical observers. Our own experience has been that, in cases where relief is not obtained by surgical or other means, death from phthisis always supervenes, provided the patient survives long enough for its development.

The description of the pathology and treatment of bronchitis is written in about the ordinary routine we find in other text-books. Indeed, the whole section is rather short and unsatisfactory. The chapter on pneumonia is somewhat more extensive, but still inadequate to a full discussion of the subject. In discussing the ætiology of pneumonia, the author gives special prominence to the predisposing causes and climatic influences. He admits the existence of epidemic influences, but seems to regard cold as particularly the exciting cause. He discusses septic pneumonia, and refers to the researches of microscopical investigators into the subject of the existence of micro-organisms which may be the direct exciting cause of the disease, but we do not find, in the short account given of these researches, any allusion to the very valuable paper by Dr. Sternberg, of the United States Army, published in the "American Journal of the Medical Sciences" last year. Under the head of treatment, very careful directions are given for the hygienic management of the patient, and very little is said of the use of drugs. This is in accordance with the view of the most experienced practitioners in this country, that there are no drugs having a specific influence upon pneumonia. The routine practice adopted by many American physicians, of giving digitalis and carbonate of ammonium, should be deprecated, and those who adopt it might with profit read the rules for treatment laid down by Dr. Powell. Neither does he recommend the routine use of poultices, but states particularly that in old people and children they are sometimes apt to be oppressive and had better be replaced by embrocations covered with oil-silk. In our opinion, the majority of cases of pneumonia would be full as well treated without any external applications, their only object being to relieve pain, or to modify the intensity of any pleuritic inflammation which may accompany the fundamental disease. For overcoming this pain, when it occurs, the application of adhesive plaster, which is not mentioned by the author, is of the utmost utility, and is far less troublesome and involves less risk to the patient than the continual changing of poultices. In discussing the ætiology of phthisis, Dr. Powell gives a careful *résumé* of the more prominent doctrines that have been held by pathologists, mentioning particularly the names of Laennec, Buhl, Simon, Villemin, and Koch. He

adopts the views of these writers as to the specific nature of the tubercular process, and gives careful directions for the identification of the tubercle bacillus. With Klebs and others, he does not believe that tuberculosis is contagious, except possibly under some very rare circumstances in which the poison is brought to the lungs of a healthy individual in a very concentrated form. Space does not permit us to go further into the description of this very valuable work. We can simply say that, as it at present stands, it is the best that we have in the English language, with the exception of Walshe's, over which it has the advantage of having been brought up to the most recent date. The only adverse criticism that we can make with regard to it is that it is not sufficiently comprehensive.

Hand-book of Practical Medicine. By Dr. HERMANN EICHHORST, Professor of Special Pathology and Therapeutics and Director of the University Medical Clinic in Zurich. Volume IV, Diseases of the Blood and Nutrition, and Infectious Diseases. Seventy-four Wood Engravings. New York: William Wood & Co., 1886. Pp. vi-407. [Wood's Library of Standard Medical Authors.]

THE fourth volume of Dr. Eichhorst's "Hand-book" is devoted to diseases of the blood and nutrition, and to those of infectious origin. The subjects discussed in this able work are so important, and all the points connected with them are so carefully considered by the author, that it is impossible to give a satisfactory review without writing a book almost equal in size to the one before us. The diseases of the blood are treated of in a section which, though short, contains all that is known as the result of the most recent scientific investigation in regard to them. The subject of leucæmia is very judiciously handled, and the three varieties differentiated as clearly as possible in the existing state of our knowledge; in fact, the tendency seems to be to class them all together as varieties of the same affection, in which one or the other lesion may be predominant. In regard to the diseases of the spleen, the author says all that he is justified in saying at the present time. So little is known in regard to this organ that the pathological physiology can only be explained in the most incomplete manner, but such knowledge as we have is recorded in the pages before us. The diseases of nutrition, including gout, obesity, diabetes mellitus, diabetes insipidus, rickets, osteomalacia, and arthritis deformans, receive a somewhat more extensive notice. In discussing the aetiology of gout, the author does not consider the importance of the ingestion of sugar, which has received so much attention in this country, and has been particularly alluded to by Dr. Draper, of New York, in his article on gout in Pepper's "System of Medicine." Nor does he give any dietetic rules for its treatment. The iodide and salicylate of lithium are not mentioned, though colchicum, potassium iodide, lithium carbonate, and salicylic acid are spoken of as valuable remedies. The author also refers to the value of natural and artificial lithia waters. The description of infectious diseases leaves nothing to be desired. It is a very valuable work, well illustrated with many diagrams and drawings of microscopical appearances in various diseases, and is worthy of the careful perusal of every practitioner.

Nouveau traitement des affections des voies respiratoires et des intoxications du sang, par les injections rectales gazeuses. D'après la méthode du Dr. L. Bergeon, ancien Professeur suppléant à l'École de médecine de Lyon. Par le Docteur V. MOREL, ancien interne des hôpitaux de Lyon. Paris: G. Masson, 1886.

In this interesting little brochure, portions of which we have already presented to our readers, will be found the his-

tory of the development of Dr. Bergeon's method for the treatment of phthisis and other diseases of the respiratory apparatus and toxic conditions of the blood by the introduction of gaseous substances into the lower intestine. The method, as is now well known, is based upon the observations of Claude Bernard, to the effect that certain poisonous substances, when introduced into the intestinal canal so that they can be absorbed by the radicles of the portal vein, carried to the right heart, and partially or entirely exhaled from the respiratory surface of the lungs, could be used with impunity in much larger doses than when introduced directly into the arterial system, because, when introduced in this way, so small a quantity of the toxic agent would reach the brain and spinal cord that the effect upon these viscera would be minimized. Bergeon, speculating upon the septic nature of tuberculosis and the effects of putrefactive decomposition of the caseous and other matters in the lungs of phthisical patients, concluded that, if some antiseptic substance could be brought directly in contact with the diseased tissue and morbid accumulations in sufficient quantity to destroy the activity of the bacilli contained in them, the disease might be cured. As hydrogen sulphide, which was one of the agents experimented with by Bernard, was also known to be a good disinfectant, he determined to make use of this gas in his experiments. As it is necessary to introduce the gas in small quantities, it was thought well to dilute it with some unirritating gas to facilitate the manipulation. For the accomplishment of this object he employed carbon dioxide. Other antiseptic substances have also been used, though not to the same extent as sulphureted hydrogen. M. Morel's pamphlet gives a description of the apparatus employed by Bergeon, with directions for its use, but these have already been so frequently described in this and other journals that it is not necessary for us to repeat the description here. The trials which have been made in this country by Solis-Cohen, Bruen, Osler, Hays, Kinncutt, and many others have seemed, so far, to confirm the conclusions arrived at by the French observers, though it is doubtful whether the theory upon which Bergeon's treatment is based will prove to be correct. Dr. E. L. Trudeau, of Saranac Lake, N. Y., has recently published some experiments in the Philadelphia "Medical News" for April 23d, which seem to show that sulphureted hydrogen, used according to Bergeon's method, has little or no effect upon the vitality either of tubercle bacillus or of the other septic organisms contained in the caseous foci of tubercular lungs. Dr. Trudeau placed a small amount of fluid containing so many tubercle bacilli as to render it turbid in a test-tube, and then caused to bubble through this gas from one of the generators used in the new treatment of phthisis. After a prolonged treatment of the bacilli in this way he found that he could obtain pure cultivations from the fluid, and animals inoculated with it developed tuberculosis. His experiments with the *Staphylococcus pyogenus aureus* and the bacillus of blue pus gave a similar result. Dr. Trudeau's well-known accuracy in scientific experimentation of this kind renders it highly probable that his results will be confirmed by other observers, and, should this prove to be the case, some other explanation of the effects of sulphureted hydrogen than that given by Bergeon will have to be found. Whether the bright hopes entertained by those who have tried and advocate this method will be realized, it is now impossible to say. The method is so young, and the history of most of the cases treated extends over so short a period of time, that we are not, as yet, justified in forming any positive opinion either for or against it.

In this connection it is but fair to allude to a letter from Dr. G. A. Heron, of the London Hospital for Chest Diseases, which appeared in the "British Medical Journal" for May 21, 1887. Dr. Heron reports having treated a number of cases, the histo-

ries of which, however, he does not give, though he states that physical examination, and the presence of the proper bacillus in the sputa, showed them all to be genuine instances of tubercular consumption. "In not one single instance in which this treatment was carried out under my supervision," says he, "was there the slightest evidence of any permanent good result having been achieved. Beyond a diminution of the expectoration, an occasional lessening of the cough, and an unimportant lowering of the temperature, there was no evidence of any benefit having been derived from Bergeon's treatment in these cases of mine. As those results can be secured by means less unpleasant to the patient than Bergeon's method, I have ceased to employ it in the treatment of tubercular disease of the lungs." Our own view of the matter, however, is more hopeful than Dr. Heron's.

The Classification and Treatment of over Two Thousand Consecutive Cases of Ear Diseases at Dr. Sexton's Aural Clinic, New York Eye and Ear Infirmary. By SAMUEL SEXTON, M. D., Aural Surgeon, and W. A. BARTLETT, M. D., and ROBERT BARCLAY, M. D., Assistant Surgeons. Detroit: George S. Davis, 1886. Pp. 95. [The Physician's Leisure Library.]

This little work is intended to present a classified list of over two thousand consecutive cases treated by the author and his assistants at the Aural Clinic of the New York Eye and Ear Infirmary, and to bring into prominence the more practical features demanding treatment. The cases have been divided according to the anatomical location of the disease, and the whole subject is included under nine sections. In an appendix the drugs commonly employed in treatment and the instruments used are described. A complete classification of aural diseases is given at the end of the work. The aim of the author has been eminently practical, and he has succeeded in placing before the reader an excellent and concise sketch of the subject, interspersed with which are many valuable suggestions as to treatment.

BOOKS AND PAMPHLETS RECEIVED.

Notes on the Visceral Anatomy of Certain Auks. By R. W. Shufeldt; C. M. Z. S., etc. [Reprinted from the "Proceedings of the Zoological Society of London."]

The Dipnoan Brain. By Burt G. Wilder. [Extracted from the "American Naturalist."]

The Curability of Insanity and the Individualized Treatment of the Insane. By John S. Butler, M. D., late Physician and Superintendent of the Connecticut Retreat for the Insane, etc. New York and London: G. P. Putnam's Sons, 1887. Pp. 59.

Trephining in a Case of Inter-meningeal Hæmatoma, with Hemiplegia; Recovery. By S. T. Armstrong, M. D., Ph. D., Passed Assistant Surgeon, U. S. Marine-Hospital Service, etc. [Reprinted from the "Journal of the American Medical Association."]

Do Valor Therapeutico de Alguns Etiocraticos no Impalmdirmo Agudo. Pello R. Tiberio d'Almeida, Redactor correspondente da União Medica, etc. Rio de Janeiro: Lombaerts & Co., 1887.

Condition of Health in Cities. By J. L. Kaine, Milwaukee. [Reprinted from the "Wisconsin State Board of Health Report for 1886."]

Some Thoughts on a New Remedial Source, with a Working Hypothesis Suggestive of a More Radical Treatment of Chronic Diseases; also some Therapeutic Deductions from Comparative Pathology. By Charles Francis Ring, M. D., Ward's Island, New York.

A System of Gynecology. By American Authors. Edited by Matthew D. Mann, A. M., M. D., Professor of Obstetrics and Gynecology in the Medical Department of the University of Buffalo, N. Y. Volume I. Illustrated with Three Colored Plates and Two Hundred and One Engravings on Wood. Philadelphia: Lea Brothers & Co., 1887. Pp. xii-17 to 789. [Price, \$5.]

Miscellany.

Pathological Difficulties.—The "British Medico-chirurgical Journal" quotes as follows from the "Life of Sir Robert Christison": "The worst part of the hospital discipline at St. Bartholomew's about 1820 was the regulation—or rather non-regulation—of the pathological dissections. We had vast opportunities for following that branch of professional study, for many cases of organic disease were admitted in their advanced stages. Mr. Stanley, the anatomical demonstrator, was an ardent pathologist, and leave from the relatives of the deceased person was not, as in Edinburgh, a necessary condition. There was, therefore, usually a race between the relatives and the students—the former to carry off the body intact, the latter to dissect it. Thus dissection was apt to be performed with indecent—sometimes with dangerous—haste. It was no uncommon occurrence that, when the operator proceeded with his work, the body was sensibly warm, the limbs not yet rigid, the blood in the great vessels fluid and coagulable. I remember an occasion when Cullen commenced the dissection of a man who had died suddenly one hour before, and when fluid blood gushed in abundance from the first incision through the skin, made in drawing his knife from the upper to the lower end of the sternum in the usual manner. Instantly I seized his wrist in great alarm and arrested his progress; nor was I easily persuaded to let him go on, when I saw the blood coagulate on the table exactly like living blood. At the hospital of La Charité, in Paris, a day seldom passed without at least one pathological inspection. I remember, nevertheless, having once met with a disappointment on three successive mornings. On the third I encountered at the door of the pathological rooms the following apostrophe from the 'Gardien': 'Encore, monsieur, point d'autopsie! Il y a depuis ces trois jours une épidémie de santé dans l'hôpital!'"

The Royal Medical and Chirurgical Society of London.—The "Union médicale" states that Dr. John S. Billings, of the U. S. Army, Professor Esmarch, and Professor Volkmann have been elected to honorary membership in the society.

The late Dr. Joseph C. Hutchison.—At a special meeting of the Board of Managers of the Alumni Association of the Long Island College Hospital, held July 20, 1887, convened to take action in the matter of the death of Joseph C. Hutchison, M. D., LL. D., late president of the collegiate department, the following preamble and resolutions were adopted:

Whereas, In the death of Joseph C. Hutchison the college has lost an able worker in his recent official capacity, and one to whom it was indebted for a more active part in the past as professor of surgery, and believing the reputation and honor of the institution rest in the hands of its teachers, it is

Resolved, That one who showed such boldness and fidelity in defending its best interests is worthy the highest praise and respect of this association.

Resolved, That the association extends its heartfelt sympathy to the family of the late Dr. Hutchison, and its condolence to the Board of Regents of the Long Island College in this our common affliction.

Resolved, That a copy of these resolutions be sent to the family of Dr. Hutchison, the Board of Regents, and the press.

[Signed] H. MESSENGER AYRES, }
A. H. BUCKMASTER, } Committee.

Cocaine Intoxication.—Dr. George O. Williams (who will confer a favor by sending us his address) writes as follows: An attempt was made to cocaineize a robust man, fifty-five years of age, for the removal of a small vascular tumor from the forearm. Three injections were given, at intervals of five minutes. The preparation used was an immediate solution of Squibb's hydrochloride, the quantity being estimated at half a grain. The anæsthesia was insufficient. Ten minutes after the last injection the patient complained of general numbness of the forearm, there was excessive dryness of the throat, the pupils became moderately dilated, vision was disturbed, even for short distances, so that he could not distinguish acquaintances at forty feet, and his gait was staggering. The symptoms did not become aggravated

during the two hours that he was kept under observation, and he then drove six miles to his home. He subsequently stated that the disorder of vision and the pharyngeal dryness continued through the night, which was sleepless, and that unpleasant symptoms remained, though subsiding, for nearly a week.

Urgent Calls and the Censure of Juries.—"At an inquest in Bradford lately," says the "Lancet," "the jury were very severe on the medical man summoned for not attending before the death of the patient. Only medical men know how misleading often is the account given of cases, and how often it errs in conveying an exaggerated notion of the case. Only they, too, can realize how difficult it is to decide between two urgent calls. The coroner in this instance remonstrated with the jury, who toned down their verdict considerably. We have no wish to apologize for undue delay in fulfilling a promise to see a patient. Rather we would urge increased promptitude, and, where cases can not be seen immediately, to refer them to other medical men."

The Health of Boston.—During the week ending Saturday, July 23d, the following numbers of cases and deaths from infectious diseases were reported to the Board of Health: Diphtheria, 15 cases and 3 deaths; scarlet fever, 7 cases and 1 death; typhoid fever, 19 cases and 2 deaths; measles, 50 cases and 4 deaths. There were also 33 deaths from consumption, 9 from pneumonia, 6 from whooping-cough, 4 from heart disease, 5 from bronchitis, and 7 from marasmus. The total number of deaths was 236, against 211 in the corresponding week last year.

The Health of San Francisco.—It appears by the Health Department's "Condensed Statement of Mortality," for the month of June, that the whole number of deaths reported was 409, including 16 from cholera infantum, 15 from croup and diphtheria, 2 from diarrhoea, 2 from dysentery, 8 from typhoid fever, 1 from malarial fever, 2 from measles, 2 from whooping-cough, 1 from scarlet fever, and 2 from small-pox.

Government Health Reports.—By direction of the Secretary of the Treasury, Dr. John B. Hamilton, Surgeon-General of the Marine-Hospital Service, has issued the following abstract of sanitary reports received during the week ending July 21st:

England and Wales.—The deaths registered in twenty-eight great towns of England and Wales during the week ending July 2d corresponded to an annual rate of 18.1 in a thousand of the aggregate population, which is estimated at 9,245,099. The lowest rate was recorded in Derby, viz., 9.4, and the highest in Manchester, viz., 29.2 in a thousand. Small-pox caused 2 deaths in Cardiff.

London.—One thousand three hundred and thirty-eight deaths were registered during the week ending July 2d, including 64 from measles, 13 from scarlet fever, 13 from diphtheria, 76 from whooping-cough, 9 from enteric fever, 52 from diarrhoea and dysentery, and 3 from cholera and choleraic diarrhoea. There were 199 deaths from diseases of the respiratory organs. Different forms of violence caused 57 deaths, and 9 suicides were registered. The deaths from all causes corresponded to an annual rate of 16.6 in a thousand. In greater London, 1,637 deaths were registered, corresponding to an annual rate of 15.8 in a thousand of the population. In the "outer ring" 17 deaths from measles and 7 from whooping-cough were registered.

Ireland.—The average annual death rate represented by the deaths registered during the week ending July 2d, in the sixteen principal town districts of Ireland, was 24.1 in a thousand of the population. The lowest rate was recorded in Drogheda, viz., 8.5, and the highest in Lurgan, viz., 35.9 in a thousand.

Dublin.—One hundred and ninety-nine deaths were registered during the week ending July 2d, including 30 from measles, 3 from whooping-cough, and 1 from typhus. Diseases of the respiratory organs caused 30 deaths. Five accidental deaths were registered, and in twenty-four instances the causes of death were uncertified. The deaths from all causes corresponded to an annual rate of 29.4 in a thousand.

Scotland.—The deaths registered in eight principal towns during the week ending July 2d corresponded to an annual rate of 19.5 in a thousand of the population, which is estimated at 1,299,000. The

lowest mortality was recorded in Aberdeen, viz., 14.6, and the highest in Paisley, viz., 28.2 in a thousand. The aggregate number of deaths registered from all causes was 487, including 1 from small-pox, 6 from measles, 7 from scarlet fever, 7 from diphtheria, 43 from whooping-cough, and 18 from diarrhoea.

Germany.—The deaths registered in fifty-two cities of Germany, having an aggregate population of 6,821,222, during the week ending June 25th, corresponded to an annual rate of 22.6. The lowest rate was recorded in Hanover, viz., 12.9, and the highest in München-Gladbach, viz., 37.

Marseilles.—Nine hundred and nine-two deaths were registered during the month of June, 1887, including 4 from small-pox, 22 from enteric fever, 1 from scarlet fever, and 36 from diphtheria.

Buenos Ayres.—Eight hundred and forty-six deaths were registered during the month of April, 1887, including 7 from cholera, 35 from small-pox, 18 from enteric fever, 3 from scarlet fever, and 85 from diphtheria.

Nice.—Two hundred and sixty-five deaths were registered during the month of May, 1887, including 12 from small-pox and 4 from enteric fever.

Hobart Town.—Sixty-nine deaths were registered during the month of April, 1887, including 16 from enteric fever.

Tampico.—The United States consul, in his dispatch dated June 21st, states that "within the past seven days a virulent disease, pronounced by medical experts to be African small-pox, has made its appearance in this port, from which one death has resulted, and from latest reports seven cases are under treatment. The municipal authorities have taken measures calculated to arrest the spread of the malady by isolating the cases and adopting the usual sanitary precautions."

Merida, Yucatan.—The United States consul, in his dispatch dated May 14, 1887, states that "there were developed in this city yesterday four cases of yellow fever. This is not in itself a very alarming number, or much of an indication of a future epidemic, but at the same time I deem it wise to inform you of the above fact."

MORTALITY TABLE, FOREIGN CITIES.

CITIES.	Week ending—	Estimated population.	Total deaths from all causes.	DEATHS FROM—						
				Cholera.	Yellow fever.	Small-pox.	Typhus fever.	Enteric fever.	Scarlet fever.	Diphtheria.
Paris	July 2.	2,360,045	840	.....	7	.....	8	5	.....	24
Glasgow	July 2.	545,678	200	.....	.....	.....	.....	1	.....	4
Warsaw	June 25.	439,174	237	.....	14	.....	.....	.....	.....	.....
Calcutta	May 28.	439,219	170	17	.....	.....	.....	.....	.....	.....
Amsterdam	July 2.	378,686	156	.....	.....	.....	.....	.....	.....	4
Cairo	June 16.	374,898	334	.....	5	.....	12	.....	.....	6
Copenhagen	June 28.	290,000	127	.....	.....	.....	1	.....	.....	1
Alexandria	June 16.	231,396	134	.....	1	.....	2	.....	.....	.....
Munich	June 25.	269,000	177	.....	.....	.....	.....	2	.....	3
Edinburgh	July 2.	258,629	84	.....	.....	.....	.....	1	.....	2
Palermo	July 2.	250,000	92	.....	.....	.....	1	11	.....	.....
Havana	July 7.	208,000	167	25	11	.....	2	.....	.....	.....
Genoa	June 25.	179,326	106	.....	3	.....	.....	1	.....	3
Genoa	July 2.	179,326	108	.....	.....	.....	.....	.....	.....	2
Stuttgart	July 2.	125,510	43	.....	.....	.....	.....	.....	.....	1
Toronto	July 9.	120,000	23	.....	.....	.....	.....	.....	.....	1
Havre	July 2.	112,074	54	.....	2	.....	8	.....	.....	.....
Pernambuco	June 14.	111,000	67	.....	.....	.....	.....	.....	.....	1
Reims	July 2.	97,903	35	.....	.....	.....	1	1	.....	.....
Leith	July 2.	72,297	31	.....	.....	.....	.....	2	.....	1
Mayence	June 25.	65,701	28	.....	.....	1	.....	.....	.....	.....
Tampico	June 26.	7,300	9	.....	1	.....	.....	.....	.....	.....

UNITED STATES.

Key West—Yellow Fever.—Passed Assistant Surgeon John Guitéras, United States Marine-Hospital Service, reports, under date of July 21st, total number of cases to date, 135; deaths, 35. A majority of the new cases are native children.

Edmont Key, Florida (refuge station).—One death occurred from yellow fever on the 15th instant.

THERAPEUTICAL NOTES.

Divergent Views on Acetanilide are cited by the "Lancet" from the Hungarian journal, "Gyógyászat." One contributor, while unable to see that the drug really does any good in fever, and impressed with

the fact that even three-grain doses may produce violent sweats, prostration, hæmorrhage, or cyanosis, thinks that in certain neuroses, where smaller doses will answer, it is to be recommended. In a case of severe trigeminal neuralgia, in which quinine, gelseminum, and morphine had produced but little improvement, three grains of acetanilide were given night and morning without effect, but then seven grains and a half were ordered, to be divided into ten powders, one to be taken every two hours. This produced great improvement, and in ten days the cure was complete. Two other patients, in whom pain was associated with meningo-myelitis and syphilitic tabes respectively, and who had been treated unsuccessfully in various ways, were much benefited by acetanilide. The other contributor has observed the most various effects after daily amounts ranging from a grain and a half to forty-five grains, including rigors, cyanosis, and irregularity of the heart's action; and he therefore thinks that the drug can not be recommended for general use.

The Treatment of Nasal Diphtheria.—Mygind ("Jour. of Laryngol. and Rhinol."; "Bristol Med.-chir. Jour.") quotes Reiersen as believing that the pituitary membrane forms a nidus for micrococci more readily than almost any other mucous membrane, and as suggesting, in view of the unsatisfactory results of antiseptic injections and attempts to remove the false membrane with a forceps, the insertion of bougies containing:

Cocaine hydrochloride.....	$\frac{1}{2}$ grain;
Boric acid.....	15 grains;
Starch,) each.....	$1\frac{1}{2}$ grain;
Gum arabic,).....	
Glycerin.....	a sufficient quantity.

The amounts of the active ingredients may be reduced in the case of children. A bougie is to be passed into each nostril and pushed along until it reaches the naso-pharynx. They melt in an hour, and others may then be inserted if relief does not occur after syringing the nostrils.

Phosphate of Sodium in the Treatment of Infantile Diarrhœa.—The "Therapeutic Gazette" calls the attention of its readers to a remedy which, although used by some practitioners, it thinks is still neglected by many—namely, phosphate of sodium. In the summer diarrhœas connected with a lack of digestive power, it remarks, in which the passages are either clay-colored or greenish, the drug often acts favorably when the ordinary remedies for diarrhœa seem to irritate rather than do good. To nursing children it may be given in the milk, ten grains in each bottle, or it may be given in a little water after a meal. It should always be used in repeated small doses, and not in single large doses. It is particularly serviceable where there is habitual constipation with occasional attacks of diarrhœa. It probably has some distinct specific action on the glandular organs of the intestinal tract.

Inhalations of Defibrinated Blood.—A Spanish physician, Dr. Escorileada, has contributed to the "Genio Médico-quirúrgico" (quoted in the "Gazette hebdomadaire de médecine et de chirurgie") an account of a case of extreme anæmia, with obstinate gastric derangements, in which inhalations of the spray of a mixture of 80 parts of defibrinated bullock's blood and 20 parts of a 75-per-cent. solution of chloride of sodium were prescribed, and improvement was observed on the fourth day. Cold affusions of sea-water were used at the same time.

Antipyrine in the Treatment of Chorea.—Wollner ("Münch. med. Woch.," "Gaz. hebdomadaire de médecine et de chirurgie") has been led to prescribe this drug in chorea by reason of its influence on the nervous derangements incident to rheumatism. In the case reported, the attack of chorea followed a sudden disappearance of rheumatic symptoms. Sodium salicylate, potassium bromide, and propylamine having been tried in vain, antipyrine was ordered in doses of fifteen grains three times a day, and a cure was effected in twelve days.

Morphine and Cocaine in the Treatment of Tetanus.—Sober ("Genio méd.-quir.," "Gaz. hebdomadaire de médecine et de chirurgie") records a case of idiopathic tetanus in which a five-per-cent. solution of the hydrochlorides of morphine and cocaine was used hypodermically with success. After three injections had been given (amount not stated), the

trismus was diminished and the patient was able to execute certain voluntary movements. One additional injection, on the following day, was followed by complete recovery.

ANSWERS TO CORRESPONDENTS.

No. 13.—Apostoli's *excitateur bipolaire* is furnished by Collin, rue de l'École de médecine, 6, Paris, for 8 fr.

No. 14.—We think that Keene's cement will answer the purpose. It is made by mixing plaster of Paris with a saturated solution of alum, allowing the mass to harden, then calcining it anew and reducing it to a fine powder, when it is to be used like ordinary plaster of Paris.

No. 15.—In order that your name may be acted upon at the next meeting, it should be proposed to the Council by two members before the 13th of August. Before the meeting, which is to be held in New York, beginning September 13th, you should submit to the Council (through the secretary, Dr. Joseph Taber Johnson, 926 Farragut Square, Washington) an essay on an obstetrical or gynecological subject. There are several vacancies.

No. 16.—We are informed that no more appointments are likely to be made at present.

To Contributors and Correspondents.—The attention of all who purport favoring us with communications is respectfully called to the following:

Authors of articles intended for publication under the head of "original contributions" are respectfully informed that, in accepting such articles, we always do so with the understanding that the following conditions are to be observed: (1) when a manuscript is sent to this journal, a similar manuscript or any abstract thereof must not be or have been sent to any other periodical, unless we are specially notified of the fact at the time the article is sent to us; (2) accepted articles are subject to the customary rules of editorial revision, and will be published as promptly as our other engagements will admit of—we can not engage to publish an article in any specified issue; (3) any conditions which an author wishes complied with must be distinctly stated in a communication accompanying the manuscript, and no new conditions can be considered after the manuscript has been put into the type-setters' hands. We are often constrained to decline articles which, although they may be creditable to their authors, are not suitable for publication in this journal, either because they are too long, or are loaded with tabular matter or prolix histories of cases, or deal with subjects of little interest to the medical profession at large. We can not enter into any correspondence concerning our reasons for declining an article.

All letters, whether intended for publication or not, must contain the writer's name and address, not necessarily for publication. No attention will be paid to anonymous communications. Hereafter, correspondents asking for information that we are capable of giving, and that can properly be given in this journal, will be answered by number, a private communication being previously sent to each correspondent informing him under what number the answer to his note is to be looked for. All communications not intended for publication under the author's name are treated as strictly confidential. We can not give advice to laymen as to particular cases or recommend individual practitioners.

Secretaries of medical societies will confer a favor by keeping us informed of the dates of their societies' regular meetings. Brief notifications of matters that are expected to come up at particular meetings will be inserted when they are received in time.

Newspapers and other publications containing matter which the person sending them desires to bring to our notice should be marked. Members of the profession who send us information of matters of interest to our readers will be considered as doing them and us a favor, and, if the space at our command admits of it, we shall take pleasure in inserting the substance of such communications.

All communications intended for the editor should be addressed to him in care of the publishers.

All communications relating to the business of the journal should be addressed to the publishers.

Original Communications.

THREE CASES OF PREGNANCY COMPLICATED BY OVARIAN TUMORS.

OVARIOTOMY; RECOVERY.

By PAUL F. MUNDÉ, M. D.

THE performance of ovariectomy during pregnancy is no longer of rare occurrence, and numerous cases are reported in the records of laparotomy. But the acceptance of this practice as not only the correct and proper as well as justifiable treatment, but as the only thing to do in the majority of cases, dates back scarcely farther than ten years, and even now some eminent obstetricians contend that the induction of abortion or premature labor is preferable. These gentlemen do not, however, seem to appreciate at their proper value the figures given by Olshausen ("Ovarian Tumors," 1877), who collected fourteen cases reported up to that time (the first by Burd, of England, in 1847), in which only two women died, and only four children were lost—i. e., premature labor took place. In his work on "Diseases of the Ovaries" (1883), Lawson Tait quotes Spencer Wells as having operated ten times with one death, and states that he himself up to that time had operated eleven times with only one death, in his first case. Since 1877 the number of operations has rapidly increased, and in his last edition (1886) Olshausen reports a total of 82 operations, by 44 operators, with 74 recoveries. Four operators did 41 operations—Tait 11, Olshausen 8, Wells 10, Schroeder 12; in these, only two patients died (Tait's and Wells's). These results are the more remarkable since in several of the cases of recovery the uterus was accidentally wounded by the trocar (Wells, Cæsarean section; Hillas, the same; Byford, the same; C. C. Lee, abortion). This accident with a fatal result has occurred to Erskine Mason; Kob, of Stolpe, in Germany; Pollock, of England; and Lahs, of Marburg. (See Olshausen, *l. c.*, and Byford, "Am. Jour. of Obst.," 1879.)

No doubt other cases of ovariectomy during pregnancy have occurred than those included in Olshausen's list (where, by the way, only a few of the operators are named); but, so far as I am aware, with the exception of the case of Dr. C. C. Lee, already referred to, where the three months' gravid uterus was accidentally wounded by the trocar, the wound being sewed and abortion taking place several days later ("Trans. of the N. Y. Obst. Soc.," Nov. 1, 1882; "Am. Jour. of Obst.," 1883), no such case has been reported in New York.* Partly for this reason, and because my three cases illustrate very instructively several points as regards indication for operation and the different methods to be employed in these cases, I have decided to place them on record at present.

* I should say that at the meeting of the New York Obstetrical Society, May 3, 1887, when I briefly reported my third case, Dr. Chambers mentioned for Dr. Thomas one recent case of ovariectomy during pregnancy in the third month with recovery, the pregnancy continuing; and Dr. Lee two additional cases, one patient dying from septic peritonitis, and the other, three months pregnant, recovering.

I must premise the histories by saying that only in two of the cases was ovariectomy done during pregnancy; in the second case (chronologically) premature labor was induced, a living child was born, and subsequently the ovarian tumor was removed. Three mothers recovered, and two of the children were born alive and survived; the third was lost by immature labor in the fifth month.

CASE I. *Pregnancy of Five Months; Multilocular Ovarian Cyst; Ovariectomy; Recovery; Labor at Term.*—Mrs. P. S., thirty-two years of age, mother of four children, was seen by me in consultation with her physician, Dr. A. C. Benedict, of Yonkers, in September, 1886. The doctor had diagnosticated an ovarian tumor, and on account of its rapid increase, the constant vomiting of the patient, and her diminution of strength, he had tapped the cyst several weeks previously. It was now again refilling, and, fearing a return of the vomiting, he consulted me as to the advisability of a speedy operation. There was a suspicion of pregnancy, the patient having menstruated once four months before, while nursing her ten-months-old baby, but not since. I satisfied myself on examination not only of the presence of a multilocular cyst of the ovary, but also of an enlarged uterus, and did not hesitate to diagnosticate pregnancy. The patient's general condition was so bad that I advised feeding and stimulation *ad libitum*, and a postponement of the operation until the increase in size of the tumor or the return of the vomiting should call for speedy interference. She steadily gained strength and came to my office from Yonkers to see me. But a return of the vomiting within three weeks after my visit induced her to demand the operation at once, which was done on October 13th, at her home, under all antiseptic precautions, and with the assistance of my two associates, Dr. Grandin and Dr. Wells, and of Dr. Benedict and Dr. Warren, of Yonkers. The cyst was found largely adherent to the anterior abdominal wall, and was so friable that it was removed with some difficulty. It sprang from the right ovary. The left ovary was found healthy and was not removed. The uterus was carefully avoided. Fortunately the pedicle was long. Profuse oozing from torn adhesions on the anterior abdominal wall was checked by deep abdominal sutures approximating the bleeding surfaces. Complete closure of the wound with silk. Catgut suture of the peritoneum. Duration of the operation fifty minutes. Weight of the tumor and fluid about twenty pounds.

Almost immediately after the operation the vomiting recommenced and continued in spite of all that Dr. Benedict could do. He telegraphed for me, and I went to Yonkers on the third day and found the patient in danger of dying from inanition, with a perfectly normal temperature. I at once dilated the cervical canal gently but thoroughly with my index finger, and advised a hypodermic of morphine over the epigastrium. The vomiting then ceased, and the recovery was uninterrupted. About March 5th she was easily delivered of a full-grown child.

Two days after delivery she again began to vomit, having been perfectly well and regular in her bowels since the operation. The abdomen also became tympanitic, and the bowels ceased to respond to enemata or laxatives. The vomiting continued, and on March 13th became feculent. I then saw her again with Dr. Benedict, diagnosticated intestinal obstruction, and advised, if renewed attempts to move the bowels by large turpentine enemata failed, immediate laparotomy. To this latter advice they could not at once make up their minds, especially as there was a lull of a day or two in the vomiting. But finally, when it recommenced and was purely feculent, they consented, and on March 17th I operated, at a time when the patient's condition was so low as to leave very little hope of saving her.

Much valuable time had unfortunately been lost. The intestines were enormously distended with gas, fully six feet of the small intestine was black, and I had no trouble in finding numerous adhesions. The main point of constriction, however, was in the right iliac fossa, where a firm band of the thickness of a lead-pencil almost completely constricted the gut. After tying and dividing all the constrictions and adhesions, some eight or ten in number, I returned the intestines to the abdominal cavity and closed the wound. The patient recovered consciousness and speech, but died sixteen hours later of exhaustion. I think she could have been saved if the operation had been done a week sooner.

The displacement of the intestines by the emptying of the uterus through delivery must, I think, in some way have led to a loop of small intestine passing under the constricting band. The danger of intestinal obstruction by adhesions or constricting bands after laparotomy is attracting more and more the attention of our laparotomists, and the prevention of such adhesions is one of the problems still to be solved. By carefully replacing the omentum over the intestines, by early and regular intestinal evacuation after laparotomy, and perhaps by Peter Mueller's suggestion of applying carbolic oil or vaseline or iodoform to the pedicle and adhesion stumps just before closing the abdominal wound, such subsequent adhesions may possibly be prevented.

CASE II. *Large Multilocular Dermoid Tumor; Pregnancy at Seven Months; Induction of Premature Labor; Living Child; Ovariectomy Five Weeks after Delivery; Recovery.*—Mrs. C. S., forty-one years of age, multipara, consulted me May 7, 1886, for an abdominal tumor, which I pronounced to be an ovarian polycyst, probably partly solid. Her umbilical circumference was forty-four inches. As I was about to go abroad, and the tumor was growing very slowly, I advised her to wait until the autumn, and then return to the city from her home in New Hampshire and have it removed.

In the autumn she wrote me that she was four months' pregnant. I advised her to come on at once and have the tumor removed. But I heard nothing from her until January 18, 1887, when she came to my office. She was then fully six months pregnant, and I deemed it wiser for her to have premature labor induced as soon as the child was viable, and defer the ovariectomy until a later period. Accordingly, on February 25th, when her size had become such as to materially inconvenience her, I induced labor by inserting and leaving a catheter in the uterus, and the subsequent use of Barnes's bags. A living child, weighing four pounds and a half, was born, which was brought up by hand, and eventually thrived well.

On March 30th I performed ovariectomy, removing a dermoid cyst of the right ovary, weighing twelve pounds, and containing numerous smooth, yellow balls of the size of hazel-nuts floating in a pea-soup-colored fluid. These balls were examined by Professor Welch, of Johns Hopkins University, Baltimore, who pronounced them a great rarity, there being only two other cases on record—one by Rokitsansky, Sr., the other by Routh, of London. Since then Christian Fenger, of Chicago, has reported a similar case from his own practice. Professor Welch states that the balls are composed of sebaceous matter, each ball containing one hair. The manner of their formation and of their acquiring so uniform and regular a shape, as by attrition, is a mystery.

The second ovary, being cystic, was also removed. Recovery was uninterrupted until the third week, and the patient

was out of bed, when she was suddenly and mysteriously attacked with acute pyelonephritis, which for a time jeopardized her life, but from which she gradually recovered perfectly, returning home in June.

Having this spring had two cases of acute nephritis with pus and albumin in the urine, both occurring three weeks after laparotomy, in which ether was the anæsthetic used, and there being no other cause for the nephritis discoverable, I have done my last ten or twelve laparotomies under chloroform, without observing any kidney complications.

CASE III.—*Dermoid Tumor of Each Ovary; Chronic Peritonitis from Rupture of One Cyst; Pregnancy at Five Months; Ovariectomy; Immature Delivery; Recovery.*—Mrs. B., twenty-three years of age, four months in her second pregnancy, consulted me April 2, 1887, by advice of her physician, Dr. S. Glück, for a bearing-down sensation, which, she having had a very difficult first confinement, caused her more mental uneasiness than physical pain. I found the pelvic cavity filled with an elastic, immovable mass, the cervix high up on the left, barely recognizable by the finger. Through the abdominal walls an indistinct enlargement could be felt on the right side reaching to the umbilicus; on the left side a solid tumor of the size and shape of the spleen. A subsequent examination, under chloroform, at the home of the patient, showed that the tumor in the pelvis was undoubtedly an ovarian cyst, and the tumor in the right side of the abdomen the gravid uterus. The nature of the small, hard tumor on the left side was doubtful. I made the diagnosis of an impacted ovarian cyst in the pelvis, with pregnancy of about five months, and advised speedy laparotomy as the best means of securing not only a continuation of pregnancy, but also a possibility, if pregnancy should not be interrupted, of permitting the birth of a living child *per vias naturales*, which, under present conditions, was, even at that early period, impossible. The other alternatives were, first, to puncture and empty the pelvic tumor, and take the chances of its refilling before the time for natural labor came on; second, the induction of abortion at once, which would, of course, deprive the patient of the possibility of bearing a viable child; and, third, the postponement of operative interference until at or near term, when ovariectomy, or probably Cæsarean section, might be called for.

Considering the excellent results obtained by ovariectomy during pregnancy in the many reported cases, as regards the persistence of pregnancy and the recovery of the mother, and the dangers and uncertain results of puncture of the pelvic cyst and Cæsarean section or ovariectomy at term, I advised early removal of the ovarian cyst, with the hope that the pregnancy would not be interrupted. Realizing the grave character of the case, I asked for a consultation with Dr. T. G. Thomas, who, after a thorough examination, concurred in my opinion.

Therefore, on April 23d, I operated at the patient's residence, all the usual antiseptic precautions (removal of carpets, curtains, furniture, fumigation of room, spray several hours before, etc.) being observed, with the assistance of Dr. Glück, who kindly administered the chloroform, and my associates, Dr. Grandin and Dr. Wells.

In reaching the peritoneum the first difficulty was encountered, for the, as it proved, very much thickened peritoneum was hard to recognize. Only careful dissection prevented my injuring the bladder, which proved, when the peritoneal cavity was opened, to be attached to the peritoneum and the tumor on the left side, and was thereby drawn up nearly to the level of the umbilicus. I first removed this left tumor, after ligating

and severing its attachments to the bladder, and found it to be a solid dermoid tumor filled with *black* hair. On searching for the pedicle of the right or intra-pelvic tumor, I was at first puzzled to find it, and thought I had to deal with an intra-ligamentous cyst which had grown down into the pelvic cavity. My only choice seemed to be to split its capsule and enucleate it, or else to open and drain it through the vagina. But, on following the course of the Fallopian tube down toward the tumor, I suddenly grasped a large flaccid sac lying loose in the abdominal cavity, which, on lifting it up, I found contained a rent into which I could pass my hand. The escape of abundant fluid from the peritoneal cavity when it was first opened was now explained. I had believed this fluid to be ascitic, the result of the chronic peritonitis, which was but too evident. But now I saw that this fluid was the contents of the ruptured right cyst (the escape of which months before—I afterward learned that the patient had had an attack of peritonitis one year and a half before—had caused the thickening of the peritonæum and the adhesions). Drawing on this flaccid sac, I was able to dislodge the pelvic tumor, which was multilocular and semi-solid, and to bring it through the abdominal incision. Its pedicle was very broad and vascular, and I was obliged to clamp, tie, and sear it so close to the uterus that I at once expressed the fear that that organ in its gravid state would not bear such active interference. This pedicle, like that of the left side, was dropped, and the abdominal cavity was thoroughly washed out with a solution of boric acid, 1 to 1,000, poured in from a pitcher. The abdominal wound was then closed by running catgut sutures applied in layers, beginning with the peritonæum. No drainage tube was used, although the last sponge on a holder removed viscid fluid from Douglas's pouch. But, as the large gravid uterus interfered with the insertion of a glass drainage-tube, and as none but a curved or flexible tube would have answered, which was not at hand, it was thought best to take the chances of omitting drainage, trusting to the non-receptivity of the thickened peritonæum to septic influences, an assumption which proved correct.

The next three days were anxious ones, for the patient began to vomit soon after recovering from the chloroform, and nothing apparently could be given to check this distressing symptom. On the third day uterine contractions set in, in spite of the hypodermics of morphine which had been given at intervals since the operation to keep the uterus quiet, and on the fourth day I was suddenly called to find the whole intact ovum escaping from the vulva. Fortunately, the uterus contracted well, and no hæmorrhage took place; therefore no ergot was given. Several hours later the temperature rose to 101°, the pulse to 130; the patient was dreadfully collapsed, the tongue being dry and red, the lips parched and chafed, and the blood apparently stagnating in the extremities, through the skin of which the purple veins could plainly be seen. The vomiting also persisted. I felt obliged to consider these symptoms due to septicæmia, and confess that I feared a rapid fatal issue. I ordered five drops every hour of a two-per-cent solution of cocaine for the vomiting, and hypodermics of camphor and ether, and left the patient late in the evening, feeling doubtful as to whether I should find her alive next morning. But, after all, these threatening symptoms must have been due entirely to mental shock, produced by the disappointment of the patient at losing her child with no prospect of another, this shock acting on a system weakened by three days' vomiting, for, after a few doses of cocaine, the vomiting ceased, reaction came on, and on the next morning I found the patient visibly better. From that time on convalescence was undisturbed, and the patient left her bed on the twentieth day. She is now a perfectly well woman. The uterus has regained its normal position in the pelvis, but

is very little movable owing to the adhesions of the pedicles of the tumors and the chronic peritonitis.

The tumors were both dermoid, the left one being solid—that is, filled with sebaceous matter and *black* hair—the right one being multilocular, one sac containing *blonde* hair, the remainder presenting the usual appearances of an ovarian polycyst. The contents were so thick that an attempt to drain them through the vagina would have failed. This latter (pelvic) tumor fortunately had no adhesions whatever.

That the patient should have conceived with both ovaries so fearfully degenerated is indeed a marvel, and should teach us a lesson to preserve even portions of ovaries with the pervious tube (if the latter is pervious) during ovariectomies.

These three cases of pregnancy complicated by ovarian tumors illustrate several phases of this rare combination, the first being an instance of ovariectomy during pregnancy, with preservation of the fœtus till term and recovery of the mother; the second, the induction of premature labor, with the delivery of a living and still living child, and the early subsequent removal of the tumor, with recovery; the third, successful removal of the ovarian tumors, but interruption of gestation in consequence. So far as the chances of recovery from ovariectomy during pregnancy are concerned, they are fully as good as when no pregnancy exists. As regards the continuance of gestation, in the early months usually the prospect is also favorable. In the later months, when the child is viable and likely to survive, the induction of premature labor would appear to be preferable, with subsequent ovariectomy. When the operation is not urgent, it is well to defer it until the child has attained viability, in case the operation should bring on labor. I regret that in my third case the peculiar seat of the tumor in the pelvic cavity, and the fear of extensive adhesions and an increase in difficulty of the operation, if it was deferred, obliged me to advise and perform it when the child was not yet viable. In another similar case I think I should take the chances of waiting until the seventh month, in order to secure a viable child in any event. But the greater difficulty of the operation, and the increased danger from septic infection and uterine hæmorrhage at a later period of gestation, must also be borne in mind in deciding the question whether it is wise to postpone the operation. For, after all, the mother's life is always the chief consideration. Tapping the cyst is not to be advised, even as a means of temporary benefit, except in cases where immediate relief from distension is called for, and ovariectomy can not at once be performed.

20 WEST FORTY-FIFTH STREET, *June 30, 1887.*

The Health of Boston.—During the week ending Saturday, July 30th, the following numbers of cases and deaths from infectious diseases were reported to the Board of Health: Diphtheria, 5 cases and 2 deaths; scarlet fever, 8 cases and 1 death; typhoid fever, 4 cases and 2 deaths; measles, 18 cases and 8 deaths. There were also 56 deaths from consumption, 6 from pneumonia, 1 from whooping cough, 11 from heart disease, 3 from bronchitis, and 12 from marasmus. The total number of deaths was 289, of which 111 were of children under 1 year of age, and 38 of children between the ages of 1 and 5. There were 75 deaths from cholera infantum.

FURTHER RESEARCHES UPON THE PHYSIOLOGY OF THE RECURRENT LARYNGEAL NERVE.*

From the Biological Laboratory of the Johns Hopkins University.

By FRANK DONALDSON, JR., B. A., M. D., BALTIMORE,
SOMETIME SCHOLAR IN BIOLOGY IN THE SAME; FELLOW OF THE AMERICAN
LARYNGOLOGICAL ASSOCIATION, ETC.

In a paper read before the American Laryngological Association, in June, 1886, I related a series of experiments undertaken to test the accuracy of some work by Hooper, of Boston, on the respiratory function of the human larynx, the results of which had been given to the society the year previous.

My own conclusions differed widely from his. This present article deals with a further series of experiments upon this important question, which were this time performed to test the accuracy of *my own observations*.

The following statements will be found ("American Journal of the Medical Sciences," July, 1886, p. 96) in the body of my article: "My experiments were undertaken to test the following points:

"1. Is it true that the constrictors (of the larynx) cease to act during *profound* narcosis, or when *consciousness* is *suspended* from any cause?

"2. Do we, as Hooper says, *always* get *abduction* of the arytenoids (dilatation of the glottis) on stimulation of the recurrent nerves, when *consciousness* is *suspended*?"

I would call special attention to the wording of these sentences, for it (the wording) has an important bearing upon the chief points of this paper.

Again (p. 100, *ibid.*): "My conclusions from my *first* series of experiments are:

"1. That the constrictor muscles of the larynx *do not* cease to act during *profound* narcosis, or during *suspension* of *consciousness* from any cause, or, in other words, that their action is not dependent upon volition in the sense that they lose their power with the loss of volition.

"2. That we do not *always* obtain *abduction* of the arytenoids when *consciousness* is *suspended*."

From my *second* series of experiments I concluded (*ibid.*, p. 100):

1. That the *abduction* obtained was not reflex.

2. That *abduction* was in no way dependent upon the *unconsciousness* of the animal, as held by Hooper.

3 (and most important in view of my later experiments). That it was with weak stimuli *only* that *abduction* of the cords took place, which movement of *abduction* gradually passed into one of *adduction* as the strength of the stimulus was increased.

4. That this result *invariably* followed, whether the animal was *slightly*, *deeply*, or *thoroughly* narcotized, whether the animal was *eupnoëic* or *apnoëic*, when the dog had had his *medulla destroyed*, and after *local death* had taken place.

5. That the rate of stimulation did *not* affect the general result.

6. That, after strong and constant stimulation, the *ab-*

ductor muscles became worn out, and ceased to answer to stimuli.

7. That in apnoëa the cords came nearer the middle line, the abductors receiving no stimulus in this condition from the respiratory center; and, finally, that,

In the first series of experiments, *adduction* resulted under all conditions of *unconsciousness*;* in the second, *abduction* in all conditions of *consciousness* or *deep narcotism*, provided the stimulus was weak.

In the discussion which followed the reading of my paper Dr. Hooper used the following language, to which I would call special attention. Hooper said:

"Dr. Donaldson had laid great stress on what he called his (Dr. Hooper's) theory of the innervation of the larynx. He was not aware before that he had had a theory on the subject.

"In his paper he had detailed the results obtained from certain experiments, and, in passing, offered, more as a suggestion than anything else, that they might be explained in a certain way. The reader had expressed agreement with him in one point in which he least expected support,† and had disagreed with him upon points that admitted of no doubt (the Italics are mine), and were so firmly established by repeated experiments that he was convinced that the reason Dr. Donaldson had failed to confirm his (Hooper's) observations was due to some error in his method of experimentation.

"The phenomena which Dr. Donaldson's (perhaps) hasty experiments had failed to show him could be demonstrated with ease, and repeated as often as might be desired. He understood with regret that Dr. Donaldson's paper was to appear in the July number of the 'American Journal of the Medical Sciences,' since it contained so many statements which were inaccurate." (The Italics are mine.)‡

So much for Dr. Hooper's criticism of my experiments. It will now be necessary to give in detail the chief arguments of his paper, and afterward the conclusions which he draws from his experiments. Hooper says (p. 13, "Transactions" of this society, June, 1885):

"It is a familiar fact to all that, if anything other than air finds its way into the larynx, it produces, through reflex action, a sudden closure of the glottis. It is equally certain that, under normal conditions, the same contraction of the laryngeal muscles may be instantly called forth by direct stimulation of one or both of the recurrent nerves. Now, it may with reason be asked, How is it that this constricting action of the phonatory muscles is brought about, if it be true that the nerve fibers animating the dilators of the glottis are the stronger and the more numerous? Why should we not get *abduction* of the vocal bands, instead of *adduction*, on irritating the recurrent nerves? The phonatory muscles are to the respiratory muscles as five to two, and the closure of the glottis has always been ascribed to the superior numerical strength of these constrictors. Yet if we compare, bulk for bulk, the muscular fibers which compose the five muscles of phonation with those of the two respiratory muscles, we do not find that they are much, if any, in excess of the latter, and we venture to think that there is

* The stimulus used was very strong.

† On further experiment, I am forced to change my opinion on this point (the supposed proclivity of the abductor fibers to disease), and I now agree with *Senon and Horsley*.

‡ I should add that I (with others) put a wrong construction on two sentences in Hooper's paper; but this did not in the least affect the value of my observations.

* Read before the American Laryngological Association at its ninth annual congress.

some other factor concerned in this phenomenon apart from mere muscular force. It may be sought, perhaps, in this important difference between the respiratory and the phonatory function of the glottis—namely, that while the respiratory muscles are ever on the alert, holding the glottis open during the entire life of an individual, in his waking as well as in his sleeping hours, *the phonatory muscles, on the other hand, are more dependent upon the consciousness of the individual in order to respond to any irritation.* To explain: The phonatory function of the phonatory muscles could, as far as life is concerned, be dispensed with. Not so their constricting action with the view of excluding the passage of foreign bodies to the lungs. The constrictor muscles of the larynx are the sentinels that guard the approach to these vital organs. But *they cease to act if the animal is in profound narcosis*;* they are asleep, so to speak, on their watch. A man in the condition known as ‘dead drunk,’ lying, let us suppose, with his mouth open, would offer no obstacle to prevent any living insect that chanced his way from crawling in and out his mouth, or meandering around in his larynx *à volonté*, without exciting reflex contractions of its muscles. The power of ether, chloroform, and other anæsthetics to impair the action of these constrictors is too well known to need mention. To carry this line of thought a little further should we not expect that, provided we could preserve the organic life of an animal while its *volition was at the same time completely abolished*—should we not expect, we ask, under these circumstances, to get a *dilatation* of the glottis on irritating the recurrent nerves instead of a closure, for the posterior crico-arytenoid muscles are muscles of organic life? *Indeed, we believe we should, and we submit the following experiments in support of that belief.*”

Again (p. 16 of “Transactions”) Hooper says, after describing an “unexpected abduction”:

“On the assumption that the *degree* to which the animal was *narcotized* might have something to do with these phenomena, a larger quantity of ether was administered, and, after the dog was profoundly under its influence, *abduction* of the vocal band was obtained. On removing the ether, the abduction became less and less as the animal *regained consciousness*, when finally a contraction of the glottis supervened.

“Again, the intensity of the stimulus used ‘was from 1 to 8, never over 10, and generally about 3’” (p. 17, *ibid.*).

Briefly, from his series of experiments, he concluded:

“1. That the *constrictor* functions of the larynx are dependent upon *consciousness*. (See above.)

“2. That stimulation of the recurrent nerve always produces *abduction*, provided the animal is deeply under ether; that, on removing the anæsthetic, the dilatation produced by stimulation becomes less and less as the animal *regains consciousness*, until, finally, *contraction* of the glottis follows.”

In other words, Hooper concluded that the tendency of the glottis was to remain widely open, and that any given stimulus from the recurrent nerve would bring the *abductors* into action, unless *volition (the will)* came into play, when it would produce *adduction*.

Finally, on page 17, near the bottom, he says (the Italics are mine):

“These phenomena were observed *after the recurrent nerve had been cut* and its peripheral end stimulated, as well as when

the nerve was intact,” and “irritation of the recurrent nerve was followed by the *usual* abduction of the vocal band, an action (page 18) we have become accustomed to regard as the normal, *provided the consciousness of the animal had been completely abolished* by sulphuric ether.”

Now, the points in Hooper's paper to which I would direct attention are:

1. In no place in his whole article does he *once* allude to any *peripheral* effect of ether on the laryngeal muscles.

2. The abduction obtained by him was in every case attributed to *suspension of consciousness* (see statements quoted above), and not to *any peripheral effect* of that drug.

3. He distinctly states that he got his result on stimulation of both the *cut* and *uncut* nerve.

4. He failed to see that *by the cutting of the nerve he once and for ever suspended consciousness* for the larynx, and that no amount of ether could suspend it further. He failed to see that any effect following its administration must of necessity have been a *peripheral one*.

And therefore Hooper's conclusion on page 18—that *abduction was normal provided consciousness was abolished*—was as extraordinary as it was unjustified and unscientific.

In this connection, Semon and Horsley say* that it was remarkable that Hooper should have overlooked this *peripheral* effect of ether, for he got his results with the nerve *cut* as well as *uncut*.

That Hooper was dealing with a peripheral effect, *though he thought it central*,† even after he had *cut* the nerve, and no impulse could get to the larynx from the cortex, is noticed, too, by H. P. Bowditch, in an article ‡ in the “American Journal of the Medical Sciences” for April, 1887, and upon this point he lets Hooper down very gently, thus:

“Dr. Hooper recorded the observation that stimulation of the recurrent nerves of dogs causes a dilatation of the glottis when the animals are thoroughly etherized, but a constriction when they are slightly or not at all under the influence of the drug.

“As the *phenomena (abduction) occurred equally well whether the stimulation was applied to the intact nerve or to its peripheral end after section*, it was evident that the action of the drug must be either upon the *peripheral* portions of the nerve or upon the muscles.” (The Italics are mine.)

Dr. Bowditch says: “It was evident.” It could not have been to Hooper, for he makes not the slightest reference to any such fact, invariably attributing his abduction to *suspension of consciousness*. Again, Hooper says the stimulus he used was generally at 3. I am now in a position to state that in ninety-nine cases out of a hundred any stimulus having the strength of 3 will always give *abduction* of the vocal cords.

* “On an Apparently Peripheral and Differential Effect of Ether upon the Laryngeal Muscles,” “British Med. Association,” 1886.

† We can not give any greater proof of this fact than his statement on page 18—viz.: “Just in proportion as *consciousness* was *decreased* the adductors became sluggish,” and so on.

‡ “The Action of Sulphuric Ether on the Peripheral Nervous System.”

* The Italics throughout are mine.

But to return to Dr. Bowditch's paper. On page 453 he says:

"Donaldson, though unable to obtain the ether effect, did observe a dilatation of the glottis when the recurrent nerve was irritated with *very weak* stimuli."

Now, there is not one word in my paper on the "ether effect." I was combating Hooper's "consciousness theory," and endeavoring to get at the physiology of the recurrent nerve; I was *not* investigating the *peripheral* effect of ether. I stated very plainly that *whether* the animal was narcotized or not, whether it was alive or dead (locally), the *opening* or the *closing of the glottis depended upon the strength of the stimulus*.

I do not for one moment deny that ether does *prolong* abduction and in many cases does away with all adduction; this statement is confirmed by the experiments about to be related. But there are several statements in Dr. Bowditch's paper (which, however, I take it, are to be credited to Hooper, as he is quoted as part author), and these I desire to greatly emphasize (the *Italics* are mine):

1. "It has not been found possible in these experiments [done by Hooper, I suppose he means] to obtain a *dilatation* of the glottis by *any* stimulation of the recurrent nerve *unless* the animal was under ether."

2. "When the animal is etherized, the effect of irritating the nerve varies with the depth of the narcosis and strength of the stimulus."

3. "If the animal is thoroughly under the influence of the drug, *dilatation* of the glottis is *produced* by *irritations* of *all* intensities."

4. "The observation of Donaldson, that dilatation is produced by feeble, and contraction by strong, stimuli, is therefore correct for a *certain stage* of etherization, but for the *unetherized* animal *his statement has not been confirmed*. . . . In view of *Hooper's*" (the *Italics* are mine) "*failure to obtain dilatation on unetherized dogs, it seems probable that in Donaldson's cases the drug had not been completely eliminated*." (*Ibid.*, pp. 453, 454.)

Before passing to my present series of experiments, I would say that, with due deference to the Boston observers, they have somewhat shifted their ground. Not a reference is made to the rôle which Hooper said *consciousness* played in the closing of the larynx, and a great deal on the peripheral effect of ether, to which Hooper, in the paper I originally criticised, made no allusion, and which, indeed, he entirely *failed to notice*.

To recapitulate, Hooper says, then:

First. That *adduction* was dependent upon *consciousness*.

Second. That *abduction* can not be obtained from any stimulus *without* giving ether.

Third. That my statement (see Dr. Bowditch's paper, page 453) as to the effect of weak and strong stimuli is *not true* except with ether.

Fourth. *That my original paper is full of inaccuracies.*

So much for what Hooper says.

He does *not* say a word about the *peripheral effect* of ether, though he had *cut* the *nerve*, and it was plainly what he was dealing with.

(To be concluded.)

SALOL AND ICE-WATER ENEMATA

IN THE TREATMENT OF
DIARRHŒA, DYSENTERY, AND INTESTINAL INFLAMMATION.

By A. H. GOELET, M. D.

It is alleged for salol that it passes through the stomach unchanged, and that when it reaches the small intestine it is changed into salicylic acid. Consequently it has been recommended for the treatment of rheumatism and as a febrifuge of the same rank as antipyrine and antifebrine.

Taking into consideration the change which takes place in the intestines, the thought occurred to me about two months since that it would be an excellent remedy for the antiseptic treatment of bowel complaints, including typhoid fever; and, acting upon this idea, I prescribed it in the first case which came under my observation:

The patient was an adult who had had a bad diarrhœa for three days, and had been treated for thirty-six hours with bismuth, ext. pancreatis, and bicarbonate of sodium, and a milk diet, with no benefit. I ordered gr. x of salol to be taken every two hours, and made him promise to report the next morning, which he did, saying that he had come only because he had promised to do so, but he was all right and needed nothing else. The movements had ceased after the second powder, as had also the pain and wind cramps. I ordered him to take a powder an hour before his meals for two days and then report again. The diet was not restricted, except that fruit and vegetables, other than potatoes, were forbidden. He reported according to promise, and his movements had been natural and once a day only, showing no constipating effect of the medicine, a condition which is often very troublesome after the opium treatment.

Encouraged by this result, I next tried it in a case of acute indigestion or diarrhœa and vomiting in a child fifteen months old:

I ordered gr. j to be given every two hours, dry on the tongue, with a teaspoonful of water after it. The vomiting ceased immediately, and in six hours the diarrhœa had ceased. Ordered the powders to be continued every four hours. The next day the stools were natural and the powders were discontinued.

Case after case could be cited in substantiation of the correctness of this treatment, but it is sufficient to say that it is the only purely satisfactory remedy I have ever used in these cases, and I hesitate to trouble readers with a citation of so many cases so exactly similar in result, and I must devote some space to the important matter of dosage in children, which I have learned only from an extensive experience, as the remedy has never been recommended for such use before, and the adult dose only was given in the pamphlet which was issued with the introduction of the drug in this country.

While the adult dose is ten grains, the dose is much larger in proportion for children, and varies very considerably with the age. For a child six months old or under the dose is half a grain every two hours. From seven to ten months old the dose may be from one half to three quarters to one grain, according to the severity of the symptoms and the strength of the child. A child one year old may be given from a grain to a grain and a half, according to the severity of the symptoms. A child fifteen to eight-

een months old may take a grain and a half to two grains. At the age of two years the dose would be two grains. For three years of age the dose would still be two grains to two grains and a half. Children of four years would require only two and a half to three grains, and those of five to six years would require only three or three and a half grains. And from this age to ten it is seldom necessary to give more than five grains. It is always given to commence with every two hours, and as the symptoms are relieved the interval is lengthened to three or four hours. As in the first case, I sometimes give it three or four times a day for twenty-four or forty-eight hours after the subsidence of the trouble.

The application of salol in bowel complaints is very extensive. I have used it in all with the same pronounced success. In typhoid fever, every three hours, there is nothing better. While I can not say that it shortens the attack, it relieves the excessively disagreeable odor of the feces and the tenesmus and flatulence produced by the accumulation of wind in the colon. In fact, I know of nothing which so satisfactorily relieves the accumulation of wind in the bowels in any condition.

In one case in which there was looseness of bowels with fever 100° to 100.5° F. in the morning, with an increase of one degree in the evening, with tenderness in the right iliac region and a typhoid odor to the stools, which were pale green, showing strong suspicion of typhoid fever, salol in ten-grain doses every two hours relieved the condition, and in a week the symptoms had disappeared. I believe in this case typhoid fever was aborted. I am the more willing to believe this after I have seen more of the prompt relief afforded by salol in the severe bowel trouble of genuine typhoid fever.

Intestinal inflammation of children in summer, if treated by salol to correct putrefactive changes in the bowels, and a proper diet, need no longer be feared unless it has been allowed to exist too long before treatment is begun.

Diarrhœa and dysentery of children in summer is more promptly relieved by salol than anything else. Let me here outline a general course of treatment for these cases. To begin with, stop all food for twenty-four hours. If the little patient is thirsty, use a decoction of salep cold. This is made as follows: A saltspoonful of powdered salep is rubbed into a paste in a cup with a tablespoonful of cold water and a pint of boiling water added slowly, stirring it all the while. This is set on the ice, and, when cold, it may be given to the child almost *ad libitum*, but in small quantities at a time. Give the salol in appropriate doses every two hours until there is marked improvement in the bowels, and apply something warm to the abdomen. In the majority of cases the little patient will be ready for food in twenty-four hours. This should then be given in small quantities at first, and it must be of the proper kind.

Milk is unreliable in hot weather because of its extreme proneness to develop the poison named by Professor Vaughan tyrotoxicon.

The same objection holds for artificial foods which require the addition of milk at that season of the year.

Most foods also contain starch, which is likewise seri-

ously objectionable to an infant under one year old with weak bowels. I prefer, and am in the habit of using, a malted milk food made by Horlick, of Racine, Wis., which is the same as his original food, except that in the process of manufacture milk is used instead of water; and in preparing it for use, water only is used instead of milk, as in the original food. Thus the necessity for using suspicious milk in the preparation of the food for the infant is avoided.

It is best to continue the salol for a day or two after the bowel trouble has subsided.

An important addition to our therapeutic resources is the ice-water enema, and it is indicated and used with advantage in all conditions of loose bowels, but it is more especially indicated where there is rectal tenesmus with bloody or slimy stools and an increased temperature. There is nothing which will so promptly relieve the little sufferer as well as the anxiety of the mother. A case in point which will illustrate the truth of this assertion is the following:

A child, seven months old, was brought to me about midday with a temperature of 103° , constant tenesmus of the bowel, with stools every half-hour, consisting of watery discharges, with slime streaked with blood toward the last. The child had been sick for three days, and had been treated with bismuth, chalk, etc., with no benefit. It was peevish and fretful, and had slept scarcely any for two days and nights. An ice-water enema of half a pint was given at once, and the child was made to retain it; and half-grain doses of salol were ordered every two hours. The mother was directed to repeat the enema at six o'clock if it was necessary, and to report the next morning.

She stated that the child had slept until after six o'clock, the first real rest it had had for two days, and that it got only one powder before that time, and had no movements; that the next morning it was all right, and ready for food.

Another case was that of a child, three years old, who had been troubled with diarrhœa all day, and had received no treatment, when, at six o'clock, the mother, becoming alarmed by the frequency and offensive odor of the stools and the pain the child complained of, sought advice. To her horror, I gave an enema of ice-water, which instantly relieved the little sufferer, and established it with favor in the eyes of the mother; salol, in two-grain doses, was all that was needed afterward.

It is always best, for the moral effect upon the attendants, to add something to the enema, and let them believe at first it is that and not the water which produces the effect. They will then the more willingly submit to the use of the remedy; and at the same time I believe it is best, where there is an offensive odor to the stools, to use some antiseptic, such as hydronaphthol or salicylate of sodium, in small quantity. Carbolic acid would be objectionable on account of its poisonous effect in quantity large enough to be of use, and because its odor would betray its presence.

The manner of giving the enema is important, as it is desired to have it retained as long as possible, and this is sometimes difficult to accomplish in young children unless one understands it thoroughly. It is best for the physician himself to give the enema, at any rate, the first, and, unless he is willing to do this, he need not look for success.

An ordinary Davidson syringe may be used very slowly,

but the fountain-syringe is preferable, raised only just high enough to have the water flow in slowly, and at intervals the stream should be checked for a while by pressure upon the tubing.

By proceeding in this way, and holding the buttocks together firmly with a towel over the hand, which at the same time holds the nozzle in the rectum, the child can be made to receive and retain a considerable quantity, if the recumbent position is insisted upon for a few moments after.

Let any one who doubts the value of these two remedies try them for himself, and I feel fully satisfied that he will be grateful for the hints he received from this slight contribution.

THE ANATOMY AND PHYSIOLOGY OF THE RECURRENT LARYNGEAL NERVES.

By FRANKLIN H. HOOPER, M. D., BOSTON,

FROM THE PHYSIOLOGICAL LABORATORY OF THE HARVARD MEDICAL SCHOOL.

(Concluded from page 103.)

WE must here leave this subject of the action of sulphuric ether upon the laryngeal muscles of dogs with the regret that we have no explanation to offer why the glottis should dilate under its influence and contract without it. We are inclined to doubt if much light will be thrown upon the cause of the phenomenon by experimental studies on the nerve-trunks themselves such as we have instituted. The secret resides more likely in some histological or chemical difference between the opening and closing muscles of the glottis, and researches in this direction may, we trust, furnish the explanation.

In coming now to our experiments on the cat, we shall find that the normal action of its recurrent nerves is to produce an opening of the glottis instead of a closure, as in the dog. We are at a loss to account for this difference in these two animals of allied genera. Of the animals we have used for experimental purposes—namely, dogs, cats, pigs, and the horse—the cat is the only one in which dilatation of the glottis is the rule under what may be called normal conditions. We can not speak, therefore, of the “ether-effect” in the cat, since abduction takes place equally well under chloral, chloroform, morphine, or ether.

The cat may be arranged for observation in a manner similar to that we have employed for dogs. The larynx of the cat is of a much more delicate pattern than the dog's, and the vocal bands are longer and more flexible in proportion to the size of the animal.

In the living cat dilatation of the glottis is the rule, when its recurrent or pneumogastric nerves are stimulated, or their peripheral ends after section. The mixed movement, however, is sometimes observed, oftentimes at the end of an experiment, when at the beginning no contraction of either the internal or lateral muscles could be detected. But after the cat is dead the effects change. The abductions grow gradually more feeble, while the closure of the ligamentous portion of the glottis becomes more marked, until finally closure only is elicited. This difference between the action of the recurrent nerves on the glottis in

the living and dead cat suggested that the condition of the blood might play a part in the phenomena, and we consequently tried the effect of asphyxiating the animal in order to see if we could bring about a closure by the deprivation of oxygen. For this purpose the cat was tracheotomized and allowed to breathe into a small rubber bag attached by a short piece of tubing to the tracheal cannula. As asphyxia was being produced the recurrences were stimulated from time to time, but dilatation was invariably called forth even when the cyanosis was extreme and after the respirations had ceased. In our experience with the living cat we have been able to produce a contraction of the vocal band by but one method, and that reflexly through the pneumogastric nerve. By dividing one of the pneumogastries about the middle of the neck and stimulating the cut end nearest the brain (care being taken not to include the sympathetic), stoppage of the respiration will occur and the vocal band of the opposite side will come to a standstill in the position of expiration; on increasing the intensity of the irritation a decided contraction of the vocal band will take place, it coming in contact sometimes with its fellow. The results of our observations, which have been made on twelve cats, were quite constant, the differences being not in the character of the phenomena, but, as in all experiments on different larynges, in the extent or degree to which the effects are manifested. We subjoin the details of specimen experiments:

February 17, 1887.—Male cat. Etherized; secured on its back with mouth held open; glottis observed through the mouth; pneumogastric and recurrent nerves laid bare; irritation of the trunks of both nerves with stimuli of varying strengths produced dilatation of the glottis; same effect followed stimulation of the peripheral ends of pneumogastries and recurrences after section.

Solution of chloral injected into external jugular vein; stimulation of peripheral cut ends of both recurrences with all intensities produced dilatation.

February 20, 1887.—Male cat. Chloroform first given, afterward chloral. Experiments of February 17th repeated with like results. Left vocal band became paralyzed from some unknown cause. In twenty minutes it began to regain its mobility, the left recurrent meanwhile having been washed with a half-per-cent. salt solution; medulla destroyed; stimulation of cut recurrences immediately afterward gave dilatation.

February 22, 1887.—Male cat. Tracheotomized; ether given through tracheal cannula; stimulation of uncut pneumogastries and recurrences followed by dilatation; left pneumogastric cut; stimulation of its central end causes a contraction of the right vocal band. Toward the end of the experiments on this animal it was noticed that complete dilatation had given place to the “mixed” movement, there being well-marked contraction of the anterior portions of the vocal bands.

February 24, 1887.—Female cat. Chloroform, later chloral; stimulation of uncut pneumogastries and recurrences as in previous experiments; mixed movement was observed to follow dilatation after the nerves had been irritated many times; left pneumogastric cut; irritation of its central end

produced stoppage of the respiration, the vocal band on the opposite side (the right) coming to a standstill in the median line.

This cat died suddenly without apparent cause; immediately after death, stimulation of the recurrenents produced the mixed movement as before; the abductions, however, soon grew very feeble, and in twenty minutes were no longer elicited by stimulating the nerves, while the contractions were still noticed, though less vigorous.

February 27, 1887.—Male cat. Killed at 10.45 A. M.; a few moments later dilatation was called forth by feeble stimuli applied to the pneumogastric and recurrent nerves; the recurrent nerves were now stimulated alternately. At 10.55 irritation of the left recurrent with weak currents produced the mixed movement, which was replaced by complete contraction on increasing the intensity of the stimulus. After this no sign of abduction could be detected, and by 11.15 the contractions had also ceased to be manifested even by the strongest irritations. Stimulation of the right recurrent at 11 produced abduction, which changed into the mixed movement on increasing the intensity of the stimulus. At 11.10 abduction had disappeared; feeble irritation caused slight contraction, which became very marked as the intensity was increased. At 11.20 only very powerful stimuli (100 to 150) produced feeble contraction as the nerve was practically exhausted. The closure after death is more marked in some cats than in others, but the difference from the dilatation during life, with one exception, has been very striking.

This one exception was observed in a cat that had been the subject of one of our asphyxia experiments, and, as the failure to contract occurred on one side only, it may be put down to some accidental cause.

April 15, 1887.—Asphyxia experiment. Female cat. Ether, afterward chloral; tracheotomized; small rubber bag attached by a piece of tubing to tracheal cannula; asphyxia begun at

10.40 A. M. Stimulation of left recurrent produced abduction of left vocal band.

10.42. Respirations fast and violent; tongue and mucous membrane of mouth becoming blue; abduction.

10.45. Respirations much slower; cyanosis extreme; abduction.

10.46. Respirations have almost ceased; abduction.

10.46½. Respirations have ceased; bag removed; glottis is tightly closed, which, when asphyxia was coming on, was widely open; stimulation of left recurrent, as before, caused dilatation of the left vocal band; in a moment or two the cat's normal respirations recommenced; a few minutes later this experiment was repeated.

10.52. Asphyxia begun; stimulation of left recurrent; abduction.

10.53. Respirations 84 to the minute; abduction.

10.54. Respirations much slower; cyanosis extreme; abduction.

10.55. Respirations have ceased; glottis closed; feeble irritation failed to produce abduction as in the previous experiment; on increasing the intensity a slight opening was observed; artificial respiration was used to resuscitate the

animal without success, and the cat may be said to have died at 10.55. We then proceeded to obtain the closure after death, as in previous cats.

10.59. Glottis no longer shut; the vocal bands appear to be a little nearer the median line than the cadaveric position; stimulation of left recurrent gave contraction in anterior portion of vocal band and dilatation of the posterior part (mixed movement).

11.06. The same.

11.09. The same.

11.11. The contraction not so marked; dilatation as before.

11.13. Dilatation; no contraction noticed even on increasing the intensity of the stimulation.

11.16. Feeble dilatation.

11.18. Very feeble dilatation, practically gone.

11.20. Electrode changed to right recurrent; stimulation with feeble and strong stimuli produced contraction; no sign of abduction; the contractions grew gradually feebler, but were elicited for twenty minutes, when the nerve became completely exhausted.

April 17th.—Large male cat; chloralized; irritation of recurrenents produced complete dilatation; tracheotomized and arranged for asphyxiation as in previous experiments.

11.05 A. M. Asphyxia begun; abduction.

11.07. Respirations rapid; cyanosis beginning; abduction.

11.09. Respirations about the same; cyanosis marked; abduction.

11.11. Respirations slow; glottis open; extreme cyanosis; abduction.

11.11½. Respiration has ceased; bag removed; glottis closed; abduction; artificial respiration restored the normal respiratory movements in a few moments; this experiment was repeated three times on this animal with like results.

EXPERIMENT IV.—Cat breathing naturally; stimulation of recurrenents and vagi produce abduction; left vagus and left sympathetic cut; stimulation of central end of vagus stops the respiratory movements, the vocal band of the opposite side (the right) stopping in the expiratory position. On increasing the intensity of the irritation, the contraction of the right vocal band was very marked, the right arytenoid cartilage coming sharply against the left.*

EXPERIMENT XXI.—12.08. Medulla destroyed; stimulation applied alternately to recurrenents gave abduction.

12.14. Mixed movement; decided contraction of the anterior portions of the vocal bands, which was not noticeable before death.

12.20. The same.

12.25. Contraction in front; abduction behind very feeble.

* Stimulation of the central end of the sympathetic increased the respiratory and heart movements, and produced a great fluttering of the right vocal band, which was apparently due to the respiratory efforts. The vocal band was forcibly abducted, but did not remain fixed, it kept "fluttering" in and out, but the outward movements were the more pronounced.

12.30. Contraction both sides marked; abduction of right practically gone; of left very feeble.

12.35. Abduction entirely gone; feeble contraction still called forth with strong stimuli.

We may summarize the experimental results of this paper as follows: 1. The recurrent laryngeal nerves are purely motor in their function. 2. Their action upon the glottis differs in different animals. 3. In the dog their normal action is to close, while in the cat they open, the glottis. 4. In the dog, sulphuric ether and huge doses of morphine reverse the normal action of the recurrent nerves; the glottis, under the influence of these drugs, dilates instead of closing on stimulation of the recurrences. 5. The "ether-effect" varies according to the susceptibility of the dog, to the amount of the drug consumed, and to the intensity of the irritation. 6. Under small doses of ether, stimulation produces in dogs two effects upon the glottis, (1) vibration; (2) closure. Under larger doses, according to the intensity of the irritation, four effects may be observed: (1) vibration; (2) complete dilatation; (3) mixed movement; (4) closure. 7. Under very large doses of ether, closure, in certain dogs, can not be obtained with any intensity. 8. Under small doses of chloral, chloroform, and morphine, stimulation of the recurrent nerves of dogs is followed by the same results as under small doses of ether, namely: (1) vibration; (2) closure. 9. The mixed movement is occasionally seen in dogs when narcotics other than ether are given in large doses. 10. In the cat death reverses the normal action of the recurrent nerves. In from five to twenty minutes after death, stimulation causes a contraction of the glottis, while in the living cat dilatation is produced.

A CASE OF TREPHINING FOR EPILEPSY.

By R. W. SHUFELDT, M.D., C.M.Z.S.,
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AUTHORITIES seem to differ widely upon the question of the propriety of performing the operation of trephining in certain cases of epilepsy where, in the absence of other reliable history, the disease seems to be fairly traceable to some old injury to the skull; and the opinions held by surgeons of the first rank are often diametrically opposed to each other in the premises. In 1871, Ashhurst, in his "Principles and Practice of Surgery," gave it as his opinion that—

"With regard to trephining for epilepsy, I can only say that I consider the operation unadvisable. Its risks are not inconsiderable, sixteen out of seventy-two cases collected by Billings having proved fatal; and when we remember the well-known fact that epilepsy is apparently and temporarily curable by very various remedies, which have at least the merit of being harmless, we should pause before recommending an operation which may not improbably itself cause death, and of which the prospective benefits as regards permanence are certainly doubtful."

Further, this eminent author held that the operation itself was one of the most fatal and dangerous that ever fell to the lot of the surgeon to perform, and he says:

"Perhaps we can most nearly approach a correct estimate of the risks of the operation itself by considering the statistics already referred to of trephining for epilepsy. In these cases the only traumatism, to borrow a Gallicism, is that due to the operation itself, and here we find that 72 cases gave 16 deaths, a mortality of about 22 per cent. But, even with this comparatively small figure, it behooves the surgeon to be very cautious not unnecessarily to employ an operation which of itself kills one out of every four or five patients, more especially as, upon consideration of the pathology and natural history of brain injuries, the probability of benefit from the operation is seen to be limited to an exceedingly small number of cases." (*Loc. cit.*, p. 321.)

So much for Dr. Ashhurst's opinion in 1871; and now, seven years after, an authority of equal prominence publishes, in his exhaustive work upon the "Principles and Practice of Surgery," that—

"It is the apprehension of this disease [epilepsy] that induces some surgeons to apply the trephine in cases of depressed fractures, even when no urgent symptoms are present. The danger from this source I believe to be very much exaggerated."

These are the words of Dr. Agnew, and he further goes on to say in the same connection that—

"Professor Gross has operated four times, with one cure. I have trephined in three cases of the disease: one recovered, one was greatly relieved, and one died. The depression of bone in two of the cases was quite marked." And again: "In cases of traumatic epilepsy, where the traces of the injury originating the disease can be recognized upon the cranium, where there are frequently recurring convulsions, which are not in any way controlled by internal remedies, and where the mental powers are becoming greatly impaired, rendering the patient unable to transact the common business affairs of life or incapable of using the ordinary precautions for self-protection, the use of the trephine is entirely justifiable, and offers the unfortunate sufferer the only prospect of relief." (*Loc. cit.*, p. 305.)

Between these two expressions of opinion the literature of surgery, as we well know, offers us a great many recorded cases of this operation, with every shade of stated conviction as to its justifiableness on the part of the operator. No doubt this has been its status in all ages since the earliest time, for the history of trephining is, as we now know from the archaeologists, one of the oldest in the annals of surgery.

Fully believing that every reliable case of such an operation should be carefully recorded, both as an assistance to the surgeon and perhaps to the ultimate benefit of humanity, I determined to publish here an account of a case wherein I recently employed the trephine, with the hope of relieving a pronounced epileptic of the attacks from which he was a sufferer.

My present residence is at Fort Wingate, New Mexico, and rather more than two weeks ago Dr. Z. B. Sawyer, of Gallup, New Mexico, brought me a man suffering with epilepsy, upon whom he desired to have me operate in the hospital at the station, as there were no conveniences for such a serious undertaking at Gallup.

This patient, a white man of some forty years of age, appeared to be a person of excellent physique and general good health. Upon questioning him, I ascertained that both of his

parents were dead, but that neither of them, so far as he knew, had ever had epilepsy. When he was a child, living in Virginia, and between eight and nine years of age, a negro struck him upon the head with an axe, with the intention of killing him. A fearful wound was the result, but the country physician who attended the case simply washed this, and closed the gap with ordinary sticking plaster. For a long time they despaired of the boy's life, but he eventually recovered, and from the dates it will be seen that this happened some thirty or more years ago.



Showing site of wound and appearance of parts eleven days after the operation.
(From a photograph by the author.)

In 1872 this man contracted constitutional syphilis, from which he suffered more or less up to 1884, at which time he resorted to the Hot Springs of Arkansas. Here he professes to have been so much relieved as to have considered himself cured, and he states that for the last three years he has enjoyed the best of health possible. Notwithstanding this, his physician continually kept him under anti-syphilitic treatment, using principally the iodide of potassium for the purpose, with the occasional exhibition of mercury. So far as I could ascertain by a personal examination, there were no evidences of the disease upon him when he was brought to me for an operation for epilepsy. I did notice, however, a certain hesitation in his speech, but he stated that that had been the case for many years, and, so far as he knew, ever since childhood. He had a very uneasy expression of countenance, and I further observed that his pupils were much dilated, the *left* markedly more than the right one. He said his memory sometimes completely failed him now, and that he often lost track of things that had happened only two or three days previous. About two months before he had suffered from a profound attack of epilepsy, which had come on without any special excitation, and he had remained unconscious for two hours after the attack. He was much worse after this, both mentally and physically, and had considerable pain in the region of the old wound on his head. In about three weeks following he had had another attack of epilepsy, which his friends assert was of a very violent nature, and that he rubbed the top of his head and pulled his hair dur-

ing the fit. It was about a month after this, the latter of the only two attacks he had ever had, that they brought him to me. Examining his head, I found an old depressed scar in the left parietal region, nearly on top (see figure). It was longitudinal in direction, about a centimetre and a half from the median line (sagittal suture), nearly or quite eight millimetres deep, and three and a half centimetres long. Near the center he complained of some pain on pressure, but otherwise the wound had all the appearance of a very old and thoroughly healed scar.

On May 6th I operated upon him in the ward of the hospital at this place. A sufficiently large area of hair having been carefully shaved from about the site of the scar, he was placed upon the operating-table, and came promptly under the influence of the anæsthetic (chloroform, one part; ether, two parts). There was no excitement and no vomiting on his part, and he was ready for the operation in a little more than fifteen minutes. With a sharp scalpel I drew the outline of a horse-shoe flap upon his head, cutting clean to the skull at the first sweep, all the way round, and including the scar near its center. This flap opened in the direction of the ear, and was lifted by simple traction from a hooked-in tenaculum, and the gentle aid of the handle of the scalpel to clear the loose adhering tissue. Considerable hæmorrhage, from four small arteries, instantly followed this incision, but it was controlled at once by the application of the ordinary little wire *serres-fines* used for the purpose. Next, the parts being thoroughly cleansed of blood by sponging with a solution of bichloride of mercury (1 to 1,000 parts), I was enabled to examine the appearance of the scar upon the skull. This I found firmly united, composed of dense bone, but in length and in depth not so extensive as the cicatrix of the integuments which I had just thrown back. At the same time the depression was a considerable one, and my examination of it by no means altered my opinion as to the necessity of the operation. So, with a very large-sized conical trephine, with the smallest-sized teeth to the saw-edge, I removed a button of bone from the skull, which button included the deepest and most central portion of the osseous cicatrix. The button was taken out with an elevator, and, in breaking off, left a little ledge projecting on the outer periphery of the circlet below, while the trephine had slightly scratched the dura mater on the median aspect of the exposed circle. The bone was extremely dense, and there was no appreciable hæmorrhage as the trephine passed through the diploë tissue of the cranium. Examination of the internal table of the button removed showed certain minute roughnesses along the line of the scar, as if two or three needle-like spicula might have been broken off, but all signs of any old stellate fracture had been absorbed, and, if anything, the wall of the cranium was not so thick at the scar as it was in the immediate surroundings. The bone was healthy on both sides, and so was the dura mater. Upon injecting a small stream of water (the antiseptic solution) to wash the blood from the exposed surface of the brain-membrane, two small bleeding points, one above and one below the center of the circle, at once became evident. These were directly in the line of the scar, which latter was plainly visible on the dura mater also; and, as there was no possible way in which such openings could have been made during the operation, it was fair to presume that they were produced by the spicula that must have projected from the nether side of the button of bone which I had removed. It remains to be proved whether such spicula were actually present, and whether they were the cause of the epileptic attacks in this man's case. Having checked all hæmorrhage and thoroughly cleansed the parts, I neatly closed the wound with six fine silver wire sutures, making close approximation all round, but leaving a small corner open at the postero-external end of the incision for such dis-

charges as might take place. A light absorbent-cotton dressing was applied saturated with the antiseptic solution, and the whole kept in place with a light bandage. The patient was then removed to his bed; the time of operation, including the administration of the anæsthetic, was ninety minutes. Rallying from the effects of the operation at once, this man had not an untoward symptom in the entire course of the case. By the end of the third day the wound of the integuments had completely healed, with only a slight discharge of blood on the second day from the opening I had left for it. On the fourth day after the operation he was up and about, taking his regular meals and sleeping all night. To-day is the eleventh day since he was operated on, and I took his photograph in a hot sun in the open air; his face now wears a happy expression, with all anxiety gone from it; the pupils of his eyes are now normal, the dilatation present before the operation having disappeared; in short, he says he feels better in every way than he has for five years past.

Whether he has any return of his epileptic fits remains, of course, to be seen, but that there has been a general improvement in his case there can not be the shadow of a doubt. If his epilepsy is cured by the operation, it may point to one thing in such cases, and that is that possibly it may be wiser to operate *early* upon such subjects, and not wait until their chances of recovery are very much diminished by long-standing epileptic disease, and when their mental and physical condition is reduced almost to the lowest ebb, and an operation is resorted to as a sort of final hope, with scarcely any margin left for amelioration, to say nothing of a complete success.

I was assisted in this operation by Dr. Z. B. Sawyer, of Gallup, New Mexico, and there were present Acting Assistant Surgeon L. N. Clark, of the army, Lieutenant-Colonel J. C. Bates, of the 13th U. S. Infantry, and several officers of the same regiment.

Note.—After the lapse of more than two months since the operation, I learn that there has been no recurrence of the fits, and the man states that his health and faculties are in far better condition than for a number of years before.

EPILEPSY:

ITS CLINICAL MANIFESTATIONS, PATHOLOGY, AND TREATMENT.

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(Continued from vol. xlv, page 689.)

UNDER the designation of "Thalamic Epilepsy" Hammond* has published an interesting case, the chief characteristics of which are "conscious hallucinations, followed by unconsciousness, but unattended by muscular spasm."

With regard to the frequency of the attack, the greatest variations are encountered. Thus, in some cases a year may elapse without the appearance of a single paroxysm, while in other cases the seizures may occur thrice or even half a dozen times daily. Sometimes, again, they exhibit a well-marked periodicity, whereas in not a few cases no kind of regularity whatever is discernible. In yet another class of cases the subject has hardly time to emerge from

one convulsive attack when he is seized by another, the paroxysms following each other in such rapid succession that there is finally no apparent restoration of consciousness between the seizures. This condition is known as the *status epilepticus*—a phase of the disease which has received considerable attention from French writers, notably from Bourneville.* This writer's subdivisions of the condition seem to me, however, unnecessary. The main points to bear in mind are that this form of the attack is, generally speaking, of graver import than the ordinary seizures, that hemiplegia develops in a considerable number of cases, that bed-sores may be developed over the sacrum, and that finally a condition of maniacal excitement with hallucinations, or depression and coma, may succeed the convulsions.

I have seen cases in which from twenty to fifty seizures occurred in the course of twenty-four hours.

The arrest of these convulsions is immediately attained by the application of pressure to the carotids, which is best accomplished with an appropriate instrument.†

So-called "Jacksonian" Epilepsy.—There are certain forms of local or unilateral spasm, occurring usually without loss of consciousness, which have been carefully investigated by Dr. Hughlings Jackson, and which, in accordance with the views entertained by that observer with respect to their pathology, have found a place in medical literature under the designation of "Jacksonian epilepsy." Since the spasms in question are almost invariably due to organic intra-cranial disease, their extended consideration would be out of place in a work of this character. But, since most recent systematic writers are in the habit of devoting some attention to them in connection with the discussion of the pathology of epilepsy, I have decided to give a brief sketch of their principal characteristics, reserving their more extended discussion to a future occasion. While so doing, I can not, however, refrain from protesting against the inconsistency of a pathology which would designate phenomena of this class as epileptic. There is, indeed, no more pathological similitude between these local spasms and true idiopathic epilepsy than exists between the latter and the contractions evoked by the electric current when applied to the motor centers in the cortex.

It is true that Jackson was anticipated by Bravais‡ as far as the description of these unilateral convulsions is concerned, but it was reserved for the former clinician to thoroughly elucidate the morbid physiology of the affection. The researches of Dr. Jackson in this important field are recorded in a series of papers, which have received a wide and merited attention.

"Jacksonian epilepsy" is characterized by the occur-

* "Études cliniques et thermométriques sur les maladies du système nerveux," 1873.

† "Prolonged Instrumental Compression of the Carotids as a Therapeutic Agent," by J. Leonard Corning, M. D., "Medical Record" of February 18, 1882. Also "Philadelphia Medical News" of June 17, 1882. "Brain Rest," by J. Leonard Corning, M. D., G. P. Putnam's Sons, New York, 1883. "Carotid Compression," Anson D. F. Randolph & Co., New York, 1882. "Brain Exhaustion," by J. Leonard Corning, M. D., D. Appleton & Co., New York, 1884.

‡ "Recherches sur les symptômes et le traitement de l'épilepsie hémiplegique," Thèse, Paris, 1827.

* "On Thalamic Epilepsy," "Archives of Scientific Medicine," August, 1880.

rence of partial convulsions, which may be limited to one extremity or to one side of the face, or which, beginning in one extremity, may extend to the other, or even involve half of the body. In rare instances the spasm may extend to the opposite side as well.

As we have already seen, consciousness usually remains unaffected, or, where unconsciousness takes place, it is only evident toward the end of the attack, so that the patient is afterward able to recall what has taken place before and during the greater portion of the seizure.

This form of epilepsy owes its origin to coarse disease situated in or near the cortex. The most frequent cause of the disease is a syphilitic gumma, but localized cicatrices, wounds, tubercle, meningo-encephalitis, and indeed all forms of circumscribed irritative lesions of the cortex, may give rise to the spasms.

When we consider the grave nature of such lesions it is not surprising that the limbs affected by the convulsions may subsequently become the seat of temporary or even permanent paralysis. The latter eventually is prone to occur where the lesion, which at first may have been merely irritative in character, ultimately destroys that portion of the cortex in which it is situated, or against which it impinges. This association of the unilateral convulsions with secondary paralysis has given rise to the designation often encountered in medical literature of hemiplegic epilepsy ("épilepsie hémiplegique"). But why should there be convulsions associated with these profound cortical lesions? Dr. Hughlings Jackson's explanation of this interesting pathological fact is at once ingenious and plausible. He believes that the ganglia in the immediate vicinity of the lesion are kept in a state of morbid irritability, and that consequently they are unduly supplied with blood. As a result of this hyper-irrigation, the ganglion cells absorb an excessive amount of nutriment, so that their superfluous energy finds a vent in sudden explosions, the products of which are the convulsions. These explosions are followed by exhaustion and inertia of the nerve-centers involved, and consequent temporary paralysis of the previously convulsed muscles ensues. As we have already had occasion to observe, however, irritative lesions of this character may eventually destroy the motor centers in the cortex near which they chance to be situated, and with the result of causing permanent paralysis of the muscles over which the centers in question preside.

Sensory Epilepsy.—This variety of the affection has been referred to by Sommers and others, and in a recent and able article Dr. Allan McLane Hamilton* has recorded several cases illustrative of the manifold phases of this form of epilepsy. In the first case there were sudden hemiopia, supra-orbital neuralgia, unilateral anæsthesia of extremities, tongue, and gums, temporary speech disturbance, and loss of consciousness. In another case there were hemianopsia, frontal headache, hemianæsthesia, temporary mutism, and loss of consciousness.

* "A Contribution to the Study of Several Unusual Forms of Sensory Epilepsy which are probably dependent upon Lesions of the Occipital Cortex," by Allan McLane Hamilton, M. D., "Medical Record," April 4, 1885.

The researches of Krause, D. J. Hamilton, Starr, Munk, and Wernicke have done much to shed light upon the morbid physiology of these exceptional forms of epilepsy; but, as the discussion is still by no means closed, I shall refrain from entering further into the consideration of this interesting but obscure manifestation.

Causation.—The most potent *predisposing* cause of epilepsy is probably found in a hereditary neuropathic tendency transmitted from the father, mother, or both. Sometimes, however, this hereditary tendency is not readily discoverable, owing to the fact that one or even several generations have escaped. This circumstance accounts, doubtless, in a measure for the conflicting statistics adduced in favor of or against the theory of hereditary influence. When carefully collected and impartially interpreted, there can be little doubt, however, that statistics go far to prove the great ætiological importance of heredity in this as in other neuroses. It should be borne in mind, in this connection, that it is not absolutely necessary to trace a series of epilepsies occurring in successive generations in order to prove a hereditary influence. On the contrary, all that is required is proof of the existence in the family of a well-marked neuropathic diathesis, experience having shown that such a morbid tendency may exhibit itself in almost any form of organic or functional nervous disease. Regarding the subject from this standpoint, Herpin* found, out of two hundred and forty-three epileptics, well-marked hereditary tendencies in forty-three cases.

The cases reported by Petit† of healthy children occurring in families in which both parents were epileptic have been cited as testimony calculated to destroy the integrity of the theory of hereditary influence. They possess, however, no value whatever so far as the rebuttal of the evidence upon which that theory is founded is concerned, since at most such facts only go to show that one or more generations may escape from the baneful pre-natal influences—a fact already sufficiently well understood by all medical statisticians.

Echeverria's opinion that phthisis in the parents has a tendency to cause epilepsy in the offspring seems to us well founded, though controverted by Nothnagel,‡ who regards the association of the two diseases as explained by the great frequency of phthisis. The fact that a certain condition of instability of the central nervous system is engendered by the malnutrition consequent upon scrofula, anemia, and chlorosis, and that such an unstable condition often eventuates in epilepsy, is indirect evidence of the correctness of Echeverria's position. Consanguineous marriages also appear to predispose to the occurrence of the disease in the offspring.

Alcohol has been considered an important ætiological factor, but evidence on this point is conflicting. There is no doubt, it is true, that chronic alcoholism and epilepsy are frequently associated; but whether the former is the outgrowth of the latter, or whether the epilepsy is to be re-

* "Du pronostic et du traitement curatif de l'épilepsie," Paris, 1852.

† "Gaz. méd. de Paris," 18, 1869.

‡ *Op. cit.*, p. 202.

garded as the result of the alcoholic excesses, is difficult of determination.

Age is unquestionably an important predisposing factor in epilepsy. In one hundred and thirty-eight cases analyzed by myself, I found that in 25 per cent. the disease began under eight years, in 51 per cent. between eight and twenty-five, in 13.5 per cent. between twenty-five and thirty-five, and in 10.5 per cent. between thirty-five and fifty.

Gowers's * statistics differ somewhat from my own; but since they were derived from the analysis of a larger number of cases, they are perhaps more exact. Of 1,450 cases analyzed by this observer, 12.5 per cent. began during the first three years of life, 29 per cent. under the tenth year, 46 per cent. between ten and twenty, and 15.7 per cent. between twenty and thirty.

Hammond † has tabulated 298 cases with respect to the age at commencement, as follows:

Age at commencement.	Males.	Females.	Total.
Under 10 years.....	31	29	60
Between 10 and 20 years.....	178	151	329
Between 20 and 45 years.....	72	71	143
Over 45 years.....	17	23	40
Total..	298	274	572

Sex has a less obvious influence upon the occurrence of the disease than was formerly supposed. The older writers believed that the disease was more common among males than females, but their views do not seem to have been derived from a careful analysis of statistics, and are apparently nothing more than arbitrary assertions. As to recent writers, the opinion is quite generally expressed that the disease is more frequent among males than among females, while one or two observers believe that the proportion between the two sexes is about equal. For my own part, I have no hesitancy in expressing the belief that the disease is at least as common among males as among females. Of 72 cases of epilepsy which I have recently seen in asylum, dispensary, and infirmary practice, 41 occurred in men and 31 in women.

It is possible that the relative frequency of the disease in the sexes may vary somewhat with age; but, be that as it may, there is no doubt that in ordinary hospital practice the disease is somewhat more frequently encountered among males than among females.

The factors which may be classed as *exciting* causes of the disease are undoubtedly numerous. We shall, however, discuss only the more frequent and important of the latter, since to attempt to enumerate them all would be alike devoid of theoretic or practical advantage.

In former times much importance was ascribed to sexual excesses in the production of the disease; but in more recent times a reaction has taken place, so that at the present day it is quite in accord with fashion to undervalue, and even to deny altogether, the ætiological importance of this factor.

From my own observations in connection with this as-

* *Vide* "British Medical Journal," March 6, 1880, as well as subsequent communications.

† *Op. cit.*, 701.

pect of the subject, I can not help believing that modern writers have been too hasty in their conclusions on this point.

It is an undoubted fact that the great majority of epileptics are addicted to the practice of masturbation, and that the habit is quite as prevalent among female as among male patients. Many recent writers, nevertheless, regard the vice as one of the manifestations of the disease, and not as one of its causes. The question is, however, a difficult one to decide, and arbitrary assertions for or against the proposition are evidently inadmissible. But, after all, the most important question to decide is not whether epileptics masturbate during the disease, on account of the latter, but rather whether they were addicted to the vice previous to the advent of the epileptic symptoms.

Out of seventy-two cases of epilepsy which I investigated with regard to this point, 84 per cent. afforded histories of excessive masturbation previous to the first paroxysm. In one case localized spasms began in the left hand, after the practice had been continued for about three years, and in course of time the convulsions became general. There were no paralytic symptoms, and the patient, a young man of twenty-eight, denied having had syphilis. In the face of such evidence, I can not help believing that we are justified in inferring that a causal connection really does exist in some cases between persistent masturbation and the development of that instability of the central nervous system which is so characteristic of the epileptic state. Those cases in which the first epileptic paroxysm was developed during coitus certainly lend strength to the argument. The conclusion is indeed inevitable that sexual excesses constitute a far more frequent predisposing and exciting cause of the affection than is admitted by Nothnagel * and other excellent modern writers.

Epilepsy is frequently evoked by such psychical disturbances as sudden fear, grief, pecuniary and other forms of anxiety, and indeed by all violent appeals to the emotional centers. Such occurrences unquestionably constitute some of the most prolific exciting causes of the disease; but it is extremely problematical whether the epileptic symptoms would have been evoked were the central nervous system not already in a state of morbid receptivity.

Epilepsy is also prone to occur in the course of or subsequent to the occurrence of the febrile disturbances of infancy. It is also frequently developed after injury to a nerve, or as the result of the reflex irritation induced by teething and other causes.

Sometimes the disease is traceable to some cranial injury of such apparent insignificance that it has been speedily forgotten, and only the most careful inquiry serves to elicit the fact. This applies with particular force to young children afflicted with local or general spasms—cases in which we are compelled to rely upon the equivocal testimony of nurses and other ignorant persons. Some of the most severe cases of localized epilepsy (hemi-epilepsy) which have come under my observation occurred in young children who had been dropped by nurses, or had met with some

* *Op. cit.*, p. 203.

other form of accident at the hands of servants. In all such cases there is probably always more or less indirect injury to the brain, with consequent development of grave organic lesions, though, it is true, there may be no external indication of injury.

Blows upon the cranium are not liable to eventuate in epilepsy, according to some writers, unless they are of sufficient severity to cause unconsciousness. This appears to me an altogether too sanguine view of the matter, since I have seen at least two cases of epilepsy in children which developed soon after blows of so slight a nature as to be almost forgotten. There is little doubt in my own mind that the most insignificant concussion about the head, even when unaccompanied by evidences of abrasion, may, sooner or later, develop epileptic symptoms. This observation applies with particular force to infancy and early childhood, when the non-resistant character of the cranial bones facilitates the transmission of sudden shocks to the brain.

Even where no history of a blow is forthcoming, there is strong presumptive evidence that there has been contusion of some kind. Many cases of epilepsy, occurring after slight abrasions about the head, have been ascribed to "reflex" causes; but it is probable that, in a considerable percentage of such cases, there is more or less direct disturbance of the cerebral substance itself, although some time may have elapsed before the appearance of the first paroxysms. In all such cases great care should be exercised in forming an opinion as to causation, since the prognosis will manifestly be much less favorable where the paroxysms are traceable to direct injury than where they are really of reflex origin.

Experimental Researches.—The most important experimental investigations relative to the pathogeny of epilepsy are those of Marshall Hall, Sir Astley Cooper, Kussmaul and Tenner, Landois, Nothnagel, Brown-Séquard, Westphal, Magnan, Hitzig, and Ferrier.

Before discussing the various theories of the disease, which are directly or indirectly the outgrowth of these investigations, it will be advisable to review the experiments themselves, in order the better to appreciate how much objective matter is really embodied in these various hypotheses.

Even among the ancients there is an evident tendency to appropriate the results of the rough experiments at hand to the elucidation of the theory of disease. Thus, Hippocrates* taught that convulsions might arise as well from fullness as from want of blood. He was, doubtless, guided in these statements by observations made upon animals condemned to die in the shambles, coupled, perhaps, with considerations derived from practical experience at the bedside. Kellie,† who made a series of experiments upon sheep, and Piorry,‡ who conducted similar investigations upon dogs, found that copious bloodletting was followed by convulsions. Marshall Hall* and Travers were, however, among the first, if not the first, to note the resem-

blance between the convulsions produced by rapid bleeding in man and other warm-blooded animals and the spasms of epilepsy.

Although, as already noted, the ancients and older medical writers had formed opinions relative to the rôle played by the intra-cranial blood-stream—theories which, even at the present day, bear evidence of a high degree of perspicuity—it is commonly conceded that the fundamental experiments undertaken by Sir Astley Cooper* in 1831 really paved the way for the scientific study of epilepsy. These experiments consisted in ligation of the vertebral and carotid arteries; of both carotid arteries; and of both vertebral arteries. Then, ligation of the carotids first and of the vertebrals nine days afterward; of the carotids and subsequent compression of the vertebrals; and, finally, ligation of the vertebrals and subsequent compression of the carotids.

Of these experiments, that in which the carotids were first ligated, and the vertebral arteries immediately afterward compressed, is perhaps the most important; and I can not therefore do better than quote the same, in the words of Sir Astley Cooper himself:

"As tying the vertebral arteries is a difficult experiment, it occurred to me that I might compress them with my fingers, after tying the carotids, and produce the same effects.

"I tied the carotid arteries; respiration was somewhat quickened, and the heart's action increased, but no other effect was produced. In five minutes the vertebral arteries were compressed by the thumbs, the trachea being completely excluded. Respiration almost directly stopped, *convulsive struggles succeeded, the animal lost consciousness*, and appeared dead. The pressure was removed, and it recovered, with a convulsive inspiration. It lay upon its side, making violent convulsive efforts, breathing laboriously, and its heart beat rapidly.

"In two hours it had recovered, but its respiration was laborious.

"The vertebrals were compressed a second time. Respiration stopped; then succeeded convulsive struggles, loss of motion, and apparent death.

"When let loose, its natural functions returned with a loud inspiration, and with breathing excessively labored.

"In four hours it was moving about and ate some greens.

"In five hours the vertebral arteries were compressed a third time, and with the same effect.

"In seven hours it was cleaning its face with its paws.

"In nine hours the vertebral arteries were compressed for the fourth time, and with the same effect upon its respiration.

"After thirteen hours it was lively.

"In twenty-four hours the vertebral arteries were compressed for a fifth time, and the result was the same—namely, suspended respiration, convulsions, loss of motion and consciousness. On the removal of pressure, violent and laborious respiration ensued, and afterward the breathing became very quick.

"After forty-eight hours, for the sixth time, the compression was applied, with the same effect."

These experiments of Sir Astley Cooper have shown, then, *that ligation of both carotids and simultaneous com-*

* "Aphorisms," sec. vi, 48.

† *Ide* "On Bloodletting," by Marshall Hall.

‡ "Archives générales de médecine," January, 1826.

* *Op. cit.*

* "Some Experiments and Observations on tying the Carotid and Vertebral Arteries," by Sir Astley Cooper. "Guy's Hospital Reports," 1836, vol. i, p. 458 *et seq.* The experiment, cited at length, is continued on pages 465 and 466.

pression of the vertebrals give rise to unconsciousness, suspension of respiration, and convulsions.

Subsequently Kussmaul and Tenner * repeated these experiments in a much more perfect manner upon dogs, cats, and rabbits, and succeeded in conclusively demonstrating that rapid and profuse hæmorrhage is followed by violent and general convulsions. "If," however, "hæmorrhage takes place slowly, and the vital powers are gradually consumed, death appears then to ensue with swooning, drowsiness, delirium, and vascular irritation without convulsions."

"More than twenty rabbits, which we either killed intentionally by rapid bleeding, or which expired while being experimented upon, died under general convulsions like those observed in epilepsy, and which we shall afterward more fully describe. Not one of those which we saw die from bleeding was exempt from convulsions. These convulsions did not differ in any respect from those we observed in several dogs and cats that died from bleeding, or from those described as occurring in men dying from hæmorrhage." †

Kussmaul and Tenner have also shown that an interruption in the conveyance of arterial blood to the brain of a rabbit produces epileptic fits with as much certainty as general hæmorrhage. Referring to this point, they state that "no difference, moreover, could be discerned between the fits observed in death from bleeding and those which occurred in about one hundred rabbits whose carotid and subclavian arteries were tied or compressed below the origin of the vertebral arteries."

And again: "Lastly, we became convinced, by observation of more than a dozen rabbits, that the fits produced by compression of the above-mentioned arteries resemble in every way those brought on accidentally or intentionally in the identical ‡ animals by profuse hæmorrhage after circulation had been restored to the head."

(To be concluded.)

Correspondence.

LETTER FROM PARIS.

Fournier on the Limitation of the Prevalence of Syphilis.—Can a Doctor raise his Fees without giving Notice?—The English Report on the Pasteur Treatment of Rabies.—An American Lady Graduate

PARIS, July 8, 1887.

PROFESSOR FOURNIER has occupied two meetings of the *Académie de médecine* with the reading of his remarkable report on the Prophylaxis of Syphilis—a document of great literary merit, and containing many recommendations on the long-disputed subject of the regulation of prostitution that are quite local in their character. One point that he urgently insists upon is, that all the city hospitals shall be thrown open to medical students. This refers to the custom here of treating the public women in a sort of prison hospital, called the St.-Lazare, where

* Moleschott's "Untersuchungen," Band ii, p. 248, 1857. Also "Epileptiform Convulsions caused by Profuse Bleeding," etc., by Adolf Kussmaul and Adolf Tenner. The New Sydenham Society, London, 1859.

† *Op. cit.*, p. 2, foot-note.

‡ The Italics are ours.

only the physician in attendance sees the great number of patients that would be of immense service for the clinical instruction of the thousands of students. It is true that the large hospitals, such as the St.-Louis, have plenty of venereal cases, but they are far from the centers of study, and M. Fournier complains that many of the students are graduated without a proper knowledge of the modern pest—syphilis. This consideration, together with the fact of the present depopulation of France, the frightful mortality among "heredo-syphilitics," and the inefficient police measures, was the reason why the Academy appointed the commission, consisting of Ricord, Fournier, Le Fort, Bergeron, Léon Colin, and Leroy de Méricourt, to draw up some scheme of reform. In the report, M. Fournier remarked that the subjects of syphilis were not like those of other infectious diseases, in that they were killed or cured quickly; they survived to become permanent disseminators of the contagion. Recent statistics had shown that seventy-one per cent. of infants infected with syphilis *ante partum* died of the disease, and in hospital practice the rate rose to eighty-six per cent. But this was not all; it was well known that many of the symptoms of so-called "scrofula" were only manifestations of hereditary syphilis. As to the social consequences, there was the incapacity to work, with all its attending misery, and an immense increase in the hospital charges; four special hospitals for this one disease were not enough for Paris, as the sufferers were overflowing into all the regular wards. Armies were contaminated, marriage had its dangers to the innocent, and, in fact, the degeneration of the human race was rapidly approaching. Michel Levy had called syphilis "the leprosy of our times." Now, governments bestirred themselves to isolate lepers, and spent immense sums of money to stamp out cholera and small-pox; but syphilis, which made more victims than all three of those diseases put together, stalked abroad openly. To prevent this was difficult for many reasons, one of which was that it was falsely represented as not seeking innocent victims. The world said that it attacked nobody, but had to be sought for—how, we all knew. Why make police regulations, it was asked, interfering with individual liberty for the sake of protecting people who can protect themselves by simply staying away from the sources of infection? In the eyes of the laity, syphilis was a well-merited disease, the result of a long course of debauchery. As a matter of fact, all these notions were utterly false and unjust. How often did it happen that a lad contracted this terrible disease by his first and only fault? If infection was deserved in some cases, there were hosts of others in which it did not follow an illicit act. Was it deserved, for example, by the good wives who contracted it from their husbands, by honest wet-nurses who got it from babies given them to suckle, by the husbands and children to whom these nurses transmitted it, or by the innocent babies who took it from their nurses? Was it deserved when it was contracted in vaccination? Was it deserved by the physicians, medical students, and midwives who contracted it in the exercise of their professional duties? Certainly, in thousands of cases it was undeserved, and to refuse, on such shallow pretexts as had been adduced, to strive for its extermination was against all common sense; we had a right to protect ourselves, and it was for the interest of the general public to protect honest women and children.

The commission proposes to suppress public solicitation by women, by severer measures than those now employed; to attack the disease by treating it properly; and to insist on a full knowledge of its symptoms and dangers being made known to all medical students. It proposes to send public women, not to a prison, but to a hospital. They are not to be punished for public solicitation until they have been tried in open court and

allowed the benefit of a defense; if found guilty, they will be registered as belonging to the "profession." It is known that the greatest danger is in the immense class of women in the streets who are not "regulars," nor under any medical surveillance, and it is felt that it will be impossible to prevent public solicitation entirely, but it is pretty certain that, if vigorous repressive measures are taken against these irregular women, and they are forced on to the official list, many of them will leave the field to those who are under strict medical inspection. In regard to the teaching reform, all the prison hospitals are to be thrown open to medical students, and the students are to be compelled to attend one of them for three months before graduation is allowed. The army surgeons are to instruct the men as to the dangers of infection and the necessity of proper treatment, and the men are to be allowed a private interview with the regimental surgeon. The final recommendation is in regard to wet-nurses. The physician who engages one for a family must give her a certificate that the family is not affected with any disease that can be transmitted to her. M. Fournier does not expect to effect a great revolution by these means, as he knows too well the difficulties involved; but, still, if only a diminution of the terrible disease is accomplished, a step forward in a good work will have been taken.

Can a physician raise his fees without giving notice to his patients? In one of the law courts here this question has been answered in the negative. A physician had attended a lady in confinement some five years ago, and charged \$20 as his fee. Afterward he was called upon to attend the same lady in confinement, and this time he charged \$40. The patient refused to pay, and suit was brought to recover. The doctor maintained that his standing and skill had much improved, and that he was warranted in charging more for his time. The defendant replied that she had expected to pay what she had paid before. The decision of the court was that there was always a sort of implied agreement between doctors and patients, on the basis of previous charges, and that this convention fixed the subsequent rates; consequently, as the doctor could not allege any special difficulties or unusual loss of time in the case, and had not given his patients notice of his intention to raise his fees, he must lose the case and pay costs, the court awarding him only his former fee.

The sensitive scientific persons of France are just now in great glee over the report of the English commission that was appointed to examine into the Pasteur system of treating hydrophobia. The Pastorians are all delighted, M. Pasteur himself having said that he felt a profound satisfaction in this expression of confidence by such men as Sir James Paget, Sir Joseph Lister, Dr. Quain, and the others. M. Peter has nevertheless continued his criticisms, and his long clinical experience makes him a troublesome man to be put down by a chemist, so that there may yet be some warm discussion between them.

The medical season is closing here, and many students are passing their thesis examination. Among the more remarkable theses presented recently is one on "Iodism," of some two hundred pages, which was officially marked as "extremely satisfactory," that being the highest mark given. It gives me satisfaction to say that the author of the thesis is an American lady, Miss Elizabeth C. Bradley, a daughter of Judge Bradley, of New York. I am informed that Miss Bradley is going into practice in New York.

LETTER FROM VIENNA.

Kolischer's Treatment of White Swelling.

VIENNA, July 7, 1887.

At a recent meeting of the Imperial-Royal Society of Physicians, at which Dr. Kolischer reported the results of his method

of treating localized tubercular deposits, and showed patients who had been subjected to it at Professor Albert's clinic, the technical details of the procedure were explained by Dr. Kolischer and Dr. Freund, the latter having worked up the chemical part. In cases of "fungi" which had not yet broken down, a corrosive-sublimate dressing was first kept applied to the part for twenty-four hours, and the surface was then disinfected with a one-per-cent. solution of sublimate. The injections were made with a Pravaz syringe of hard rubber furnished with platinized cannulæ, the syringe having been kept in a five-per-cent. solution of carbolic acid. The operation was only slightly painful, but severe pains came on some time afterward, and lasted for several hours. They were best combated by means of subcutaneous injections of morphine. An antiseptic dressing was applied immediately after the operation, and allowed to remain during the continuance of the fever of reaction, which was usually very severe and lasted from twelve to twenty-four hours. On the fifth or sixth day an immovable bandage was applied to the joint, and the stage of induration, shrinking, and perfect painlessness was attained in from three to six weeks; then massage and passive movements were resorted to for re-establishing the function of the joint. The cavities left after the fungous masses had been cast off were filled with gauze saturated with a solution of calcium phosphate. Cold abscesses were opened as freely as possible, and, without any curetting, tamponed with gauze prepared in the way above mentioned.

The following data concerning the composition of the solutions were given by Dr. Freund, who had worked in Professor Ludwig's laboratory: The first was an acid solution of calcium phosphate, of the strength of about six and a half per cent., containing one one-thousandth part of free phosphoric acid (sterilized). This was for the injections. The second was a similar solution, but containing one one-hundredth part of free phosphoric acid (or two one-hundredths for particularly torpid processes). This was for saturating the gauze.

The fungosities usually broke down and healed very rapidly after the operation, and any necrosed bone that might be present was expelled within a very short time. In cases accompanied with swollen lymphatic glands, Kolischer had observed also a systemic effect from the treatment. Among other instances, this was true of a case of tubercular affection of the mamma, in which, after the parenchymatous injections of calcium phosphate into the breast, the swelling of the lymphatic glands disappeared when the tubercular disease had been cured.

Dr. Kolischer showed some patients who had been treated by the method successfully. Two of them had had fungous (tubercular) disease of the elbow joint, with great swelling, ankylosis, pain, and fever at the time of their admission into the hospital. Now, after six weeks' treatment with the injections, the joints were normal, even their mobility being almost complete. The fever and pain had disappeared very early in the treatment. He also showed a boy, four years old, who, in spite of very grave symptoms, such as ankylosis, lateral mobility, swelling, and pain, had recovered in the course of five weeks. The rapid and striking success which had attended the employment of the method was further illustrated by the cases of other patients shown at the same meeting.

A Vienna Ordinance concerning Homœopathic Preparations.—The "Union médicale" states that a recent ministerial decree restricts the right to dispense homœopathic preparations to those homœopathic practitioners who really observe the method of dilutions laid down by the homœopathic school. The object of the ordinance is to put a stop to the abuse by which, under the guise of homœopathic preparations, all sorts of remedies have been given to patients by certain physicians.

THE
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A Weekly Review of Medicine.

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Edited by
FRANK P. FOSTER, M. D.

NEW YORK, SATURDAY, AUGUST 6, 1887.

THE NEW YORK STATE DEGREE.

THE present organization of the New York State Board of Medical Examiners, and the understanding that seems to have been arrived at as to its future workings, as set forth in a letter from the president of the board which we publish in this issue of the Journal, seem to give promise of its doing a very necessary work in the course of coming years. The University of the State of New York, as is known to many of our readers, is not a teaching institution; indeed, there is no material manifestation in the shape of lands and buildings to give the world at large a hint of its existence. Yet, for many years it has possessed the essentials of an important position, although, having been generally looked upon as nothing more than an abstraction, even its potential dignity and power have escaped most men's observation. There has, in fact, been little more than a dreamy consciousness on the part of the community that a body of men, styled the Board of Regents of the University, held a position which perhaps called them together on rather infrequent occasions for the transaction of what might by courtesy be termed business. As to who the men were who constituted the board, and as to their fitness for the position, few have had any definite knowledge or have entertained the idea that such knowledge could in any way be of service to themselves or others. Nevertheless, the Board of Regents has in the past done some good service, and the impression has been gaining ground of late years that its functions were growing more important, and that better men were being appointed on it from year to year.

If it comes to be a common thing for the State University degree of M.D. to be bestowed upon candidates who have passed such an examination as they will have to undergo at the hands of the present Board of Medical Examiners, it will not be many years before a considerable proportion of the best-equipped medical practitioners in the State will be recognized as having obtained their degree from the organization in charge of the Regents; and that fact of itself will make the State degree sought after for other reasons than those that now actuate stray applicants. Then the University of the State of New York will seem tangible, and the citizens of the State will feel that they have an interest in the *personnel* of its Board of Regents. For one reason or another, applicants for the State examination will, it seems to us, increase in number in the course of a comparatively short time. This increase in their number would be materially accelerated if the Medical Practice Act were to be so amended as to require holders of foreign qualifications (*i. e.*, qualifications not acquired in the State) to undergo the examination, instead of calling, as at present, merely for

a verification of the genuineness of foreign diplomas. The action that has been taken by some other States, and that which has persistently been carried out by almost all foreign countries, may cause the State of New York to assume such a position before long. In case that contingency is realized, it will be a source of satisfaction and security to know that a really efficient examining body has at last been formed.

MINOR PARAGRAPHS.

M. FOURNIER'S ATTEMPT TO LIMIT THE SPREAD OF SYPHILIS.

IN a letter which we publish in this issue, our Paris correspondent gives the substance of a recent report by a commission appointed by the Paris Academy of Medicine to devise a scheme for limiting the spread of syphilis. While the facts presented were undoubtedly admitted, and the measures recommended approved of, by all the members of the commission, the energetic way in which they have been laid before the Academy is in all probability to be credited to M. Fournier. That being the case, it is fortunate that M. Fournier is well known to be anything but an alarmist, as is amply shown in his book on "Syphilis and Marriage." It is doubtless difficult for most persons who are not of the medical profession to realize the full import of such facts as the report brings out. On that account, physicians should neglect no opportunity to impress upon those to whom they act as advisers the far-reaching and disastrous effects of the unrestrained play allowed to the infection of syphilis. It is to be hoped that those effects may be somewhat restricted by the adoption and enforcement of M. Fournier's recommendations, not the least important of which is the one that is intended to improve the knowledge of the disease with which young physicians set out upon their career.

THE "CHICAGO MEDICAL JOURNAL AND EXAMINER."

THE July number of this excellent journal, being the initial number of the fifty-fifth volume, presents a much improved appearance. The size is increased, and the typography has been made very pleasing. Facing the first page there is a woodcut portrait of the late Dr. Austin Flint. The "Journal and Examiner" is at present edited by Dr. S. J. Jones.

THE TRAINING OF CHILDREN'S NURSES.

DR. SAMUEL S. ADAMS, of Washington, professor of the theory and practice of medicine in the National University, chose a most important theme for his recent address to the graduating class, an abstract of which is published in the "Journal of the American Medical Association" for July 30th. The subject was "The Systematic Training of Nursery-Maids." What the author found to say is very much to the point, and it concerns a matter in which every parent of young children—and, indeed, the entire community—ought to feel deep interest. We cordially approve of Dr. Adams's suggestion that training schools for children's nurses be established, for we are persuaded that much that passes for inhumanity in the *bonne* of the period is really to be traced to lack of information on just such points as the author sets forth.

A NEW ROUMANIAN JOURNAL.

WE have received the first number of the "Archives roumaines de médecine et de chirurgie," a new bi-monthly journal, which, although printed in French and published in Paris, by

M. Alcan, in the same handsome style as the "Revue de médecine" and the "Revue de chirurgie," is edited in Bucharest, by Dr. Georges Assaky, the professor of clinical surgery. The entire contents, except the proceedings of societies, are of Roumanian authorship, and the articles are of exceptional interest. The formal papers are as follows: "On the Necessity of Isolation Hospitals and on their Establishment," by Dr. J. Félix; "A New Operation of Iridotomy," by Dr. N. Manolescu; "On Epithelial Grafts from the Sheep to Man," by Dr. J. Kiriac; and a "Note on the Ætiology of certain forms of Choleraic and Dysenteric Enteritis." Besides, there are several highly interesting clinical reports. Altogether, the new journal promises to be an exceedingly valuable addition to current literature.

A NEW PHOTOGRAPHIC CRANIOPHORE.

THE fourteenth memoir of the third volume of the publication issued by the National Academy of Sciences consists of a paper by Dr. John S. Billings and Dr. Washington Matthews, of the army, entitled "On a New Craniophore for Use in Making Composite Photographs of Skulls." The description is illustrated with four exquisite lithographic reproductions of photographs showing the craniophore as it appears when holding a skull in various attitudes and when not in use. It is obvious that the greatest nicety of adjustability is required in an apparatus designed for such a purpose, and, judging from the printed description and from an examination of the craniophore before it was completed, we are able to say that the authors have presented a most ingenious and admirable device.

RUPTURE OF THE UMBILICAL CORD AFTER DELIVERY.

CASES are not rare in which, when a woman is delivered seated or standing, the weight of the falling fœtus severs the umbilical cord. As some medico-legal interest attaches to the occurrence, two cases lately observed by M. Budin, and published in the "Progrès médical," are worthy of note. In those cases spontaneous rupture of the funis took place, although the women were lying down at the time and the cords showed nothing abnormal either in length or in texture.

AN HOMERIC NOD.

"LYON MÉDICAL" remarks that the erudition of German authors is considered superior to that of the learned of other nations. Nevertheless, it has detected an amusing example to the contrary in one of the issues of the "Centralblatt für Bacteriologie und Parasitenkunde," in an abstract of an article in the Tscheck language, by Professor Hava, entitled "*O Uplairci*" (on dysentery). This title is made to figure as the author's name, and the additional Tscheck words "*Predbezne sdeleni*" (meaning preliminary communication) are translated "*Ueber die Dysenterie*." But, while thus showing up a German lapsus, our French contemporary has fallen into two minor errors, for, instead of *Parasitenkunde*, it says "*Parasiterkunde*," and instead of *Ueber die Dysenterie*, "*Ueber Die Dysentie*."

THE HOSPITAL FOR THE RUPTURED AND CRIPPLED.

REMORS have got into the newspapers to the effect that an unpleasantness has arisen between the chief medical officer of the hospital on the one side and all but one of the younger members of the staff on the other, growing out of the fact that the latter were not sufficiently discreet in regard to expressing their opinion of certain views held by the former as to methods of treatment. Two of the gentlemen of the staff are reported to have resigned, and another is represented as having declared

his intention to resign. The institution has been one of great usefulness, much of the credit of which is conceded to be due to the chief medical officer, and it is a pity to see its further work hampered by ill-feeling arising out of mere differences of opinion on therapeutical points. We trust, therefore, that the accounts given to the public may prove to have been overdrawn, and that mutual concession may lead to a resumption of harmonious relations between the various medical officers.

EXUBERANT GRANULATIONS AFTER TRACHEOTOMY.

It is well known that a profuse formation of granulations sometimes gives rise to serious embarrassment in the progress of cases in which tracheotomy is performed and there is occasion for the patient to wear the tube for a protracted period. Dr. Störk has studied into the causes of this complication and the means of preventing it, and has contributed an article on the subject to the "Wiener medicinische Wochenschrift," an abstract of which is given in the "Centralblatt für Chirurgie." According to Störk, the laryngeal mucous membrane undergoes degenerative changes in consequence of the discontinuance of the natural current of air through the larynx—changes comparable to those which take place in the nasal passages when breathing through the nose is impeded by polypi or adenoid growths. By using tubes having numerous small perforations on the upper part of the convexity, so as to allow of some access of air to the parts above, he has succeeded to a certain extent in preventing the degeneration in question and the consequent formation of granulation masses.

ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Fourth Division of the Health Department for the following statement of cases and deaths reported during the two weeks ending August 2, 1887:

DISEASES.	Week ending July 26.		Week ending Aug. 2.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever.	14	5	30	16
Scarlet fever.	42	6	33	8
Cerebro-spinal meningitis. . . .	2	1	4	4
Measles.	33	4	32	5
Diphtheria.	88	27	90	29
Small-pox.	2	2	2	1

OBITUARY NOTES.

Frederick L. Fischer, M. D., a graduate of the University of Tübingen, of the class of 1842, died at his residence in New York on Sunday, July 24th. The deceased was a member of the Medical Society of the County of New York and of the Medico-surgical Society of German Physicians. At the time of his death he was in his seventy-first year.

Letters to the Editor.

THE MEDICAL DEGREE OF THE UNIVERSITY OF THE STATE OF NEW YORK.

110 WEST THIRTY-FOURTH ST., NEW YORK, July 25, 1887.

To the Editor of the New York Medical Journal:

SIR: A law of 1874 established for the State of New York a State Board of Medical Examiners. Frequent deaths and occasional resignations changed its original membership several

times, until, upon the recommendation of the undersigned (who therefore objected repeatedly to his own appointment) and for reasons easily understood, all the members of the present board, with one exception, were selected by the Honorable the Board of Regents of the University of the State of New York, from among the medical men of Albany, the seat of the Government and the Board of Regents.

The profession never expected the law as it was passed in 1874 to be efficient. It was believed by many that some of the medical colleges objected to the establishment of a State board altogether, though others were known to favor it. It was certain that sectarian influences succeeded in undermining the passage of the original bill and emasculating it. *It is certain* that no State board of examiners will ever benefit either the profession or the public, both of which stand in equal need of it, until the license to practice medicine depends on the *compulsory* passing of a successful examination before the State board. As the law stood, nobody ever applied for examination, and the degree of M. D. of the University of the State of New York, who was in the possession of a diploma from a college in good standing. Such few as volunteered to come forward were men who had previously failed in their college examination, or "practiced medicine" without study, knowledge, or any title whatsoever. There being no rules and regulations referring to a minimum of accomplishments or requirements, a few of these were let loose upon the unsuspecting public with a diploma; the majority, however, failed.

When the new board was appointed in the beginning of this year, its members accepted their positions upon the condition that the Board of Regents would authorize a number of rules and principles which were to regulate the examinations. I am directed by the Board of Examiners to present them to you for your information and, if you deem proper, for publication and comment. We know quite well that, as long as the examination by the State board is not made *compulsory*, any number of rules and principles will prove their inadequacy and inefficacy again and again. But the present board hopes that its earnest recognition of the rights and dignity of medical science, art, and practice will be admitted by, and found acceptable to, the profession, and that the latter, after a minimum of requirements for the admission into the ranks of the profession has been officially accepted by the Regents, will feel encouraged to continue its exertions in behalf of both the elevation of the standard of medical education and the protection of the public.

Not one of the recent applicants for a degree has proved successful. One of them had failed in his college examination a few weeks previously, and now threatens to swell the number of graduates of the "University" of a neighboring State. Similar occurrences are not at all rare. Candidates failing in one college will obtain their degrees from other colleges, in the same State or other States. Will not that suggest the necessity, instead of a State board, of a United States board of examination?

Very respectfully,

A. JACOBI, M. D.

[Our correspondent incloses the following document:]

"The members of the State Board of Medical Examiners accept their positions with this understanding:

"A candidate for the degree of Doctor of Medicine to be given by the Board of Regents either desires an additional degree after he has received a diploma from a chartered medical college, or he has no diploma from any chartered medical college and desires or prefers one from the Board of Regents. The degree given by the Board of Regents is to be, or become, an honorable distinction. It must be the object of the law to protect the people and to ennoble the

medical profession, and not to facilitate the entrance into it of persons unfit or unqualified. The profession does not require larger numbers, but does insist upon an elevated standard. Therefore the examination must be strict, and must be conducted according to the following rules:

"1. The examinations before this board shall be conducted in the English language exclusively.

"2. The candidate shall be allowed two and a half hours for each examination. The examination shall be in writing. The candidate must not consult books, extracts, notes, or other persons, and must not communicate with any one during the two and a half hours allotted to him. To do so is to be considered a failure to pass.

"3. The examination in clinical medicine and in clinical surgery shall consist in the actual examination of patients by the candidate, and a discussion in regard to the diagnosis, prognosis, and treatment of the cases.

"4. The examination in chemistry shall include the actual testing of a specimen of urine, in regard to its reaction, specific gravity, and the presence or absence of albumin and sugar.

"5. Each examiner shall have the privilege, if he so desires, of supplementing his written examination by an oral one, in the presence of two other members of the examining board.

"6. The scale of marks shall be from zero to ten; ten being perfection, and anything below six being a failure to pass the examination.

"7. The questions and answers with their marks shall remain in the possession of the Board of Regents, and shall be open to inspection.

"8. When the candidate shall have completed all his examinations, the Board of Examiners shall meet and hear the result of the examination in each branch. And within ten days thereafter each member of the board shall make a written report as to the merits and acquirements of the candidate, being guided in this report not alone by the result of the examination in his particular branch, but also by the result of the examinations in the other branches. And each member of the board shall send his report, together with the questions and their answers and their marks in his branch, to the secretary of the Board of Examiners, to be by him transmitted to the secretary of the Board of Regents.

"And, furthermore, it is the opinion of the Board of Examiners that, in order to receive the degree of Doctor of Medicine, the candidate should successfully pass in every branch, or at least in every branch but one.

"STATE BOARD OF MEDICAL EXAMINERS.

"Abraham Jacobi, M. D., president; examiner in pathology.

"Albert Vanderveer, M. D., vice-president; examiner in surgery and in clinical surgery.

"Henry Hun, M. D., secretary; examiner in clinical medicine and in materia medica and therapeutics.

"James P. Boyd, M. D., examiner in obstetrics.

"Franklin Townsend, M. D., examiner in physiology.

"Samuel R. Morrow, M. D., examiner in anatomy.

"William Hailes, Jr., M. D., examiner in histology.

"Willis G. Tucker, M. D., examiner in chemistry."

"SOME UNSOLVED CLINICAL PROBLEMS."

May 23, 1887.

To the Editor of the New York Medical Journal:

SIR: Having been much interested in the paper by W. H. Flint, M. D., entitled "Some Unsolved Clinical Problems," I beg leave to offer tentatively the following:

In the article it is stated that "after a month's treatment the diseased conditions alluded to had disappeared."

The problematic oedema then arose. Evidently the patient was of strumous diathesis, which, in this instance, could not be eradicated by treatment; perhaps care and food might remove it in the course of one or two generations. The bronchitis seemed to be the escape-valve, so to say, of the cacoethes. By therapeutic interference, or in the natural process of physiology—possibly through both—supposedly, this relief was stopped;

the *materies peccans* went wandering about, locating itself from time to time in tissues for which it had affinity (glandular, nerve-enveloping, and connective tissue, among others), causing œdema, disturbance of physical and mental sensation, emesis, semi coma, etc.

It is believed that hysteria, struma, and phthisis are forms of manifestation—diathetic alternates—due to a single constitutional impress; this may throw light upon the “problem.”

The presumable ætiological relation of “chilling of the surface” does not appear to be opposed to this view. I would suggest that prophylaxis should provide an *écouduit* for the inborn or developed diathetic *dæmon*, destruction of the same being scarcely practicable, as it doubtless constitutes a part of the physiology of the patient. Corroborant medicine rather than special pharmacal therapeutics may be indicated.

It occurs to me that, in this connection, aid might be had from the philosophic ideas of “Disease a Part of the Plan of Creation,” and other essays by B. E. Cotting, M. D., ex-president of the Massachusetts Medical Society.

Respectfully,

F. B. STEPHENSON, M. D., U. S. N.

A VISIT TO DR. HIRAM CORSON.

PHILADELPHIA, July 26, 1887.

To the Editor of the *New York Medical Journal*:

SIR: A few evenings ago, in company with some medical friends, I called upon a prominent member of the profession. After a long drive over rough country roads, past many farm-houses nestled among the trees, we turned into a drive which led us to a large, comfortable stone house situated in the midst of a level lawn across which several large trees threw their shadows. As the carriage stopped, we were met by a man rather above the medium height, spare in person, with snow-white beard and hair, who beamed a kindly welcome through his spectacles when he greeted us and presented us to his wife, whose welcome was not less warm as she led us indoors.

An ideal host we found him, engaging each one in conversation separately for a few minutes, making that one feel, for the time being, that no other guest was present, and then causing the conversation to become general, leading it into channels interesting to all of us.

I speak of Dr. Hiram Corson, of Plymouth Meeting, Montgomery County, Pa., who, although he will be eighty-three years old in October, is in vigorous mental and physical condition, bidding fair to render service to humanity for some years to come, as he is still in active practice, but rarely goes out at night, as his wife informed one of our party.

A little distance from the house is “the office,” a frame building with one room, on one side of which are shelves, almost from floor to ceiling, well filled with books and bottles of drugs, the latter being a necessary part of a country physician’s armamentarium. A table in front of one of the windows was covered with manuscript, and the doctor informed us that he was writing a paper on the use of “Cold Applications in Inflammation.” Every one knows what an advocate of this treatment he is. Scarcely were we seated in the parlor before he asked one of our number if he had ever used “cold.” This led to a general discussion of the subject, and Dr. Corson spoke of its being so superior to poultices in pneumonia. Upon being asked *how* he applied it, his reply was: “I take a bladder, or rubber ice-bag, fill it about half full of water and then put in pieces of ice; to put in pieces of ice alone makes an uneven surface, which is not readily applied to the chest.”

He has used cold applications in many diseases—in scarlatina to reduce the temperature and allay the throat symptoms. He

has observed in this disease that if the cerebral symptoms were well marked the throat symptoms were not so prominent. He thinks the reason for this is that, when the cerebrum is much affected, the whole nervous system is affected and the glandular system is less apt to become involved.

An article of his, on the use of “Cimicifuga in Chorea,” which appeared in the “Medical and Surgical Reporter” a few months ago, was mentioned, and he was questioned as to the dose and preparation. He uses the infusion, giving a teaspoonful three times a day, gathering the root in the early autumn and preparing it himself, thus being sure of a *reliable* preparation. Two other articles of his which have recently been published—“Samach in Stomatitis” and “Quinine in Pneumonia,” both in the same journal as the preceding—were mentioned and discussed at some length. And so one subject after another was brought up, and we all listened eagerly to the opinions of a man who for nearly sixty years has been practicing medicine in this quiet country place, and for more than half that time has been an acknowledged leader in the profession, clearly demonstrating that prominence and great intellectual development are not confined to those who dwell in the city, boast as we will of its superior advantages.

MARY WILLITS, M. D.

APOMORPHINE.

To the Editor of the *New York Medical Journal*:

SIR: In a case of arsenical poisoning described in your last week’s issue, your correspondent does not seem to attach much importance to the action of the emetic used—apomorphine. I suppose that, in all cases of poisoning, the simpler the emetic used, the better. In my manuscript note-book, arranged alphabetically, that I keep, is the following note regarding apomorphine: “Powerful emetic and contrastimulant; induces speedy vomiting, but it has the disadvantage of causing great muscular depression.”

C. E. NELSON, M. D.

Proceedings of Societies.

MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

Meeting of April 25, 1887.

The President, Dr. LAURENCE JOHNSON, in the Chair.

External Urethrotomy; a Plea for its Performance in Minor Traumatism of the Urethra.—Dr. L. BOLTON BANGS

read a paper with this title. By external urethrotomy he meant division of the perineum in the male down to and into the urethra for the prevention and cure of stricture and its consequences, whether the stricture was acute, chronic, traumatic, or of any other kind. He stated some propositions on which he invited discussion. The first was that the operation should be resorted to earlier than it usually was. His observation in hospital practice had led him to the conclusion that the patients’ condition had been made infinitely worse by delay in performing external urethrotomy. The deeper urethra was liable to become fixed in a semi-cartilaginous mass which any late operation would not entirely relieve. It should be performed early in cases of blows or kicks of the perineum, falls astride objects, or penetrating wounds of the perineum and urethra. It should be resorted to in some cases as a prophylactic measure against stricture, when there was simply the external appearance of a bruise. There should be no delay in case of bleeding from the urethra or evidence of extravasation of urine. The

urethra and the tissues around it having been injured, the process of repair would soon begin, but it was to be periodically interrupted or interfered with by the necessity of the urethra performing its function; the bladder had to expel its contents, and sometimes it did so with great violence. This performance of its function on the part of the urethra at first caused irritation in the wounded parts, then inflammation; finally cicatricial tissue was formed in and around the urethra. In another class of cases the damage to the perinæum and urethra was greater; retention had occurred. Failing in catheterism, the practitioner had resorted to various remedial measures—aspiration, opium, etc. The patient's bladder thus ceased to trouble him, but in a few hours he experienced pain in the perinæum; extravasation had taken place, forming a fistula connected with the urethra. The indications for treatment in all these cases were to secure absolute rest of the wounded parts if possible, and to prevent extravasation of urine. It seemed to him that external urethrotomy would meet those conditions, opening the urethra posterior to the injury if possible. What would it accomplish? It would prevent the forcing of urine into the lacerated or lame urethra, and thence into the cellular planes; it would enable the urine to be drained away in drops, with scarcely any effort on the part of the muscles to expel it; physiological rest ensued; repair of the tissues took place, instead of inflammatory action. To attain these ends the operation should be performed as early as possible after the injury. The first practitioner called to the case should do it; but, of course, much depended upon his manual dexterity. But any fairly competent man, who had a catheter and a scalpel, could perform it. Another class of cases in which external urethrotomy was indicated was those of perineal abscess in connection with strictures of the urethra of large caliber. In these cases it was not sufficient to evacuate the abscess and rely upon catheterism. The urethra should be divided at the time the abscess was opened, lest, in allowing the cause of the latter to continue, a more deplorable result should follow. A case was cited in illustration of the fact that extravasation of urine might finally result after injury of the perinæum, even when the urethra continued to admit a fair-sized catheter. A follicular diverticulum from the urethra had been quietly and insidiously forming, a small quantity of urine probably entered it at first; this irritation aggravated the condition in the submucous tissues, sufficient swelling took place to oppose the passage of the urine, while a catheter could still be introduced; this obstruction caused the patient to strain, and the more he strained the greater was the amount of urine forced into the false passage.

The second proposition was that the operation of external urethrotomy was devoid of danger—not absolutely, because that could not be affirmed of any operation upon the human body. The dangers and difficulties had been over-estimated. The dangers, such as there were, related to the state of the patient before the operation, or the conditions making the operation necessary. His examination of hospital records had shown that when death had followed external urethrotomy it had been due to a devitalizing disease, usually some disease of the kidneys. Such cases would occur less frequently in the future, because patients would receive relief before serious pathological changes in the kidneys, etc., had taken place.

Dr. F. N. OTIS fully coincided in all that Dr. Bangs had said with regard to the probable benefit to be obtained by an early operation in cases of external injury of the perinæum and urethra. The most difficult cases were those of traumatic origin. The resulting stricture was often so extensive that it could not be divided so completely as to prevent its return. With regard to the cases in which there was follicular urethritis, he thought they were of the greatest interest to the sur-

geon. He believed that nineteen twentieths of the cases of perineal swelling were due to extravasation of urine, and that the earlier external urethrotomy was performed, the better would it be for the patient. He had never seen a fatal result from its performance; death could always be traced to disease of the bladder and kidneys, etc., which had existed prior to the operation.

Dr. E. L. KEYES had nothing to say in opposition to the views expressed in the paper. On the contrary, he could indorse them with the full weight of his experience. He would not only resort to external urethrotomy in the cases referred to by Dr. Bangs, but also in cases of stricture in the curved portion of the urethra which were not easily controlled by perhaps the simplest of all methods—namely, gradual dilatation. He said perhaps, because he was growing less positive regarding the advantages of dilatation than formerly. External urethrotomy had formerly been regarded as a difficult operation. He could hardly conceive of an operation which was easier when it could be done upon a guide; when a guide could not be inserted, the operation was more difficult. The dangers of the operation were of the simplest kind. He referred to a case similar to one related by Dr. Otis. The patient about fifteen years ago received an injury of the perinæum, which was followed by infiltration of the tissues, and an incision brought forth pus. The urethra was patulous, and admitted a fair-sized catheter, and consequently was not divided. But the patient had since suffered to a certain extent from the results of the injury, from slight constriction of the deep urethra; and, if the speaker had the experience to repeat, he would cut not only the infiltrated perineal tissue, but also into the urethra. When lumpy hardness developed about the urethra, it was apt to be attended by the follicular ulcerative process referred to by the author, and, if this pus did not have an opportunity to escape externally, it would enter the urethra. Thus there was a little cistern, as it were, constantly discharging its pus into the urethra. Experience taught that the proper treatment consisted in cutting through that inflamed area for the purpose of establishing drainage, and, if so much cutting had been done to get down to it, certainly carrying the incision on into the urethra would not seriously complicate the operation. The former custom of dilating deep urethral strictures was falling gradually into disrepute. If the tissues were not tight, if the stricture was not resisting, the patient might get along without suffering special inconvenience by passing a moderate-sized sound; but when the stricture was tight, the patient was likely at any time, by passing sounds of increasing size, to get up a urethral chill, an inflamed testicle, and all sorts of complications. Such accidents were not apt to occur if the deep urethra was divided by external urethrotomy. The operation of division in such cases had pretty much fallen into disuse, and internal urethrotomy in his experience was disastrous. If he himself had a deep urethral stricture he would vastly prefer to have it cut externally to having it stretched or cut internally to a sufficient extent.

Dr. CHARLES MCBURNEY had been glad to hear ideas which were gradually and surely gaining the approval of surgeons expressed so clearly by Dr. Bangs. He thought external urethrotomy for traumatism of any moment was a highly proper procedure. It was proper because it was the only means of avoiding dangers which were immediate and also remote. Regarding the operation itself, he thought something might be said which would tend to lessen the fears of the patient, and those of physicians not accustomed to perform it. The object of the operation was only to provide for perfect drainage of the urine and products of inflammation. It was not done for the purpose of dividing the stricture. There might be a stricture

three or four inches in length in the deep urethra, but it was not necessary to try to divide it when performing external urethrotomy. The latter operation was performed for the purpose of drainage, and a small opening was sufficient. The stricture could be divided by internal urethrotomy. External urethrotomy need not involve a single important structure; hæmorrhage could be controlled without any danger. If these facts were borne in mind, he thought the operation would lose some of its terrors. There were some cases of slight traumatism of the urethra which did not call for external urethrotomy, but they were very difficult to define. He might say, however, that, in a case of injury to the perinæum in which there was no evidence of laceration of the urethra other than perhaps the escape of a few drops of blood, in which there was no tumefaction of the urethra, in which it was perfectly easy to pass a large instrument, and in which there were no crevices to engage a small instrument, he would not do external urethrotomy. But he would wash out the bladder after each evacuation.

Dr. BANGS was glad to see such uniformity of opinion with regard to the propriety of external urethrotomy in the class of cases under discussion. In further illustration of its importance, he said a man had recently come under his observation who had fallen upon a table five months before, striking the perinæum, in consequence of which there resulted slight tumefaction, and scalding on urination. No blood escaped from the meatus. He was catheterized by the attending physician, and then passed from under his notice. To-day it was difficult to pass a filiform bougie. External urethrotomy would now have to be performed.

Baldness; What can we do for It? was the title of a paper read by Dr. G. T. JACKSON. Alopecia præmatura alone received attention. Premature baldness, it might be said in a general way, was that occurring before the forty-fifth year, although the period was arbitrary. Subdivisions were made into idiopathic and symptomatic. The idiopathic form began unannounced by any antecedent disease. Many families had it for generations. The different causes alleged for it were named, but the author gave particular attention to the influence exerted by want of proper care of the hair, as this was under the control of the patient and was a part of prophylaxis and treatment. He was inclined to think that due attention to proper care of the scalp and general hygiene of the body were more reliable than any so-called remedies. Women gave more care to their scalps, and not only was baldness less common among them than among men, but the results of treatment were better. In families in which baldness was hereditary, prophylaxis should commence at birth with proper cleansing of the scalp, the use of soap and water, the brush and comb, and the avoidance of all things which might injure the scalp. The shampoo need not be repeated more than once or twice a week, and after drying, some unguent, such as sweet oil, should be applied. What not to do was nearly as important as what to do. Pomades, as they were liable to become rancid and injure the scalp, should not be used. Wetting, twisting, pulling, and scorching the hair, as fashion demanded, were injurious. Close-fitting hats and caps should not be worn. Anxiety of mind should be combated by cultivating a cheerful disposition. Baldness due to dandruff, syphilis, typhoid fever, etc., next received attention. In addition to treatment appropriate to the special disease, the author again urged the importance of systematic care of the scalp and hair.

Dr. G. H. Fox said that, when baldness was evidently due to some seborrhœal condition, to want of cleanliness of the scalp, the shampoo would do a great deal of good. When it was due to shock or other nervous state, we should have to rely

upon hygiene. Then there was a large class of cases which dermatologists had tried to explain in different ways, but he thought their explanations were pretty much on an equality; they did not explain it. He, too, had once thought that baldness was due to disappearance of the subcutaneous tissue and tightness of the scalp, but on examining patients he had found the scalp quite movable in many of them. Nor did he believe it was due to high hats, or compression of the blood-vessels by the head apparel. In brief, he did not believe baldness in many cases could be accounted for, any more than an explanation could be given for the musical talent in some and for the mechanical in others. Patients should reconcile themselves to the homely statement, What can not be cured must be endured.

Dr. W. M. CARPENTER inquired whether the custom among some physicians of cutting the hair short during or just after an attack of typhoid fever had any beneficial effect upon the hair.

The PRESIDENT was a firm believer in high, stiff hats as a cause of premature baldness, and as a basis for his belief said that baldness was much more common now than twenty years ago.

Dr. Fox doubted whether baldness was more prevalent now than twenty years ago, and Dr. JACKSON said that high hats had been worn by young people in England almost for centuries, yet baldness was not apparently on the increase. He and Dr. Fox both thought no benefit was derived from cutting the hair in typhoid fever.

Book Notices.

The Cremation of the Dead considered from an Æsthetic, Sanitary, Religious, Historical, Medico-legal, and Economical Standpoint. By HUGO ERICHSEN, M. D., etc. With an Introductory Note by Sir T. SPENCER WELLS, Bart., F. R. S., etc. Illustrated. Detroit: D. O. Haynes & Company, 1887. Pp. xiv+264. [Price, \$2.]

IN an argument intended rather for popular than for professional reading, Dr. Erichsen has concisely stated the present aspect of the cremation controversy, fortifying his position as an advocate of incineration by a review of the past and contemporaneous literature of the subject. There are few educated and intelligent people—none, surely, who are versed in the records of sanitary science—who are not aware of the possible, and often real, dangers of inhumation or sepulture in the neighborhood of human habitations, and prohibition of intramural interments has been adopted as a measure of self-preservation in most civilized communities. Still, however, suburban cemeteries are sometimes permitted to pollute with their drainage public sources of water-supply, and, as population increases, are here and there absorbed into the inhabited area, to the very evident verification of the proverb that "the evil which men do lives after them." Vegetation, it matters not how luxuriant, can dispose of but a small proportion of the organic substances which choke the soil in even a sparsely occupied burial ground; the unutilized remainder undergoes putrefactive changes which are as prejudicial to the health of the vicinage as they are revolting to the senses. Of the various substitutes for burial which have been proposed or practiced at different times, the most practicable is undoubtedly cremation, which simply effects rapidly and harmlessly the same result of oxidation that is slowly, repulsively, and incompletely achieved by the ordinary processes of decomposition. From a hygienic point of view there can be no dispute touching its advantages; the only objections to its employment are based upon sentimental, theological, or

medico-legal considerations. To overcome the prejudice on the first of these grounds, naught can be needed but a realization of the foul degradation of the body in the course of ordinary decomposition: knowing which, as Sir Spencer Wells observes in his introductory note, "public sentiment must favor cremation in place of corruption, and for putrefaction substitute purification." In addition to dwelling on the æsthetic recommendations of incineration, the author points to the assurance it affords against burial alive, a fate which, if rare, has nevertheless been verified in a sufficient number of instances to sustain popular terror of its occurrence. The opposition of a few narrow-minded persons, on the score of interference with the resurrection by such "destruction" of the body, is founded in such manifest ignorance as scarcely to merit refutation, but for the benefit of these it is shown that interment and incineration lead to precisely the same result, and that the imagined imperilment of a future life would apply not only to those who have been lost at sea and devoured by fishes, but also to the martyrs who have been burned at the stake. The more common ecclesiastical reproach that cremation is a heathen practice, contrary to Christian custom, is met by the obvious statement that interment or cave-burial is equally heathen; that it is nowhere enjoined by the Scriptures; that, on the contrary, cremation, as well as inhumation, was in use among the Hebrews, and was regarded as an honor to the illustrious dead; and, finally, that the very words of the funeral service, "Ashes to ashes," indicate a recognition of the propriety of this method of disposing of the dead. As concerns the supposed facilitation of poisoning or other murderous practices, it is argued that few cases which escape detection before death are likely to be discovered by exhumation. The vegetable alkaloids, save strychnine, the cyanogen compounds, phosphorus, etc., are undetectable in the cadaver a few days after death, while the mineral poisons ordinarily used are discoverable in the ashes. Moreover, as matters stand to-day, says the author, it is puerile to think that we can prevent the rich and skillful poisoner from committing crime as long as we permit him to employ undertakers who, without restraint of law, inject arsenate of sodium and corrosive sublimate into the body of his victim, and thus remove all traces of his crime. Indeed, it is maintained that the chances of concealing unnatural death would be lessened by the general adoption of cremation, with the safeguards enforced by the Cremation Society of England, which has the following among its requirements: "A certificate must be sent in by one qualified medical man at least, who attended the deceased until the time of death, unhesitatingly stating that the death was natural, and what the cause was. If no medical man attended during the illness, an autopsy must be made by a medical officer appointed by the society, or no cremation can take place."

An interesting history of cremation in all ages and among all peoples, and an illustrated account of the different crematoria and processes of incineration employed here and abroad, fill out the contents of a book which, though avowedly having little pretension to originality, is a satisfactory exposition of nearly all that can at present be said about a subject destined to occupy a prominent place in public consideration in the not far distant future.

Du développement du fœtus chez les femmes à bassin vicie. Recherches cliniques au point de vue de l'accouchement prématuré artificiel. Par le Dr. FELICE LA TORRE, membre correspondant étranger de la Société obstétricale et gynécologique de Paris, membre de la Société française d'hygiène. Paris: O. Doin, 1887. Pp. 342.

This handsome volume, which, besides the text, contains a great number of large folded statistical tables, must be regarded

as a most substantial contribution to obstetrical literature. It is practically a study of the question of the expediency of inducing premature labor in cases of pelvic contraction. The author's consideration of the question is founded entirely on clinical observation, everything theoretical or simply plausible being subjected to this crucial test. Happily, pelvic deformities have not yet become common among our native women, but the extent to which they complicate the process of parturition in the Old World may be inferred from the fact that, since the year 1867, Dr. La Torre has been able to study thirteen hundred and twenty-five examples in the hospitals of Paris. The author effectually demolishes the doctrine upheld by Chiara, that the fœtus is under-developed in correspondence with any ordinary narrowness of the pelvic canal that may exist in the mother, and that therefore spontaneous labor at term is quite as safe a process in the subjects of pelvic contraction as in women of normal build. A more unsound and unsafe doctrine could hardly be mentioned, and the author is entitled to great credit for having so completely demonstrated its true character. The book constitutes a strong argument in favor of interference. The author considers the fœtus viable at the expiration of one hundred and eighty days of gestation.

Sur un nouveau traitement de la métrite chronique, et en particulier de l'endométrite, par la galvano-caustique chimique intra-utérine. Par le Dr. G. APOSTOLI, Professeur libre de gynécologie et d'électro-thérapie à l'école pratique. Paris: Octave Doin, 1887. Pp. 68.

The author's work in the field of electro-therapeutics, especially as applied to gynæcology, is by no means unknown in this country. Probably no one has done more or better work in the way of introducing, or rather popularizing, this means of treatment. The chief claim to originality which is made by him consists in the use of a layer of moistened sculptor's clay, which is spread over the abdomen, to diminish the resistance of the skin and permit of the passage of currents of high intensity without burning. By this means the caustic effect is limited to the uterus, and the author reports an extensive and very satisfactory experience in treating uterine disorders, both those of the mucous membrane and those of the parenchyma. The use of the milliamperemeter, or improved galvanometer, will certainly bring about a new era in the use of electricity. It has been abundantly proved that it is an agent of great utility in the treatment of pelvic and uterine disorders. That it may be used in currents of much greater intensity than was formerly believed wise or safe seems to have been demonstrated. We can commend the author's bi-polar intra-uterine electrode from personal experience. The impracticable teaching in the author's monograph is the recommendation to use an intra-uterine faradaic current as routine treatment after abortion or normal labor. That it may sometimes be desirable is sufficiently evident from the great prevalence of subinvolution and kindred disorders, but there are very many reasons why it would be impracticable or impossible to subject every parturient woman to such a course of treatment. The essay is well worth careful reading, and should stimulate judicious experimentation.

Lehrbuch der Kinderkrankheiten. Für Aerzte und Studierende. Von Dr. ADOLF BAGINSKY, Privatdocent der Kinderheilkunde an der Universität Berlin. Zweite vermehrte und verbesserte Auflage. Braunschweig: Friedrich Wreden, 1887. Pp. xix+902.

It is no discredit to the author to say that his book is suggestive, in some respects, of Vogel's, and may be regarded as

supplementary to that excellent treatise. The author seems to us to have continued the work begun by Vogel, and in a most creditable manner, for he has given us an exhaustive treatise upon the diseases of children; in fact, it would be difficult to mention half a dozen subjects in special pathology which he has not considered. The industry which is required for producing successive editions of such a work can be appreciated only by those who have had similar experience, and we congratulate the author upon the thoroughness with which he has followed up his subject, producing a book which is most convenient and useful for reference. Without wishing to make invidious discrimination, we venture the suggestion that the weak point of the book is its therapeutics, and this is a subject which, in the diseases of children more positively than in those of adults, can not be dismissed in general terms. The author has a promising field before him as the successor of Henoch, and his previous career justifies the prediction that he will prove a worthy one.

Practical Lessons in Nursing. Outlines for the Management of Diet; or, the Regulation of Food to the Requirements of Health and the Treatment of Disease. By EDWARD TUNIS BRUEN, M. D., Assistant Professor of Physical Diagnosis, University of Pennsylvania, etc. Philadelphia: J. B. Lippincott Company, 1887. Pp. 138. [Price, \$1.]

THE fundamental physiological principles which obtain in digestion are admirably set forth in this little volume. It is an excellent book for its many hints regarding the action of foods, regulation of diet, etc. It will be of great service to young nurses on account of its numerous suggestions concerning the preparation of various articles of food for the sick-room. It is worthy also of a place on the physician's table, among those books which are aptly called hand-books, for it contains many important details, too easily forgotten amid the pressure of more serious considerations, which can thus be recalled and grasped at a moment's notice.

Practical Lessons in Nursing; Maternity, Infancy, Childhood. Hygiene of Pregnancy; Nursing and Weaning of Infants; the Care of Children in Health and Disease. Adapted especially to the Use of Mothers or those intrusted with the bringing up of Infants and Children, and Training Schools for Nurses, as an Aid to the Teaching of the Nursing of Women and Children. By JOHN M. KEATING, M. D., Visiting Obstetrician and Lecturer on the Diseases of Women and Children, Philadelphia Hospital, etc. Philadelphia: J. B. Lippincott Company, 1887. Pp. 221. [Price, \$1.]

THIS is an admirable little work for the purposes set forth in its title. Its style is clear and its matter thoroughly practical, and, though it is repetitious to an unnecessary degree, especially upon the subject of feeding, it is, still, a work which is to be commended. The chapters upon stomach and intestinal troubles are the ones which are most valuable, as it is these affections which a mother or nurse is most apt to recognize in their preliminary stages. There is an entire absence of technical terms in the treatment of the various subjects, and we are certain that there is many a practitioner who might read these pages not only with pleasure but also with profit.

GENERAL LITERARY NOTES.

AMONG recent foreign publications we note the following:

F. ALCAN, Paris.—C. Richet, "Essai de psychologie générale." (2fr. 50.)

J. B. BAILLIÈRE & FILS, Paris.—P. Favel, "Les médicaments du cœur." (2fr.)

A. DELAHAYE & E. LECROSSIER, Paris.—P. Latteux, "Manuel de

technique microscopique." 3d ed. (13fr.) — Gélinau, "Traité de l'angine de poitrine." (8fr.) — Crouzat, "La pratique obstétricale." (5fr.) — Pouillet, "L'onanisme chez la femme." 5th ed. (3fr. 50.)

O. DOIX, Paris.—C. Ferreira, "Etudes sur la coqueluche." — Brochard, "L'art d'élever les enfants." 15th ed. (0fr. 25.)

F. SAVY, Paris.—A. Gautier, "Cours de chimie." 2 vols. (32fr.)

— L. Gautier, "Analyse chimique et microscopique de l'urine." (3fr. 50.)

G. STEINHEIL, Paris.—Merigot de Freigny, "Étude sur les hernies du gros intestin."

BOOKS AND PAMPHLETS RECEIVED.

Gerhardt's Handbuch der Kinderkrankheiten. Nachtrag II. Die psychischen Störungen im Kindesalter. Von Dr. H. Emminghaus, Professor und Vorstand der psychiatrischen Klinik in Freiburg i. B. Tübingen: H. Laupp, 1887. Pp. viii+293.

Oxygen as a Therapeutic Agent. Its Germicidal and Healing Qualities; its Consequent Adaptability to the Treatment of Consumption and Pulmonary and Throat Troubles generally; its Place in Surgery. With a Report of Twenty Cases treated in the Practice of Drs. Rothwell. By P. D. Rothwell, M. D., Denver, Colorado. [Reprinted from the "Denver Medical Times."]

Osservazioni cliniche sull'antifebbrina. Per il Dott. Umberto Dieci, Ospedali Civili di Modena.

The Farmer's Veterinary Adviser. A Guide to the Prevention and Treatment of Disease in Domestic Animals. By James Law, Professor of Veterinary Science in Cornell University, etc. With Numerous Illustrations. Eighth Edition. Ithaca: Published by the Author, 1887. Pp. viii+520. The Lung Plague of Cattle, Contagious Pleuro-Pneumonia. By James Law. With Illustrations. Ithaca: Published by the Author, 1887. Pp. 97.

Trattato della difteria. Per il Cav. Dott. Vincenzo Cozzolino. Prof. pareg. della R. Università di Napoli, etc. 1° Volume. Statistica.—Biologia del virus difterico.—Batteriologia.—Igiene.—Storia epidemiologica dell'epidemia difterica di Reggio-Calabria nel 1884. (Guida per il pratico a letto del difterico.) Napoli: Stabilimento Tipografico dei Classici Italiani, 1887. Pp. xxvii+380.

An Inquiry into the Transmission of Infectious Diseases through the Medium of Rags. By Charles F. Withington, M. D.

Alcohol again: a Consideration of Recent Misstatements of its Physiological Action. By Joseph W. Warren, M. D., Assistant in Physiology in the Medical School of Harvard University.

Electricity in Gynecological Practice. By Andrew Graydon, M. D., Clinical Assistant at the Jefferson Medical College Hospital, etc., Philadelphia. [Reprinted from the "Medical News."]

Reports on the Progress of Medicine.

GENERAL MEDICINE.

By H. N. VINEBERG, M. D.

Some of the Rarer Symptoms produced by Gall Stones.—Ord ("Brit. Med. Jour.") took this subject as the basis of a paper read at the last annual meeting of the British Medical Association. He first drew attention to the circumstance that gall stones might exist without producing symptoms, as was evident from the number frequently found post mortem in cases in which their presence had not been suspected during life.

Gall stones may be passed without symptoms. Two or three illustrative cases of the kind were briefly related. One was in a woman who had had no previous signs of gall stones, and who, the day after her confinement, passed a gall stone of such an enormous size that its passage was attended with almost as great difficulty as a second labor, and it was hence dubbed "the twin." Gall stones may give rise to pain, vomiting, etc., without causing jaundice. A patient was subject to irregularly recurring attacks of pain in the region of the gall-bladder

with associated vomiting and faintness. She had never had jaundice nor passed pale stools. She was seen by many physicians, and various diagnoses were made excepting the correct one. The patient died in an attack a few months later, and was found to have had a large biliary calculus, which had made its way through a perforation in the gall-bladder into the peritonæum. Gall stones may produce intermitting pyrexia. Both Murchison and Charcot have drawn attention to this, the former attributing it to a nervous irritation, the latter to a uroseptic fever. Ord's attention was first called to this complication by some remarks by the late Dr. Murchison having reference to the case of a distinguished Indian medical officer, who, after his return to England, was attacked with paroxysms of shivering, followed by fever and sweating, at regular weekly periods. He was supposed, at first, to have a recurrence of an old intermittent, and, later on, to have hepatic abscess, till at last his symptoms indicated, and the necropsy proved, that his actual and only disease was a gall stone so impacted as to produce great irritation, but not complete obstruction, of the common bile duct. A case of glycosuria came under the author's observation which seemed to be due to a gall stone, and which disappeared, as well as the concomitant symptoms of emaciation, thirst, etc., on the passage of the gall stone. In another case an attack of pneumonia developed in the subject of biliary calculus, and to the author it appeared to be in some way dependent upon it. The co-existence of gall stone with malignant disease of the gall-bladder and the parts immediately adjoining has been recorded frequently enough to give rise to the speculation as to how far the presence of gall stones would be capable of causing malignant disease. The author has met with a few cases in which the evidence was of an affirmative nature. He has seen two cases in which the passage of gall stones was attended with sharp hæmorrhage. In one the hæmorrhage preceded the passage of a large gall stone without biliary obstruction. The bleeding might have been due to the tearing of the opening between the gall duct and the bowel. In the second case considerable hæmorrhage occurred directly after an attack of biliary colic with jaundice. After the cessation of the hæmorrhage, a ragged gall stone of such size as might have allowed it to traverse the gall-duct was found in the feces.

Periodical Paralysis.—Cousot ("Rev. de méd.") has collected nine cases of periodical paralysis, five of which occurred under his own observation. These cases, he remarks, can not come under the head of intermittent paralysis due to paludism. The paralysis comes on suddenly and disappears just as suddenly, forming, as Westphal says, a unique feature of the affection, the pathology of which is unknown. Though Gibney's two cases are included in the *résumé*, the author does not think that they present a true picture of the disease. One of the cases, he thinks, was due to paludism, and the second was attended with fever, and in the third attack with convulsions, and terminated fatally. He therefore excludes these, and analyzes the seven remaining cases observed by himself, Westphal, and Hartwig. Like Westphal, the author found no nervous affection in the family history, nor any rheumatic diathesis. But all his cases were observed in four brothers and sisters, the offspring of a mother similarly affected. Westphal's case, an abstract of which was published in this Journal for June 5, 1886, was a typical one, and may be referred to for the clinical picture of this strange affection. In explanation of those phenomena, the author offers a theory based on arrest of function of the spinal cord. Only one of his patients placed himself under treatment. Large doses of quinine certainly diminished the frequency of the attacks, but this result was not constant. Other remedies, such as strychnine, the bromides, ergotine, etc., were administered without any benefit. Applications of electricity seemed to increase the violence of the attacks. A wish was entertained to try "suggestion," but the patient was not susceptible to hypnotism. Cauterizations and the use of iodide of potassium effected no change.

Typhoid Fever and Measles in a Patient at the same Time.—Wille ("Dtsch. Med.-Ztg.") reports a case of this kind. A child, six years old, in the second week of an attack of typhoid fever, was seized with measles. From this time on the clinical picture of the latter affection predominated. Two days after the exanthem had reached its climax the temperature, which had been very high, fell to normal. During the fourth day of convalescence the temperature went up for one day, proba-

bly owing to some error in diet. The latter part of the course of the illness made the impression as if the morbillous poison introduced into the system had had the effect of destroying the typhoid poison previously introduced. It can also be surmised that the human system offers a more favorable soil for the contagium of measles than for that of typhoid fever, inasmuch as the susceptibility to infection by the former is much greater than to that by the latter.

Lesion of the Cervical Sympathetic.—Pröls (*ibid.*) relates the history of the following interesting case: A woman, forty-one years old, had had typhoid fever without any complications twenty years before. After that she noticed that she perspired on the right side of the face only, while the left side of the face and neck remained dry. She observed also that the left axilla and the left palm perspired less than the right; on the right side, with the increase of perspiration there was always a feeling of greater warmth. The patient noticed, at the same time, an impairment of sight, which grew worse, so that after a time there was total loss of vision. From this, however, she recovered with hypermetropia. The left eyeball was found lying deeper within the orbit than the right one, the left upper eyelid hanging lower, and the left pupil of about half the size of the right pupil. The left side of the face, from the forehead down to the angle of the lower jaw, was tender on deep pressure. The author discusses the symptoms brought on by paralysis of the sympathetic nerve. Hyperidrosis is one of the symptoms of this lesion, but occasionally it causes anidrosis. To explain this, the author assumes that there are two forms of sympathetic paralysis, the one, with paralysis of the pupil, involving the vaso-motor and secretory nerves, and attended, as a consequence, with anidrosis; the other, less complete, which, with the other phenomena, is attended with excessive perspiration, in consequence of the secretory nerves remaining intact. Among the trophic changes that were noticed on the affected side was a diminution in the growth of the hair—an observation that has been recorded only once before. The recession of the eyeball is attributed to paralysis of Müller's muscle. In conclusion, the author would look upon the affection of the sympathetic as a direct sequel of the typhoid fever.

Paralysis of the Laryngeal Abductors as a Forerunner of Tabes Dorsalis.—Luc ("France médicale"; "Dtsch. Med.-Ztg.") was consulted by a patient on account of a peculiar rasping noise with inspiration, attended with a certain degree of dyspnoea. These phenomena were always increased during exercise. The patient stated that he had noticed this symptom some months before and that it was gradually growing worse, but that he had never suffered from attacks of suffocation. A laryngoscopic examination showed the vocal bands slightly reddened, and moderately separated in expiration. During inspiration, however, instead of separating, they came closer together, so that only a narrow chink remained. Intra-laryngeal faradization was applied without any results. The author asks the question whether it was a case of contracture of the constrictors or of paralysis of the dilators, and thinks that it was the latter. What was the origin of this? Examination of the chest and neck proved negative. The existence of the affection on both sides argued a central origin. Further inquiries revealed the fact that the patient's uncle was blind and ataxic. The patient stated that he had never had syphilis, nor been addicted to alcoholism. Two years previously he had consulted Ricord for difficulty in urination, and he could discover no mechanical obstruction in the urethra and attributed the difficulty to atony of the bladder. To overcome this the patient had catheterized himself. But for the past six months, however, urination had been normal. Ataxia was not present. The only motor symptoms were occasional contractions of the muscles of the feet. Disturbances of sensibility were manifest by shooting, electric pains on the inner side of the knees. The sense of temperature and the tactile sense were normal, while the sensibility to pain was decidedly diminished in the thighs and feet. The knee jerk on the right side was very much lessened. The sensibility of the palate and pharynx was normal, as also was the sense of sight. Finally, the patient remembered that for the past year he had had only incomplete erections. This symptom, with the foregoing, the author thought warranted the diagnosis of beginning tabes dorsalis.

Perforating Ulcer of the Foot and its Relation to Tabes.—Hinze ("Dtsch. Med.-Ztg.") draws the following conclusions from a study of

twenty-one cases of this rather rare affection: 1. Some cases of perforating ulcer of the foot belong to tabes. 2. In every case of perforating ulcer of the foot tabes should be looked for. 3. Ulcers of the sole, as well as of the palm, form a symptom of tabes which appear at one time early and at another time late in the spinal affection. 4. Similar ulcers of the foot obtain in other severe trophic disturbances, such as diabetes mellitus and alcoholism.

A New Symptom in Tabes Dorsalis "Cerebralis."—Erben (*ibid.*) observed in a tabetic patient, aged fifty-one, in addition to symptoms showing that the second branch of the trigeminus was involved, paræsthesia of the sense of taste. This manifested itself by attacks of a painful sweet taste, first experienced in the act of swallowing, then spreading forward over the whole tongue, lasting for hours, and then gradually or suddenly disappearing. It must have been due to a degeneration of the gustatory tract similar to the degeneration of other peripheral nerves, and it is probable there may have been a gray degeneration of the glosso-pharyngeal nucleus. The patient suffered also from paræsthesia of the sense of smell. A similar case has been observed by Althaus.

A Peculiar Case of Diaphragmatic Pleurisy.—Baccelli ("Rif. med.," "Dtsch. Med.-Ztg.") relates the following interesting case: A car-driver, who had suffered from malaria, suddenly felt, as he jumped on to his car from the ground, a severe pain in the left hypochondriac region, fell down, and could not rise again. When brought to the clinic he seemed to be suffering from a serious illness; the respirations were weak, superficial, and extremely painful; the pulse was small and frequent, and the temperature was normal. On the second day of the illness the temperature rose, and remained febrile until recovery. Now the pains grew less severe, and a physical examination of the chest showed an effusion of fluid reaching to the angle of the scapula. The effusion soon began to diminish, the fever disappeared on the ninth day, and the patient was discharged cured on the twenty-first day. Baccelli diagnosticated the case as one of diaphragmatic pleurisy. The ætiology seemed clear. The illness set in immediately after great strain of the diaphragm, which is known to cause rupture of the muscle-fibers. In general, rupture of the diaphragm is commoner on the left than on the right side. In this case, as an important determining factor, there was enlargement of the spleen, which would exercise a powerful traction downward. If inflammation does not usually follow muscular rupture, it evidently did in this instance, probably on account of the malarial cachexia. The author quotes a case observed by Nélaton, in which a boy, in consequence of violent exertion, ruptured the psoas muscle, and died of abscesses. It is also known that the escape of menstrual blood into the abdominal cavity may produce peritonitis. The author makes in the foregoing case the following diagnosis: fibrillary rupture of the diaphragm; hæmorrhage; "pleuritis punctata"; and, as a result, common diaphragmatic pleuritis. He is quite certain that the pleurisy was not an infectious one.

Miscellany.

Government Health Reports.—By direction of the Secretary of the Treasury, Dr. John B. Hamilton, Surgeon-General of the Marine-Hospital Service, has issued the following abstract of sanitary reports received during the week ending July 28th:

England and Wales.—The deaths registered in twenty-eight great towns of England and Wales during the week ending July 9th corresponded to an annual rate of 19.6 in a thousand of the aggregate population, which is estimated at 9,245,099. The lowest rate was recorded in Nottingham, viz., 11.4, and the highest in Preston, viz., 32.1 in a thousand. Small-pox caused 2 deaths in Sheffield.

London.—One thousand six hundred and ten deaths were registered during the week ending July 9th, including 77 from measles, 25 from scarlet fever, 11 from diphtheria, 86 from whooping-cough, 1 from typhus, 14 from enteric fever, 133 from diarrhoea and dysentery, and 9 from cholera and choleraic diarrhoea. The deaths from all causes

corresponded to an annual rate of 19.9 in a thousand. In greater London, 1,939 deaths were registered, corresponding to an annual rate of 18.7 in a thousand of the population. In the "outer ring" 13 deaths from measles, 14 from diarrhoea, and 6 from diphtheria were registered.

Ireland.—The average annual death rate represented by the deaths registered during the week ending July 9th, in the sixteen principal town districts of Ireland, was 21.3 in a thousand of the population. The lowest rate was recorded in Londonderry, viz., 8.9, and the highest in Galway, viz., 30.3 in a thousand.

Dublin.—One hundred and eighty deaths were registered during the week ending July 2d, including 36 from measles, 5 from whooping-cough, 2 from enteric fever, 1 from diphtheria, and 3 from diarrhoea. Diseases of the respiratory organs caused 30 deaths. Eight accidental deaths were registered, and in seventeen instances the causes of death were uncertified. The deaths from all causes corresponded to an annual rate of 26.6 in a thousand.

Scotland.—The deaths registered in eight principal towns during the week ending July 9th corresponded to an annual rate of 18.8 in a thousand of the population, which is estimated at 1,299,000. The lowest mortality was recorded in Aberdeen, viz., 16.9, and the highest in Perth, viz., 27.6 in a thousand. The aggregate number of deaths registered from all causes was 469, including 2 from measles, 8 from scarlet fever, 4 from diphtheria, 46 from whooping-cough, and 22 from diarrhoea.

Palermo.—The United States consul, under date of July 6, 1887, states, in confirmation of his telegram of that date, that "two sudden deaths occurred here yesterday from cholera. . . . The first death was that of a fugitive from Catania, at which cholera reappeared some days since, the victim only being ill a few hours, when he succumbed."

Montevideo.—Three hundred and eighty-one deaths were registered during the month of April, 1887, including 52 from diphtheritic croup, 4 from whooping-cough, 13 from small-pox, and 17 from enteric fever.

Kingston, Jamaica.—Ninety deaths were registered during the month of June, 1887, including 1 from enteric fever and 2 from small-pox.

MORTALITY TABLE, FOREIGN CITIES.

CITIES.	Week ending—	Estimated popu- lation.	Total deaths from all causes.	DEATHS FROM—							
				Cholera.	Yellow fever.	Small- pox.	Typhus fever.	Enteric fever.	Scarlet fever.	Diphtheria.	Others.
Paris	July 9.	2,260,045	924	...	7	...	...	21	5	20	...
Warsaw	July 2.	430,174	200	...	13	...	...	...	...	...	...
Calcutta	June 4.	433,219	161	11	...	...	...	...	...	...	...
Calcutta	June 11.	433,219	152	10	...	...	...	...	...	...	...
Amsterdam	July 9.	378,686	157	...	2	...	4	1	5	...	...
Rome	May 21.	369,214	137	...	3	...	5	...	3	...	...
Palermo	July 9.	250,000	120	2	...	...	2	12	4	...	...
Belfast	July 2.	224,122	109	...	...	1	2	...	...	...	...
Havana	July 14.	208,000	178	...	21	21	6	...	...	...	...
Havana	July 21.	208,000	210	...	30	23	8	...	...	...	...
Genoa	July 9.	179,324	98	...	1	...	2	1	1	...	...
Leipsic	July 9.	170,000	71	...	...	...	2	1	1	...	...
Trieste	June 25.	150,155	73	...	6	...	1	...	...	...	...
Trieste	July 2.	150,155	73	...	7	...	1	...	...	...	...
Stuttgart	July 9.	125,510	40	...	...	1	...	...	...	...	...
Havre	July 9.	112,074	52	...	4	...	8	...	...	...	...
Reims	July 9.	97,903	52	...	1	...	2	...	...	...	...
Leghorn	July 10.	101,172	38	...	...	...	1	2	...	...	...
Mayence	July 2.	65,701	22	...	...	...	...	...	...	...	...
Guayaquil	June 24.	35,000	16	...	2	...	11	...	...	...	...
Guayaquil	June 29.	35,000	35	...	7	...	12	...	...	...	...
Gibraltar	July 9.	23,001	7	...	...	...	1	...	...	...	...
Toronto	July 16	120,000	20	...	...	...	...	...	...	...	...

UNITED STATES.

Key West—Yellow Fever.—The medical officer in charge of the Marine-Hospital Service (Passed Assistant Surgeon John Gutiérrez) reports a total of 173 cases and 41 deaths to date.

A Sanitary Convention, under the auspices of the Michigan State Board of Health, will be held in Traverse City, Mich., on Wednesday and Thursday, August 24th and 25th.

The Health of the State of New York.—According to the State Board of Health's "Monthly Bulletin" for the month of June, the whole number of deaths reported during that month was 7,414, forty per cent. of which were those of children under two years old. In each

thousand deaths there were 111 from diarrhoeal diseases, 725 from typhoid fever, and 64 from diphtheria. The death-rate from zymotic diseases in general is stated to have been decidedly smaller than that of 1885 and 1886.

The American Rhinological Association will hold its fifth annual meeting in Washington on the 1st, 2d, and 3d of September. The programme announces an address by the president, Dr. J. A. Stucky, of Lexington, Ky., and papers by Dr. T. H. Stucky, of Louisville, Dr. N. R. Gordon, of Springfield, Ill., Dr. A. G. Hobbs, of Atlanta, Ga., Dr. F. M. Rumbold, of St. Louis, Dr. A. B. Thrasher, of Cincinnati, Dr. T. F. Rumbold, of St. Louis, Dr. P. W. Logan, of Knoxville, Tenn., Dr. John North, of Keokuk, Iowa, Dr. A. De Vilbiss, of Toledo, O., Dr. C. H. von Klein, of Dayton, O., Dr. H. Jerard, of East Lynne, Mo., Dr. J. G. Carpenter, of Stanford, Ky., Dr. R. S. Knobe, of Fort Wayne, Ind., Dr. A. J. Vance, of Harrison, Ark., Dr. W. Castor, of Corsicana, Tex., Dr. J. D. Simpson, of Bloomington, Ind., and Dr. E. L. Siver, of Fort Wayne, Ind.

THERAPEUTICAL NOTES.

Spirit of Ether as a Corrigent of Opium.—Dr. A. G. Auld ("Lancet") remarks that there are few drugs more commonly prescribed than opium, and none more abused or more carelessly combined. None of the official preparations are quite destitute of the disagreeable after-action of the pure drug—that of causing headache, nausea, and loss of appetite—due to its diminishing intestinal secretion. Atropine, while to a certain extent it antagonizes the action of opium on the central nervous system, rather adds to its effect on the alimentary secretions. The author has observed good results from giving opium in conjunction with ether, which, he says, is one of the most powerful stimulants of secretion that we know of. He generally prescribes equal parts of tincture of opium and spirit of ether. [We presume the author refers to the spiritus ætheris of the United States and British Pharmacopœias. Concerning the spiritus ætheris compositus (Hoffman's anodyne), the authors of the United States Dispensatory say: "This preparation is on many occasions a useful adjunct to laudanum, to prevent the nausea which is excited by the latter in certain habits."]

Phosphorus in the Treatment of Broncho-pneumonia.—Faria ("Brazil Med."; "Lyon méd.") has made use of phosphorus successfully in the treatment of three children, from six months to six years old, who, in the course of attacks of broncho-pneumonia, were threatened with asphyxia, as shown by coldness of the extremities, cyanosis, and a very frequent and thready pulse. He gave from five to twelve drops of the ethereal tincture of phosphorus in a draught of some cordial preparation. At the same time he used frictions, sinapisms, and inhalations of oxygen. He has not found this treatment successful with old persons.

Binioidide of Mercury as an Antiseptic in Midwifery.—At the recent annual meeting of the Italian Obstetrical and Gynecological Society ("Rev. gén. de clinique et de therap."), Professor Mangiagalli stated that the binioidide of mercury was a more active antiseptic than corrosive sublimate, less dangerous, and less injurious to instruments. The strength of the solution required was only 1 to 4,000, iodide of potassium, chloride of potassium, or chloride of sodium being used to increase the solubility of the binioidide.

A Mixture for the Lienteric Diarrhoea of Children.—The "Union médicale" attributes the following formula to J. Simon:

Tincture of cinchona.....	10 parts;
Tincture of rhubarb, }	each..... 4 "
Tincture of calumba, }	
Tincture of nux vomica.....	1 part.

From five to ten drops are to be taken before each of the two principal meals, in cold water or in water to which a little wine of cinchona has been added. All the food should be reduced to a pulpy state.

ANSWERS TO CORRESPONDENTS.

No. 17.—Sydenham's laudanum was made by macerating 64 parts of opium, 32 of saffron, and 4 each of cinnamon and cloves in 500 of

Malaga wine for fifteen days, with the aid of a gentle heat, expressing, and filtering. It was practically the same as the *vinum opi* of the present United States and British Pharmacopœias, the *vin d'opium* composé of the French Codex, and the *safranhaltige Opiumtinktur* of the German Pharmacopœia.

No. 18.—The idea of making traction on the foetal head by means of suction is not novel. At a meeting of the Edinburgh Obstetric Society, held December 20, 1848, a communication on the subject was made by Sir James Y. Simpson, and was published in the "Edinburgh Monthly Journal of Medical Science," for February, 1849, under the title of "The Air-tractor as a Substitute for the Forceps in Tedious Labors." Simpson reported a case in which he had used a cylindrical speculum to which an extemporized piston had been fitted.

No. 19.—Such persons are not necessarily impostors. The one you mention was ascertained to be a somnambulist.

No. 20.—A teaspoonful and a fluidrachm are not quite the same; a fluidounce contains eight fluidrachms, but only six teaspoonfuls, assuming the ordinary teaspoon of the present day to be used. Hence, a four-ounce mixture will contain only twenty-four teaspoonful doses, and not thirty-two.

To Contributors and Correspondents.—The attention of all who purpose favoring us with communications is respectfully called to the following:

Authors of articles intended for publication under the head of "original contributions" are respectfully informed that, in accepting such articles, we always do so with the understanding that the following conditions are to be observed: (1) when a manuscript is sent to this journal, a similar manuscript or any abstract thereof must not be or have been sent to any other periodical, unless we are specially notified of the fact at the time the article is sent to us; (2) accepted articles are subject to the customary rules of editorial revision, and will be published as promptly as our other engagements will admit of—we can not engage to publish an article in any specified issue; (3) any conditions which an author wishes complied with must be distinctly stated in a communication accompanying the manuscript, and no new conditions can be considered after the manuscript has been put into the type-setters' hands. We are often constrained to decline articles which, although they may be creditable to their authors, are not suitable for publication in this journal, either because they are too long, or are loaded with tabular matter or prolix histories of cases, or deal with subjects of little interest to the medical profession at large. We can not enter into any correspondence concerning our reasons for declining an article.

All letters, whether intended for publication or not, must contain the writer's name and address, not necessarily for publication. No attention will be paid to anonymous communications. Hereafter, correspondents asking for information that we are capable of giving, and that can properly be given in this journal, will be answered by number, a private communication being previously sent to each correspondent informing him under what number the answer to his note is to be looked for. All communications not intended for publication under the author's name are treated as strictly confidential. We can not give advice to laymen as to particular cases or recommend individual practitioners.

Secretaries of medical societies will confer a favor by keeping us informed of the dates of their societies' regular meetings. Brief notifications of matters that are expected to come up at particular meetings will be inserted when they are received in time.

Newspapers and other publications containing matter which the person sending them desires to bring to our notice should be marked. Members of the profession who send us information of matters of interest to our readers will be considered as doing them and us a favor, and, if the space at our command admits of it, we shall take pleasure in inserting the substance of such communications.

All communications intended for the editor should be addressed to him in care of the publishers.

All communications relating to the business of the journal should be addressed to the publishers.

Original Communications.

THE INFLUENCE OF THE WOMAN'S HOSPITAL.*

By JAMES B. HUNTER, M. D.,
SURGEON TO THE WOMAN'S HOSPITAL, ETC.

IN the year 1855, when the Woman's Hospital was established, gynecology, as a distinct branch of medicine, was "without form and void." The practice in diseases of women did not differ materially, in this country at least, from the practice of twenty-five years before. Twenty-five years later the difference was very great. The striking advance that took place in that department in this country during that period was due, in great part, to the influence of the Woman's Hospital, and to the teachings of its founder, Dr. Sims, and its chief supporter, Dr. Emmet. Sims planted and Emmet watered. It is true that great changes took place during the same period in the practice of general surgery; but in no department was it so marked, so complete, so radical, as in that pertaining to the diseases of women.

My purpose on the present occasion, knowing the prejudices of my audience, is to call attention, very briefly, to the large share which the Woman's Hospital has had directly in the advancement of gynecology, and indirectly in the advancement of general surgery. The influence of the Woman's Hospital has been:

1. Through the medium of the men who have been trained within its walls, including surgeons, assistant surgeons, members of the house staff, and those connected with the out-door clinics during the past thirty years. Availing themselves to the full of the ample advantages there afforded, many members of the house staff have continued the work of the hospital in other cities and in other lands. They have been instrumental in founding other woman's hospitals, and wards for the treatment of diseases of women in general hospitals. They have also founded dispensaries for diseases of women, and in various schools and colleges they have given able instruction, didactic and clinical, in the same branch. Between fifty-five and sixty physicians are now living who have enjoyed the teachings of the Woman's Hospital as members of the house staff. Those, more than any other officers connected with the hospital, should represent its best teachings and advocate its best practice. Many of those gentlemen have become specialists, and have attained distinction; many have labored with extraordinary success in the field of general practice, and have there turned to good account their hospital instruction. In the colleges of this city, and in the poly-clinic and post-graduate schools, as well as in the dispensaries and clinics devoted to diseases of women, there may be found a very respectable number of those having or having had some connection with the Woman's Hospital. Some details of the work accomplished by former members of the house staff will be given hereafter.

2. Less direct, but very much more wide-spread and general, has been the influence exerted by the Woman's Hospital through the medium of those who have attended its clinics, and witnessed as spectators the operations performed there. Over three thousand physicians and students annually avail themselves of the privilege of visiting the hospital on operating days. Many more would gladly go did not the facilities of the hospital render it necessary to limit the number. Many come from a great distance for this purpose alone, and among the spectators may be found intelligent practitioners from every part of the civilized world. They go home, many of them, carrying with them the ideas, the methods, the instruments, the practical details of the Woman's Hospital. In Europe, in Australia, in China and Japan, in India, the Woman's Hospital has, through this means, been abundantly fruitful. As a single instance, it may be mentioned that one gentleman from Australia, after having visited the principal schools of Europe, established himself in this city for a whole winter for the express purpose of improving his knowledge of gynecology. He is now practicing in a large city in Australia, turning to the best possible account the information gained in the Woman's Hospital, and having in his possession a complete set of instruments made in this city after the Woman's Hospital pattern. Many others who have had no official connection with the hospital have become earnest students of gynecology, and for an entire season or more have followed faithfully the operations and, as far as possible, the clinics and the treatment, and have gone home and put in practice, with most gratifying success, the instruction thus acquired. One gentleman from a distance, from whom I had formerly frequent calls to operate on his patients, and whom I urged to come to the city for instruction, followed my advice to such good purpose that now he does all his operations himself, and I am never sent for. I am bound to add that he does them well.

3. The patients of the Woman's Hospital themselves have had much to do with promoting the advancement of knowledge of diseases of women. Many thousands of women are scattered over the country, some from almost every county in almost every State, who have received some substantial benefit, often amounting to the saving of life, very often to the permanent cure of some dangerous or painful malady, during a sojourn in the Woman's Hospital. These women necessarily spread the fame of the hospital, and create a demand for the knowledge by which they have profited. Their influence extends to the profession at large. The country practitioner becomes ambitious to keep abreast of the times, and often feels that he *must* do so in order to keep abreast of his patients. Hence, often, a pilgrimage to the Woman's Hospital, and a profitable sojourn there. Not a few ambitious physicians make a business of spending a few weeks in this city every winter, having as the chief incentive the opportunity of visiting the Woman's Hospital. Some weight must be given also to the influence of the many nurses who have passed through the Woman's Hospital, some dwelling there for a very short period, and a few for a long period. The more intelligent among them

* Read before the Alumni Association of the Woman's Hospital at its third meeting.

have carried the methods of nursing peculiar to the Woman's Hospital into private practice, and into the practice of other hospitals.

First among the hospitals which may be considered as offshoots or outgrowths of the Woman's Hospital I shall mention that established by Dr. W. H. Baker in Boston. It was small at first, but modeled, as nearly as possible, after the Woman's Hospital in everything except its government. It was originally a single private house, but now a second house has been added, and the accommodation consists of from thirty to thirty-five beds. These beds are all free, being endowed by private individuals or by different churches. The influence of that hospital has been felt, not only by the Harvard Medical School, but by the profession at large in Boston. It is known as the Free Hospital for Women. According to the "Eleventh Annual Report" of that hospital (1885-'86), one hundred and twenty-eight patients had been admitted to the hospital during the year, and in the out-patient department seven thousand and seventy-six had been afforded treatment. Dr. Baker, when he first settled in Boston, after leaving the Woman's Hospital, established a clinic for diseases of women at the Boston Dispensary, which has grown and prospered. Before dismissing Dr. Baker, it should be mentioned that he has for several years held the chair of lecturer on gynecology in the Harvard Medical School.

The California Woman's Hospital is, in some sense, an outgrowth of the Woman's Hospital of this city. Dr. John Scott, when he came to this city in 1867, a pilgrim from Calcutta, India, was advised and encouraged by Dr. Emmet, and inspired by what he saw done here, to attempt the establishment of a hospital on the Pacific coast. I remember well how eagerly and keenly Dr. Scott scrutinized every detail of the operations and the treatment at the Woman's Hospital during the few weeks he could afford to qualify himself for the undertaking. The California Woman's Hospital was organized in 1868 and incorporated in 1873. It had at first thirty beds, but has now double that number. Two graduates of the Woman's Hospital have had some connection with it. Dr. W. S. Whitwell for some time occupied the position of assistant surgeon, and Dr. A. P. Dudley for one year the position of house physician. The California Woman's Hospital deserves to be honorably remembered by this association from the fact that the house surgeon is paid a salary of fifty dollars a month. Dr. Whitwell has now a private hospital of his own. It is not exclusively for diseases of women, but admits "medical and surgical and obstetrical patients." He deserves the credit, I believe, of having introduced the use of hot water for hæmorrhage in Germany.

In St. Louis, Mo., the late Dr. W. L. Barrett, who served in the Woman's Hospital in 1867 and 1868, had charge given him of a gynecological ward in a general hospital, and for many years did a special practice in that city. Not long before his death he was appointed lecturer on gynecology in one of the St. Louis medical schools.

In Hartford, Conn., Dr. P. H. Ingalls holds the position of gynecologist to the Hartford Hospital, and according to the third annual report of that hospital there were treated

during the year ending September 30, 1886, thirty-four uterine cases.

In Baltimore, Md., the Woman's Hospital was opened in April, 1882, with a capacity of seventeen beds. In November, 1886, it was moved into a new building, having a capacity of thirty beds. The hospital is modeled very closely after the Woman's Hospital of this city. One graduate of the Woman's Hospital, Dr. C. W. Riley, holds the position of assistant surgeon to the Baltimore hospital.

In Providence, R. I., Dr. G. W. Porter, after leaving the Woman's Hospital, engaged in general practice. After some years he was appointed gynecologist to the Providence Dispensary, which position he held for some time. In 1872 the department of gynecology was established in the Rhode Island Hospital, and Dr. Porter was appointed surgeon to that department, of which he has entire control. His service consists of twelve beds, in which about sixty patients are treated every year. He has also an out-patient department connected with the same ward, in which one thousand two hundred and thirty-seven patients were treated last year. He has also a cottage for abdominal operations. Dr. Porter now gives his attention exclusively to gynecology.

In Washington, D. C., Dr. George Woodruff Johnston is the sole representative of the Woman's Hospital, of which he writes: "On gynecology, here as elsewhere, the Woman's Hospital has produced, through the medium of the writings of those connected with it, and the occasional visits of physicians from this city to its operating-rooms, a most decided and wide-spread impression." Dr. Johnston is lecturer on operative gynecology in the National Medical College, and is also chief of the clinic for diseases of women in the Central Dispensary and Emergency Hospital.

In Jersey City, N. J., the late Dr. John Van Vorst, Jr., had established a successful gynecological practice, and had performed many operations.

In Chicago, Dr. E. C. Dudley has been for many years a successful practitioner of gynecology, and has done a large number of operations. He holds the position of gynecologist to St. Luke's Hospital, the Cook County Hospital, and the Mercy Hospital; is also professor of gynecology in the Chicago Medical College, and delivers lectures on gynecology in Mercy and St. Luke's Hospitals.

In this city (New York), the ex-members of the house staff of the Woman's Hospital are represented by two surgeons to that institution, six assistant surgeons, a pathologist and registrar, and an electro-therapist.

In Bellevue Hospital an alumnus of the Woman's Hospital has for several years conducted successfully a gynecological department, and has performed a large number of operations of all kinds.

It would be personal, perhaps, to speak more particularly of those who are so near home, or to say much of the many instruments and appliances invented by graduates of the Woman's Hospital. Suffice it to say that neither the speculum nor the pessary has entirely escaped their attention. It may be permissible, however, as a means of avoiding a discussion on priority in future ages, to place on record the fact that the use of the rubber coil in peritonitis after ovari-

otomy was first suggested by Dr. A. B. Townshend, when he was house surgeon in 1881, and that he himself manufactured the first coil, which was used by Dr. Emmet on one of his patients in 1882.

Speaking to this association, I am not afraid of being criticised if I dwell for a few moments on the substantial advantages enjoyed by the members of the house staff of the Woman's Hospital during their pupilage. I use the word "enjoyed" with a full knowledge that the experience in question was not always joyous in the getting; but I believe those gentlemen learn some things not always learned by the graduates of other hospitals. I will not say that they learn to give ether better; but I will say that we have had many graduates of other hospitals who certainly gave it better when they left our hospital than when they entered it. As the influence of the Woman's Hospital is exerted very largely through its graduates, I must not omit to say a word of the advantages which accrue to those who do not become specialists, and who, strange as it may appear, never expect to. The graduate of the Woman's Hospital has an advantage over his fellow-practitioners in many particulars which he does not discover until after he has engaged in general practice. This is especially true as regards many obstetric manipulations. The man who has acquired a thorough familiarity with the methods and instruments of the Woman's Hospital will find that he has the key to many of the mysteries of obstetrics, and he may even be inclined to regard obstetrics as a branch of gynecology. In all uterine manipulations, in the arrest of hæmorrhage, in the removal of debris from the cavity of the uterus, in the use of the tampon, in the management of the bladder and rectum, and in the appreciation of any lesions which may occur, he will often find himself unexpectedly "at home." He will find, in other words, that there is a far wider range than he supposed for the skill and knowledge he has acquired.

In conclusion, I think it may be fairly asserted that the Woman's Hospital has exercised a widespread influence, and that its influence has been for good. At first unique in its character and purpose, it has impressed its principles on the profession and on other hospitals to such an extent that it has no longer a monopoly of any particular class of diseases. It has established gynecology on a sure and firm basis, and rendered it popular, simple, and accessible to all. It has abolished the old heroic methods of treatment, and furnished something better in their place. Above all, it has enlarged the domain of surgery in diseases of women, and defined its proper limits. It has taught the profession not only what to do, but what not to do. It has also borne a large and honorable part in the development of abdominal surgery. In short, whatever may be the future of the Woman's Hospital, it has already a long and glorious record, of which every one of its graduates may be justly proud.

The Poisonous Action of Furfurol.—At a recent meeting of the Paris *Société de biologie* ("Progr. méd.") M. Magnan said that he had experimented on various kinds of animals with this aldehyde, and had found that intra-venous injections produced convulsions closely resembling those of true epilepsy or the epilepsy of absinthism. This fact, he thought, would explain the convulsive attacks met with in Scotch peasants who took forms of spirit containing furfurol.

FURTHER RESEARCHES UPON THE PHYSIOLOGY OF THE RECURRENT LARYNGEAL NERVE.*

From the Biological Laboratory of the Johns Hopkins University.

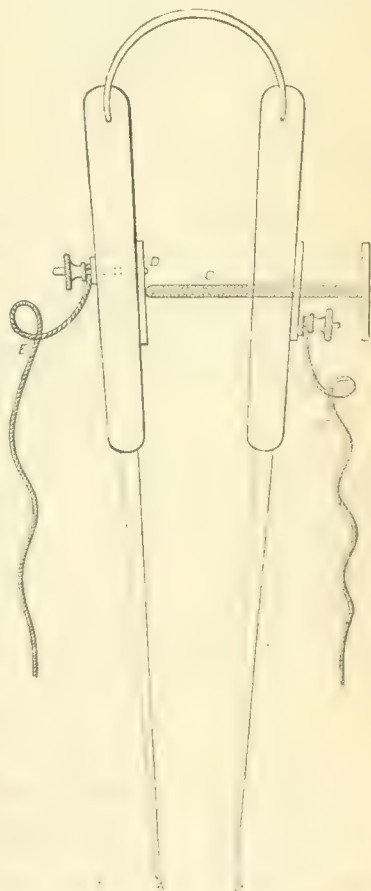
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(Concluded from page 148.)

To pass, now, to my present series of experiments, which prove:

1. That an *abduction* of the vocal bands, a *dilatation* of the glottis, can be obtained WITHOUT ether.
2. That it is a physiological fact that the opening or closing of the glottis depends upon the *strength* of the stimulus.
3. That we have confirmed every statement made in my original paper.

My method of operating was somewhat changed from last year, as follows: The larynx was exposed and the recurrents were dissected out. The trachea was separated from the larynx by cutting through it just below the cricoid. This cartilage was then divided in the center and part of it cut away, thus giving a clear view of the movements of the cords. A Du Bois-Reymond induction coil, with a Daniell's cell, supplied the stimulus. It was very desirable to obtain a *tracing* of the movements of the cords, and this was done in the following way: The little instrument pictured here was placed between the posterior end of the cords so that the two ends, A and B, rested against the right and left cords close to the arytenoids. Now, the wires, E and F, were connected, one with the battery, the other with a pen which wrote on a revolving drum. A third wire, of course, connected the other pole of the battery with the pen, and completed the circuit. Now, in order to make the circuit, the point C had to touch the arm D of the instrument, and this could only happen when the ends A and B were brought together, and they could only be brought together by an *adduction* of the cords—a closure of the glottis. When the glottis was open, or when there was a further *abduction* on stimulation, the pen did not move from the base-

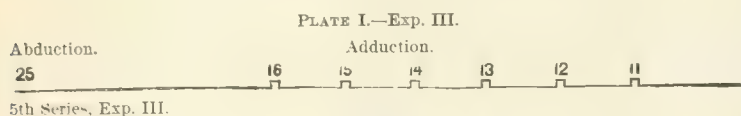


line; if, however, there was an adduction, the current was made and the pen rose. The tracings obtained in this way are given in Plates I and II for Experiments III and IV. It will be remarked that in these experiments *adduction* only is recorded. In order, therefore, to obtain a tracing of *abduction*, I changed the instrument given above, so that when the ends A and B rested against the cords, the point C touched D, and made the current, and the pen wrote above the base-line. If, now, any stimulus produced *abduction*, the ends A and B separated, the current was broken, and the pen fell from the base-line. The tracing of *abduction* thus obtained is shown in Plate III, Experiment IX.

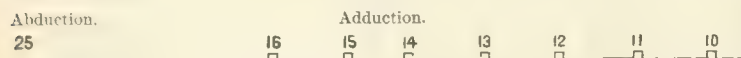
The experiments given below and marked from one to fourteen were not made in that order, and are taken from a large number. In Experiments I, II, III, IV, V, VIII, IX, and XII, morphine *only* was used, in VI and VII ether, and in Experiments X, XI, XIII, and XIV *no drug*, the medulla having been destroyed.

As will be seen, the observations are arranged in three columns. The first gives the strength of the stimulus, the second the result, and the third the person or persons observing, with remarks. The different experiments were seen and the *results* of any given stimulation *observed* by Professor H. N. Martin, Professor W. H. Welch, Dr. W. H. Howell, the assistant professor of physiology; by Dr. Campbell, Fellow in Biology; Dr. W. P. Lombard, Dr. Beyer, Professor Donaldson, Dr. J. Solis-Cohen, of Philadelphia, Dr. John N. Mackenzie, Professor Sewall, of the University of Michigan, Dr. J. H. Hartman, Professor Reichert, Dr. Kemp, and many others.

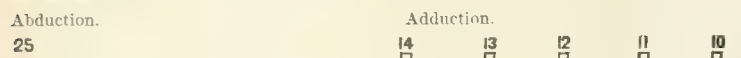
The tracings shown in the plates are to be read thus: In Plate I, for instance, to take the lowest tracing marked 7th series, it means that the coil was started at 25, and at each stimulation up to 14 the result was called out by the person observing as consequent *abduction*, and hence the pen did not leave the base-line. At 14, however, the stimulus was sufficiently strong to produce *adduction*, as is shown by the rise of the pen and the marking on the drum, and adduction followed stimulation at 14, 13, 12, 11, and 10.



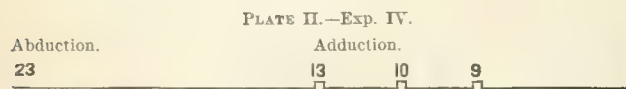
5th Series, Exp. III.



6th Series, Exp. III.



7th Series, Exp. III.



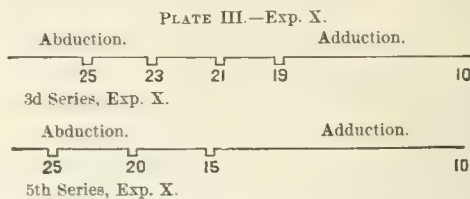
4th Series, Exp. IV.



6th Series, Exp. IV.

In Plate III, on the other hand, the connection being made, the pen wrote above the base-line. Now, this connection could only be broken by an abduction of the vocal

bands, and this took place, as can be seen from tracings (3d series, Exp. X), at 25, 23, 22, and 19, after which the various stimuli applied produced adduction; the connection was not broken and the pen did not leave its line.



Note.—Dr. Lombard kindly offered to photograph the abduction and adduction for me, but we were unable to carry it out. These tracings are a few taken for convenience from a large number.

EXPERIMENT I.

Coil at	Result.	Remarks.
<i>1st Series.</i>		
25.....	Abduction.	1½ gramme morphine; right recurrent stimulated; both cut.
23.....	"	
20.....	"	
15.....	"	
12.....	"	
10.....	Adduction.	
5.....	"	
<i>2d Series.</i>		
5.....	Adduction.	It was noticed that abduction was produced on slight stimulation; strong contact caused adduction.
10.....	"	
12.....	Abduction.	
<i>3d Series.</i>		
15.....	Abduction.	Professor Martin and Dr. Howell present.
14.....	"	
12.....	"	
10.....	Adduction.	
5.....	"	
<i>4th Series.</i>		
8.....	Abduction.	The stimulation was changed to a single shock, on the <i>break</i> only, and both nerves placed upon the electrode. <i>Abductor</i> fibers becoming exhausted, experiment stopped at 3.15.
5.....	Adduction.	
3.....	"	
0.....	"	

Series repeated over and over again without variation.

EXPERIMENT II.

Coil at	Result.	Remarks.
<i>1st Series.</i>		
10.....	Adduction.	Medium-sized dog; 1½ gramme of morphine; right recurrent cut.
7.....	"	
6.....	"	
5.....	"	
0.....	"	
<i>2d Series.</i>		
37 to 30..	Abduction.	
29.....	Adduction.	
25.....	"	
20.....	"	
<i>3d Series.</i>		
40 to 34..	Abduction.	At 35, adduction of anterior part of cord noticed, which continued.
30.....	Adduction.	
25.....	"	
20.....	"	
<i>4th Series.</i>		
34.....	Abduction.	Strength of battery (Daniell's cell) constantly changing.
30.....	"	
26 to 25..	Adduction.	

EXPERIMENT III.

<i>1st Series.</i>		
22 to 11..	Abduction.	Large dog; two grammes of morphine; right recurrent cut and stimulated; the abduction was very marked; crico-thyroid cut and thy-reoid cartilage slit.
10.....	Adduction.	
8.....	"	
5.....	"	

Coil at	Result.	Remarks.
<i>2d Series.</i>		
22 to 14..	Abduction.	This series observed by Dr. Beyer and Dr. Campbell, who called out result.
13.....	Mixed.	
12.....	Adduction.	
10.....	"	
8.....	"	
<i>3d Series.</i>		
10.....	Adduction.	Observed by Dr. Beyer and Dr. Campbell.
11.....	"	
12.....	Mixed.	
14.....	Abduction.	
16.....	"	
18.....	"	
20.....	"	
<i>4th Series.</i>		
15 to 11..	Abduction.	
10.....	Adduction.	
9.....	"	
8.....	"	
<i>5th Series.</i>		
25 to 17..	Abduction.	Dog killed so as to stop all possible movement.
16 to 10..	Adduction.	Instrument placed between vocal cords and connected with pen and tambour, and tracing obtained as in Plate III, 5th series.
<i>6th Series.</i>		
25 to 17..	Abduction.	Observed by Dr. Fiske; tracing No. 6.
16 to 9..	Adduction.	
<i>7th Series.</i>		
25 to 15..	Abduction.	Observed by Dr. Fiske; tracing No. 7.
14 to 9..	Adduction.	
<i>8th Series.</i>		
23 to 13..	Abduction.	Observed by Professor Martin; tracing No. 8; nerve and muscles losing their irritability; experiment stopped.
12 to 7..	Adduction.	

EXPERIMENT IV.

EXPERIMENT IV.		
<i>1st Series.</i>		
18 to 11..	Abduction.	Dog; 1½ gramme of morphine; crico-thyroid cut; Dr. Lombard observed all series, Professor Martin several.
10.....	Adduction.	
8.....	"	
<i>2d Series.</i>		
18 to 14..	Abduction.	Both recurrents <i>stimulated</i> .
13... ..	Mixed.	
12.....	Adduction.	
10.....	"	
<i>3d Series.</i>		
24 to 12..	Abduction.		Both recurrents stimulated.
11.....	Adduction.	
<i>4th Series.</i>		See tracing, Plate II; dog perfectly quiet.
23 to 15..	Abduction.	
13.....	Adduction.	
10.....	"	
<i>5th Series.</i>		
20 to 15..	Abduction.	
14 to 10..	Adduction.	
<i>6th Series.</i>		
25 to 15..	Abduction.	See tracing, Plate II.
14.....	Adduction.	

EXPERIMENT V.

<i>1st Series.</i>		
30 to 10..	Abduction.	Dog; 2 grammes of morphine; the first four series were observed, and the result called out by Professor W. H. Welch, Professor of Pathology.
9.....	Adduction.	
8.....	"	
5.....	"	
<i>2d Series.</i>		
25 to 12..	Abduction.	Both recurrents cut; both stimulated.
11.....	Adduction.	
10.....	"	
9.....	"	
<i>3d Series.</i>		
5.....	Adduction.	Both stimulated.
9.....	"	
10.....	"	
11.....	"	
12 to 30..	Abduction.	
<i>4th Series.</i>		
30 to 14..	Abduction.	Both recurrents stimulated.
12.....	Adduction.	
10.....	"	
9.....	"	

Coil at	Result.	Remarks.
<hr/>		
<i>5th Series.</i>		
28 to 12..	Abduction.	Dog killed. This and the following series observed by Professor Donaldson.
11.....	"	
10.....	Adduction.	
9.....		
5.....		
<i>6th Series.</i>		
	Same as last	

After a while the abductors lost their irritability, and adduction only resulted, which confirms my statement to this effect made last year.

EXPERIMENT VI.

Coil at	Result.	Remarks.	
<i>1st Series.</i>			
30.....	Abduction.	Dog; 2½ grammes of morphine; then very deeply under ether; crico-thyroid muscle and both recurrents cut; the battery was strong; <i>abduction</i> lasted much longer than without ether.	
25.....	"		
22.....	"		
20.....	"		
16.....	Mixed.		
12.....	"		
10.....	Adduction.		
<i>2d Series.</i>			
30.....	Abduction.	On slight contact a strong abduction.	
26.....	"		
24.....	"		
22.....	"		
20.....	"		
18.....	"		
15.....	"		
10.....	Adduction.		
<i>3d Series.</i>			
30.....	Abduction.		Dr. Beyer observed the cords and called out the result of each stimulus.
28.....	"		
26.....	"		
24.....	"		
22.....	"	Less distinct.	
20.....	"		
15.....	Adduction.		
<i>4th Series.</i>			
30.....	Abduction.	Dr. Beyer observed results.	
28.....	"		
26.....	"		
24.....	"		
22.....	"		
20.....	"		
18.....	"	On slight contact.	
15.....	Adduction.		

Ether certainly has a peripheral effect. It prolongs the abduction, and makes it more apparent.

EXPERIMENT VII.

Coil at	Result.	Remarks.
<i>1st Series.</i>		
40 to 18..	Abduction.	Dog under two grammes of morphine; both recurrents cut.
18.....	Mixed.	
17.....	Adduction.	
<i>2d Series.</i>		Right recurrent stimulated.
35 to 18..	Abduction.	
17.....	Adduction.	
<i>3d Series.</i>		Right recurrent.
35 to 18..	Abduction.	
17.....	Adduction.	

A large number of series were made without the slightest variation from the three given above. The nerves gradually became exhausted, and finally only very slight *abduction* could be produced, adduction generally resulting. The more irritable abductors had become worn out.

It suggested itself to me that I could have no better case in which to show the *prolonging* effect of ether, for the abductors would not respond. Ether was therefore adminis-

tered. I should state that this experiment and the next were observed by Dr. J. Solis-Cohen, who kindly came from Philadelphia, by Dr. John N. Mackenzie, and by Dr. Henry Sewall, Professor of Physiology in the University of Michigan.

When, therefore, the narcosis was pronounced by the three gentlemen present to be complete, the nerve was stimulated with the following result, and it will be seen that *abduction* distinct and prolonged was obtained.

EXPERIMENT VII—(Continued).

Coil at	Result.	Remarks.
<i>1st Series.</i>		
35 to 12..	Abduction.	Right recurrent pronounced.
10.....	Adduction.	
8.....	"	
5.....	"	
<i>2d Series.</i>		
30 to 16..	Abduction.	Both recurrences.
15.....	Adduction.	
10.....	"	
8.....	"	

Series repeated over and over again, with same result.

EXPERIMENT VIII.

Coil at	Result.	Remarks.
<i>1st Series.</i>		
35 to 18..	Abduction very marked	Dog; under two grammes of morphine.
17.....	Adduction.	Cords very wide apart; both recurrents cut.
<i>2d Series.</i>		
30 to 18..	Abduction very marked	Dr. Cohen, Dr. Mackenzie, Dr. Sewall, and Dr. Donaldson, Sr., present.
17.....	Adduction.	

Many series were done with the same results, the abductors finally failing to respond to stimulus.

EXPERIMENT IX.

Coil at	Result.	Remarks.
<i>1st Series.</i>		
36 to 18..	Abduction very marked	Dog; two grammes of morphine; both recurrences cut.
14.....	Mixed.	
15.....	Adduction.	
<i>2d Series.</i>		
30 to 18..	Abduction.	
17.....	Adduction.	
<i>3d Series.</i>		
35 to 20..	Abduction.	Both recurrences stimulated; Dr. Sewall present.
20.....	Mixed.	
18.....	"	
15.....	Adduction.	
<i>4th Series.</i>		
35 to 10..	Dog <i>profoundly</i> narcotized with ether; abduction greatly prolonged, and adduction finally done away with.	
10.....		

Many series made without variation.

EXPERIMENT X.

Coil at	Result.	Remarks.
<i>1st Series.</i>		
25 to 19..	Abduction.	Dog; medulla destroyed; no drug; * operation quickly performed.
	Mixed.	
17.....	Adduction.	
14.....	"	
<i>5th Series.</i>		
25 to 15..	Abduction.	* Professor Bowditch had written to Professor Martin to ask if he had ever seen an abduction produced without any drug.
14.....	Adduction.	

Series repeated again and again without variation; *abductor* fibers became sooner exhausted.

EXPERIMENT XI.

Coil at	Result.	Remarks.
<i>1st Series.</i>		
28 to 18..	Abduction.	No drug given; medulla destroyed; result of any given stimulus observed by Professor Martin and Dr. J. H. Hartman.
18.....	Adduction.	
17.....	"	
12.....	"	
10.....	"	

Series repeated again and again without variation.

It was remarked by all present that the abductor muscles died most rapidly.

EXPERIMENT XII.—This and the following experiments were made at the University of Pennsylvania in the presence of Dr. Reichert, Professor of Physiology, Dr. J. Solis-Cohen, Dr. Dalton Hays, of New York, Dr. J. H. Musser, Dr. Kemp, Assistant in Physiology, Dr. Hare, Dr. Joseph Head, Dr. Theodore Martin, and Professor H. N. Martin, who kindly came from Baltimore to see the demonstration.

The dog was given two grammes of morphine. A very large number of series were made. *Abduction* distinct and prolonged was produced by *weak stimuli*, in some cases lasting *ten and twenty seconds*.

Adduction by strong stimuli always.

EXPERIMENT XIII.—In order to show that the results obtained in Experiment XII were in no way dependent upon any effect of the drug, the dog's medulla was destroyed.

Observations were made and continued until all the gentlemen expressed their entire satisfaction. In one instance in the experiment, abduction continued for as long as gentle stimulus was kept on, some *twenty-five seconds*.

EXPERIMENT XIV.—Performed with Professor Martin. No variation from former experiment. In one case, abduction lasted nearly two minutes, under a weak stimulus.

Proceeding to an analysis of these experiments, we find:

1. That an *abduction* of the vocal cords *can* be obtained *without ether*. This fact is abundantly proved, for in *every series* of Experiments I, II, III, IV, V, VIII, IX, X, XI, XII, XIII, and XIV an abduction was obtained and seen by the observers quoted, and in *no case* was *any ether* whatsoever administered, and in Experiments X, XI, XIII, and XIV *no drug at all*, and abduction was produced for as long a time as desired.

2. That *abduction* followed *weaker, adduction stronger, stimuli*. This was an important point I made last year, and the present series of experiments confirm the statement, for, as will be seen, there was *no variation* in any case; gentle stimulation invariably produced *abduction*—strong, *adduction*.

3. That there is no variation whatever in the results.

Again, it was noticed that at a certain strength of stimulus slight contact produced a temporary abduction, strong contact, however, causing an adduction. In several cases where the nerve was stimulated *after death, abduction* gradually disappeared, giving place to adduction, which confirms the statement I made last year to that effect, *that the more irritable abductors die first*. This fact was brought out very strikingly in one experiment.

I was giving a demonstration before the Clinical Society of Baltimore, and, in order to have as little blood as possible,

had tied both carotids. It was from an hour and a half to two hours before I proceeded to stimulate, and when I did so, *no abduction* at all could be *obtained*, a weak adduction alone appearing. I know of no better way of demonstrating the greater irritability of the abductor muscles, which causes them to become so quickly exhausted.

This new and important fact that there is a difference in the irritability of the laryngeal muscles and nerve-fibers we may now, I think, consider as settled.

There are three important questions suggested by the above experiments, viz.:

1. The comparative irritability of muscles.
2. The ether effect.
3. The "proclivity" of the abductor muscles to disease.

On the Relative Irritability of Muscles.—The greater importance of certain muscles or groups of muscles in the body is well known, and it is not *a priori* unreasonable to suppose that such muscles should be more sensitive, more irritable, should respond to the gentlest stimulus, and so more rapidly perform their duty when called upon, than the less important and therefore less sensitive muscles. On the contrary, it is just what we might expect, as in the case of the more irritable *abductors* of the larynx. These are infinitely more important than the adductors.

The respiratory function of the larynx can not be suspended without danger to life, its phonatory function bears no such relation to the life of the individual, and the closure of the glottis is fortunately not entirely dependent upon those muscles which bring the vocal bands together. We find the muscles which open the glottis, therefore, far more irritable, responding always to the slightest stimulus.

Observations similar to my own have been made by Dr. Bowditch (*loc. cit.*) on the flexor and extensor muscles of the frog's leg, which are likened by him respectively to the abductor and adductor muscles of the larynx, and there certainly seems to be a remarkable similarity in their actions under weak and strong stimuli "without ether," says Dr. Bowditch; "flexion (and adduction of the toes) are only to be obtained with very feeble currents." And again "the important observation was also made that whenever flexion was obtained it could be converted into extension by *increasing the intensity of the current*," which agrees with my own results.

The great importance of the abductor muscles is sufficient to explain their great irritability, but it was not so easy to say why the flexor muscles should respond to a less stimulus than the extensors. We are unable at the present time to say whether the difference in irritability lies in the muscle or nerve-fibers.

The Ether Effect.—Dr. Bowditch speaks of my failure to obtain the ether effect. As I said in the beginning of this article, there was no mention of the ether effect in Dr. Hooper's paper nor in my own. I neither affirmed nor denied it. I said we did not *always* obtain abduction under ether for *all* strengths of stimuli. There is no doubt of the fact that ether greatly *prolongs* abduction in all cases, while in some it does away with adduction entirely, *abduction* only resulting from *all* strengths of stimuli.

The extent of its effect I have found to vary in different dogs. This, however, in passing and to correct a misapprehension. The subject is thoroughly discussed in Semon and Horsley's and in Bowditch's papers, and needs no further discussion here.

The so-called Proclivity of the Abductor Fibers to Disease.—I desire to add a few words on the much-vexed question upon which I have had reason to materially change my views since last year. In a paper, "Paralysis of the Lateral Adductor Muscle, with Unique Case,"* I said:

"I desire here to define my own position in the matter, and to offer an explanation of the phenomena of this so-called abductor paralysis. In a paper read before the American Laryngological Association in 1886, I stated that my experiments gave no confirmation of Semon's assertion. On further consideration, I find this statement too broad. Whereas I was at first inclined to deny Semon's statement (on scientific grounds), I now go almost as far as he does—*i. e.*, I am fully convinced that *the abductor fibers are much more irritable and have much less power of resistance than the adductor fibers, and that they die sooner*; though I can not say that I have as yet any experimental (histological) proof that they degenerate more rapidly, after chemical, mechanical, or electrical stimulation, than the adductor fibers."

Both of these facts are abundantly proved by this present series of experiments, and I am now forced to agree with Semon that those cases where the vocal band is found fixed in phonatory position are true paralysis of the *abductor* muscle, and not spasm of the *adductor* muscles. Moreover, the constant implication of the abductor muscle may be explained on the ground of the greater irritability of the abductor muscle or nerve-fibers. *For in cases of unilateral or bilateral lesion of the cords from an aneurysm or tumor the constant pressure exerted by either upon the nerve acts as a mechanical stimulus to it, and the more irritable abductors are, therefore, the first to show the result of this constant stimulation in their loss of function.*

Another factor in the fixation of the vocal band in the phonatory position in the majority of cases (as shown by Dr. Gowers) may be the mechanical advantage at which the chief adductor acts, as compared with the chief abductor, which gives greater power to the former, since it passes nearly at right angles (while the abductor passes at a very acute angle) to their identical insertion into the muscular process at the outer angle at the base of the arytenoid cartilage. Any loss of power would, therefore, affect the abductor muscle most. It is but right, then, to confess that my experiments tend to confirm Semon's conclusion.

Finally, we hold that this series of experiments conclusively proves that it is a physiological fact that abduction can be obtained and is produced by feeble stimuli.

Note.—In the paper read by Dr. Hooper at the meeting of the association in May last, he devotes much space to the *peripheral* effect of ether, but again not a word does he say of the *role* that he, in his last paper, declared *consciousness* to play in the innervation of the larynx. In the discussion, however, he said: "When I used the word *consciousness* I meant the *ether-effect*"—*i. e.*, peripheral effect. This extraordinary statement needs no comment. It will be noticed, too, that Dr. Hooper says he could not obtain (satisfactorily) our results. This, I hold, is a purely negative argument, and proves not *being*.

* "New York Medical Journal," February 12, 1887.

THE PROGNOSIS OF ACUTE LOBAR PNEUMONIA.

BY W. D. SCHUYLER, M. D.

(Concluded from page 73.)

WE have seen that acute lobar pneumonia, occurring in infancy and childhood, in patients otherwise robust, and where no complication is present, *is not a dangerous malady*. We have seen, also, that a pneumonia occurring between the ages of fifteen and forty, uncomplicated, the patient having a fairly good constitution, has an intrinsic tendency to recovery, and that the exceptions to this are exceedingly infrequent. Furthermore, we have seen that, while a favorable prognosis is justified upon these grounds, or in all uncomplicated, moderately sthenic cases in the ages mentioned, *on the contrary, an unfavorable prognosis is to be anticipated in all complicated cases*. Moreover, we have seen that *the most evident cause of death in all fatally complicated cases is asthenia*, a variously developed (according to the action of each complication) functional (organic) asthenia, and resulting insufficiency, particularly of the heart or lungs, or both, or of the general organism, but mainly of the vaso-motor nerves.

Hence, having shown that *organic asthenia, and resulting functional insufficiency of some organ or organs, is the cause of death* when it results from acute pneumonia in infantile life and in early adult life, *as also in subjects of all ages, so far as we have examined, and in complicated cases*, and, on the contrary, that *it is the exception when death results in sthenic and uncomplicated cases*, therefore I hold it follows, as a fair inference and deduction, that it is not age in itself and essentially, *but the sthenic condition* (strength or debility) *of the patient, irrespective of age*, that determines the result.

Although we might conclude from the various statements previously quoted—from Aitken, Niemeyer, Jürgensen, Loomis, and others—that imply a steadily growing increase of fatality from pneumonia with advancing age—*i. e.*, an increasing ratio of fatality in succeeding decades of life—that such unfavorable results were a consequence, simply and essentially, of increasing age; yet such a conclusion, I hold, would be erroneous, for I maintain, on the contrary, that I have shown by the foregoing *that it is the increasing debility natural to age*, which, as a rule, *but not always*, keeps pace *pari passu* with advancing age, *that constitutes the element of danger*, and that must be held accountable for the increasing fatality met with in advancing life.

On these grounds I hold that the very bad prognosis attaching to the *third* and remaining age-class, in the very aged, in whom mortality varies—as set forth in the different statistics offered—from 50 to 100 per cent. of the cases, is to be explained in the same way, *by the increasing debility inherent to the age of these subjects*.

This opinion, which is the only one that can be sustained, agrees with my clinical experience with the malady as I have witnessed it in patients of advanced age and, in some cases, of extreme age, in whom it has occurred that the course has been as favorable and its convalescence every way as rapid—where the apparent vital tone has been

equal, and it may be equal in individual subjects—in the aged as in the young adult; and it is also in accordance with a rational inference from the qualified statements of various authors who have written upon the subject of the prognosis of pneumonia with reference to age, who make special reference to probable unfavorable results when there is existing debility, or where there are complications, but not otherwise.

Furthermore, that it is debility, age-debility, simply, and not essentially an advance of years in the aged, that is the dangerous factor in the prognosis of pneumonia; or, in other words, that increased age means or implies merely increased debility in this connection, is put forth by Jürgensen, who, speaking of prognosis as regards age *versus* vigor (*l. c.*, p. 139), says: "It is impossible to compare age classifications of a manufacturing population with those of the laboring classes of a north German seaport town, or with those of a strictly rural district. . . . The porters of Kiel, for example, are old by the time they are thirty, while our peasants in many parts of the country are still hearty fellows at fifty." And he further says: "*I insist strongly upon this point, because I wish to protest against the idea that there is necessarily an increased fatality after a certain limit of age has been reached*" (Italics mine). And, as an additional support to the theory that it is debility rather than age that determines the resulting fatality, he gives statistical details illustrating the point, and says: "In Greifswald the fatal time of life is ten years later than in Basle."

Having determined, therefore, that debility, in varying degrees, is the complicating factor in respect to age in the prognosis of this disease, not only are the therapeutical indications thereby rendered simple, but the hope that treatment may prove successful, by an early and timely resort to tonics and support, is developed.

Sex.—Pneumonia is about one third more fatal in females than in males. This statement is generally supported by Aitken, who says: "Sex is an important element in the prognosis of pneumonia, it being one third to one half more mortal in females than in males." By Jürgensen, who says: "Pneumonia is, *cæteris paribus*, a more dangerous affection in the female than in the male sex, in about the ratio of three to two." And, among others, by Wilson Fox, who says: "Pneumonia is a more fatal disease to females than to males"; and he quotes Huss, who gives the relative mortality as males 10 per cent., females 14 per cent., and says: "Females are more liable to double pneumonia than males, and the disease in females appears to be more protracted." How is this well-attested fact of a greater mortality in females than in males to be accounted for? Considering it in an extended sense, as the evidence would seem to warrant, there can be but one rational explanation of it, and that must rest upon some broad ground of physical difference in the sexes.

The only adequate ground of physical difference that can be predicated to account for the greater mortality occurring in females is not one which makes the female more prone to an attack of the disease than the male, as women, according to Jürgensen and others, are attacked by pneu-

monia somewhat less frequently than men; it is not a morbid difference which predisposes to a greater violence of the symptoms in the female, as there is no evidence that a greater violence or a greater morbid force is developed in her—on the contrary, in her the symptoms are less sthenic than in the male; and, lastly, it is not a physical or constitutional difference that favors the development in the female of those conditions which are held to govern a less favorable prognosis of the affection—namely, the female is not more liable to an apex development, she is not subject to a more dangerous febrile manifestation, she is not liable to worse consequences arising from age, she is not more prone to the occurrence of complications. In all these particulars the expression of the disease is not more marked in the female than in the male. The difference, then, can not consist of a pathological demonstration in favor of the male; or, in other words, it can not be a characteristic of the disease, but it must be some characteristic of the individual, and relate to a constitutional or an organic difference. The only constitutional difference in the sexes adequate to account for the marked difference in mortality in the female over the male can be no other than that of strength or capacity for endurance. The greater delicacy of the female is acknowledged by all. Her comparative inactivity, her less general physical training, her lighter vocation, and her indoor life, do not tend to cultivate in her an enduring physical tone. On the other hand, the tax upon her organic and nervous forces resulting from deranged menstrual conditions and from child-bearing—too often allowed to become seriously pathological—taken in connection with her more sedentary and debilitating regimen, amply accounts for her comparatively greater organic asthenia, and a consequent inability of her system to withstand the effects of a suddenly developed, prolonged, and severe organic strain, such as pneumonia occasions. A greater liability to the development of a functional or organic asthenia in the female, from a suddenly occurring vital and functional strain, in place of another and more adequate explanation, must account, then, for the greater fatality that results in females than in males. The rational indication for treatment as regards the greater fatality in females is twofold—namely, to avoid in her the occurrence of organic strain, and, secondly, to give an earlier support to her functional and vital forces, by an earlier and more liberal use of tonics than is required in males.

We now come to a brief study of the clinical signs of prognostic significance in pneumonia. They are such as more especially relate to the functional state of the circulation and respiration and such as denote the concurrent and prospective general sthenic condition of the patient, and comprise the character and rapidity of the pulse, the character of the heart's action and of the general circulation; the conditions of respiration; the course of the attendant fever, and more especially as it may depart from a normal pneumonic temperature curve; the character of the sputa; the patient's mental condition, and, particularly, such constitutional symptoms as denote the concurrent progress of the local process—as shown by physical signs.

The Pulse.—A great frequency of the pulse, of 130 to

140 or upward, if it is small and feeble, or early in the course of the disease is large and soft—and if at the same time there are marked lividity of the face, cyanosis, and venous fullness, particularly of the head, neck, and face, most apparent in the sublingual veins; and also if there is evidence of concurrent venous stagnation, denoted by a persistently moist, cool, clammy feeling over the face and limbs—most quickly found at the wrists and knees—and by a slow return of color to a point blanched by an impress of the finger—these facts imply danger from a failing circulation.

The Heart's Action.—A powerfully acting heart early in the course of the process, concurring with a soft, small, or full pulse, and symptoms of respiratory distress indicated by cyanosis, denotes danger from pulmonary resistance, pressure, and congestion (the latter generally collateral), and indicates venesection or the use of cardiac sedatives. A rapidly but feebly acting heart at a more advanced stage of the process, concurring with delirium, signs of nervous prostration, and of general circulatory typhoid stagnation, denotes organic failure, and indicates a correspondingly vigorous and prompt tonic treatment. A *dicrotic* heart's action, generally present, if at all, in the earlier stages, denotes a good cardiac tone, but an obstructed pulmonary condition delaying the right heart's systole. If the symptom is accompanied with respiratory distress, it especially indicates venesection or circulatory sedatives.

Frequency of Respiration.—If there is present great frequency of the respiratory action, amounting to 60 or upward to the minute, it denotes pulmonary functional distress from circulatory pressure*; and if respiration is frequent but shallow, and occurs with general symptoms of imperfect hæmotosis, the symptom indicates danger from failure of the respiratory apparatus, and, back of that, of the general organism. The indication is to relieve pressure, if necessary by venesection, and to support the system.

Sputa.—Much has been written relative to the prognostic value of the pneumonic sputa. In my opinion, only a sputum exhibiting extreme characteristics has prognostic significance. Its entire absence and its presence in great amount have been equally unimportant events as far as results went in the cases I have seen. However, it is generally conceded that a non-adhesive, diffuent, and watery prune-juice, or markedly puriform sputum, rather than a mucæ-hæmorrhagic and adhesive sputum, denotes a less favorable prognosis. This it does not do so much by virtue of any progress it denotes of the process taking place as it shows a depraved constitutional state of the patient; and treatment is indicated accordingly.

Fever.—A protracted pneumonic pyrexia, without respect to the normal temperature curve, or an unusually high general curve, averaging 105° F. or upward, and irregularities of the normal curve, particularly a late considerable and prolonged rise, instead of a normally occurring decline with or at the time of crisis, denote some danger. The former, a prolonged pyrexia, generally denotes a non-progression of

* That frequency of respirations in pneumonia is due to pressure I shall be able to show when discussing that phenomenon under "Symptoms and Course."

normal changes in the consolidate. And a late rise denotes developing vital failure and imminent asthenia. Both conditions indicate tonics internally, warmth externally, and support, rather than febrifuges.

Delirium, occurring as an early symptom in an adult with acute pneumonia, and persistently remaining, denotes a depraved, asthenic condition. It is not an infrequent symptom in alcoholic subjects and in subjects with Bright's disease, and is to be regarded as an unfavorable sign. In the more depraved of these cases there is a non-progression of the normal local changes (in the consolidate), and congestion and general collateral œdema are to be apprehended. Stimulant tonics are indicated by persisting delirium, especially in alcoholic subjects. In some of these cases œdema is due to a developing cardiac or to a general organic circulatory insufficiency, and is a symptom of general vaso-motor exhaustion.

Icterus.—The occurrence of icterus has been said, and is believed by some, to denote an unfavorable prognosis. Although one form of icteric expression, the hæmatogenous, denotes an impaired hæmic condition, and in so far an unfavorable state as regards an adequate hæmatisis, and though true icterus may result in the course of pneumonia from venous congestion of the liver and pressure upon the biliary ducts, yet I do not attach great significance to them. I have seen partial jaundice develop in patients convalescing from pneumonia, and therefore do not deem its occurrence an important sign. True jaundice resulting from venous pressure indicates, if serious, venesection. Hæmatogenous jaundice indicates support.

General Summary of Unfavorable Prognostic Signs.—A rapid, uncertain, soft pulse, frequent shallow and imperfect respiratory movements, a markedly cyanotic countenance, an increasingly higher and prolonged febrile temperature, and especially an undue late temperature rise, a non-occurrence of crisis, a cool, clammy, perspiring surface, purplish, moist, cold extremities, a semi-conscious, apathetic, mental state, a prune-juice, diffuent, or offensive sputum, developing tracheal râles, developing bronchial râles and œdema in collateral areas, deep drowsiness, slipping down in the bed, and the occurrence of general typhoid symptoms—denote imminent danger.

Summary of Favorable Prognostic Signs.—A pulse of 120, thereabouts or under, of comparative fullness; an unoppressed heart action; a clear facies, denoting an adequate respiratory action; an appreciative mental state; a moist, not too dark tongue; general bodily warmth; quick return of color to a point blanched by pressure; the continued excretion of dark urine, taken in connection with physical signs that show a normal progress in the local consolidate, denote a favorable condition and progress of the case.

Furthermore, a preceding normal development and procession of the more prominent phenomena of the disease—namely, the occurrence at the outset of a well-marked initial chill and of a succeeding or concurrent, moderately well-marked attendant pyrexia of 100° to 103° or thereabouts; of a prompt formation of a concrete and rather extensive local process; of an adhesive sputum; of an early appearance of dark-colored urine; of an active ex-

cretory function, especially of urine; of a good mental state; of a well-marked and duly occurring defervescence and crisis, and of concurring signs, denoting a continued adequate hæmatisis—indicate both a normal process in its development and degeneration and such continuously good general tone of the organic forces as foreshadow a favorable termination.

Review.—With reference to the more prominent prognostic data, we have seen (1) that a *greater extent of local process*, of pulmonary consolidation, does necessarily and in a corresponding degree influence a more unfavorable result, and justify a worse prognosis, while, on the contrary—for reasons advanced, but mainly because more extensive consolidations are most generally met with in more sthenic cases that, as a rule, terminate in recovery—it is *probable, generally considered, that a more extensive consolidation rather justifies a better prognosis*.

(2) While the fatality is greater in *apex cases*, this result does not occur from any reason relating to such site in itself, neither on account of graver resulting constitutional symptoms nor of a more destructive local action in those cases, *but is to be explained by the worse constitutional, asthenic, precedent conditions*, and the consequently diminished sustaining power *present in the patients* in whom this localization occurs, which diminished power, local and general, such development only serves to indicate the presence of.

(3) *Age*.—Contrary to the most natural inference from general teaching, *age in itself is not shown to essentially influence the prognosis of acute pneumonia*. While the fatality of that disease is notably greater in the aged, and death results in an increasing ratio, *pari passu*, with advancing decades in life, yet, as we have determined, it is not the greater age *per se*, but the *greater debility consequent upon an increased senility, and as it occurs in badly nourished foundlings*, that must be held accountable for such results.

(4) We have seen also that the greater fatality of the disease occurring in the female sex (33 per cent. greater than in the male) is to be accounted for in the same manner, not by any worse action of the disease, but by reason of the *natural inferior powers of resistance met with in the female sex*.

(5) It has been shown, *contrary to general teaching*, that a higher but normally limited fever, generally considered, *indicates a better rather than a worse prognosis*; the support of this deduction is derived from the fact that a higher normal fever indicates better sthenic conditions, which, as a rule, favor recovery.

(6) *Of Complications*.—Although complications severally increase the mortality from pneumonia from 20 per cent. in some cases to 50, 75, or even 100 per cent. in others, yet here we have seen that it is not essentially the complication itself, whichever it may be, that directly causes the unfavorable results, but that in each case such result is *due to an asthenia* (functional or organic) that such complication or its results directly promote or predispose to. Instances of the manner in which such functional or organic exhaustion and asthenia result from complicating causes have been given—*e. g.*, special functional (local organic) ex-

haustion is seen to result from the additional resistance due to a pleuritic or pericardial adhesion, while general organic exhaustion is equally predisposed to by the deranged nutritive results of Bright's disease or alcoholism.

Lastly, we have seen that *acute alcoholism* (that comprises the presence of unaltered alcohol in the circulating blood), by its special chemico-inhibitory action on hæmatisation, in addition to the respiratory inhibition caused by the action and presence of the developing local process, to the action of a morbid pressure, and to congestion in collateral areas, *forms a direct and, in some cases, beyond doubt, fatal complication in this disease.*

Conclusion (A).—With regard to the correctness of general teaching, and as to the true effect and action of each of the generally accepted prognostic conditions, we have seen that two of the more prominent conditions usually taught and held to denote a worse prognosis—namely, a greater extent of the local process (lesion) and a higher grade of fever—*contrary to general teaching, do not actually imply a worse prognosis*, but, on the other hand, as they are merely the expressions of a better sthenic or tonic condition (which, as shown, predisposes to recovery), *are to be regarded in general as indicating a better prognosis.* With regard to the significance of a greater extent of the local lesion, this conclusion will appear the more reasonable when we have studied the pathological course of the local process, “morbid anatomy,” of the affection, when we have seen that a greater extent of consolidation and its more rapid formation mean a quicker depletion of the involved, obstructed circulating blood, a quicker cessation of morbid pressure and of a functionally obstructive circulatory stress on the one hand, and of dyspnoea and the danger of functional insufficiency (pulmonary and cardiac), relief, and a quicker convalescence on the other. And with regard to the prognostic significance of a higher fever, while, as a rule, a febris pneumonica is never sufficiently high or prolonged to be a cause of danger in itself, and as its higher manifestations, generally speaking, occur in the more tonic and robust cases, such pathological expression, as stated above, indicates a better rather than a worse result.

In regard to the true significance of the remaining conditions held to influence the prognosis unfavorably—*i. e.*, age, especially advanced age, the female sex, an apex development, and complications—while they do justify a worse prognosis, yet, with regard to them also, we have determined the important fact, therapeutically speaking, that it is not either of these conditions in itself and directly which promotes unfavorable results, but a consequent functional or constitutional effect of such condition. Furthermore, we have seen that this injurious effect or factor is a common characteristic or exponent, a resultant of all the unfavorable conditions enumerated, and *also of all complications except acute alcoholism, and that this common exponent or characteristic is asthenia.*

Conclusion (B).—*With regard to the prognosis in general of acute lobar pneumonia* we may say: Occurring in moderately sthenic subjects, not debilitated by immediately acting or more remote causes or complications,

and without regard to the extent of lung involved, the age or the sex of the patient, or the degree of fever, as such will occur (naturally) in these cases, *the prognosis is to be regarded as favorable. Recovery is the rule and death is the exception* in such cases. *Occurring, however, in debilitated subjects*, whether the debility is a precedent state due to advanced age, to the female sex, or to previous disease, or is a concurrent development due to complicating conditions, and to the extent and rapidity that such debility favors the development of functional asthenia of either the right heart or of the lungs, or of a general asthenia, *the prognosis is rendered correspondingly doubtful or bad.* The fatality in these cases, *unless prevented by a prompt and rational treatment*, will be in proportion to the degree of the asthenia developed; and in all of these cases the development of asthenia and insufficiency will depend upon the cause on the one hand and the treatment practiced on the other.

(C). *Conclusions and deductions from the foregoing* relative to the essential pathology, nature, or character, and action of acute lobar pneumonia may be stated as follows: *We have seen that asthenic conditions pre-eminently cause its fatal results; and, conversely, that sthenic conditions promote convalescence*, from which it is fair to conclude that *acute lobar pneumonia is a dynamic or sthenic malady; furthermore, as asthenia occurs in connection with morbidly overworked functions, we may more fully characterize it as a dynamic and functional malady*, as I have previously shown it to be.

(D). The conclusion as to a rational preventive treatment of unfavorable results, which I have shown to be the principal therapeutic requirement of the malady, is that its indications reside in each instance, and in all cases so far as the pneumonia *per se* is concerned, *in the sthenic manifestations.* A hypersthenic manifestation of action and energy on the part of the circulatory forces may, in some cases and in full-blooded subjects, in whom reactionary energy and pressure are sometimes powerfully excited, cause danger from apnoea, by forcing congestion throughout the unoccupied and collateral portions of the lungs. This congestion, being due to pressure, therapeutically indicates circulatory sedatives, and especially measures for checking the heart's action; and in some cases where there are a hypersthenic action and full blood-state conjoined with an irritable nervous condition and a resulting and dangerous morbid pressure, causing congestion and threatening apnoea, venesection is the urgent indication as a means of relieving both the stress and the congestion. While hypersthenic manifestations may occasionally occur in connection with the developing local process in an early stage of the disease, in the great majority of cases asthenic manifestations, local or general, will predominate. They must be carefully looked for, and, if possible, anticipated in each case, and the indication promptly met. The more markedly asthenic conditions are to be found or anticipated in connection with advanced age, the female sex, apex development, and the occurrence of Bright's disease, chronic alcoholism, endo- or pericarditis, or of pleurisy, and each will indicate its special therapeutic need as to the time and degree of its tonic requirement. Meanwhile the special contra-indication to the ad-

ministration of alcohol, except in small and diluted doses, as a cardiac tonic in this disease, and especially where a difficult hæmaturia forms one of its most prominent symptoms, must be borne in mind.

Finally, we may refer with satisfaction to one important result, a practical gain, from the foregoing study—namely, the development of rational indications for the treatment of the disease in the presence of the above-named conditions and complications, not heretofore, as I am aware, rationally pointed out. By resting upon previous limited teaching and upon statistical evidence simply, and therefrom regarding advanced age, essentially and in itself, as a valid reason for an increasing mortality in the more aged subjects, we have disclosed, first, no indication whatever for a treatment to be pursued; second, as age is not capable of being altered or ameliorated by treatment, *no* indication can possibly be derived from an age condition by which the chances for a resulting convalescence can be improved or promoted, or by which the pneumonic attack can be rendered less dangerous. On the other hand, as age in these cases is irremediable (if it essentially comprises the danger that is shown to exist in these cases), as physicians we are helpless, and therefore, and in so far, justified as to our treatment of the disease in aged subjects, whether we lose 20 per cent. or even 100 per cent. of the most aged, and whether such treatment is characterized by the greatest skill, the utmost ignorance, or even by entire neglect, the responsibility for our results resting upon the fact of an irremediable state. By the same ground of reasoning, sex also not being subject to remedial treatment, we are exonerated if we lose in our practice three females to two males with this disease. And correspondingly, upon the same ground of helplessness, we are to be excused if we lose a certain large per cent. of our patients with pneumonia complicated by Bright's disease, chronic alcoholism, or endo- or pericarditis, these chronic conditions also not being sufficiently susceptible to treatment to make the possible results gained thereby of avail or advantage as regards the course and convalescence of the acute disease we are treating. But, having determined what the true element of complication causing fatality in these cases is, and that it is not the condition itself, that is not subject to treatment, but a vital characteristic of the condition, that *is* subject to treatment, we have removed our helplessness, and at the same time all excuse for our unscientific treatment and its worse results.

Whereas we were not responsible, under the teaching that has hitherto prevailed, for not doing what we could not do; now, knowing that it is not the apparent condition itself but a character of it that is to be anticipated, watched, and prevented or corrected, we not only have a clear indication as to what we should do, but are responsible if we do not do it in time and, to a degree, successfully.

At any rate, by practically acknowledging or accepting the fact that asthenia is the truly complicating element and factor of danger in the conditions mentioned, we shall find that by the use of the proper means we may save a larger per cent. of our aged patients, and proportionally and similarly we shall more successfully treat our female subjects,

which otherwise we could have no hope of doing; and also in the presence of otherwise dangerous complications we may be able to anticipate the cause of danger in each case, and by rational means protect and sustain our patients until the pneumonic action has passed and convalescence is assured.

FUNCTIONAL APHASIA.

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TRANSIENT aphasia, unattended with brain-softening, cerebral hæmorrhage, or other brain lesions, and without paralysis or convulsions, may be only the result of functional derangements in the third frontal or first and second temporal convolutions, or of all these speech-tracts of the cortex cerebri. Or it may depend upon a temporary functional change in the white brain matter intervening between the speech-tracts and the corpus striatum; or, again, upon a change in that part of the corpus striatum in relation with the speech-tract. And when this disturbance is in the third frontal convolution, or in that part of the corpus striatum in relation with it, or in the white intervening matter, the aphasia is *motor*, the muscular machinery of speech not responding to volitions in a way to give correct expression to words.

When, however, the disturbance is in the first and second temporal convolutions, or in the efferent fibers proceeding from them to the corpus striatum, or in that part of the corpus striatum in relation with the first and second temporal convolutions, it is *sensory*, and there is a failure of the tracts to respond to and convey the motor volitions of words during the continuance of the temporary disturbance. And, further, when there is functional disturbance of the entire speech-tract, frontal and temporal, cortical, tubular, and ganglionic, a train of symptoms such as occurred in the following cases may be developed.

A gentleman, fifty-seven years old, who had suffered some for two years from indigestion, with sympathetic cardiac disturbance, attended with the loss of about every sixth heart pulsation, had been very much improved by treatment in every other respect, as well as cardiac and gastric. On the morning of May 7, 1887, having had an unusual pressure of his extensive business, attended on the 6th with some little excitement in a complicated settlement with a friend, and resorting to a foot-bath on retiring, not feeling quite so well as usual, he got up and walked out, it being Sunday, his family noticing nothing unusual in his appearance. When his breakfast was nearly ready he came in naturally; but, to the astonishment of his wife and her sister, when he spoke to them, though he uttered well-measured sounds by his voice, not one single intelligible word was uttered. The wife and sister, thus surprised and frightened, as might be expected under such circumstances, walked about him, weeping and wringing their hands, of course to his astonishment and fright, as he was not aware of his failure to express his ideas; and this evidently produced greater disturbance with him, causing excited inaudible vociferations. But they sat down to breakfast, when, as usual, he attempted to say grace. And, though his vocal sounds were well measured, and his sentences apparently all well turned, he not only failed to utter a single intelligible word, but he failed also to stop, till a neighbor was called in, who succeeded, after about twenty minutes, in interrupting

his vociferations, evidently very much to his astonishment, as was apparent by his somewhat excited attempt at explanation and remonstrance, all in the same unintelligible manner. He ate no breakfast, and a physician of the village, hastily called in, made a temporary prescription, and advised them to send for me; but, as there were no Sunday trains, a carriage sent, nearly twenty miles, did not enable me to reach his residence till about 5 o'clock p. m. And as his meaningless vociferations had continued, with only an occasional audible word, I found him, his family, and the villagers very much excited, he attempting to make them understand his language, and they in turn assuring him that they did not understand him. He had eaten nothing since the evening before, and looked a trifle haggard. His tongue was slightly coated. The weather had been hot for the season.

I wet-cupped the back of his neck and dry-cupped the temples high, and then applied a gentle current of electricity about the head and neck, after which he got off more intelligible words. I gave him *avena*, about ten drops, with five grains of iodide of potassium, to take before his meals, and two grains of ammoniated citrate of iron with two drops of tincture of *nux vomica* after; also an improved compound cathartic pill, to be repeated, with a warm foot-bath, at evening, and advised him to eat some supper, as it was ready. When seated at the table, he again attempted to say grace, with only an occasional understandable word, and, after a somewhat protracted effort, was brought to a close by a gentle touch of the hand by his wife. He ate an egg and some toast, and conversed better, however. I applied a gentle electric current at bedtime as before, and, after the foot-bath and taking the second pill, he went to bed and to sleep. As the pills were about to operate, during the night he got up and went for the wash-bowl the first time instead of the commode. But he readily corrected the mistake, at the suggestion of his wife that he was wrong. The second time he was called up he went to the right vessel without any suggestion from her. Then falling asleep, he rested quietly till morning, when he got up, as his wife expressed it, "all right," and had gone out when I came down, having kept quiet to avoid disturbing him till quite late.

We then took a walk, during which he explained all the circumstances very correctly. He told me how surprised he was at first at the failure of his family to understand him, and even at our stupidity in not understanding his well-measured words and rounded sentences, which he thought were so very plain. He ate a fair breakfast, after an intelligible grace of moderate length.

As he had some malarious symptoms, I ordered one improved compound cathartic pill each evening, and gave him, in addition to the medicines already named, two grains of cinchonidine four times a day, and a warm foot-bath at evening. I saw him again on the following day, May 9th, and found him all right, except a slight pain and heaviness in his head, for which I again wet-cupped the back of his neck and applied electricity very gently, as before, and directed a blister to the back of his ears and one to the back of his neck.

May 14th.—One week after the attack he wrote me that his appetite was not very good, and I sent him ammoniated citrate of bismuth, to take a grain with the iron and *nux vomica* after his meals. This treatment was continued till June 7th, and with the blisters once, as directed, for one month after the attack, when five drops of *avena* were given alone before each meal, and only one drop of tincture of *nux vomica* with one grain of ammoniated citrate of iron after. This treatment was continued for another month, when, as he appeared to be in an excellent condition, treatment was virtually suspended, but very little more being apparently indicated.

If, as is now generally believed, the speech-tract of the cortex cerebri is mainly in the third frontal and first and second temporal convolutions, the left hemisphere being generally used in right-handed and the opposite sometimes in left-handed persons and others, and if, as is also generally held, the third frontal convolution is *motor* and the first and second temporal convolutions are *sensory*, then the disturbance in this case must have involved, in a limited degree, not only the third frontal, but also the first and second temporal convolutions. For, though in this case the muscular machinery of speech responded to volition so as to measure off sounds with regularly turned sentences entirely satisfactory to himself, as appeared, he failed to use understandable words, showing an imperfect condition of the motory tract of speech in this third frontal convolution. And, though he appeared to understand words uttered by others, the sensory speech-tract of the first and second temporal convolutions was so far disturbed as to be disqualified for the time for carrying to the motor nerves controlling speech correct impressions of the volitions of words the mind would use to communicate ideas, and hence the utterance of inaudible sounds, instead of audible understandable words, and the sensory aphasia, as well as motor, in this interesting case.

It appears probable, further, that the disturbance in all these speech-tracts of the cortex cerebri, corpus striatum, and intervening tubular matter, may have consisted in a passive congestion arising from solar heat, malaria, and fatigue, with the excitement to which he had been exposed, and hence the wet-cupping to avoid lesion, electricity and *avena* to aid vital action, cinchonidine and pills for the malaria, iron, *nux vomica*, and bismuth for the blood and digestion, blisters to allay meningeal irritation, and the warm foot-baths to detract from and relieve cerebral congestion—all of which appeared to act favorably, the iodide of potassium being given to guard against depositions of any kind.

This view of the aetiology and pathology in this case appears to be borne out, to some extent at least, by that of a more recent one in the person of another gentleman of about eighty:

He had several attacks of what appeared to be a collapse of the nervous system, in one of which he fell to the ground and remained unconscious for an hour or more. On the morning of June 12, 1887, the weather being hot, in attempting to say grace he utterly failed to get off a single intelligible word, though measuring off sounds for about ten minutes, as I was assured, when he recovered the power of speech, saying, "I don't know what ails me this morning."

In this case, in which there was also evidently a temporary disturbance of the third frontal and first and second temporal convolutions of the speech-tract, involving very likely the corpus striatum and intervening tubular portions, as well as the cortex cerebri, electricity, with two grains of ammoniated citrate of iron and two drops of tincture of *nux vomica* at meals, appeared sufficient to rally and sustain his system above the functional aphasic standard, there being, as was evident in this and probably in the other case, no softening or other lesion of brain tissue, or sanguineous or

serous effusion—pathological conditions so often causing and attending aphasia with convulsions or paralysis, or both.

The importance of discriminating between *functional* aphasia and that depending upon brain softening, sanguineous or serous effusion, or other brain lesion or disease, is apparent, as affording rational indications of treatment. And it may be equally important to bear in mind that cases primarily functional may, without judicious treatment, terminate in brain softening, or passive cephalic effusions or exudations, which may then be attended with convulsions, permanent paralysis, etc., with no relief of the aphasic condition. And, while it may be difficult to account for the fact that the left hemisphere is the one generally used, and hence implicated, it may very possibly be due to the same anatomical and physiological conditions that render most people right-handed. And this is strengthened by what appears to be a fact, that when aphasia occurs from functional or organic changes in the speech-tracts, cortical, ganglionic, or tubular, of the right cerebral hemisphere, it appears to have oftenest occurred in left-handed persons. More careful critical clinical observation, however, is needed to settle this, as well as other points connected with this intensely interesting subject. But in all inquiries bearing on these questions it may be well to bear in mind that the disease is essentially physical, the nervous or brain-tract only, and not the mind, being at fault.

208 MADISON STREET, SYRACUSE, N. Y., July, 1887.

MINOR AMPUTATIONS AT THE CHAMBERS STREET HOSPITAL.

By P. E. TIEMANN, M. D.,
HOUSE SURGEON, CHAMBERS STREET HOSPITAL.

THE following is a summary of sixty-six cases of amputation of the finger, and one of the great toe—in all, sixty-seven—with incidentally several tenorrhaphies and resections, occurring in the Out-door Department between the months of August, 1886, and May, 1887.

Before considering these, however, it might be of interest to briefly outline the method followed in these amputations, and their after-treatment. The cases were almost invariably seen a short time after the receipt of the injury. At first sight it would seem as if the prospects for antiseptic and primary union were far from favorable, the injured part being generally much crushed, with paint, machine-grease, printer's ink, or dirt so ground and rubbed into the skin and lacerated tissues that it usually was impossible to thoroughly cleanse them; still, the first step was the attempt to do so with nail-brush and soap and water, and afterward with a solution of bichloride of mercury, 1 to 1,000.

If the amputation was to be that of a phalanx, or of a metacarpal bone near the metacarpo-phalangeal articulation, cocaine was generally used as an anæsthetic; if the injury was nearer the wrist, ether was employed, inasmuch as in the latter case the hand was usually so lacerated that co-

caine, in quantities sufficient to produce the requisite anæsthesia, was deemed unsafe.

If cocaine was chosen, it was injected into the skin, rather than beneath it, with an ordinary hypodermic syringe, the needle being previously cleaned with sol. acid. carbolic., 1 to 40. The injections were usually four in number, about five minims of a four-per-cent. solution in each, encircling the part one eighth to one quarter of an inch above the level of the amputation, fifteen to twenty-five minims of the solution in all being sufficient to produce complete anæsthesia. After sensibility to pain had been removed, a small Esmarch bandage was applied around the wrist, with a couple of turns around the hand and the root of the finger, if the latter was the seat of operation, thus indefinitely prolonging the anæsthesia, as described by Corning and others. If more than one finger required amputation, injections of the minimum quantity that would produce anæsthesia were made in each, and the circulation in each was arrested by the bandage, as before; ether was generally used in triple or quadruple amputations of the phalanges, however, on account of the necessarily large quantity of cocaine to be used; still, in one instance (not recorded here) four fingers were removed under cocaine without pain and without marked constitutional symptoms.

In fact, in reference to cocaine it may be said that during the past year it has been very freely used here, and so far only one instance of its dangerous effects has been noted—a case of temporary syncope in a patient who was sitting up watching an operation on himself—an accident that might easily happen without the aid of the drug.

The amputations, with but two or three exceptions, were performed with flaps; but, in accordance with the wishes of the patient, as much of the part was preserved as would insure a useful stump, and thus the classical disarticulation with palmar flap, the cicatrix well out of harm's way on the dorsal surface, was rarely seen, no more bone being removed than was absolutely necessary, and all available skin being utilized for flaps, whether lateral, antero-posterior, palmar, dorsal, or circular, lateral flaps being preferred. When necessary, the phalanx was cut with a forceps, unless unusually dense and thick; the metacarpal bone was either cut with the forceps or sawn through, according to its size. Though the forceps crushes the bone slightly, it is rare for caries or necrosis to follow its use, and even these may be due to the primary injury.

After the Esmarch's bandage had been removed, the active hæmorrhage was controlled by ligating the digital arteries with catgut; the ends of nerves and tendons were trimmed off, a catgut or horse-hair drain was placed between flap and the end of the bone, and the wound closed with catgut sutures. Solution of bichloride of mercury, 1 to 1,000, was used to irrigate the wound; the instruments were kept in a 1-to-40 solution of carbolic acid.

The dressing consisted of iodoform next to the skin, either in the form of powder, ointment, or gauze, preferably the latter, covered by several thicknesses of bichloride gauze, either already prepared, or made extemporaneously by wringing a roll of absorbent gauze out of a 1-to-1,000 solution. Over these was placed a layer of absorbent cot-

ton, the whole hand generally being included in the dressing for the first week.

The patient was instructed to return the next day, but the dressing was not removed for several days, unless there were indications to that effect. Still these cases required redressing oftener than ward cases, as the dressings became loose and soiled in a surprisingly short time; again, the patients often fancied that they were slighted and badly handled if not redressed every few days, and might pursue treatment elsewhere, and occasionally they would remove the dressing to satisfy themselves that all was doing well. One patient with a sutured tendon and nerve confessed that he had taken off bandage, splint, and gauze the day after the operation, and, when expostulated with, said that some friends wished to see how badly he had been hurt, and, as they had come all the way from Newburg, he could not refuse them.

Of the sixty-seven amputations, fifty-five were primary and twelve were secondary; of the former, forty-five were single, seven were double, one was triple, and two were quadruple; of the latter, eleven were single and one was double.

Cocaine was used as an anæsthetic in forty-eight cases with only two failures, one of which occurred in a single amputation, the other in a double amputation at the metacarpo-phalangeal articulation. Three of the forty-eight were double amputations; the remainder were single. Ether was given in the nineteen remaining cases.

Of the total number, forty healed by primary union—that is, without suppuration or separation of the flaps, and practically under one dressing; of these, two were quadruple, one triple, and three double. Eleven healed by secondary union; three of these were double. In four the result was unknown. In the remaining twelve, union was attended with suppuration along the drain-sinus, but there was no separation of the flaps.

In only ten cases of those in which the date of cure was known was complete healing delayed beyond four weeks.

Thirty-three patients reported in May in response to postal-cards. In twenty-six the stumps caused no discomfort; four of these were double, one was triple, and one quadruple. In six there was tenderness in the end of the stump on firm pressure, but not sufficient to cause any hindrance in their work. In one, pressure and motion caused pain in the stump; this was a case of amputation through the shaft of the first metacarpal, an area a quarter of an inch square having been left to granulate.

Out of twenty cases of amputation through the neck of the proximal phalanx, or the proximal interphalangeal joint, thirteen stumps were freely movable in every direction, flexion and extension being complete; in five the motion was limited, in one of which there was only lateral motion; no record was made of the mobility of the remaining two.

There were seven complicated cases—three of amputation with suture of the tendon of the extensor communis digitorum in its digital portion; in two of these, two tendons were divided, in the third only one tendon; one case of amputation with suture of the median nerve at the wrist; three cases of amputation with resection of a phalanx. In all the cases of tendon suture there was complete restoration

of function; in the case of nerve suture sufficient time had not elapsed to make it certain that function had returned. Of the resections, only one case was successful, the tendons having sloughed in one case and the transplanted finger having become gangrenous in the other. A few instances might more fully illustrate these points.

CASE I.—A. H., aged sixteen, office-boy, March 28, 1887. Compound comminuted fracture of left first metacarpal bone, with division of extensor tendons of thumb. Hand had been crushed by a heavy case shortly before. Ether. Removal of comminuted portion of first metacarpal; end of remaining half smoothed with rongeur; articular surface removed from base of proximal phalanx of thumb, and phalanx then wired to stump of first metacarpal by means of silver wire passed through drill-holes in both bones. Divided tendons sutured with silk-worm gut*; flexor tendons not shortened. Patient did not return for after-treatment, but reported April 25th, when there was firm union between the wired bones, with union in the tendons, and motion, still limited, at the carpo-metacarpal and interphalangeal joints.

CASE II.—H. D., aged seventeen, carpenter, March 24, 1887. Lacerated wound of right thumb and palm of right hand, and compound fracture of first and second metacarpal bones. Index finger hanging by the tendons and a bridge of skin one inch wide. Hand had come in contact with a circular saw a short time before admission. Ether. Removal of first and second metacarpal bones half an inch from their bases. Base of proximal phalanx of index finger sawn off, and phalanx then approximated to stump of first metacarpal, the right thumb having also been amputated. The bones were drilled and fastened together with silver wire; the respective flexor and extensor tendons were shortened and sutured together with silk-worm gut. Skin was dissected from the proximal half of the palmar surface of the index finger, spread out, and sutured to the edges of the wound in the palm with catgut.

March 28th.—Index finger gangrenous; amputated. Union then took place by granulation in six weeks; at that time there was stiffness in the proximal interphalangeal joint of the middle finger, subsiding under treatment.

CASE III.—J. P., aged thirty-one, carpenter, March 7, 1887. Compound fracture of distal phalanx of ring finger and of proximal phalanx of little finger; almost complete amputation of index finger. Compound dislocation at proximal joint of middle finger, with division of extensor tendon at this point. Had pushed his hand against a circular saw just before admission. Cocaine; success. Amputation of index finger through neck of proximal phalanx; amputation of little finger through middle of shaft of proximal phalanx. Antero-posterior flaps in each. Dislocation of middle finger reduced; ends of tendon brought together by two sutures of silk-worm gut.

March 20th.—Primary union in stump, and firm union in bone and tendon.

May 5th.—Stump of index finger perfect as regards motion and comfort; perfect motion in ring finger; complete extension, but flexion to only 25° in middle finger. Stump of the little finger can be flexed to 25° with palm; not painful nor tender.

Finally, there were but four cases of complicating cellulitis, one of which required incision to let out pus; in the others the inflammation subsided in two or three days under a continuous wet dressing.

* By silk-worm gut is meant the material used in making snells for fish-hooks.

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THE CAUSE OF THE INCREASED PREVALENCE OF SMALL-POX IN COLD WEATHER.

IN a paper entitled "Some of the Cold Weather Communicable Diseases," presented at the annual meeting of the Michigan State Medical Society, Dr. Henry B. Baker, of Lansing, considered some of the possible causes of the greater prevalence of diphtheria, small-pox, and scarlet fever during the cold than during the warm months of the year. As regards small-pox, Dr. Baker adduces, in support of the general impression that, in so far as our own country and the present time are concerned, the disease occurs chiefly in winter, certain facts that, as an officer of the Michigan State Board of Health, he has had facilities for ascertaining. To account for this preponderating prevalence of small-pox at that season, Dr. Baker suggests that it may be due to influences increasing the susceptibility of the air-passages to the reception and entrance of the virus. Such a factor, he remarks, may be an excessive withdrawal of water from the body by way of the lungs, with a consequent increase of the salinity of the fluids which constantly moisten the air-passages and the air-cells. According to Dalton, he says, albuminous constituents of the blood should pass out from the blood-vessels into such a saline fluid whenever it contains about four per cent. of chloride of sodium. If this takes place, he adds, the exudations that occur after exposure to cold seem to be explained, and at the same time it seems probable that a virus like that of small-pox, capable of reproduction in the serum of the blood, may find in such an exudate a *nidus* more favorable to its lodgment than on the mucous membrane in its more normal condition.

This hypothesis is ingenious, and, if it can be admitted that atmospheric influences capable of increasing the salinity of a fluid by condensing it, so to speak—*i. e.*, by withdrawing water from it—are able to exert their effect upon parts so remote from the outer air as the pulmonary alveoli, it may be worthy of more attention. But the fact of such subjection of the fluid moistening the interior of the alveoli to atmospheric conditions must, we think, first be proved. In the mean time, there is another suggestion that it might be worth while to follow up—the action of a cold, dry atmosphere as a preservative of the variolous virus. It is well known that small-pox is contracted not alone on confrontation, but also on exposure to fomites sometimes dating back to a sickness that occurred long before. Bearing in mind the facts that heat and moisture are very destructive of the small-pox contagium, and that cold and dryness tend to preserve it almost indefinitely, we may reasonably infer that warm weather limits the prevalence of the disease by more or less restricting its communication to instances of infection by direct personal contact, while in cold weather this

method of its conveyance remains quite as operative, and is supplemented by the increased opportunity for mediate infection brought about by the preservative effect of meteorological conditions on the contagium as it exists in crusts, epithelial scales, clothing, bedding, and the like.

IODOL AS A SUBSTITUTE FOR IODOFORM.

THE use of iodoform in the treatment of various disorders of the upper air-passages has become exceedingly common. Valuable as the drug is in many cases, its disagreeable odor and sickening flavor are most objectionable, and thus far all efforts to disguise them have proved more or less unsuccessful. An efficient substitute for it, therefore, devoid of its unpleasant qualities, will be welcomed alike by the physician, whose premises and person have been perfumed by it, and by patients, whose appetite it has destroyed. That such a substitute has been found seems probable from the success that has attended the use of iodol, a drug lately introduced, concerning which an excellent article, by R. Wolfenden Norris, is to be found in a recent issue of the "Practitioner." According to this author, iodol is very rich in iodine, containing only seven per cent. less than iodoform, and parting with it more readily. It is said that no toxic symptoms follow on its continued use, and it is therefore to be preferred, not only on that account, but also because it possesses neither flavor nor odor.

It has been found to be a valuable application for the mouth, the pharynx, the larynx, and the nose in all cases in which ulceration exists, whether tuberculous, syphilitic, or malignant. The following preparations are recommended: 1. Insufflations of the pure powder. It is stated that, in using these, it is more important to cover the diseased localities than to measure the amount of the drug applied. 2. Mazzoni's solution (1 part of iodol, 16 parts of alcohol, and 34 parts of glycerin); for application with a brush or in the form of a coarse spray. 3. A mixture of 1 part of iodol, 1 part of glycerin, and 7 parts of vaseline; for application with a brush. 4. Pastilles containing one grain of iodol, 1 minim of glycerin, and 18 grains of glyco-gelatin. 5. A solution of 1 part of iodol in 8 parts of ether; for application with a brush or in the form of a spray. 6. Bougies, each containing half a grain of iodol, for use in the nasal passages. 7. A ten-per-cent. iodol wool, for tampons, etc. 8. Iodol gauze, for dressings.

Iodol is said to possess all the medicinal properties of iodoform—to be antiseptic, anaesthetic, and promotive of granulation and cicatrization, to arrest suppuration, and to deodorize foul secretions; and it is stated that, at the same time, its action is exerted quite as rapidly. If all these statements are substantiated on more extensive trials, a valuable and most acceptable addition will have been made to our therapeutical resources.

MINOR PARAGRAPHS.

THE INDUCTION BALANCE IN THE DISCOVERY OF BULLETS.

IN a report of a case in which the induction balance was used for the detection of a needle in the thumb, published in

the "Lancet," reference is made to another case in which the apparatus was employed for determining the locality of a bullet that had been shot into the head. A loud sound was heard in front of the patient's ear, but the area was rather large for a bullet, and the patient's brother asked if gold filling would interfere with the test. An examination showed the presence of a large amount of gold in the upper teeth of the injured side, and that fact led the reporter to quote Professor Bell as having said: "If people would make their bullets of silver, copper, or iron, there would be no difficulty in finding them in any part of the body."

THE THENAR MUSCLES OF THE HAND.

In a paper on "The Short Muscles of the Pollex and Hallux of Anthropoid Apes," read at a recent meeting of the Subsection in Anatomy and Physiology of the Academy of Medicine in Ireland ("British Medical Journal"), Dr. Brooks remarked that the names usually applied to the thenar muscles of the human hand had been shown to convey an erroneous idea of their morphology. He had therefore adopted the following names for the short muscles of the thumb: the abductor pollicis and the opponens pollicis, as ordinarily described; the flexor brevis pollicis, consisting of a radial head, as described by Gray and Ellis, and an ulnar head, a small, deep muscle arising from the base of the metacarpal bone of the thumb and inserted into the sesamoid bone at the ulnar side of the metacarpophalangeal articulation; and the adductor pollicis, consisting of three parts—(a) a slip attached to the radial sesamoid bone of the thumb, (b) the adductor obliquus = the so-called inner head of the flexor brevis, and (c) the adductor transversus = the adductor pollicis.

CHLOROFORM ANÆSTHESIA AND THE STATE OF THE PUPIL.

HENRY J. NELSON, M. B. ("British Medical Journal"), says that it has always been very difficult for him to determine the exact moment at which a patient became sufficiently anesthetized with chloroform for an operation to be proceeded with, and that he has found the common sign of the abolition of the conjunctival reflex very misleading. Now, however, as the result of clinical observations and experiments on animals, he is convinced of the truth of certain statements made twelve or thirteen years ago by Budin and Coyne, but afterward disputed by Schiff, to the effect that the state of the pupil was a trustworthy sign. Moreover, says Mr. Nelson, accepting the declaration by a committee of the British Medical Association that diminished blood pressure is one of the chief dangers of chloroform anesthesia, the state of the pupil may be taken as a valuable guide as to whether or not the patient is in danger; contraction of the pupil indicates diminished pressure, and no more chloroform ought to be given until it dilates again.

MODELS AS A MEANS OF TEACHING.

In a recent address before a conjoint meeting of a number of branches of the British Medical Association, entitled "The Study of Skin Diseases as illustrating the Doctrines of General Pathology" ("British Medical Journal"), Mr. Jonathan Hutchinson drew a forcible picture of the teaching power of models. Probably, he said, not one in a hundred of the British profession had ever seen a case of Kaposi's disease, or would see one within the next twenty years; yet it could be studied at any time at the Hôpital Saint-Louis, in Paris, together with Raynaud's disease, the varieties of morphea, the rare forms of lupus, and the like, by means of the models there to be seen—

that "never either get well or die, but remain always ready for inspection."

EPITHELIOMA IN CONSEQUENCE OF PSORIASIS.

In the "Monatshefte für praktische Dermatologie" ("Centralblatt für klinische Medizin"), H. Hebra reports the case of a man who, being in other respects healthy, had suffered for a long time with psoriasis, for which he had undergone many forms of treatment. A peculiar wart-like condition of the skin gradually supervened, with the formation of rhagades and fissures, followed in a short time by deeper losses of substance. In the course of two years more, large ulcers formed on the arm and the thigh, and proved rebellious to all surgical measures. Cachexia shortly occurred and the man died. Microscopical examination of portions of tissue cut from the lesions during life revealed the characteristics of epithelial cancer.

DISLOCATION OF THE TESTICLE.

In the January number of the "Revista de Ciencias Médicas," Dr. Mariani reports the case of a man who, on lifting a heavy weight to his shoulder, was attacked with very severe pain in the right inguinal region, and found that the testicle of that side was absent from the scrotum, having been forced up into the inguinal canal. As he was unable to restore the organ to its natural situation, he called in the aid of a physician, who likewise failed. Repeated attempts at reduction, including one under anesthesia, having proved unsuccessful, it was thought best to cut down upon the testicle. This was done, and the gland was found so entangled in the fibers of the external pillar of the internal abdominal ring, which had been ruptured, that it was still impossible to replace it in the scrotum; consequently it was removed. The author of an abstract of the report, published in a recent issue of the "Centralblatt für Chirurgie," seems to question the expediency of the operation, but, in view of the proneness of displaced testicles to undergo malignant degeneration, it may be considered that the removal of the organ was justifiable.

THE INTENTIONAL SPREAD OF SMALL-POX.

In times of war there have been rumors of partisans of one side having taken measures to infect the hostile army with small-pox, but we do not remember to have heard before of such means being resorted to in a private feud. The "New York Times," however, publishes a statement to the effect that a man belonging in Los Andes, Chili, lately procured some variolous virus, and placed it in a quantity of tobacco which he left in a place where some member of a family that he hated would be sure to find it. One of the children did find it, and the family made use of it. The report adds that the whole family died of small-pox, and that the criminal himself contracted the disease and died soon after having confessed his evil deed.

ITEMS, ETC.

The Health of Boston.—During the week ending Saturday, August 6th, the following numbers of cases and deaths from infectious diseases were reported to the Board of Health: Diphtheria, 5 cases and 3 deaths; scarlet fever, 4 cases and 2 deaths; typhoid fever, 17 cases and 1 death; measles, 58 cases. There were also 24 deaths from consumption, 6 from pneumonia, 3 from whooping-cough, 12 from heart disease, 4 from bronchitis, and 11 from marasmus. The total number of deaths was 260, against 211 in the corresponding week last year. There were 150 deaths of children under 5 years of age, the deaths from cholera infantum being 75 in number.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Fourth Division of the Health Department for the following statement of cases and deaths reported during the two weeks ending August 9, 1887:

DISEASES.	Week ending Aug. 2.		Week ending Aug. 9.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever.....	30	16	42	3
Scarlet fever.....	33	8	28	4
Cerebro-spinal meningitis....	4	4	3	3
Measles.....	32	5	21	1
Diphtheria.....	90	29	80	23
Small-pox.....	2	1	7	1

The Medical Department of the University of Buffalo.—Dr. Charles G. Stockton has been appointed professor of theory and practice of medicine and clinical medicine to fill the vacancy caused by the death of Dr. Thomas F. Rochester. A department of veterinary medicine has been established, for which, it is expected, a new building will be erected and fully equipped.

The Medical Department of Niagara University.—Dr. F. R. Campbell has been appointed professor of materia medica and therapeutics, to fill the vacancy caused by the resignation of Dr. Charles G. Stockton.

The Lehigh Valley Medical Association will hold its seventh annual meeting at the Water Gap House, Delaware Water Gap, Pa., on Wednesday, the 17th inst. The annual address, on "Lessons taught by the Analysis of a Year's Surgical Work," will be delivered by Dr. W. L. Estes, of South Bethlehem, Pa.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from July 24, 1887, to August 6, 1887:*

MAGRUDER, D. L., Colonel and Surgeon. Granted leave of absence for one month, to take effect on or about August 10, 1887. S. O. 170, A. G. O., July 25, 1887.

CALDWELL, D. G., Major and Surgeon. Order relieving him from duty at Fort D. A. Russell, Wyoming, and assigning him to duty at Fort Assiniboine, Montana, is revoked. S. O. 168, A. G. O., July 22, 1887.

CLEARY, P. J. A., Major and Surgeon. Ordered to Fort Assiniboine, Montana, instead of Fort D. A. Russell, Wyoming. S. O. 168, A. G. O., July 22, 1887.

McCLELLAN, ELY, Major and Surgeon. Detailed as member of a board of survey to meet at the Medical Purveying Depot, St. Louis, Mo., on August 1, 1887. S. O. 173, A. G. O., July 28, 1887.

COWDREY, S. G., Captain and Assistant Surgeon. Granted one month's leave, to take effect on or about July 24th. S. O. 79, Department of Texas, July 13, 1887.

BURTON, H. G., Captain and Assistant Surgeon. Sick leave of absence extended three months. S. O. 171, A. G. O., July 26, 1887.

GARDNER, E. F., Captain and Assistant Surgeon. Ordered for duty at Fort Reno, Indian Territory. S. O. 170, A. G. O., July 25, 1887.

BLACK, C. S., First Lieutenant and Assistant Surgeon. Ordered for duty as Post Surgeon at Fort Bliss, Texas, during the absence, on leave, of Captain S. G. Cowdrey, Assistant Surgeon. S. O. 79, Department of Texas, July 13, 1887.

McCaw, W. D., First Lieutenant and Assistant Surgeon. Ordered for temporary duty at Fort Riley, Kansas. S. O. 78, Department of the Missouri, July 25, 1887.

SUTHERLAND, CHARLES, Colonel and Surgeon. Leave of absence extended one month. S. O. 174, A. G. O., July 29, 1887.

FRYER, B. E., Major and Surgeon. Relieved from further duty at Fort Lowell, Arizona. S. O. 176, A. G. O., August 1, 1887.

BROWN, HARVEY E., Major and Surgeon. Relieved from duty in the Department of the Missouri, and ordered to Jackson Barracks, Louisiana, for duty at that post. S. O. 174, A. G. O., July 29, 1887.

GARDINER, JOHN DE B. W., Captain and Assistant Surgeon. Granted leave of absence for one year on surgeon's certificate of disability. S. O. 177, A. G. O., August 2, 1887.

Marine-Hospital Service.—*Official List of Changes of Stations and Duties of Medical Officers of the United States Marine-Hospital Service for the two weeks ending August 6, 1887:*

IRWIN, FAIRFAX, Passed Assistant Surgeon. To inspect unseviceable property at New York Marine Hospital. August 5, 1887.

CARTER, H. R., Passed Assistant Surgeon. Granted leave of absence for six days. August 1, 1887.

BEVAN, A. D., Passed Assistant Surgeon. Granted leave of absence for ten days. August 5, 1887.

NORMAN, SEATON, Assistant Surgeon. Granted leave of absence for four days on account of sickness. August 5, 1887.

Letters to the Editor.

THE DILATATION TREATMENT OF HÆMORRHOIDS.

SOMERSET, KY., August 2, 1887.

To the Editor of the New York Medical Journal:

SIR: In the last number of the "New York Medical Journal" I notice an article on the "Treatment of Anal Fissure and Hæmorrhoids by Gradual Dilatation," by Professor O. H. Walker, of Detroit. He says: "Gradual dilatation is not spoken of, as far as I know, by any writer as a means of cure in these cases." If he will turn to the April 23d number of the "New York Medical Journal," he will find a letter from Paris in which Professor Verneuil's treatment of hæmorrhoids by dilatation with the speculum is mentioned. Verneuil's treatment with the speculum is gradual, and he professes to have cured ninety-eight cases in a hundred.

Yours respectfully,

ISAAC S. WARREN, M. D.

Proceedings of Societies.

AMERICAN LARYNGOLOGICAL ASSOCIATION.

(Continued from page 109.)

The Anatomy and Physiology of the Recurrent Laryngeal Nerve.—Papers on this subject were read by Dr. FRANKLIN H. HOOPER, of Boston (see pages 29, 63, 99, and 150), and Dr. FRANK DONALDSON, JR., of Baltimore (see pages 146 and 173).

Dr. F. I. KNIGHT, of Boston, said he would take only a few minutes in relating what he had seen of Dr. Hooper's experiments. The results of experiments upon animals must be applied with reserve to man, as the variability of these subsequent experiments of Dr. Donaldson's and Dr. Hooper's would prove. He had seen in Dr. Hooper's experiments the ether effects,

which now were generally admitted. In one case there was failure to get the ether effect, which Dr. Hooper attributed to the age and size of the dog. He admitted that it was not quite constant, although he generally got it. At any rate, in that case the speaker had failed to see dilatation from ether narcosis. He had seen the experiment in which the large dose of morphine, forty-five grains, caused dilatation, and other cases in which smaller doses of morphine failed to produce any preliminary dilatation. He had seen cases in which chloral certainly did not produce it, but in one case it caused a mixed movement. In a number of cases he had failed to see preliminary dilatation. Although the operation was done expeditiously there was closure in all these cases. Certainly the fact, as seen by himself and others in Boston, remained, that dilatation appeared to result in Dr. Hooper's experiments only from etherization and profound narcosis from morphine. He did not doubt that Dr. Donaldson got preliminary dilatation as he had stated, but exactly how the difference in results was to be accounted for, he did not know; perhaps by some difference in the method of experimentation.

Dr. S. W. LANGMAID, of Boston, had seen most of the experiments seen by Dr. Knight, and could corroborate what he had said. He had seen Dr. Hooper try to get Dr. Donaldson's results, but he had not seen what he would like to see Dr. Donaldson himself do. He had seen one experiment, which had interested him very much. In that case a novel procedure was used. The dog was trephined, and a plug was inserted and pressure made upon the cortex. This was the only case in which he had seen what he supposed was described by Dr. Donaldson; there was marked dilatation. He could only state what he had seen, without making deductions, as he was not a physiologist. It seemed that there must be some difference in the manner of experimenting by Dr. Hooper and by Dr. Donaldson to account for the difference in results. The best way, probably, would be for the observers to make their experiments together.

Dr. J. H. HARTMAN, of Baltimore, said that at experiment No. 11, by Dr. Donaldson, he had been present by his kind invitation. Four dogs were used. In one, during the preliminary steps, the dog lost a great deal of blood, and it was evidently too late to get satisfactory results. But in the three other cases Dr. Donaldson got the results portrayed in his chart.

Dr. J. N. MACKENZIE, of Baltimore, thought it strange that opinions on this subject should be so completely divergent. He could not pretend to criticise the results obtained by either of the experimenters, for he had not sufficiently examined the subject. All he could say was that he had observed one experiment at the Johns Hopkins University by Dr. Donaldson, the dog being under the influence of morphine, and that the movements described by Dr. Donaldson occurred in the most marked manner. Two grammes of morphine were given, he thought. When ether was administered, the movements of the cords were more pronounced.

Dr. M. ALLEN STARR, of New York, speaking by invitation, said he was unable to throw any light on the subject of the physiology of the larynx, but it might be of some interest to mention the fact that, when in Paris, he had witnessed some experiments upon hypnotized subjects by Professor Charcot, and in one instance, when he made slight percussion just below the larynx, there occurred at once adduction of the vocal cords, causing considerable interference with breathing. The case showed that slight mechanical stimulation of the recurrent laryngeal nerve in the human subject would produce adduction of the vocal cords.

Dr. B. F. WESTBROOK, of Brooklyn, said it had occurred to him that perhaps all the factors concerned in this problem had not been taken into consideration by the experimenters. The

pneumogastric nerve, as we all knew, was a very complex nerve. According to Professor Milne Marshall, it represented at least eleven nerves. In the human subject it was easy to count as many important branches—those going to the ear, the palate, the pharynx, the larynx, the trachea, the œsophagus, the stomach, the liver, the lungs, and the intestines. In the motor branches going to the larynx there was this distinction, which, so far as he had observed, the readers of the papers had failed to bring out—namely, that the sphincters of the larynx which guarded the entrance to the lower respiratory tract during the swallowing of food were under peripheral control, whereas the abductors acted, not through reflexes from the larynx itself, but automatically through the influence of a center in the medulla oblongata. The one was under peripheral influence, the other under central influence. The peripheral mechanism was of very great importance, because it prevented us from being choked by the entrance of food into the air-passages. But the central apparatus was of still greater importance, because, as Dr. Hooper had once said, it stood as a sentinel to keep the glottis open to allow the air to pass into the lungs, and oxygen into the blood, throughout the entire life of the individual. As the speaker understood it, the partial closure of the glottis during expiration was not active, or was so only to a very slight extent; whereas the opening of the glottis during inspiration was an active process, and its great importance was shown by the fact that the vast majority of all the animal kingdom died with the glottis open.

Dr. DONALDSON said that, after all this discussion, he thought he might be excused for saying that all the points he had made last year still stood, and the "inaccuracies" of his paper had not been proved. Dr. Hooper had said a deal about the ether effect in his present paper, which no one for a moment denied, but not one word about the rôle which, last year, he had maintained that consciousness played in laryngeal innervation. Again, in the April number of the "American Journal of the Medical Sciences," he had positively denied the speaker's statement that abduction could be obtained without ether. In his present paper he admitted that he did get abduction under morphine, and in one case (seen, too, by Dr. Langmaid) he had obtained abduction in a dog which had not been given any narcotic. Moreover, Dr. Knight had admitted that he, too, had seen dilatation without ether. Dr. Solis-Cohen had also informed the speaker that he had seen dilatation without ether in Dr. Hooper's laboratory. Again, in the paper just read, the latter had said that closure on stimulation was "not universally the case," which was a positive contradiction of his statement in Dr. Bowditch's late paper. The truth was, that the results of any given number of Dr. Hooper's experiments differed very widely. In the speaker's experiments, on the other hand, there had never been any variation from first to last, weak stimuli invariably producing abduction—strong, adduction. This fact, he maintained, had been established beyond doubt in his experiments of this year and of last year; the fact that Dr. Hooper could not obtain exactly the same results proved nothing; it was purely negative, and did not affect the physiological facts announced. He therefore thought that the statements made in what Dr. Hooper had been pleased to call his inaccurate paper might be considered as entirely confirmed.

The speaker, on being reminded by the secretary that important differences existed in his paper as read before the association last year and as it appeared in the volume of "Transactions," several changes having been made in the article itself, and several addenda supplied to it, said that after reading his paper last year, and before publishing it in the "Transactions," he had not revised it, but had emended the two sentences quoted from Dr. Hooper's paper.

Dr. HOOPER thought that, when Dr. Donaldson came to read his (Dr. Hooper's) paper in print, some points might appear a little clearer to him. With regard to his own remarks concerning Dr. Donaldson's paper last year, to which Dr. Donaldson had taken such exception, and to which it seemed to him he had gone considerably out of his way to again refer, he was forced to remind him that, when he said his paper contained statements which were inaccurate, he referred to the manner in which he misrepresented and misquoted his (Dr. Hooper's) paper on "The Respiratory Function of the Human Larynx." His confusion was due to the speaker's failure to make his meaning clear to him. It was evident from his original paper in the "American Journal of the Medical Sciences" that he had misconceived the import and the significance of the speaker's experiments. He had not meant to imply that Dr. Donaldson's statement that feeble stimuli produced abduction of the vocal bands was inaccurate, although he had never been able to observe such an effect himself unless ether had been administered to the dog. He had stated last year that what he said in regard to the consciousness of the animal playing a part in the "ether effect" was merely a passing thought, yet the reader still dwelt upon it as if it were of some importance. He regretted that he had not used the word "narcosis" instead of "consciousness," as it would have expressed what he had in mind more clearly, and would have spared Dr. Donaldson, perhaps, some annoyance and unnecessary labor. When the "ether effect" was first observed, Professor Bowditch told him that he wished to make the observation the starting-point of a study of the action of sulphuric ether upon the peripheral nervous system. In their paper, published two years ago, they had merely recorded the fact, leaving its elaboration for future study. Now the statement of Dr. Donaldson that feeble stimuli applied to the recurrent nerves of unnarcotized dogs produced dilatation of the glottis was the point which needed confirmation. They (Dr. Hooper and Dr. Bowditch) had hoped to get this effect, and had tried their best to get it, in order to confirm Professor Bowditch's observations on the sciatic nerve of the frog (see "Amer. Jour. of the Med. Sci.," April, 1887), but they had failed to do so. They had recently devoted seven dogs to this study, according to the method they understood was Dr. Donaldson's, namely, observing the glottis from below through a window cut in the trachea. Three dogs were stunned and then pithed, two were pithed, one was unpithed and unnarcotized. In all of these animals their usual results were observed, namely, first a vibratory movement of the vocal bands and then a closure. The seventh dog, a very muscular animal, was kept quiet by cerebral compression, according to Professor Dalton's method. This experiment was performed two days ago, and in this dog they had observed perfect dilatation with feeble stimuli. This method introduced a new element, but this was the only instance where they had been able to call forth a dilatation on unnarcotized dogs. They were inclined to regard it, therefore, as the very rare exception. Dr. Edward Martin, of Philadelphia, had sent the speaker tracings this morning which showed, as would be seen, that his results accorded with theirs as regarded the stimulation of the recurrent laryngeal nerves.

NEW YORK PATHOLOGICAL SOCIETY.

Meeting of March 23, 1887.

The President, Dr. T. MITCHELL PRUDEN, in the Chair.

Extreme Cirrhosis of the Liver; Chronic Phthisis.—The PRESIDENT presented specimens from a woman addicted to alcohol, who had suffered with symptoms of cirrhosis of the

liver—ascites, general dropsy, etc. At the autopsy, two sets of well-marked lesions were found—advanced cirrhosis of the liver and chronic miliary tuberculosis of the lungs. There were also tubercular ulcers in the intestines and changes in the kidneys.

Small Multiple Adenomata of the Kidneys.—Further specimens presented by the PRESIDENT were from the body of a man who died from an injury. The kidneys were the seat of multiple adenomata, which were not very common; they occurred in both kidneys, which, again, was not very common; they were sharply circumscribed, of different sizes; some were brown and some white, the difference in color being due to the deposit of pigment in the brown ones. They illustrated the two forms in which adenomata occurred, the alveolar and the papillomatous.

Pneumonia and Pleurisy of Septic Origin in an Infant.

—Dr. J. LEWIS SMITH presented specimens illustrating these conditions.

Removal of the Uterine Appendages.—Dr. JONES presented several ovaries and Fallopian tubes removed for disease and severe symptoms. The histories of several of the cases were read, together with remarks upon the title of the operation.

Bullet-wound of the Liver.—Dr. JACKSON presented a liver illustrating a pistol-shot wound. A man had attempted suicide and the ball entered the abdomen three quarters of an inch below the ensiform cartilage and half an inch to the left of the median line. The effect of the wound was not so severe but that the patient could rise from the floor and walk to his bed. In the afternoon Dr. Sands introduced a probe four inches and three quarters, and felt the ball beneath the skin below the scapula on the right side. As there were no symptoms pointing directly to injury of the stomach or other hollow viscera, the question of laparotomy was left to be decided by the family. The family did not want it, and the operation was deferred. The temperature did not rise to any extent. There was only a slight hacking cough, with expectoration of some bloody mucus twice. For three or four days following the injury there were physical signs of consolidation of the lung over a very limited space where the bullet had been felt. Subsequently mental symptoms occurred, and the patient tried to jump out of the window, and during the last five days of his life (about a month after the injury) he lay comatose. The autopsy showed no evidence of escape of blood into the peritoneal cavity, and there was no general peritonitis. There were a few light adhesions at the entrance of the ball. It had traversed the left lobe of the liver and passed through the diaphragm and the posterior mediastinum. The injury seemed to bear no direct relation to the fatal illness. There were spots of broncho-pneumonia in both lungs.

Complications following Laparotomy.—Dr. DUDLEY reported further on the case of hysterectomy which he had mentioned at the preceding meeting. The patient had done very well until the sixth day, and that was one reason why he had not caused the bowels to move sooner. When an attempt was made to move the bowels, severe symptoms developed, and it was with difficulty that her life was saved. She was now, however, doing well. He thought it was a mistake to keep the bowels confined for so long a time. In a previous case the patient had done well until about the seventh day, when the bowels were moved and death followed. The autopsy showed rupture of an abscess beneath the stomach, which had developed in the folds of the omentum, the latter not having been spread out at the time of the operation. This complication showed the danger of neglecting to carefully examine and replace the omentum in its normal position before closing the peritonæum.

MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

Meeting of March 28, 1887.

The President, Dr. LAURENCE JOHNSON, in the Chair.

Removal of Solid Uterine and Ovarian Tumors by Laparotomy.—Dr. MATTHEW D. MANN, of Buffalo, read a paper on this subject. The cases had not been selected, but constituted his whole experience. They embraced three solid tumors of the ovary, four pedunculated fibroids of the uterus, and two fibroid enlargements of the uterus of a sort to require its removal. The body of the uterus was removed in one other case also. Of the ovarian tumors, the first was an adeno-cystoma, the second undoubtedly a solid fibroid, and the third a sarcoma. In the second case it was thought during the operation that the tumor was uterine rather than ovarian, and the pedicle was treated by the external method, the clamp being used. Sloughing and hæmorrhage took place, after which supra-vaginal hysterectomy was performed, but the patient died of septicæmia. Had the tumor been recognized in the first place as being ovarian rather than uterine, he would probably have tied the pedicle and dropped it. The fourth case proved to be one of fibro-myoma of the uterus. Before the operation the diagnosis lay between a fibroid of the uterus and a solid ovarian tumor. There were adhesions; the pedicle was short, thick, and very vascular. It was treated by the external method, with the clamp. During the operation fluid suddenly entered the peritoneal cavity, and proved to be from a rent which took place in the rectum. The nurse had given an enema before the operation, which had not come away; hence the accident. The patient, however, made a good recovery. In the fifth case an enlargement of the abdomen had been noticed three years before the operation. The whole abdominal cavity seemed to be occupied by the tumor. There was a sensation like ballotement. The tumor was a myoma attached to the fundus by a short, small pedicle. The tumor was divided before it was removed. He had intended to treat the pedicle by the external method, but, unfortunately, he said, he changed his mind, and tied and dropped it. The surface was cauterized. The tumor was a soft myoma. In the evening the patient passed into a state of collapse. The abdomen was reopened, and it was found that the silk ligature had slipped off entirely, allowing hæmorrhage. A clamp was now applied, and the patient finally recovered. During her low state an enema of hot water was given, which had a decidedly beneficial effect on the kidneys and the general condition. The sixth case was one of large fibroid, involving the whole body of the uterus, giving rise to painful symptoms. Supra-vaginal hysterectomy was performed, the clamp was employed, and the patient recovered from the operation, and from symptoms which had before rendered life a burden. The seventh case was one of myomatous enlargement of the body of the uterus, œdematous, and weighing five pounds. The operation resulted in recovery. The eighth case was one of fibro-cystic general enlargement of the body of the uterus. Not long before the operation the woman had become pregnant, and her physician, recognizing the presence of the tumor, brought on an abortion at about the seventh month. At the operation some of the contained fluid escaped into the peritoneal cavity, but the latter was thoroughly cleansed. The clamp was applied. The patient recovered.

In his remarks, Dr. Mann said that most of the medical profession believed that solid tumors of the uterus and of the ovaries were beyond surgical help unless, in the case of the former, they presented at the os. But, according to his experience and observation, removal of these tumors was not more dangerous than that of cysts. The diagnosis of solid tumors was more dif-

ficult than that of cysts. Exploratory incision was in many cases less dangerous than doing nothing. As to the diagnosis of adhesions, the length of the pedicle, and attachment to other organs, it amounted to no more than a guess until after the abdomen was opened. Regarding the indications for an operation in these cases, he quoted with approval Keith's conclusions on this subject, adding thereto two or three other indications. One was that fibroids, no matter what their size if they were wearing out the patient, should be removed. A second indication, calling for supravaginal hysterectomy, was the presence of septic poisoning from a sloughing intra-uterine fibroid the enucleation of which would only add to the danger by affording new avenues for absorption. In only one of his five cases could removal of the uterine appendages instead of removal of the uterus have been seriously considered, and in this case it was a question whether it would have had any effect upon the tumor. He could not but consider that some share of his success was due to the use of Wilson's clamp. He observed strict antisepsis, and among the first means in the list he placed the nail-brush and soap. He suggested that the discussion be confined to: 1, the advisability of re-opening the abdomen for hæmorrhage into the peritoneal cavity; 2, removal of the uterus for fibro-myoma; 3, the treatment of the pedicle.

Dr. C. C. LEE agreed with the author on the main points made. He would not give the operation of hysterectomy or other methods for the removal of fibroids of the uterus so wide a latitude as the author. Where there was any chance of arresting the nutrition of the tumor by removal of the uterine appendages in young women, he would always employ that method, for if a fibroid tumor were removed, others unseen might be present or develop subsequently. While Keith had said exactly what Dr. Mann had attributed to him, yet in his prefatory remarks he had stated that removal of uterine fibroids could never be so promising a procedure as oophorectomy, because the conditions were so different. The speaker had never had occasion to regret opening the abdomen to check hæmorrhage.

Dr. JAMES B. HUNTER said, with regard to the treatment of the pedicle of solid tumors, that he was strongly in favor of the plan advocated by Dr. Mann, viz., the external. He preferred the elastic ligature. Dr. Mann had been fortunate in seeing so many solid tumors. The speaker had diagnosticated and removed a solid tumor of the ovary within a year, the patient making a good recovery. He thought Dr. Mann should not have removed the clamp so soon, at least in some of the cases.

Dr. W. GILL WYLLIE thought there could be no question of the propriety of re-opening the abdominal cavity in suspected hæmorrhage; and he suggested that, when hæmorrhage was feared, a drainage-tube be introduced and carefully watched. He had resorted to this precaution in one case, but the assistant did not examine the tube often enough, and before the hæmorrhage was discovered the patient was nearly in collapse. The vessel was tied and the patient recovered. He thought with Dr. Mann that it was risky to tie the pedicle of a muscular tumor. As to the indications for removal of solid tumors, definite rules could not be made. For instance, in one case he had found salpingitis complicating the fibroid of the uterus, and it would be difficult to say which condition was the chief cause of the woman's sufferings, and which should be removed. He would not hesitate to operate for a solid tumor any more than to operate for a cyst, if the symptoms demanded it. He preferred the *serre-nod* to the elastic ligature and other measures. Instead of loosening it on the eighth or ninth day, he tightened it until it had gradually cut off the pedicle.

Dr. P. F. MURPHY had operated in only two cases of solid tumor of the uterus, one being a fibroid weighing seventeen pounds, the other a myoma. In the first case the operation was

performed because the patient had become addicted to opium for the relief of pain. The pedicle dropped off on the sixteenth day. In the second case separation of the adhesions led to rupture of the mesentery and intestine, and secondary hæmorrhage took place twenty-four or thirty-six hours after the operation. The abdomen was re-opened and the hæmorrhage arrested, but the patient died of exhaustion in spite of the injection of a saline solution. As to the diagnosis in cases of myoma, it was not easy, but a myoma could be distinguished from an ovarian cyst by the thick abdominal walls; in cysts of the ovary of rapid development the walls were thin. We need not be in haste to operate for myomata of the uterus. Dr. Sims had recommended an operation in one case some years ago, but the patient refused, and was to-day in good health. He had met with several cases of solid ovarian tumors, but had not operated.

Dr. MANN said that, when he had removed the clamp on the eighth or ninth day, he had substituted for it an elastic ligature. He doubted whether Dr. Mundé's suggestion as to differential diagnosis would hold.

Book Notices.

A Theoretical and Practical Treatise on Astigmatism. By SWAN M. BURNETT, M. D., Professor of Ophthalmology and Otology in the University of Georgetown, etc. With Fifty-nine Diagrams and Illustrations. St. Louis: J. H. Chambers & Co., 1887. Pp. viii-245.

Dr. BURNETT's book is in itself the best answer to the demand for its *raison d'être*. It is well written, clearly expressed, and illustrated by a large number of original designs. The work consists of thirteen chapters. The first two chapters give a general *résumé* of the fundamental laws of optics, refraction by spherical surfaces, by ellipses, spheroids, and ellipsoids, the formation of images by convex refracting surfaces, and the character of focal lines. The fourth chapter treats of astigmatism in the human eye; the different forms of ametropia and the varieties of astigmatism. Then follows a very clear and satisfactory description of the various methods and tests employed in the diagnosis of astigmatism, in which due consideration is given to the difficulties and obstacles in the way of an accurate diagnosis. Under the head of "spasm of the ciliary muscle," we do not think the author lays enough stress upon the necessity of using atropine in the young, for the purpose of completely paralyzing the ciliary muscle before fitting the patient with glasses. We believe that hypermetropia is often masked by excessive tonicity of the ciliary muscle. A brief description is given of Javal's astigmometer and the manner in which it is to be employed. In Chapter VII there is a very satisfactory account of the ophthalmoscopic methods of diagnosing astigmatism. The eighth chapter is devoted to a description of the "shadow test" or skiascopy, in which Dr. Burnett gives this method due recognition as one of the means of diagnosis, but takes occasion to say that "it is more consumptive of time than the ordinary ophthalmoscopic methods." The ninth chapter is devoted to a much too brief discussion of the subjects of keratometry and keratoscopy. There is a very clear description of Javal and Schiötz's ophthalmometer, and of its practical use in examining patients. Mention is also made of Placido's keratoscope and Wecker's squares. We are glad to see, however, that the author says that "no one method should be relied upon exclusively, and no diagnosis of astigmatism should be considered as fixed until it has been verified by an examination with cylindrical glasses and test-types. Chapter XI,

on the causes of astigmatism, though much too brief, is one of the best in the book. The twelfth chapter, on the correction of astigmatism, is thoroughly practical, but is much too short, and does not consider in sufficient detail the examination and treatment of the different varieties of astigmatism. The final chapter is on irregular astigmatism and conical cornea. The appendix contains a statistical record of eight hundred and six astigmatic eyes in which the examinations were made by the author.

A Practical Treatise on Diseases of the Eye. By Dr. ÉDOUARD MEYER, Professeur l'école pratique de la Faculté de Médecine de Paris, etc. Translated, with the assistance of the Author, from the Third French Edition, with additions, as contained in the Fourth German Edition, by FREELAND FERGUS, M. B., Ophthalmic Surgeon, Glasgow Royal Infirmary; Assistant Surgeon, Glasgow Eye Infirmary. With Two Hundred and Sixty-seven Illustrations and Three Coloured Plates. Philadelphia: P. Blakiston, Son, & Co., 1887. Pp. xi-17 to 647. [Price, \$4.50.]

This is the first edition in the English language of Dr. Meyer's well-known work, which has already passed through three French and four German editions, and has been translated into Italian, Spanish, Polish, Russian, and even Japanese. It is a thoroughly practical work, written with great clearness, and is therefore well adapted for use among students. The author, like many of the older writers, has a great belief in the efficacy of drugs, as may be readily seen by glancing at any of the paragraphs on the treatment of disease. Some of the descriptions of disease are very concise as well as clear, notably that of diphtheritic conjunctivitis and its treatment, which is as admirable as anything we have seen on the subject. We think the author errs in regarding amyloid degeneration of the conjunctiva as presenting certain resemblances to granulations, for neither clinically nor pathologically is this true. The author's conservatism leaves him not infrequently at issue with other modern writers, as for instance in the treatment of corneal abscess. No mention is here made of the employment of the galvano-cautery, which is now in common use in this disease. Again, he makes but the briefest mention of the modernized simple extraction of cataract without iridectomy, which is performed by many ophthalmic surgeons, both in France and elsewhere. The subject of antiseptics in ophthalmic surgery is not discussed with the breadth which the surgeons of the present day are accustomed to, especially in Germany and the United States. Dr. Meyer still believes in the existence of that form of amblyopia often met with in strabismus, and called "amblyopia ex anopsia." The two best chapters in the book are the eleventh, on the anatomy, physiology, and anomalies of the muscles of the eye, and the twelfth, on diseases of the eyelids, which are extremely clear and well illustrated. The translator has done his work well, but we are sorry to see that he still retains in use the barbarous term "corneitis," to express inflammation of the cornea, instead of keratitis, which is much more correct, and moreover is employed and understood the world over. As previously stated, this work is well adapted for the use of the student or the general practitioner, but it will not satisfy the critical mind of the ophthalmic surgeon who wishes to keep abreast with all the recent advances.

Handbuch der physiologischen Optik. Von H. VON HELMHOLTZ. Zweite umgearbeitete Auflage. Mit zahlreichen in den Text eingedruckten Holzschnitten. Vierte Lieferung. Hamburg und Leipzig: Leopold Voss, 1887. Pp. 241 to 320.

THE fourth part of the new edition of von Helmholtz's great work on physiological optics shows the same careful revision of

the text which was so evident in the first three parts. The subject of visual impressions is continued in this number, and is carried as far as the subject of compound or composite colors. There is much new matter upon the changes which are produced in the retina by the stimulus of light, eight new pages having been introduced into this section. The entire section on the prismatic refraction of light has been re-written. This fourth part carries the reader through about one third of the entire book, and the remaining fasciculi will be looked for with great interest by those interested in the subject.

The International Encyclopædia of Surgery. A Systematic Treatise on the Theory and Practice of Surgery by Authors of various Nations. Edited by JOHN ASHURST, JR., M. D., Professor of Clinical Surgery in the University of Pennsylvania. Illustrated with Chromo-lithographs and Wood-cuts. In six volumes. Vol. VI. New York: William Wood & Co., 1886. Pp. xlviii-1272.

THE first volume of this great work made its appearance in 1881. It is very much to the editor's credit that he has succeeded in completing it within a period comparatively so brief, especially when it is considered that the fact of a number of the contributors residing in foreign countries, and in some instances thinking if not writing in another language than that in which they were to appear in print, must have added notably to the ordinary difficulties encountered by editors.

The sixth volume opens with an article of 44 pages, by Dr. J. Solis-Cohen, on Injuries and Diseases of the Œsophagus. The subject is handled with the author's habitual thoroughness and carefulness, and can not fail to prove of great value to the reader. The next article, on Intestinal Obstruction, is by the editor, whose fitness to write on this theme is well known to the profession. An English contributor, Mr. William Allingham, follows with an article on Injuries and Diseases of the Rectum. Mr. Allingham states that he now generally employs Mr. Pollock's crushing operation for hæmorrhoids, but that he still prefers the ligature in cases where the hæmorrhoids form a continuous ring with no division into lobes. The treatment by injections of carbolic acid and other substances into the body of the hæmorrhoid is simply mentioned.

Next comes an elaborate and most excellent article on Urinary Calculus, by Dr. E. L. Keyes, supplemented by one on Lithotripsy, by Dr. W. H. Hingston. Dr. Keyes's article is copiously and effectively illustrated, and the colored lithographic plate which accompanies it is excellent. To a certain extent, Dr. Keyes and Dr. Hingston necessarily go over the same ground, but from this there can be nothing but advantage to the reader. Mr. Reginald Harrison follows with an article on Injuries and Diseases of the Bladder and Prostate, with an appendix on Prostatotomy and on Rupture of the Prostate and Bladder. Injuries and Diseases of the Urethra are treated by Dr. Simon Duplay, whose article is translated by Dr. C. W. Dulles. Many of the illustrations are taken from Voilemier's well-known work. The next article, on Injuries and Diseases of the Male Genital Organs, is by Mr. H. Royes Bell. Mr. Bell's article is comprehensive and judicious. It is illustrated with two handsome colored drawings. It is followed by Dr. Theophilus Parvin's article on Injuries and Diseases of the Female Genitals, written in that author's habitual scholarly manner. Dr. Robert P. Harris, who may be termed the American apostle of the Cæsarean operation, contributes the next article, entitled The Cæsarean Section and its Substitutes: Laparotomy for Ruptured Uterus and for Extra-uterine Fætation. Although short, it represents the mature thought of one who has been indefatigable in the study of the subject, and it is therefore of great value. The remaining articles are on Ovarian and Uterine

Tumors, by Dr. Charles Carroll Lee, of New York; Inflammatory Affections of the Bones, by Dr. L. Ollier, of Lyons, translated by Dr. C. W. Dulles, of Philadelphia; Scrofulo-tuberculous and other Structural Diseases of Bones, by Dr. Eugène Vincent, of Lyons, also translated by Dr. Dulles; Tumors of the Bones, by Dr. A. Poncet, of Lyons, likewise translated by Dr. Dulles; and Orthopædic Surgery, by Mr. F. R. Fisher, of London. The work closes with an appendix embracing an article on the Construction and Organization of Hospitals, by Dr. Edward Cowles, of Somerville, Mass.; one on the Preparation of Military Surgeons for Field Duties, etc., by Dr. B. A. Clements, of the army; and one on the History of Surgery, by Dr. George J. Fischer, of Sing Sing, N. Y.

GENERAL LITERARY NOTES.

AMONG recent foreign publications we note the following:

A. DELAHAYE & E. LECROSNIER, Paris.—G. Norstrom, "Traitement des raideurs (fausses ankyloses) au moyen de la rectification forcée et du massage." (3fr. 50.) — L. Thomas, "La migraine." (2fr.)

A. MANCEAUX, Brussels.—Francotte, "La microphotographie appliquée à l'histologie," etc. (2fr.) — Braune and His, "Manuel de dissection." Transl. by G. Foettinger. (2fr.) — W. Krause, "Manuel d'anatomie humaine." Transl. by L. Dello. Part I. (5fr.)

E. DETKEN, Naples.—W. A. Hammond, "Trattato delle malattie del sistema nervoso." Transl. by A. Rubino. (22l.) — Camuset and Albini, "Manuale di oftalmologia." 2d ed. (16l.) — E. Fazio, "Trattato d'igiene (atavismo e mesologia)." (24l.) — G. F. Malgaigne, "Manuale di medicina operatoria." Ed. by L. Le Fort. 8th ed. (17l.)

V. PASQUALE, Naples.—Roncati, "Compendio d'igiene." 2d ed. (15l.) — Ziino, "Compendio di medicina legale." 2d ed. (15l.)

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DIRECCIÓN-ADMINISTRACIÓN DE LA "REVISTA DE MEDICINA Y CIRUGÍA PRÁCTICAS," Madrid.—D. A. Luton, "Estudios de Terapéutica General y Especial." Transl. by D. M. Sitjar; notes by D. N. Carbó de Aloy (9 pes.) — A. Ferrand, "Tratado de Terapéutica Médica." Transl. by P. Espina y Martínez and A. Espina y Capo; introd. by F. Javier de Castro. (52 real.) — E. Leyden, "Tratado Clínico de las Enfermedades de la Médula Espinal." Transl. by M. Carreras Sanchez. (18 pes.)

BOOKS AND PAMPHLETS RECEIVED.

The Results of Vaccination and the Inequity and Injustice of its Enforcement. An Address delivered at the Town Hall, Holborn, London, May 11, 1887, and now Published with Notes and Appendix. By William Tebb, President of the London Society for the Abolition of Compulsory Vaccination. London: E. W. Allen, 1887. Pp. vi-7 to 37. [Price, 6d.]

Infant Food and Infant Feeding. By Prof. Edgar Everhart, A. M., Ph. D., Professor of Chemistry, University of Texas. Read before the Texas State Geological and Scientific Association, Tuesday, May 17, 1887.

On a New Craniophore for Use in making Composite Photographs of Skulls. By John S. Billings and Washington Matthews. National Academy of Sciences. Vol. III. Fourteenth Memoir.

"Renal Colic, Parasitic and Calculous." A Criticism. By J. B. Marvin, M. D., Professor of Theory and Practice of Medicine and Clinical Medicine in the Kentucky School of Medicine. [Reprinted from the "Southwestern Medical Gazette."]

Three Lectures delivered at the Hospital for Sick Children, Great Ormond Street, 1886. By Robert J. Lee, M. D., F. R. C. P. Lectures I and II: On the Transmission of Syphilis; with Cases arranged to illustrate the Relations between the various Symptoms of Hereditary Syphilis in Children and the Parental History. Lecture III: On the Earliest Record of Whooping-cough. London: Baillière, Tindall, & Cox, 1886. [Price, 1s.]

Clinical Lecture on the Possibility of Syphilitic Infection by Vaccination. By Robert J. Lee, M.D., F.R.C.P., etc. Delivered at the Hospital for Sick Children, London. [Reprinted from the "Medical Press and Circular."]

Address in State Medicine. Recent Advances in Preventive Medicine. By George H. Rohé, M.D., of Baltimore, M.D. [Reprinted from the "Journal of the American Medical Association."]

Reports on the Progress of Medicine.

OPHTHALMOLOGY.

By CHARLES STEDMAN BULL, M.D.

Hyperplasia of the Caruncula Lacrimalis.—Bock ("Kl. Mon. f. Aug.") reports the case of a law-student, aged twenty-three, who for three years had a tumor of the caruncle of the left eye. At first the tumor did not increase in size or change in appearance, but after about eighteen months it grew very rapidly, and then presented the appearance of a pale-red mass, as large as a pea, with a smooth, glistening surface. It was clearly defined, freely movable, and of firm consistence. It was easily removed under cocaine, and examined under the microscope. It consisted in the main of dense bundles of connective tissue, with numerous nuclei. Portions of the growth showed a looser texture, and here were imbedded numerous fat globules. There were a large number of elastic fibers running all through the tumor. There were numerous large vessels and medullary nerve-fibers, and some strands of smooth muscular fibers. The entire growth was covered by an epithelial layer, and beneath this there were developed papillæ, which were filled with small cells. There were also found remains of small hæmorrhages of old and recent dates. There were numerous sebaceous glands, and some fine hairs. The whole presented a well-marked example of hyperplasia of the caruncle.

Bilateral Amaurosis caused by Chronic Meningitis at the Base of the Brain.—Panas ("Rec. d'ophthal.") reports the case of a young man who became blind in both eyes within four days. The pupils were dilated and immovable, and there was slight divergence of the left eye. The patient had been subject from childhood to frequent headaches, and a short time before he became blind he had been troubled with nausea and vomiting. The parents were in good health, but six brothers of the patient had died at an early age, some of them from meningitis. In the left eye there was marked "choked disc," while in the right eye there was merely hyperæmia of the optic disc, without oedema. Clinical observations and autopsies have taught that, in the majority of cases, if the amaurosis is accompanied by papillary oedema, the lesion is situated in the vicinity of the optic chiasm. As the amaurosis in this case was not accompanied by paralysis of any other cranial nerve, and as the patient had suffered from head symptoms for many years, the lesion was probably a meningitis at the base, either a chronic pachymeningitis, with fibrinous exudation, or a tuberculous meningitis of slow progress. The latter is the more probable in this case.

Diphtheria of the Conjunctiva.—Alt ("Am. Jour. of Ophthal.") reports nine cases of sporadic conjunctival diphtheria, observed at a time when faucial diphtheria was very prevalent in St. Louis. In one case the eyes had been for months exposed to the vapors of bromine, while in another case an operation had been performed, and was followed by the infection. In the cases which came under his observation when the diphtheritic membrane was still limited, or during its development, he treated the lids with silver nitrate, thinking that the coagulation of the albuminous masses would act virtually as an antiseptic, and the results were in the main satisfactory. The quickest and best results were obtained by keeping up a continued antiseptics by instillations of corrosive sublimate and boric acid.

Tuberculosis of the Conjunctiva.—Stölting ("Arch. f. Ophthal.") reports in detail three cases of tuberculosis of the conjunctiva. The first case was that of a girl, aged nine, who had had diseased eyes for three years, with swollen cervical glands and a cough. There was a

large tuberculous mass under the right upper lid, with enormous conjunctival granulations and corneal pannus. All the lymphatic glands of the face and neck were hypertrophied, and there were catarrhal sounds at the apex of the right lung. The tuberculous masses were excised, and their sites cauterized with lunar caustic. The bacilli were found in the masses removed. There was no return of the disease for a year and a half. The second case occurred in a young woman, aged twenty, who had had an ulcer on the right cheek for a year. There were in both eyes chronic catarrh of the conjunctiva, dacryocystitis with granulations in the lacrymal sac, and a typical tuberculous ulcer on the right cheek, with undermined edges and a brawny base. Eight months later, there had developed in the conjunctiva of the left upper lid a nodular infiltration, which reached to the *cul-de-sac*, and an hypertrophy of the left pre-auricular gland. Three months later this nodule had become a large brawny ulcer, and there was a similar tuberculous ulcer in the conjunctiva of the right eye. All these diseased tissues were again excised; but, in spite of this, there was a return of the trouble eight months later in both eyes, and to a greater extent. The infiltrated masses were again removed, and their bases thoroughly cauterized with Paquelin's cautery. Three months later the trouble returned in the upper lid of the left eye; but there was no return in the left lower lid nor in the right upper lid. The diseased tissues were again entirely removed, and the entire base was cauterized with Dröll's thermo-cautery, and this was repeated twice within the next three weeks. The third case occurred in a young man, aged sixteen, whose left eye had been inflamed for a year. The patient's mother had died of lung disease, and he was the only living child of his parents. He himself had spent six weeks in a hospital with some pulmonary affection. On the lower lid of the left eye there was a nodular growth, which occupied about two-thirds of the lid, and had an ulcerated surface. The pre-auricular gland was enlarged. At the inner end of the left upper lid there was a smaller similar growth. Bacilli were found in both, and from them two rabbits were inoculated, as was done in the second case. This case was treated by complete excision and thorough cauterization, and there was no return after a year had passed.

The Pathogenesis of Serous Cysts of the Orbit.—Panas ("Arch. d'ophthal.") considers it established: 1. That these cysts are, without exception, congenital. 2. That they show a preference for the situations which are in relation with the branchial fissures of the embryo. 3. That their contents may vary, without their dermal origin being at all doubtful. He reports an additional case occurring in a young girl, aged twelve years, who, at the age of five years, presented a swelling beneath the left lower lid, which remained stationary until the eleventh year of the patient's age, after which time it steadily increased in size. When examined, the swelling was noticed in the inner half of the lid, was soft, fluctuating, and rounded, and could be pushed back somewhat into the orbit. The movements of adduction and depression were somewhat limited, and there was slight crossed diplopia. The cyst was removed through a horizontal incision parallel to the lower margin of the orbit. The tumor was formed of two pockets—an anterior, subpalpebral portion, filled with a brownish viscid liquid, and a small transparent cyst, filled with a clear fluid. Between the two cysts there was a fibrous mass, which was adherent to the lower surface of the tumors, and extended indefinitely into the orbit. The microscopic examination showed that the tumor was bi-lobate, and consisted of a membranous tegument containing acinous muciparous glands, and was produced by a focal incarceration of the mucous membrane of the nasal fosse and sinuses.

Exophthalmia and Diplopia in Consequence of Empyema of the Sinus Frontalis.—Magnus ("Kl. Mon. f. Aug.") reports a case of this nature, occurring in a woman, aged sixty-three. There was an elastic swelling at the upper and inner angle of the orbit on the right side, which extended far into the orbit, but did not project much beyond the orbital margin. There was no irritation of the lids or conjunctiva, and the motility and vision of the eye were normal. At times there was marked increase of the secretion from the right nostril. One month later the skin over the tumor became red and swollen, and after the use of hot applications fluctuation appeared and a small quantity of thin pus was let out. The inflammatory symptoms then rapidly subsided. Six months later the eye began to protrude downward, forward, and

outward, the exophthalmia rapidly increased, and the tumor itself became more prominent. A puncture of the latter let out a quantity of thin pus, and a diagnosis was then made of empyema of the frontal sinus. The mobility of the eye was much interfered with, but the vision and the fundus remained normal. An operation was then decided upon, and it consisted in chiseling away a portion of the anterior wall of the sinus until an opening as large as a mark-piece was made. About 60 grammes of pure pus were removed, and the finger could then be passed for about 7 cm. directly backward. The thickened mucous membrane of the sinus was scraped away, and the cavity cleansed with carbolic acid. It was then tamponed with iodoform gauze. The diplopia ceased in three days, and the exophthalmia rapidly subsided, but the wound did not entirely close for about nine months.

Infectious Panophthalmitis of Microbial Origin, and its Analogy with Infectious Osteomyelitis.—Gayet ("Arch. d'ophthal.") reports an interesting case occurring in a young girl, aged eighteen, who was brought to the hospital on December 8, 1886, with symptoms of grave typhoid fever. She had an acute and violent inflammation of the left eye, which had appeared about the same time with the febrile symptoms. It was subsequently decided that all the symptoms arose from the panophthalmitis, and that the patient had not typhoid fever. The eyeball finally ruptured in the equatorial region above, and the general febrile symptoms slowly subsided. The patient was the daughter of parents in good circumstances, and had been in good health. In August, 1886, she lost the left upper canine tooth without either pain or suppuration, but some time after the tooth fell out an acute pain set in at the vacant cavity in the jaw and extended toward the left eye. Then there appeared a swelling in the upper jaw on the same side, and vision became affected and was finally lost. On December 1, 1886, while menstruating, the patient took a walk in the morning and was seized with a decided chill; the menses stopped, and she was attacked with severe pain in the back and abdomen. That same evening the pain became very severe in the left eye, and panophthalmitis at once developed and was followed by the signs of grave general disturbance. The enucleated eye was found to contain the *Staphylococcus aureus*, which on being cultivated and inoculated in the eye of a rabbit, produced panophthalmitis and death within twelve hours.

Retinitis Pigmentosa with some Interesting Anomalies.—Darier ("Arch. d'ophthal.") reports a number of anomalous cases of retinitis pigmentosa occurring in several families. In none of these cases could consanguinity between parents be assigned as a cause. Among hereditary antecedents were the following: One father had hemeralopia; one mother had defective vision; a grandfather was blind at the age of thirty; a grandfather was blind in one eye; and an uncle had congenital coloboma of the iris. Only one of the patients examined had had children and grandchildren all free from hemeralopia. The six patients examined belonged to five different families, all consisting of five or six children, one third of whom had hemeralopia. Among thirty-five children there were eleven hemeralopes, and two polydactylic children who died too young to admit of any knowledge as to the existence of retinitis pigmentosa. In all the patients the disease began in childhood, and in only one case was hemeralopia absent. In three cases there was typical pigmentary degeneration of the retina; in two cases there was no pigmentary degeneration at all; and in one case there were a very few stellate patches of pigmentation. All but one patient had good central vision by daylight, within a very narrow field.

Primary Tumor of the Optic Nerve.—Tillaux ("Rec. d'ophthal.") reports a case of this kind in a man, aged forty-one. Eighteen months before, he had begun to suffer severe pain in the left orbit, and the left eye soon began to protrude, the vision became affected, and these symptoms steadily increased and persisted for about four months. They then began to diminish without any apparent cause, and for eight months there had been a complete remission of the symptoms. In May, 1886, the symptoms returned with increased violence, and the man soon became entirely blind. When Tillaux saw him, the left eye was almost entirely outside the orbit, and the lower lid was entirely concealed. The cornea was opaque, and yet light reflected into the sound right eye caused severe pain in the diseased left eye. A diagnosis was made of tumor of the optic nerve, and it was decided to remove the eyeball and the tumor together. This was done in the usual manner, and the diag-

nosis was confirmed in every particular. The tumor began about a centimetre behind the globe, was as large as a hazel-nut, and had destroyed the nerve elements. Sections showed it to be deeply pigmented, and it extended backward through the optic foramen into the cranial cavity. The operation relieved the patient entirely of pain.

Cataract Extraction without Iridectomy.—Knapp ("Arch. of Ophth.") makes a comparison between this operation and extraction combined with iridectomy. The advantages of the simple extraction are: 1. It preserves the natural appearance of the eye. 2. The acuteness of vision, other things being equal, is greater. 3. Eccentric vision and orientation are much better. 4. Parts in direct connection with the ciliary body are not so liable to be incarcerated in the wound. 5. It may not involve the necessity of so many after-operations. Its disadvantages are: 1. The technique of the operation is more difficult. 2. Prolapse of the iris and posterior synechiæ are more numerous. 3. It requires a more quiet and manageable patient during and after the operation than is needed in the combined extraction. 4. It is not applicable to all patients. Knapp considers that an iridectomy is indicated in the following cases: 1. When, in case of the fluidity of the vitreous and rupture of the suspensory ligament of the lens, the cataract does not present in the wound on pressure, but only vitreous escapes. 2. When the section is too small, and the iris has been pushed into the wound, and vitreous presents or escapes. 3. When during the operation the iris has been bruised or injured. 4. When the sphincter is unyielding, or when a peripheric piece of iris has fallen before the knife and been excised. 5. When the iris, after the expulsion of the lens and cleansing of the pupillary field, proves irreducible.

Zonular Cataract and Dental Malformations.—Browne's experience ("Ophth. Review") has taught him that, when zonular cataract is found with a history of fits, the teeth will certainly be malformed; when zonular cataract occurs independently of fits, the teeth will probably be good, and that in many cases of infantile convulsions the subsequent injury to the teeth is observed, the lens being unaffected. He refers to the histories of seven patients, five of whom were the subjects of fits and exhibited malformed teeth, and two gave no history of fits and had uninjured teeth. The distinctive characteristic of the genuine convulsion-tooth, unaffected by congenital syphilis, is the shortness of its enamel. The dentine projects beyond the enamel edge. Inasmuch as the tooth is divided by a more or less well-marked line, beyond which the enamel is imperfect or absent, and the surface of the exposed dentine is more or less rough and honey-combed, Browne describes the condition as the "tidal-mark" tooth. The term establishes the distinction from the notched and pegged teeth of congenital syphilis. The characteristics common to the two may be occasionally seen in the same individual. Occasionally the dentine projection from the "tidal-mark" tooth is worn away or broken off, leaving an apparently short tooth with a somewhat concave border, which is occasionally mistaken for a syphilitic tooth.

The Study of the Color-Sense by means of Colardeau's Chromatophotometer.—Chibret ("Rev. gén. d'ophthal.") and his colleagues have devised an instrument for the determination of Daltonism for all the groups of complementary colors, and for the empirical measuring of the degree of intensity of this affection. It is based upon the simultaneous production, by chromatic polarization, of two tangential circular images always of complementary colors. By simple rotation of the different pieces of the instrument, we can produce a variation of shade through the entire gamut of colors; we can modify simultaneously the degree of saturation of two shades from pure white to complete saturation; and we can modify as we will the luminous intensity of each of them separately. The apparatus is composed of a polarizing Nicol's prism (objective) of a rectangular plate of quartz cut parallel to its optical axis, and of a bi-refracting analyzer (ocular), giving two complementary images of the circular opening, which, placed in front of the polarizer at the opening of the instrument, serves to limit the field. Chibret gives the following results of his examinations with this instrument: 1. The idea of color is always absent in the color-blind for a certain degree of saturation of the so-called confusion-colors. 2. The shades of confusion-colors are not the same for all color-blind persons. 3. The idea of color sometimes exists for even the most feeble saturations, sometimes for the saturations which cross from yellow-blue to

red-green, passing through violet-yellow green. 4. This idea of colors is lacking in exactness, the colors seen by the color-blind person not being perceived by him as they are by persons with a normal color-sense. 5. When two complementary colors are seen simultaneously, the idea of color exists for a less degree of saturation than where the colors are seen isolated. The color-blind person can by education merely perfect himself in the art of simulating, without ever arriving at the point of possessing, an idea in which he is lacking; he is deprived of a fraction of the sense of sight.

Erythropia.—Hilbert ("Kl. Mon. f. Aug.") reports another case of erythropia in an aphakial patient, who was operated on for cataract in October, 1885, and who suddenly complained of erythropia in September, 1886. An examination at this date by Hilbert showed in the right eye incipient cataract; in the left eye a large coloboma upward, and fluttering iris, V. = $\frac{1}{2}$ with sph. + D. 12, and Jaeger No. 3 with sph. + D. 16. No untoward symptoms of any kind had occurred after the operation until September 14, 1886, when suddenly everything appeared red to him, and with both eyes. This condition lasted about an hour and then disappeared. Two days later the same thing occurred. On each occasion he had been mentally disturbed before the erythropia appeared. This case is corroborative of the central nature of this peculiar affection. All aphakial patients do not suffer from erythropia, because all are not of the same excitable, irritable temperament. The red vision does not last and become permanent in these cases, because the irritation which causes it is not a permanent or constant one.

The Diagnosis of Iridocyclitis Tuberculosa.—Wagenmann ("Arch. f. ophthal.") doubts the occurrence of primary tuberculosis in the eye, for in all patients who have died shortly after the disease appeared, and on whom autopsies were made, tuberculous masses have been found elsewhere. Where both eyes have been simultaneously affected, it is probable that the tubercle bacilli have circulated in the blood, and have found favorable conditions for development in both eyes. The facts at our disposal are not yet sufficient to enable us to decide whether one diseased tuberculous eye is a direct source of danger for the other. The course of the disease is like that of a neoplasm accompanied by inflammation, modified somewhat by the situation, whether in the iris or in the ciliary body. Sooner or later we notice a swelling of the lids, hyperæmia of the conjunctiva, chemosis, circumcorneal injection, and a stippled and vascular cornea. The latter may be so extensive as to conceal the iris. The aqueous is cloudy, and the iris is discolored, thickened, and vascular. There are posterior synechiæ, which may extend to seclusion and occlusion of the pupil. The aqueous may be so cloudy as to simulate hypopyum, and the actual accumulation of pus in the anterior chamber may be so extensive as to conceal the iris. This may disappear entirely or undergo cheesy degeneration. It is possible that, under certain conditions, the bacilli may enter the anterior chamber, sink to the bottom, become attached to the iris, and there develop. The color of the growths varies in different stages of development. The duration of the disease varies within wide limits. The progress of the disease is rapid if the growth perforates the eyeball, or if an operation has been undertaken for its removal. Functional disturbances appear early in the disease and rapidly grow worse. The acuity of vision diminishes rapidly, peripheral vision is very uncertain, and even light-perception finally vanishes. These unfavorable cases, however, are those in which the seat of the disease is in the ciliary body and the chorioid. Cases in which the iris is the part involved are much more favorable in their course. The sclera and conjunctiva are oftenest involved after perforation has occurred in the anterior uveal tract. It is Wagenmann's opinion that extension of the tubercular process from the ciliary body to the chorioid is of rare occurrence, but to this opinion we can not agree. In regard to the differential diagnosis between tuberculosis and syphilis, the treatment is the deciding factor, all other means of differential diagnosis being very uncertain. If the course of the disease has not been cut short or modified, it reaches its height, and then retrogressive metamorphosis sets in, sometimes even before perforation has occurred. The ectatic projections of the sclero-corneal margin flatten and recede, and there remains a sort of cicatricial tissue. The tumors of the iris recede in the same manner. The inflammatory symptoms diminish, and the eyeball shrinks and becomes phthisical, though subject to occasional relapses. As re-

gards treatment, conservative measures are useless, and the eye must be enucleated as a means of preventing possible infection of the other eye and even of other portions of the body.

Fibroma of the Cornea.—Benson ("Ophth. Rev.") reports a case of what he considers to be true fibroma of the cornea, which he removed from the apex of the cornea of a girl, aged nineteen, in good health. Three years before, she first noticed a white speck in front of the pupil of the eye, as large as the head of a small pin. At no time were there any signs of inflammation present. The spot grew slowly in extent and density, and gradually obscured nearly the entire field of vision. When Benson saw her, the opacity was found to be raised above the surface of the surrounding cornea to the extent of nearly a millimetre, while the normal corneal tissue under the tumor remained transparent. The tumor was perfectly circular, four millimetres in diameter, with well-defined edges, and the corneal epithelium extended over it without interruption. With a few turns of Bowman's corneal trephine, the margins of the tumor were isolated from the surrounding cornea, and, with a curved, broad corneal needle and a forceps, the tumor was dissected from the cornea with some little trouble. It was densely white and opaque, while the cornea was perfectly clear beneath it. The cornea soon healed with only a slight nebula at the center. Histologically, the growth was a fibroma, and resembled corneal tissue with its fibers, corpuscles, etc.

The Treatment of Infectious Keratitis by Irrigation with Mercuric Bichloride.—Gillet de Grandmont ("Rec. d'ophthal.") speaks very highly of frequent irrigation with a 1-to-2,000 solution in the restoration of the cornea, after a more or less total destruction of its tissue. It has two advantages: the first is that of avoiding everything that might interfere with the work of proliferation of the reparative elements; the second consists in placing these elements in such a condition that suppuration can neither destroy these young organisms nor prevent their normal and regular development. In keratitis with hypopyum and extensive slough of the cornea, he advises the Sæmisch section at once, and the extraction of the pus from the anterior chamber by fine forceps plunged in a solution of mercuric binioidide (1-to-20,000). The anterior chamber should then be washed out with the same solution by means of Anel's syringe. Irrigation of the eye and *culs-de-sac* is then to be done every hour or every two hours with the bichloride solution, or baths of the same solution for five minutes are to be applied by means of an eye-cup. If the bichloride solution of 1-to-2,000 proves too irritating, it may be weakened, but its use should be continued until cicatrization is complete.

The Coccus of Phlyctenular Keratitis.—Burchardt ("Ctrbl. f. prakt. Aug.") has found in corneal phlyctenule a coccus which corresponds very nearly to the *Coccus flarus desidens* described by Flügge. It is somewhat smaller than the *Coccus pyogenus aureus*, and does not appear in any considerable number in the vesicles. It is probable that this coccus is the constant and only cause of phlyctenular conjunctivitis and keratitis. The best method of treatment in these cases is to cauterize the corneal vesicles with the galvano-cautery.

A New Instrument for performing Optico-ciliary Neurotomy.—Briggs ("Arch. of Ophth.") presents an instrument which consists of two pairs of curved scissors, united in such a manner that their cutting edges are from three to four millimetres apart, while their points are closely approximated. When they are closed in operating, the divided section of the nerves is pressed between the blades and withdrawn with them. The scissors work so that the two sections are made simultaneously. In operating, the conjunctiva and subconjunctival tissue are divided, and then the instrument is introduced with the blades closed between the internal and inferior recti muscles. When the optic nerve is found, it is divided as in enucleation.

The Use of Cocaine and Passive Motion in Obstinate Cases of Paralysis of the Ocular Muscles.—Spalding (*ibid.*) has been employing the method of treatment advocated by Michel in these cases. The paralyzed muscle is to be grasped with forceps through the conjunctiva, and the eyeball then moved in the line of that muscle as far as possible beyond the extreme of contraction, and then back to the extreme of elongation. This motion should be continued for two minutes at each session. The pain is slight and the irritated condition of the conjunctiva is rapidly relieved by cold compresses. The sessions should be

daily. With the use of cocaine, the method is painless. He reports in detail one case of obstinate paralysis of the third nerve in an old man in whom there was neither syphilitic nor rheumatic taint. The three recti muscles were each exercised in this way at every session, and at the end of three weeks the diplopia had entirely disappeared.

Conjugate Palsy of the Ocular Muscles and Nystagmus.—Gowers ("Ophth. Rev."), in a recent discussion, drew attention to the forms of conjugate palsy of the lateral movements of the eyes caused by disease on one side of the pons. The lateral movement was excited by the sixth nucleus on one side acting through its own nerve on the external rectus, and through the posterior longitudinal fibers on the opposite internal rectus. It was probable that these third nerve-fibers did not actually arise from the sixth nucleus, but that their cells were connected with those of the sixth. It had been sometimes assumed that the center for this lateral movement was the sixth nucleus, but this view was erroneous; the center was possibly the superior olivary body. There were three classes of palsy from disease of this region: 1. Paralysis of the sixth nerve only, from disease of its fibers within the pons, causing absolute palsy of the external rectus and deviation of the eye inward. 2. Disease of the nucleus of the sixth, causing the total palsy just mentioned, with loss of the associated action of the opposite internal rectus. 3. Disease above the sixth nucleus, causing palsy of the lateral movement of both eyes, but without the total palsy of the external rectus. If the eyes were moved toward the opposite side, they could be brought back as far as the middle line, but not farther. The affected muscles could bring the eyes back from the position produced by the action of their antagonists, although they could not effect a primary movement. The excitation for the return movement was probably due to the influence of the centers of the opposite side. This was perhaps a special instance of the associated action of opposing muscles, continuing longer in the centers for the opponents than in those for the primary movement. This consideration simplifies the problem of the immediate mechanism of nystagmus, reducing it to the causation of the intermissions of the primary contraction. In the subject under consideration, it is probable that a tendency to intermission is inherent in the centers, but is normally restrained, and the contraction is rendered uniform by some influences, perhaps complex. One such influence might be the mutual action of opposing centers.

The Action of Myotics and Mydriatics on the Accommodation.—Lang and Barrett ("Roy. Lond. Ophth. Hosp. Rep.") have been experimenting with a two-per-cent. solution of homatropine in castor-oil, with a two-per-cent. solution of homatropine and cocaine in castor-oil, and with a one-per-cent. solution of eserine in water. The estimation of the size of the pupil was made with a coreometer. The estimate of the position of the far and near points was made by means of a slide-optometer, and the measurements were in the vertical meridian only. In order to bring the points within measurable distance, the eyes observed were always rendered myopic by convex lenses. The lenses were always placed very close to the eye, so that the nodal point was not materially altered in position. Taking averages, the action of homatropine caused: 1. A dilatation of the pupil, which began at the 13·33 minute, reached its maximum at the 60th minute, and disappeared in 21·67 hours. 2. A recession of the near point, which began at the 6·67 minute, reached its maximum at the 61·67 minute, and disappeared in 8·75 hours. 3. A variability in the position of the far point, ranging from 0·78 D. to 0·42 D. 4. A diminution of the range of accommodation, the total range being 1·01 D. The action of homatropine + cocaine caused: 1. A dilatation of the pupil, which began at the 10th minute, reached its maximum at the 30th minute, and disappeared in 34·5 hours. 2. A recession of the near point, which began in 6·67 minutes, reached its maximum in 61·67 minutes, and disappeared in 25·67 hours. 3. A variability in the position of the far point, ranging from 0·43 D. to 0·75 D. 4. A diminution of the range of accommodation, the total range being 0·66 D. Comparing the action of homatropine alone with that of homatropine + cocaine, we find: 1. That homatropine and cocaine dilate the pupil more rapidly than homatropine alone, and that the effect lasts longer. 2. That homatropine and cocaine alter the position of the far and near points in about the same time as homatropine alone, but the effect on the near point

lasts much longer. 3. That homatropine and cocaine nearly reduce the accommodation to *nil*. After paralysis of the sphincter pupillæ and ciliary muscle has been effected by the application of homatropine, or of homatropine + cocaine, the application of eserine causes a contraction of the pupil, with an approximation of the near point to such an extent that in the great majority of cases the individual can in a few minutes resume work without inconvenience.

Miscellany.

The "Nashville Medical News."—The publication of this journal, which was edited by Dr. Richard Douglas and Dr. John W. McAlister, has been discontinued. The journal was a bi-weekly.

The Health of Michigan.—According to a summary prepared by Dr. Henry B. Baker, the secretary of the State Board of Health, for the month of July, diphtheria was reported from thirty-six places, scarlet fever from twenty-five, measles from twenty-seven, typhoid fever from sixteen, and typhus from one.

Government Health Reports.—By direction of the Secretary of the Treasury, Dr. John B. Hamilton, Surgeon-General of the Marine-Hospital Service, has issued the following abstract of sanitary reports received during the week ending August 4th:

England and Wales.—The deaths registered in twenty-eight great towns of England and Wales during the week ending July 16th corresponded to an annual rate of 20·7 in a thousand of the aggregate population, which is estimated at 9,245,099. The lowest rate was recorded in Portsmouth, viz., 13·6, and the highest in Preston, viz., 31·1 in a thousand.

London.—One thousand seven hundred and seventy-four deaths were registered during the week ending July 16th, including 1 from small-pox, 65 from measles, 23 from scarlet fever, 16 from diphtheria, 87 from whooping-cough, 5 from enteric fever, 312 from diarrhœa and dysentery, and 14 from cholera and choleraic diarrhœa. There were 188 deaths from diseases of the respiratory organs. Different forms of violence caused 60 deaths, and 9 suicides were registered. The deaths from all causes corresponded to an annual rate of 22 in a thousand. In greater London, 2,121 deaths were registered, corresponding to an annual rate of 20·4 in a thousand of the population. In the "outer ring" 7 deaths from measles, 43 from diarrhœa, 14 from whooping-cough, and 8 from diphtheria were registered.

Ireland.—The average annual death-rate represented by the deaths registered during the week ending July 16th, in the sixteen principal town districts of Ireland, was 24·2 in a thousand of the population. The lowest rate was recorded in Kilkenny, viz., 4·2, and the highest in Waterford, viz., 39·4 in a thousand.

Dublin.—One hundred and eighty-nine deaths were registered during the week ending July 16th, including 28 from measles, 2 from whooping-cough, 2 from enteric fever, and 12 from diarrhœa. Diseases of the respiratory organs caused 35 deaths. Six accidental deaths were registered, and in twenty-nine instances the causes of death were uncertified. The deaths from all causes corresponded to an annual rate of 27·9 in a thousand.

Scotland.—The deaths registered in eight principal towns during the week ending July 16th corresponded to an annual rate of 19·5 in a thousand of the population, which is estimated at 1,299,000. The lowest mortality was recorded in Perth, viz., 14·6, and the highest in Greenock, viz., 28·1 in a thousand. The aggregate number of deaths registered from all causes was 487, including 1 from small-pox, 3 from measles, 11 from scarlet fever, 1 from diphtheria, 43 from whooping-cough, and 30 from diarrhœa.

Netherlands.—The deaths registered in the principal cities of the Netherlands, having an aggregate population of 1,102,191, during the month of May, 1887, corresponded to an annual rate of 29·4 in a thousand of the population. The lowest rate was recorded in Groningen, viz., 16·4, and the highest in Maastricht, viz., 32 in a thousand.

Caracas.—The United States consul, under date of July 23d, states that "in the town a good deal of yellow fever prevails among the unacclimated. In the harbor we have but one vessel with fever, out of which vessel four men have been sent to the hospital, and all alive at this date."

Santiago de Cuba.—Small-pox is epidemic.

MORTALITY TABLE, FOREIGN CITIES.

CITIES.	Week ending	Estimated population.	Total deaths from all causes.	DEATHS FROM—						
				Cholera.	Yellow fever.	Small-pox.	Typhus fever.	Ebola.	Scarlet fever.	Diphtheria.
Glasgow	July 16.	545,678	176					2	4	
Warsaw	July 9.	439,174	191			5				
Amsterdam	July 16.	378,686	156					1		2
Rome	May 28.	369,214	142			3		16	3	
Munich	July 2.	269,000	180					1	1	3
Munich	July 7.	269,000	170						1	
Palermo	July 16.	250,000	130					1	13	
Belfast	July 9.	224,422	100				2		1	2
Belfast	July 16.	224,422	105				1	1	1	
Bristol	July 2.	223,695	71						4	1
Bristol	July 9.	223,695	69						1	
Genoa	July 16.	179,305	102			1				1
Lepsic	July 16.	170,000	60							1
Trieste	July 9.	150,157	67			5			1	2
Stuttgart	July 16.	125,510	32							1
Havre	July 16.	112,074	72			2		7	1	1
Guayaquil	July 7.	35,000	59			13				
Guayaquil	July 15.	35,000	50			7				
Gibraltar	July 10.	23,631	11						1	

UNITED STATES.

Key West—Yellow Fever.—The medical officer in charge of the Marine-Hospital Service (Passed Assistant Surgeon John Guitéras) reports a total of 208 cases and 44 deaths up to date.

Sigülo Quarantine Station.—The British bark "Lucia," infected with yellow fever, is now undergoing quarantine at this station.

Delaware Breakwater Quarantine Station.—The acting assistant surgeon in charge (Dr. William P. Orr), in his dispatch relative to the arrival of infected vessels, states that "ship 'Prince Albert,' Rio de Janeiro; all well. Two cases yellow fever at Rio, and 1 death. One death from fever during passage. Bark 'Carrie L. Tyler,' Havana, via Matanzas; all well. Five cases and 1 death at Havana. Captain and mate died at Matanzas."

THERAPEUTICAL NOTES.

Corrosive Sublimate in the Treatment of Diphtheria.—J. Stumpf ("Munchner med. Woch.," "Ctrbl. f. Chir.") gives his results in the treatment of thirty-one cases, only two of which proved fatal, in which he used a spray of a solution of from 1 part to 4 parts of corrosive sublimate in 3,400 of distilled water and 600 of peppermint water. About a teaspoonful at a time was applied to the pharynx in the form of spray, at first every hour, and then every two or three hours. Except a very transitory salivation, no toxic symptoms were observed, but the fever rapidly declined, the diphtheritic process ceased to extend, and the difficulty in swallowing was mitigated. The membrane usually disappeared in from three to five days more. The patients ranged from nine months to twelve years in age, most of them being between three and six years old. In six of the cases the disease accompanied scarlet fever, in five there were marked laryngeal symptoms, and in twenty the phenomena were simply those of pharyngeal diphtheria.

A Caution concerning the Use of Blisters.—J. Conby ("Progr. méd.," "Ctrbl. f. Kinderh.") reports the case of a child, two years old, which, having been attacked with double broncho-pneumonia in the course of measles, was treated by the application of two large blisters, one of which was kept on for six hours and the other for four. A fortnight afterward, the surfaces to which they had been applied were occupied by large suppurating and gangrenous sores, and the child died three days subsequently. In the author's opinion, its death was hastened by the blisters, and he adds the general warning that blisters should be used only with the greatest caution in children, especially where from the nature of the disease there is reason to apprehend the supervention of a diphtheritic complication, and never in children's hospitals.

Cocaine as an Antidote to Strychnine.—Bignon ("Genio Méd. quir.," "Gaz. hebdom. de méd. et de chir.") finds, as the result of experiments on dogs, that hypodermic injections of cocaine, kept up until the strychnine has been eliminated, prevent a fatal result in cases where the dose of strychnine administered is not excessive, and retard it when large doses are used.

Carbolic Acid in the Treatment of Puerperal Septicæmia.—According to "Nouveaux remèdes," Svidedy recommends a pill containing a grain and a half of phenic acid, with a mixture of equal parts of gum arabic, powdered licorice, and soap—from two to ten such pills to be given in twenty-four hours.

ANSWERS TO CORRESPONDENTS.

No. 21.—The Medico-chirurgical College, of Philadelphia.

No. 22.—The facts being as you state, you are in no danger of prosecution. What you did was a mere act of humanity, and no judge or jury would entertain the idea that it was an infraction of the law.

No. 23.—We would suggest that you ask the physician in attendance what he usually charges for a visit to a member of the family, and make your own consultation fee double that charge.

No. 24.—The correct expression is *per os*.

To Contributors and Correspondents.—The attention of all who purpose favoring us with communications is respectfully called to the following:

Authors of articles intended for publication under the head of "original contributions" are respectfully informed that, in accepting such articles, we always do so with the understanding that the following conditions are to be observed: (1) when a manuscript is sent to this journal, a similar manuscript or any abstract thereof must not be or have been sent to any other periodical, unless we are specially notified of the fact at the time the article is sent to us; (2) accepted articles are subject to the customary rules of editorial revision, and will be published as promptly as our other engagements will admit of—we can not engage to publish an article in any specified issue; (3) any conditions which an author wishes complied with must be distinctly stated in a communication accompanying the manuscript, and no new conditions can be considered after the manuscript has been put into the type-setters' hands. We are often constrained to decline articles which, although they may be creditable to their authors, are not suitable for publication in this journal, either because they are too long, or are loaded with tabular matter or prolix histories of cases, or deal with subjects of little interest to the medical profession at large. We can not enter into any correspondence concerning our reasons for declining an article.

All letters, whether intended for publication or not, must contain the writer's name and address, not necessarily for publication. No attention will be paid to anonymous communications. Hereafter, correspondents asking for information that we are capable of giving, and that can properly be given in this journal, will be answered by number, a private communication being previously sent to each correspondent informing him under what number the answer to his note is to be looked for. All communications not intended for publication under the author's name are treated as strictly confidential. We can not give advice to laymen as to particular cases or recommend individual practitioners.

Secretaries of medical societies will confer a favor by keeping us informed of the dates of their societies' regular meetings. Brief notifications of matters that are expected to come up at particular meetings will be inserted when they are received in time.

Newspapers and other publications containing matter which the person sending them desires to bring to our notice should be marked. Members of the profession who send us information of matters of interest to our readers will be considered as doing them and us a favor, and, if the space at our command admits of it, we shall take pleasure in inserting the substance of such communications.

All communications intended for the editor should be addressed to him in care of the publishers.

All communications relating to the business of the journal should be addressed to the publishers.

Original Communications.

THE PATHOLOGICAL NASAL REFLEX.

AN HISTORICAL STUDY.*

BY JOHN NOLAND MACKENZIE, M. D.,
BALTIMORE.

"Nullum est jam dictum, quod non dictum sit prius."—TERENCE.

"Multa renascentur, quae jam cecidere."—HORACE.

WITHIN the past few years the attention of the medical world has been more prominently called to a series of morbid phenomena, some directly referable to the nasal apparatus, others to regions of the body more or less remote from the nose, which seem to depend upon irritation or well-marked structural changes in the intra-nasal tissues, and which not infrequently disappear after removal of the source of irritation within the nasal cavities. These seemingly purely neurotic conditions have received the name of the *nasal reflex neuroses*, and embrace a host of sensory, motor, and vaso-motor phenomena, varying greatly in nature and anatomical sphere of operation. Various neuralgic conditions of the branches of the fifth and other nerves—cough, asthma, vertigo, nightmare, "hay fever," various spasmodic affections, general convulsions, diseased states of the nose, eye, ear, larynx, and bronchial tubes, symptoms referable to irritation of the gastro-intestinal, utero-ovarian, and genito-urinary tracts; even chorea, epilepsy, melancholia, retarded sexual development, and exophthalmic goitre—have been mitigated or known to disappear with the cure of the nasal affection.

While in some of the recorded instances of these "reflex nasal neuroses" the enthusiasm and hasty judgment of the reporters have carried them too far, and while in many cases the direct connection between the nasal disease and the reflected phenomena is not sufficiently evident, still the fact is established beyond a reasonable doubt that a causal relationship does often exist between certain conditions of the nasal passages and other portions of the respiratory tract, and a host of phenomena referable to other and remote organs of the body—a direct dependence or connection which justifies us in the belief of their reflex reciprocal relationship.

At the present day, when, by common consent, our knowledge of this class of affections is confined within the narrow limits of scarcely two decades, it may be interesting to glance for a moment beyond the writers of the present epoch to the literature of more distant times.

In the "Symposium"† of Plato, when the time came for Aristophanes to speak, he was seized with the hiccoughs, and, upon requesting Eryximachus to stop them and speak in his stead, was told that, if the hiccoughs were ever so violent, if the nose were tickled they would cease at once. This popular recognition of the sympathy between the nose and diaphragm is also distinctly affirmed in the sixth book

of the aphorisms of Hippocrates: "If sneezing comes upon a man in a fit of the hiccoughs, it puts an end to the disorder."*

The consensus or sympathy between the nose and eye seems also to have attracted popular attention. Thus, Aristotle† devotes two paragraphs of the thirty-third section of his "Problems" to the consideration of the question why rubbing the canthi of the eyes puts an end to sneezing. Avicenna,‡ to prevent sternutation, recommends rubbing the eyes, ears, extremities, and palate, whilst Rhazes,* in his chapter on acute and chronic obstruction of the nose ("De alcasem"), mentions, among the symptoms of the latter, abrogation of the sense of smell with a co-existing diseased condition of the eyes. Rhazes also recommends the induction of sneezing "when the mouth is convulsed and drawn to one side,"|| and mentions the fact that running at the nose, a cold in the head, and hoarseness may occur from the odor of violets, etc.^Δ The relation of certain affections of the head, and notably hemicrania, to congestive and even inflammatory disorders of the nasal apparatus, seems also to have been foreshadowed in the writings of the earlier physicians. Thus, in the "Medical Compositions" of Scribonius Largus◇ is found the following direction for the cure of certain forms of headache: "*Oportet vero permanente capitis dolore, materiam quoque detrahare ex eo per nares vel os.*" Largus (Composition X) advises sternutation as a remedy for headache.

The dependence of catarrh, coryza, asthma, syncope, convulsions, and a host of other phenomena upon the presence or odor of roses, lilies, peonies, and other flowers, has been recognized for centuries. For, although Pliny‡ informs us that the seed of the rose inhaled into the nostril has the effect of clearing the brain, there are many cases to be found among the older writers in which the odor of various substances, such as the rose, was known to result in epilepsy, syncope, and even death,↑ and there is a tra-

* Aph. 13. Compare also Celsus, lib. ii, cap. 8.

† Opera omnia graeco-latina, vol. iv, Problem xxxiii, 2 and 8, Parisiis, 1858. Ed. Didot.

‡ Op. omnia, Venet., 1608, lib. iii, Fen. 5, tract 2, cap. 14.

* "Opera medica," Basilae (date uncertain, 1544 or 1450, Lib. 8, G. O.). Divisionum, lib. i, cap. 43.

|| Op. cit., "Ad mansor. de re med.," lib. ix.

Δ Ibid., cap. xiii.

◇ Scribonius Largus, "De compositionibus medicamentorum liber unus," Parisiis, 1529. Ed. Vuchel, Comp. vi.

The ancients included under the generic term headache the affections known as cephalalgia, cephalen, and hemicrania or heterocrania, the latter term being employed by Aretaeus ("De caus. et sig. morb. chron.," liber i, cap. 2). Aretaeus says the sense of smell is vitiated in heterocrania.

↑ "Nat. hist.," lib. xxi, cap. 73. The same writer (lib. vii, cap. 7) also observes that the smell of a lamp which has been extinguished will often cause abortion, and that the latter ensues should the female happen to sneeze just after the sexual congress.

‡ While there is a remote possibility that this observation of the ancients, which finds its reflection in the poetic imagery of Pope, may have some slight foundation in fact, it is extremely doubtful whether, in the cases referred to, death was due to the simple inhalation of the odorous particles of the flower, for in some of the recorded instances the victims were confined to closed chambers, and were possibly poi-

* Read before the American Laryngological Association at its ninth annual congress.

† Section 13.

dition that the Roman ladies conceived an especial aversion to the odor of the queen of flowers.

The diagnostic acumen of Galen* led him to the observation that in certain persons the presence of various foods is sufficient to excite a coryza, and scattered here and there through the literature of succeeding centuries isolated cases are found in which similar peculiarities in regard to flowers and other objects are recorded.†

In the light of our present knowledge of the affection known as "hay fever," it is scarcely conceivable that it made its first appearance at the beginning of the present century. As Dick, and afterward Matthew Baillie, thought that in describing their first cases of laryngitis they had discovered a new disease, so Bostock, in portraying the symptoms of "*catarrhus æstivus*," was led into a similar error. For no one can arise from the perusal of the older writers on asthma without the conviction, or at least the suspicion, that this disease has descended to us through the centuries as a species of the "convulsive asthma" and "periodic coryza" of the more ancient nosologists, who in their state of medical science did not resort to the nosological refinements which proceed from the more advanced pathological research of the present day and century.

I have shown elsewhere‡ that the so-called "idiosyncrasy," by virtue of which the presence or odor of certain flowering plants is sufficient to create disturbances referable to the nasal chambers and other portions of the respiratory apparatus, was familiar at a remote period of medical history. In the days when medical writings were published in Latin, the necessity of recording one's observations in a foreign tongue led to a terseness of style and incompleteness of description which often surrounded with uncertainty the exact nature of the cases reported; but, whether the records referred to were examples of true vaso-motor coryza or not, they may be placed in the same category of affections, and the predisposing influences be considered identical with those provocative of the disease called in the present century "rose-cold."

To Voltolini (1871) is universally and erroneously attributed the credit of pointing out the interesting relationship between asthma and nasal disease. I pointed out at the last meeting of this association,* however, from the writings of Aurelian, Zecchius (1650), Schneider, Floyer (1726), Bree (1811), Trousseau, Follin and Duplay, and

soned by the displacement of the oxygen of their bedrooms by the noxious exhalations from the plants. It should also be remembered that our less civilized and punctilious brother-man of a few centuries back did not hesitate to dispose of an enemy through the covert instrumentality of poisoned flowers and other equally insidious devices, by means of which the deadly agent was introduced into the system through the respiratory mucous membrane.

* "Fragment, ex aphor. Rabi Moyses." Good, "Study of Medicine," Boston ed., 1823, vol. i, p. 311.

† In certain individuals, or even families, this peculiar antipathy or susceptibility to particular flowers or foods takes the form of nose-bleed, in others violent purging occurs, or even epileptoid convulsions.

‡ "Trans. of the Med.-chir. Fac.," 1885. "Am. Journal of the Med. Sciences," January, 1886.

* "N. Y. Medical Journal," February 26, 1887; also "Trans.," 1886.

Ferber (1869), that the association of these two conditions was known long before the time of Voltolini. Among these writers, Ferber, referring to the frequent association of sneezing, migraine, hay fever, and bronchial asthma, advanced the theory that these phenomena were the expression of a neurosis of the trigeminal nerve—a view which has recently been resurrected in a modified form by Schade-waldt.

The association of epileptoid seizures, or even true epilepsy, with some irritation in or about the nasal passages, or peculiar susceptibility on the part of certain individuals to be thrown into epileptic convulsions through the application of some forms of matter to the nasal mucous membrane, seems to have been familiar from the earliest times. We learn, for example, from Aretæus ("De causis acut. morborum," lib. i, cap. 1, ed. Boerhaave, Ludg. Bat., 1735) that the gagate stone (a species of hard coal or jet) was utilized by the ancients as a test for epilepsy, for when applied to the nostrils the sufferer was thrown into epileptoid convulsions. Pliny (lib. xxxvi, cap. 34) also alludes to this test, and to the power of the smell arising from burning goat's horns or deer's antlers in accomplishing the same result (lib. xxviii, cap. 63). According to this historian, the secundines of a she-ass, placed under the nostrils of the patient when the fit is approaching, will effectually dispel it. It is also a curious historical fact that Avicenna ("Op. omn.," Venet., 1608, lib. iii, Fen. i, tract v, cap. 8, p. 499) mentions (*l. c.*, Fen. 5, tract ii, cap. 15, p. 585) "*rosa cum suis pilis*" among the milder measures resorted to to provoke sternutation, and regarded sneezing itself as a mild form of epilepsy (*epilepsia levis*), and that a similar opinion was entertained long afterward by the learned Fernelius ("Medicina," Lutetiae Parisiorum, 1554, "De epilepsia").

Fernelius treated also of the association of hemicrania and catarrh, which, in the quaint* language of his translator, was supposed to be due to "a vapor which, arising from choller flowing out of the liver into the stomach, does smite and twitch the membranes of the brain, yielding matter peradventure to the distillation." Elsewhere† he reports the case of a boy eleven months old, who was sick of a catarrh, who "sucked much and pissed little," and who was cured by anointing the region of the kidneys with oil of scorpions, which caused a flow of urine and the cure of his catarrh. Fernelius observes that in the eighth book of Mercurius on "Diseases of Children" it is stated that catarrhs sometimes happen in children from weakness or fault of the kidney. Farther on (p. 65) he gives a case in which suppression of urine was supposed to proceed from a catarrh in the head; "the flowing humor had invaded the body of the bladder and bred some tumors therein, by which the sphincter of the bladder was compressed and the passage of the said bladder made straight."

In the seventeenth century Salmuth‡ called attention

* "Select Medicinal Counsels of Johannes Fernelius," bound with the Works of Riverius, London, 1668. Author's library. Counsel III, p. 325.

† Page 35.

‡ "Observationum medicarum centuriæ tres posthumæ," Brunsvigæ, 1648, cent. ii; obs. 13, p. 65; and obs. 60, p. 87.

to the fact that paroxysms of epilepsy are often resolved by the eruption of blood from the nose, and related a case of "periodic paralytic tremor" in a woman of fifty, dependent probably on a subacute form of catarrh.

In 1656 Bausner* wrote an essay devoted to the consideration of the sympathies between the different parts of the body, in which he alludes briefly to the relation between affections of the stomach and coryza, and to the effect of obstruction of the nostrils on the voice and respiration.

In 1682 Wedel† treated of the association of vertigo and sneezing, and in the same year Van Helmont,‡ in several chapters of his work, discussed the effects of sweet odors in the production, not only of epilepsy, but headache, nausea, vomiting, cough, hiccough, vertigo, apoplexy, dysentery, and other affections. He also alludes to the fact that, while sweet odors give rise to asthma in some, in others they produce, instead of asthma, hemicrania, palpitation, and syncope. This writer regards such disturbances as of frequent occurrence, and is looked upon by some as the first to recognize the affection known as "hay asthma."§ He explains the mechanism of such attacks by the operation of the "archæus," on the fantastic theory with which his name is inseparably associated in medical history.

Two cases of probable "rose-cold" were related toward the close of the seventeenth century by Binningerus|| and his contemporary Ledelius,^ and Pechlinus◇ reported the case of a pharmacist who was thrown into violent paroxysms from the odor of violets in his urine, and was only relieved upon the return of the natural odor to the excretion. The same writer relates another case, in which a woman, having taken saffron for some menstrual trouble, was seized with coryza, headache, sneezing, and other annoying symptoms.‡

In the early part of the last century Baglivi♠ called attention to the fact that irritation of the nostrils by snuff (or tobacco) might provoke a desire to go to stool. This same

observer also called attention to the association of asthma and urticaria.*

A few years after the publication of Baglivi's work, Gumprecht† discussed the sympathetic troubles connected with the inhalation of vapors into the nostrils, and explained them on the theory that the vapor taken into the nose affected preternaturally the branches of the fifth pair of nerves and was reflected to the fauces, stomach, heart, and lungs through the medium of the intercostal and eighth pair (Willis).

This nerve theory, which was the outcome of the neuropathology of Willis‡ and Vieussens,§ was subsequently insisted upon by Henricus Josephus Rega in an elaborate general discussion of the sympathies between the different organs of the body.||

Rega mentions the sympathy of the uterus and fauces, and that between the fauces and parts lower down.

During the first part of the last century there appeared a ponderous work by Johan Jacob Wepfer^ consisting of a collection of cases illustrative of the external and internal diseases of the head, in which the relationship of hemicrania and other pathological phenomena to nasal inflammation and obstruction was distinctly and emphatically announced. Nothing seems to have escaped the far-reaching experience and accurate observation of this writer, to whose powers of description and diagnostic acumen it would be difficult to do justice within the limits of this review. So instructive is every case and page that it would be hard to make a selection, and I shall therefore only refer briefly to the following:

Obs. xxxiv, pp. 75, 76. Association of cephalalgia with sternutation, sereatus, cough, and coryza, supposed to be due to irritation of the dura mater.

Obs. xxxvi, pp. 80-82. Paroxysms of violent headache, vertigo, pain from the nucha to the head, debility of memory and vision, tremor, cough, pain in the eye and about the nose, due to obstruction of the nostril from abuse of tobacco, which caused retention of mucus within the nostril, and awakened the above-mentioned symptoms from the sympathy of the latter with the meninges about the torcular Herophili. In this case the mucus retained in the deeper portions of the nostrils (*profunde intra cavernas narium retentus et inspissatus ab aere ex pulmonis expirato præserrim*) was supposed to draw the meninges into contact.

Obs. xxxviii, pp. 84, 85. Association of pains in head, tinnitus, pains in humerus, various nervous symptoms and vomiting, with inflammation of the fauces. A very interesting case.

Obs. xl, p. 94. Says he has frequently observed hemicrania due to obstruction of the nares.

Obs. xlii, pp. 100-102. Case in which intense paroxysms of

* *Op. cit.*, p. 104.

† Georg Gottlieb Gumprecht, "Diss. de consensu partium principum pathologicæ et praxeos medicæ fundamentis." Halle-Magdeburgicæ, 1717.

‡ "Cerebri anatomie cui accessit nervorum descriptio et usus." Amstelodami, 1666, inter al. capp. 21, 25, 26, and 27.

§ "Neurographia universalis." Lugduni, 1685, lib. iii, caput v, de nervis intercostalibus, eorumque munis.

|| "De sympathia seu consensu part. corp. humani, ac potissimum ventriculi, in statu morbozo, diss. medica." Harlemi, 1721.

^ "Observationes medico-practicæ de affectibus capitis internis et externis." Scaphusii, 1728.

* Bartholomæ Bausner. "De consensu partium corporis humani," lib. ii, cap. 2. Amstelodami, 1656.

† "Dissertat. aeger virgine laborans," Ienæ, 1682. "Diss. de vertigine," Ienæ, 1707 and 1741.

‡ Johan Baptist Van Helmont. "Op. omnia," Francofurti, 1682. "Imago fermenti impregnat massam senine," p. 110, § 10; p. 344, § 10; and p. 348, § 41. This author also refers to the case of a monk, employed in pulling down buildings, who grew asthmatic from the constant inhalation of dust.

§ Bergeron. Thèse d'agrégation, 1872, referred to by Louis Villedansens. Thèse de Paris, No. 494, 1872. "Étude sur le cat. spasmodique d'été," etc.

|| Johan Nicolai Binningerus. "Observationes medicinal. cent. quinque," etc. Montbelgardii, 1673. Obs. 86, p. 227. I am indebted for this reference to the work of Dr. Morell Mackenzie—"Hay Fever," etc., London, 1885. Third edition, p. 48.

^ "Miscellan. nat. cur.," Dec. ii, anno i, Obs. 140. This case is not infrequently referred to by the writers of the last century, and also by Phœbus ("Der typische Frûhsommer Katarrh," etc., Giessen, 1862) and Morell Mackenzie (*op. cit.*).

◇ Joh. Nicol. Pechlinus. "Observationum physico-medicorum libri tres," etc. Hamburgi, 1691, lib. ii, obs. 50, p. 332.

‡ *Op. cit.*, lib. i, obs. xli, pp. 94-96.

|| "Opera omnia. med. practicæ," Lugd., 1714, spec. lib. i, cap. x, p. 342 et seq.

periodic cephalalgia and hemicrania were preceded by stupor of the head with grævado. The patient suffered from obstructed nostrils, with tendency to somnolence and delirium. When the acme of the paroxysm was reached, vomiting of a tenacious mucus with bile occurred, with relief to the symptoms.

Obs. xliii. Case of a man suffering from obstructed nares, who was troubled for seven years with daily pain in the head in the morning when he arose from his couch, to which were soon added heaviness of vision, vertigo, tinnitus aurium, debility of the joints, with tremulous movements of the same. These symptoms were relieved by drawing the mucus from the head and nose into the fauces. The mucus was removed with difficulty owing to the narrowness of the nostrils from obstruction. He explains the case on the theory of sympathy and laxity of the pores in the spongy bones. Wepfer believes the trouble to have been an invasion of the spongy (turbinate) bones, and observes that in such cases the indication is to remove the inspissated mucus from the nares. A most interesting case.

Obs. xlv. Hemicrania from an acrid serous discharge.

Obs. xlvi, pp. 109-125. Headache, cough without expectoration, asthma, palpitation of the heart, and signs of phthisis. Tubercles in the lung were suspected "because crude tubercles were seen in the fauces at the root of the tongue such as are described by Galen" (probably follicular faucitis).

Obs. xlvii. An instructive case of hemicrania and coryza with "constipation" of the nose.

Obs. lii, p. 140. Hemicrania with swelling of the parotid gland, tinnitus, and unilateral discharge from the ear and nostril.

Obs. liv. Association of hemicrania with loss of olfactory sense, dimness of vision, muscæ volitantes, etc., with an acrid discharge from the nose which stained the handkerchief yellow.

Obs. lvii. Hemicrania, tinnitus aurium, vertigo associated with uterine trouble, sneezing, and a nasal discharge.

Obs. lxxii, pp. 241-244. Vertigo associated with a nasal discharge, dimness of vision, nebulae before the eyes, tinnitus aurium, wax in the ear, etc.

Obs. lxxv. Vertigo supposed to come from hydrocephalus; says in such an event, if the nostrils are obstructed, give er-rhines.

Obs. lxxvi, p. 256 *et seq.* Remarkable case of vertigo associated with asthma at night and tendency to nasal hæmorrhage. The paroxysms were mitigated by forcible screatus or vomiting. Thinks it came from stomachic trouble originally.

Obs. lxxvii. A patient who used tobacco as a stentatory to excess became subject to nasal hæmorrhage, dyspnœa, occasional deafness with tinnitus aurium, and vertigo with convulsions. The brain was perfectly clear during the paroxysms. Wepfer observes that such affections, if neglected, are apt to degenerate into epilepsy.

Obs. lxxviii. Vertigo, convulsive movements, nightly terrors, etc., in connection with mucus in the fauces, etc.

Obs. lxxix. Hemicrania, vertigo, tinnitus aurium, and tremor of the joints in a person whose nares were sometimes dry, while at other times they were filled with a limpid mucus which flowed in quantity from the nose, causing redness and excoriation of the latter. In the same observation (p. 296) he speaks of the association of mucous vomiting, fluor albus, recurring coryza, lachrymation, etc., from the suppression of a diurnal coryza.

Obs. lxxx. A most instructive case of a woman, sterile throughout her entire life, who, an habitual sufferer from coryza, was seized at the autumnal equinox with vertigo, tinnitus, troubles about the head (debility, sweating), with a peculiar vibration about the left eye, with obscure vision, and with many-colored nebulae before the eyes.

Obs. cv, p. 469. Catarrh, gout, coryza, occasional attacks of vertigo, etc.

Obs. cx, pp. 486-488. A man, subject to catarrhal affections of the tonsils and throat, suffered from paroxysmal convulsive movements of the throat and neck, especially of the right side, with a sense of compression and constriction of the larynx.

Obs. cxci. Nasal polypus, with hemicrania from a carious tooth.

Obs. cxcv. *Coryza prope continua*. A patient suffered with chronic coryza, with itching of the nose. He was finally seized with vertigo, weakness of vision, trouble with the memory, a sense of heaviness about the forehead, temples, and orbit, and even in the eyes. To these symptoms were added oppression about the chest, with dyspnœa and headache, especially when going up stairs and in mountain ascents.

Obs. cxcvi, p. 917. *Narium obstructio*. A case of extraordinary interest. A man, aged seventy-six, of medium height, tolerably fleshy and of good color, suffered with prolonged attacks of coughing, which could be increased by an effort of the imagination alone. He was especially subject to the cough in winter, and if, perchance, he got his feet wet, he was immediately seized with a paroxysm, so that he was obliged to be confined to the house during the whole of the winter season. His chief and apparently only trouble was an occlusion of the nares which prevented sleep, or if, by chance, he fell asleep, he was immediately awakened. The nostrils, when freed from mucus, would become patulous, and soon again become occluded. On examination, the right naris was found occluded by a sort of "sarcoma" of the ala. A similar "sarcoma" occupied the internal surface of the left ala. Neither was so attached as to allow of operation by the knife or cautery (*ferro vel igne*). Whenever he inhaled sharp medicines into the nares, he experienced pain about the cribriform bone and in the occiput. When he lay on the left side, he suffered from pain under the left breast, and was seized with a dreadful sense of oppression, which threatened leipothymia. In other respects he seemed to be well, he lived temperately, his heart never palpitated, he breathed easily in ascending stairs, etc.; he did not suffer from vertigo, headache, etc.

Wepfer, in commenting on this case (p. 918), observes that the chief interest centers in the peculiar narrowness of the nostrils and the nocturnal trouble, and goes into a differential diagnosis. After excluding heart and other troubles, the absence of any vestige of polypus or common sarcoma in the nose and fauces, he concludes that the trouble was due to a *turgescence of the myriad vessels of the spongy bodies (corpora spongiosa)*, which prevented the air from passing to the os cribriforme, fauces, and palate. The obstruction caused, he thought, retention of mucus in the nostril, which became inspissated by the air coming from the lungs, and which, furthermore, tended to increase the narrowness of the passage.

About the middle of the last century Daniel Langhans* published an elaborate dissertation which deserves special mention, in which he adverts to the rôle of the superior cervical ganglion in the evolution of sympathetic (reflex) acts—such as asthma, cough, etc., from irritation of the stomach, uterus, and other organs of the body.

In 1760, Morgagni† explained more fully the sympathy between the nostrils and the diaphragm and the abdominal

* "Diss. de consensu part. corp. humani," Gott., 1749; also in Haller's "Collect. dissertat. pract.," vol. vi, No. 220.

† "De sedibus et causis morborum," epist. xiv, 28.

viscera, calling attention at the same time to the communication between the fifth pair of nerves and the intercostals (Willis). In illustrating his theory, he called attention to the case of a nobleman in whom epileptoid convulsions were preceded by a fœtid smell only perceptible to himself; also to that of an old drunkard, who sneezed for two or three years for a quarter of an hour each day, and finally died suddenly. On post-mortem, there was discovered hypertrophy of the heart.* In another place he tells of a man of forty, an habitual drinker, who suffered for some time from dyspnœa (asthma), with frequent and severe fits of sneezing. One day, in a paroxysm of sneezing, he felt a sudden contraction of the heart, sneezed once more, and died.†

In 1761, H. Boerhaave,‡ speaking of sneezing in connection with intestinal parasites, makes the assertion that if a healthy man fasts longer than is his wont, he feels a disagreeable sensation about the præcordia, sneezes, and then vomits. Following Avicenna, he compares the sneezer to the epileptic. In the same year Thomas Bartholini* tells us that, after phlebotomy, when the wound is closed and the cicatrix is yet tender, some are taken with sneezing. In commenting on this remarkable association, he states that he has observed sneezing during coitus. Bartholini also reports|| an interesting case of a gentleman who suffered from chronic coryza, which rendered sleep and respiration difficult. The cause of the dyspnœa was an oblong, rounded, smooth, white membranous vesicle filled with serum, which at times hung out of the nostril, which could be returned by pressure with the finger, and which interfered with smell and respiration. He goes on to say that the patient experienced relief from the use of sternutatories taken at the advice of friends, and adds that the remedy in such cases is to lie on the side opposite to that of the obstructed naris. In commenting on the diagnosis of the case, he says that Erastus observed that the mamillary processes (olfactory lobes) were protruded into the nose in epilepsy, and concludes that these vesicles are found in the place of the caruncles in the spongy bones (doubtless the corpora cavernosa).

In 1765 appeared a thoughtful treatise on nervous diseases by Robert Whyte,^ of Edinburgh, in which he calls attention to the fact that "several delicate women, who could easily bear the smell of tobacco, have been thrown into fits by musk, ambergris, or a pale rose, which to most people are either grateful, or at least not disagreeable" (p. 125). He also mentions similar antipathies in regard to cinnamon and other substances.

Whyte alluded to the sympathies between the larynx, pharynx, and ear, and advanced the doctrine that the im-

pressions made upon the terminal filaments of the nerve (as, for example, in ear cough) must be first referred as a particular feeling to the sensorium commune before being reflected to other parts of the body. He thus made an important step beyond the older doctrine, which ascribed sympathetic affections to the communications between the nerves themselves.

One year later, Daniel Wilhelm Triller, in his curious work,* dwelt upon the so-called idiosyncrasy of olfaction in regard to roses and violets, and related two cases—one of a noble bride, who, sitting surrounded by roses, and weaving them into garlands, became suddenly prostrated, and, falling into the arms of her attendant, who rushed to her assistance, was soon lifeless; the other (described at great length), the history of a case in which death occurred from the odor of violets in a closed chamber.

In the same year the association of stomachic irritation with coryza was discussed at length by Schroeder and May,† and Robert Boyle,‡ in the edition of his work on exhalations, etc., published in 1776, treated briefly of the accidents arising from the odor or presence of roses, and toward the close of the last century a number of dissertations appeared on idiosyncrasy in general, in which the antipathy of certain persons to roses is mentioned, and of which the pamphlet of Rahn* is the most complete and original.

Rahn collected a number of cases from the "Acts and Ephemerides of Natural Curiosities," and from other sources, and founded upon them an interesting dissertation, in which, among other things, he mentions (quoting from the "Journal de médecine," tome xxv, p. 442) hemierania from disease of the nose in the following sentence: "*Aliquando periodicam hemieraniam coryza antecedunt et agros fallunt, ut hanc pro illius causa habeant cum tamen spastica utriusque sit origo.*" He explains the sympathies of the nose (on the nerve theory of Willis and Vieussens) by the intimate connection between the nasal nerves and the intercostals (of Willis).

A number of special treatises followed the brochure of Rahn, which added little or nothing, however, to what was already known upon the subject, and consisted for the most part of the transcription of the views and cases of those which preceded them. The most elaborate of these are the dissertations of Michell|| and Veegens.^ To these writers I am indebted for reference to a very interesting case of catarrh with convulsions and hemierania from dis-

* "Opuscula medica ac medico-philologica." Francofurti et Lipsiæ, 1766, vol. i, Diss. ix, p. 237 *et seq.*

† "Diss. de amplitu generis febris billosæ." Gotting., 1766, § 12.

‡ "Exercitationes de atmospheris corporum consistentium; deque mira subtilitate, determinata natura ac insigni vi effluviurum." Lugd. Bat., 1776, cap. vi, p. 213 *et seq.*

* "Exercitationum physicarum de causis physicis miræ illius, tum in homine, tum inter homines, tum denique inter cetera naturæ corpore sympathiæ secunda." Turici, 1788. Rahn quotes from Baumer the case of a youth taken with periodical emprosthotonus from the odor of musk.

|| In Schlegel's "Sylloge selectiorum opusc. de mirabilibus sympathiæ quæ partes inter diversas corporis humani intercedit." Lipsiæ, 1787.

^ "Diss. inaug. med. de sympath. inter ventriculum et caput, præcipue in statu præternaturali." Lugduni, 1784.

* *Op. cit.*, xxvii, 28.

† xiv, 27.

‡ "Prædilectiones academice de morbis nervorum," etc., Lugd. Bat., 1761, tom. ii, p. 835.

* "Historiarum anatomic. et medic. rariorum," cent. v et vi, Ed. Hafniæ, 1761, v, p. 184.

|| Cent. vi, pp. 260-262.

^ "Observations on the Nature, Causes, and Cure of those Diseases which have been commonly called Nervous, Hypochondriac, and Hysterical." Second ed., Edinb., 1765, p. 125.

case of the uterus and ovaries observed by Bauhin,* and to one reported by Zimmerman, in which acute pain in the nose followed excessive venery (tribadismus). Veegens devoted considerable space to the sympathy of the stomach and nose, borrowing a great deal from Rahn without acknowledgment.

Ias† (1784), and afterward Schmidt‡ (1795), discussed at great length the same subject, without adding anything novel or of special interest. The latter, however, refers to the well-known sympathy between the nose and eyes in the case of sneezing from sudden exposure to light, and adds that "many diseases of the eyes may be cured by errhines."

In 1785 Tissot# called attention to the fact that very violent paroxysms of migraine are sometimes terminated by slight hæmorrhage from the nose, and related the case of a man of his acquaintance, an habitual sufferer from migraine on the same side in which he had a polypus in the nose, to which it owed its origin.¶ To Tissot I am indebted for reference to two interesting cases of migraine. The first is taken from the "Sepulchretum" of Mangetus.△ A woman complained of a migraine of the right side. Bleeding, cephalic pills, etc., were of no avail. She asserted that she felt a vertigo with each movement of the head, and that it felt like a bladder filled with water. Vesicatories were placed behind the ears, and tents dipped in a volatile essence were introduced into the nostrils, which latter produced a prodigious discharge of serum and the cure of the affection. The second is taken from Sauvages: A soldier received a wound of the head at Strassburg, and suffered from terrible migraine for three years. The disease resisted all remedies, but was finally cured by an abundant discharge of pus from the nose, lasting twenty-four hours. Tissot includes this case under that variety which depends on disease of the accessory sinuses.◇

In 1790 Testa‡ related the case of a woman who had never menstruated, and who was taken every third day with a paroxysm of sneezing so that she could neither eat, drink, nor sleep.

In 1797 we find Darwin‡ reporting a case of nasal polypi due to the irritation of worms in the intestines, and in 1801 Gruner‡ alludes to sneezing in hysterical women

as a prodrome of the attack, and in retention of the after-birth; to the same reflex in the dissipation of cough, hic-cough, and allied evils; to its occurrence in those suffering from hernia, in pregnancy, and skin eruptions. This writer says * the nose becomes warm and red in the hysterical, in women at the menstrual period, and in the victims of onanism.

In 1802 Heberden† observes that "a large suppuration of an inflamed sore throat has been attended with a considerable quantity of pus at the bottom of the vessel which held the urine, for three or four days. As soon as the abscess broke and discharged itself, this purulent appearance in the urine ceased." Heberden, as is well known, was supposed to have approached very nearly the discovery of the disease known as "hay fever."‡

In 1804, Deschamps# maintained the view that hemi-crania was a disease of the frontal sinus, and related some experimental observations illustrative of the great sensibility of this cavity; and in the same year Portal|| observed that he had seen pains, vertigo, and even epileptic affections, in connection with disease of the nasal membrane, and referred to a case accidentally cured by the fumes of cinnabar, given with other intention.

In 1818, Josef Frank, in his chapter on headache, says: "*Nares plerumque sicca, acri impervia, nunquam serum acre largientes. Sapor interdum deletus, sæpe deprivatus, amarus scilicet, acidus, quandoque metallicus. In nonnullis, sreatio frequens, stridor dentium, tumor parotidis. Loquela nonnunquam interrupta, etc.*" Frank also called attention to what he termed rheumatic or catarrhal vertigo.◇

This brings the history of the pathological nasal reflex down to the year 1819, when the affection known as "hay fever" is supposed to have been discovered by Bostock. That this latter disease was probably recognized centuries ago, I have endeavored to show in a former publication,‡ in which is given what may be considered its earlier literature. Those who desire to investigate also the ancient history of the nasal "idiosyncrasies" may consult this article and also the list of essays and cases embodied therein, which have been selected from a large number of dissertations and contain the gist of what is known upon the subject.

As, in the foregoing historical study, I have had no guide beyond my own literary notes, the task has been a laborious one, and one which I feel has been but imperfectly accomplished. If, however, I shall have rescued from oblivion a portion of the older literature of the subject, or shall stimulate others to more elaborate and exhaustive research, my labors will be abundantly repaid.

The preparation of both historical sketches would have

* This case is also in Lieutaud's "Histor. an. med.," Obs. 1507, vol. i.

† "Diss. de mirabili quæ pectus inter et ventriculum intercedit sympath." Lugd. Bat., 1784.

‡ "Diss. inaug. de consensu part. corporis humani inter se." Halæ, 1795.

"Œuvres." Lausanne, 1788, vol. ix. "Traité des nerfs et de leurs maladies." A Genève, 1785, chap. xxii. "De la migraine," p. 105.

|| Op. cit., p. 169.

△ Tom. i, p. 16.

◇ The dependence of migraine on the presence of parasites in the nostrils has been familiar for centuries. See Ploucquet, "Literatura medica digesta," tom. iv, p. 314, and note 1, p. 216. Ludwig Frank, "Med.-chir. Ztg.," Salzburg, iv Bd., 1815.

‡ "Bemerkungen über die periodische Veränderungen, etc.," Leipzig, 1790, p. 225.

‡ "Zoonomia," part ii, vol. 2, p. 73, Phila. ed., 1818.

‡ Christian Gottfried Gruner, "Physiologische u. pathologische Zeichenlehre," etc. Jena, 1801, p. 122.

* Op. cit., p. 377.

† William Heberden, "Commentaries on the History and Cure of the Diseases," London, 1802; also published in Latin, chap. 101, p. 472.

‡ Op. cit., chap. 24, pp. 135, 136.

"Traité des mal. des fosses nasales," etc., Paris, 1804.

|| "Cours d'anat. méd.," etc., Paris, 1804, t. iv, art. "Nez," p. 491.

◇ "Præceps medicæ universæ præcepta," Lipsiæ, 1818, pars ii, vol. i, sect. i, cap. 2, § viii, p. 162.

◇ Op. cit., p. 547.

‡ "Am. Journ. of the Med. Sci.," January, 1886.

been impossible were it not for the unrivaled facilities for literary research offered by that monument of industry, the library of the Surgeon-General's Office at Washington; and I desire to acknowledge my indebtedness to the authorities of that institution for special privileges in gaining access to many rare works which otherwise would have been inaccessible.

PTOMAINES.*

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WHEN one looks back over the fields of scientific research, he can not but be impressed with the marvelous progress which has been made within the past few years, much of which has contributed both directly and indirectly to the enrichment of our own profession. To no two departments is this more truly applicable than to those of chemistry and biology. Less than half a century ago all that was definitely known of chemistry could be included within the pages of an ordinary text-book; but so vast have become the fields of exploration, so complex and diverse the subjects for study, and so numerous and zealous the investigators who have appeared of late, that even the chemical specialist is overwhelmed and discouraged, and must either content himself with a synopsis of the general science or devote all his energies to some one branch. And even here we find the same difficulty, for in many instances the enthusiastic searcher after truth, delving ever more deeply into the mysteries of his favorite science, finds himself at last either alone in his narrow burrow, or accompanied by one or two companions possessed of an ardor equal to his own. One of the most valuable results of biological research is the discovery of that vast class of minute cryptogamic organisms collectively known as microbes, which subject has already been most ably presented to this society by Dr. Cushing, of Boston, and has at different times been discussed *pro* and *con*, though I regret to say there are some members who still withstand the powers of proselytism. The question which I wish to present this evening—viz., that of ptomaines—is a chemical one, though intimately connected with the subject of bacteriology, of which, in fact, it is but another step in advance, and which at the same time, I think, makes the relationship between microbes and disease more intimate, and possibly in a large degree aids in elucidating the manner of action of these minute forms of life in the production of the various disordered conditions which constitute our recognized maladies. When I decided upon ptomaines as the title of my essay, I had hoped to treat of the subject thoroughly and fully, and concluded that this would probably be a comparatively simple matter, since most of the knowledge concerning them is of rather recent date, and the investigators who have busied themselves with the study of these bodies are few in number. When, however, I began to consult the literature of ptomaines for the purpose of collecting data, I found that, although of intense interest, it was more so to the physiological chemist

than to the practical physician, dealing as it does with the more complex radicles of the higher organic series, and, in order to comprehend it, requiring no small knowledge of the properties of amines and their numerous compounds. Yet there is much which is of both interest and importance to us as physicians, and it is to these points that I beg to call your attention this evening, even though I should no more than outline their bearing upon the studies of aetiology and symptomatology, and the necessity of an intimate acquaintance with their properties and deportment in the science of forensic medicine.

It has long been known that the flesh of animals which has passed, in the course of its alteration, that condition known as "high," so eagerly sought for by epicures, and entered fully upon the process of putrefaction, becomes unfit for use as food, not alone on account of the disgust which it inspires in us through our olfactory and gustatory nerves, but because it becomes endowed with properties truly toxic, giving rise to symptoms of an irritative character—such as vomiting, purging, pain, and at times collapse. The exact nature of the poisons which produce these symptoms has, however, remained a matter of doubt until quite recently, when chemists, having turned their attention to the matter, instituted a vast number of investigations with the most gratifying results.

Among the first of those who attempted to solve this problem was Kerner, who, in 1820, pointed out the resemblance between the symptoms of poisoning by sausages and those produced by atropine. He, however, finally abandoned the idea of an alkaloid being the toxic agent, and attributed the symptoms to the fatty acids present. Gaspard and Stieh, in 1822, also devoted themselves to the study of the venomousness of cadaveric extracts, but accomplished little in the way of true scientific results.

The credit of first dealing with a pure chemical poison obtained from putrid flesh appears to belong to Panum, a Danish chemist and physiologist, who, in 1856, showed that the putrid matters contained a poison of such virulence that five or six centigrammes were sufficient to kill a small dog. As regards its activity, he compared it to serpent's poison or curare. He maintained that it was neither volatile nor destructible by heat at 100° C., that it was not of an albuminoid nature, was soluble in water, but not so in absolute alcohol. When administered to animals, it gave rise to violent inflammation of the mucous membrane of the small intestine.

Weber, Hemmer, Schweninger, Stieh, and Thiersch, by their investigations, concluded that the poison was of a chemical nature, though they did not attempt to isolate it. In 1868, Bergmann, at first alone, and afterward in company with Schmiedeberg, succeeded in extracting from the yeast of putrid beer a small quantity of nitrogenous crystallizable substance, which exhibited a toxic action when administered to dogs and frogs. This they called "sepsine," and, believing that they would find it in septicemic blood, attributed to it the disorders of purulent infection. But their attempts to extract it from blood gave contradictory results, and "sepsine" was soon in its turn placed in doubt and almost forgotten.

* Read before the Hartford, Conn., City Medical Society, June 6, 1887.

Bence Jones and Dupré at about the same time professed to have obtained from various animal tissues a substance which, on account of its assuming a fluorescent appearance when treated with dilute H_2SO_4 , they called "animal chinoidine." These investigators, however, also failed to isolate their "alkaloid," basing their conclusions merely upon one physical property possessed by its solution—viz., fluorescence.

The following year, 1869, Zulzer and Sonnenschein announced having derived from macerated bodies a poisonous nitrogenous compound which possessed mydriatic properties, and which upon this account they compared to atropine. It also caused paralysis of the intestinal muscular coat, and increased the action of the heart.

Rörsch and Fasbender also obtained, both from alkaline and acidulated mixtures of cadaveric parts, a non-crystallizable body which exhibited the same properties as digitaline.

At about the same time Schwanert, in the course of a chemico-legal investigation, obtained from the abdominal organs of a body an oil with strongly basic qualities, which exhaled an odor of propylamine. This body could not be found in fresh cadavers. Other compounds were also met with in the viscera of human bodies which resembled coniine in some of their reactions, but which failed to fulfill the requirements of this alkaloid in all respects. Some of these substances were extremely toxic.

The foregoing was practically the extent of the work which had been done in this line of chemical research at the time when François Selmi, Armand Gautier, and Professor L. Brieger took up the subject. As can readily be seen, the results were open to criticism, since many of the tests were undoubtedly made with impure extracts and solutions in which various alkaloids were probably present, no one as yet having taken the pains to determine definitely the qualitative and quantitative composition of the substances under consideration. In 1870 Gautier began to investigate the cause of the alkaline reaction which developed in albuminoid matters when permitted to putrefy or ferment spontaneously. He noticed that when urine, normally acid, was distilled, the distillate which passed over and was collected in the receiver contained some trimethylamine. This, together with the fact that blood fibrin, when exposed under water during the summer months, gave rise to a small quantity of complex alkaloids in addition to a number of known bodies, led him to conclude that the alkalinity of putrefying liquids was not alone due to ammonia.

It was at about this period that Selmi, in the course of a medico-legal examination, extracted from the viscera of a man an alkaloid which could not be identified with any compound then known. Two years later he presented a communication to the Academy of Sciences of Bologna, in which he maintained that substances acting like vegetable alkaloids were found in the stomachs of persons who had died a natural death. He, as might be supposed, met with vigorous opposition from scientists, who suggested that the compounds might have been derived from vegetable matters remaining in the digestive canal, or from medicines administered during the sickness of the deceased, or that they were

some of the pseudo-alkaloids, such as creatine, creatinine, choline, etc. These he refuted in an article which he presented in 1877, in which he stated that he had been able to procure two alkaloids from decomposed pure albumin.

Unfortunately for science, the valuable work of Selmi was brought to an end by his untimely death, but not, however, until he had succeeded in isolating a number of alkaloids whose reactions and effects were easily confounded with those of morphine, coniine, atropine, and delphinine, and had instituted an elaborate series of tests for the purpose of ascertaining their color reactions, some of which were supposed to be characteristic of ptomaines until proved by other authors to be equally indicative of the presence of certain vegetable alkaloids.

Hence it is that we are obliged to turn to the writings of Gautier and Brieger for most of our information on this subject. The former, in company with Etard, by a rather complicated chemical process, which it is unnecessary to detail here, extracted from bacterian decomposition of mackerel and the flesh of the horse a base which was liquid, almost colorless, with an odor suggestive of syringa, and giving the formula $\text{C}_8\text{H}_{13}\text{N}$; this he called hydrocolloidin; and from the same source a second compound, which proved to be an isomer of parvolin. (This latter belongs to the pyridine series, which are non-oxidized, volatile bases, metameric with aniline and its homologues.) It is an oily base of an amber color, and with an odor resembling that of hawthorn, slightly soluble in water, while alcohol, ether, and chloroform dissolve it readily. On exposure to the air it becomes brown and resinous. It forms crystallizable salts with platinic chloride, and furnishes the formula $\text{C}_9\text{H}_{13}\text{N}$.

To these last-named authors, then, belongs the credit of having first established, scientifically, the true nature of the known ptomaines, and of assigning to them their proper places in organic chemistry. Guareschi and Mosso obtained from putrid fibrin of beef a ptomaine with the formula $\text{C}_{10}\text{H}_{16}\text{N}$, which in its physiological action resembled curare. Other Italian chemists pointed out in decomposing corn a base resembling strychnine in its reactions. But the works of Brieger have been among the most exhaustive, as well as the most fruitful in results, since he has added a large number to the list of known cadaveric alkaloids.

Without describing the various processes of manipulation necessary for the separation of these compounds, which would lead us from the province of medicine into that of chemistry, it will perhaps suffice to mention briefly some of the products whose identity he has established. From decomposing flesh he obtained neuridine, $\text{C}_6\text{H}_{14}\text{N}_3$, and neurine, $\text{C}_6\text{H}_{13}\text{NO}$, the latter being a normal constituent of the brain, and differing from choline, a constituent of the brain and bile, by one molecule of water. From decomposing fish he obtained several compounds, among them an isomeride of ethylenediamine, which was poisonous; also muscarine, a still more toxic body; and gadinine, which is physiologically inactive. Thoroughly rotted cheese yielded neuridine, while from putrid yeast dimethylamine was extracted. Turning from the study of the decomposition products of these various substances, he gave his attention

to the derivatives of the human subject when the latter had been acted upon by bacteria, and in a comparatively short time had augmented the list of cadaveric poisons by the following: Cadaverine, $C_6H_{16}N_2$; putrescine, $C_4H_{12}N_2$; saprine, which is isomeric with the latter but different in its reaction; mydaline, and several others.

Mydaline is stated to have a perfectly specific action, and is of interest on account of its producing a marked elevation of temperature. It is, perhaps, a noteworthy fact that, as a rule, most of these compounds did not occur simultaneously in the same mass, but the disappearance of one was followed by the formation of another.

The characteristics of some of the known ptomaines, as given by Gautier, show them to be for the most part colorless, oily liquids, very alkaline, completely saturating the stronger acids to form crystallizable salts, and some even attracting CO_2 from the air. Some exhale a cadaveric odor, while others resemble musk, hawthorn, and syringa, or the agreeable aroma of oranges. Their taste is for the most part piquant, tending to produce a local numbness of the tongue, the sensation passing on to a feeling of suffocation when too large a quantity has been swallowed; while others possess a decidedly bitter taste.

Gautier instituted a number of experiments upon the lower animals in order to determine the physiological action of some of these bodies, as also their degree of venomousness. A grain of an aqueous solution of one of them, when injected subcutaneously into a dog, produced irregularity of the pupils, convulsive movements, increased action of the heart, injection of the pinna, slight elevation of temperature, spasmodic contraction of the facial muscles, retardation of respiration, and in forty-five minutes death. On opening the thorax, the left heart was found irregularly contracted and empty, while the right contained liquid blood.

Of a second set which was extracted by amyl alcohol, he injected a small portion into a frog, producing a loss of muscular power, dilatation of the pupils, abolishment of cutaneous sensibility, and death with general muscular relaxation. These are but two of a large number of experiments made by Gautier, but they suffice to show that some of the ptomaines at least are poisonous in a high degree, and that the cessation of muscular contractility, even under electrical stimulus, is vividly suggestive of the action of some of the poisonous mushrooms. Still another extract, when introduced in small quantities under the skin of a bird, caused bristling of the feathers, staggering and frequent falling, tetanic convulsions and opisthotonus, and in fifty-eight minutes death, the heart being stopped in diastole and filled with blood. According to the observations of this same author made upon the venom of serpents, the cobra poison resembles the last-described ptomaine, except that it arrests the heart in systole and leaves it exsanguinated.

Such being in brief the main points in the evolution of the study of ptomaines, in giving which I have endeavored to adhere closely to well-established facts, let us see what application can be made of the knowledge acquired of the action of these bodies in explaining some of the phenomena

of disease. And here shall we find an almost unlimited field for speculation.

Let us take as our first illustration that condition so commonly met with, the main characteristics of which are anorexia, coated tongue, general malaise, irregularity of the bowels, with sometimes headache and vomiting. To this we are accustomed to hear the term "biliousness" applied; and a person suffering with such symptoms, if he does not medicate himself by swallowing one or two blue pills on going to bed, and the next morning follow it up with a dose of salts to rid the system of the mercury, lest he "take cold," will call upon his physician and receive practically the same diagnosis and the same treatment. That the term "bilious" is a favorite one, with both the profession and the laity, is evident from the promiscuous and unmeaning manner in which it is used; it satisfies both, but explains no more fully the true state of affairs within the abdomen than the expression which is apt to follow it, and which is considered as completely clearing up all obscure points in any way connected with the subject—viz., that "the liver is torpid." Now, I think most authorities agree that the bile has little if anything to do with producing the so-called "bilious state"; certainly no evidence has ever been brought forward to prove that it is the guilty party, while much goes to show that it is not. Normal bile is said to be devoid of bitterness, yet that which is ejected from the mouth during vomiting is intensely bitter, indicating the presence of some abnormal ingredient in this fluid, which probably is itself accountable for the production of emesis; the popular belief that it is the existence of "bile on the stomach" being known to be incorrect, since its regurgitation from the duodenum is secondary to and dependent upon the violent muscular contraction necessary to produce vomiting.

Knowing that bacteria will produce ptomaines in albuminoid substances outside the body, is there anything irrational in supposing that they may continue this action after the ingestion of proteid matters containing them? The *Sarcina ventriculi* certainly exists in the stomach under certain conditions, and associated with its presence we find fermentation taking place with the generation of putrefactive gases, such as CH_4 and H_2S , while many other forms of microbes which are unable to exist in the acid secretions of the stomach will live and flourish in the alkaline intestinal juices. Brunton, in referring to this subject, says: "If we digest a piece of meat with pancreas for twenty-four hours at the temperature of the body, we usually find that not only has the meat become dissolved and peptonized, but that the peptones themselves have undergone a further decomposition, and that leucine, tyrosine, naphthalamine, and a substance termed indol—nearly allied to indigo, but with an abominable smell—have been formed. Indol is not a product of the decomposition of nitrogenous matter by the pancreatic ferment; it is due to decomposition caused by the presence of putrefactive bacteria." Moreover, it seems to me that the *rationalité* of the popular treatment by mercurial preparations lends support to the views expressed above, for I think it has been definitely proved that the salts of mercury are in no wise hepatic stimulants,

though they are cholagogues in so much as they sweep out the ready-formed bile; hence they are inadequate to arouse the torpid liver and cause the production of biliary secretions. It seems rather as though their beneficial action should be explained in one of the following ways: either by their purgative powers they remove the fermenting mass *in toto* from the intestine; or, by acting as germicides, destroy the organized ferments; or, by setting free the imprisoned bile, permit this latter substance to serve as the antiseptic and arrest the production of ptomaines. But Brieger has gone still further. The statement having been made by some authors that many of the peptones were endowed with poisonous properties, he instituted a series of investigations, and succeeded in extracting from solutions of these bodies an alkaloid. By macerating moist fibrin with fresh gastric juice, obtained from the hog, for twenty-four hours, at the temperature of the body, he obtained peptones which were free from all traces of putrefaction and contained no trace of phenol, indol, or any of the aromatic oxygen acids. From these he dissolved out, by means of amyl alcohol, an alkaloid which he named "peptotoxine."

In order to determine its physiological action, he introduced a few drops of a dilute solution into the circulation of a frog, with the following results: The animal lapsed into a sort of paralyzed condition, during which it was insensible to marked stimulation. Slight fibrillar twitchings were perceptible in the extremities, the pupils showed no special change, and within fifteen minutes the frog was dead, the final change being almost inappreciable. When some of the substance was introduced subcutaneously into a rabbit, the results were identical. A gradual paralysis affected the hind legs, the animal sank into a soporose state, and died in a few minutes. A knowledge of this fact has been utilized by Brunton to explain the feeling of muscular weakness and lassitude, and the disinclination for mental or physical exertion so often experienced by persons after immoderate indulgence in a meal composed largely of nitrogenous articles of diet; and in treating of the subject he points out the similarity of these symptoms to those produced by curare poisoning. But the question may be asked, If toxic bodies are so readily generated in the alimentary canal, why is it that we so rarely meet with cases of serious poisoning from this cause? To this there are two answers: 1. Whatever be the source of the ptomaines, whether arising from intestinal or gastric fermentation, or introduced into the stomach from without in the shape of putrid cheese or imperfectly canned meats, there is probably always generated, not only a solitary poison, but several, some of which are antagonistic to one another in their physiological effects and act as reciprocal antidotes, in part at least, the visible effects being due to the preponderance of the action of one or another over that of the remainder. The second answer is based upon the known functions of the liver. This organ, in addition to its other offices, acts, as Lauder Brunton has aptly expressed it, like a watchful porter, and substances which enter into the portal circulation are arrested by the hepatic tissues during the secretion of bile, and emptied again into the intestines through the

ductus communis, so that their absorption into the general circulation is greatly retarded, and an opportunity furnished for their excretion and elimination from the body. As an instance of such, Brunton cites the well-known fact of the innocuousness of such powerful poisons as serpent venom when swallowed, while a small quantity suffices to kill when introduced through a wound.

Since the putrefactive bacteria are capable of producing toxic basic compounds from the transformation of proteid matters, as we have already seen, is there anything unreasonable in supposing that the pathogenetic microbes are equally endowed?

Without stopping here to question whether we are correct in assuming germs to be the exciting cause of disease, let us, for the sake of argument, admit that they are the active agents, and pass on rather to a study of the physiological effects of their presence when once they have gained an entrance into the system. Here, again, I beg leave to refer to Lauder Brunton* for an illustration, even at the risk of repeating what is perhaps already familiar to many of you, since his experiments are among the most interesting and possibly the most practical of any that I can call to mind. While in search of a remedy for cholera, he reasoned that if he could find an alkaloid producing symptoms resembling those of this disease, an antidote might be discovered which would be serviceable in the treatment of the same. Bearing in mind the post-mortem appearances which obtain in the bodies of those who have succumbed to cholera—viz., the repletion of the thoracic and abdominal veins and the distension of the heart, while the vessels near the surface of the body are but imperfectly filled, also the symptoms to be noticed during the height of the malady, viz., extreme dyspnoea and watery dejections—he was inclined to attribute these disturbances to interference with the sympathetic nerves. Dr. George Johnson thought that a contraction of the pulmonary vessels by arresting the circulation through the lungs accounted for the state of the heart and larger veins, as also for the occurrence of dyspnoea, and in fact they might; but, unfortunately for this theory, it is not certain that the right heart is dilated during the life of the patient. During his investigations on the subject of paralytic secretion, M. Moreau caused an animal to fast for twenty-four hours so as to completely empty the intestines, after which he isolated certain portions of them by ligatures and divided the mesenteric nerves leading to one of the loops tied off in this manner. After several hours he killed the animal, and upon examining the intestine found the portion which had been paralyzed filled with a liquid resembling rice-water, while the other portions were empty, showing conclusively that the secretion was due to division of the nerves. Professor Kühne analyzed this secretion and found it identical with the rice-water discharges of cholera. Brunton, on the supposition that Johnson's theory was correct, experimented with muscarine—the poisonous principle of mushrooms—and succeeded in producing, in animals whose thorax he had opened, the post-mortem appearances of cholera as regards the heart and large veins, all of which disappeared complete-

* "Disorders of Digestion," by T. Lauder Brunton.

ly upon the administration of atropine. But when he attempted to apply this method for the relief of the intestinal lesions, and injected atropine into a loop of the bowel which had been paralyzed after Moreau's method, his results were disappointing. Yet Dr. Saunders, of Kentucky, maintains that the use of atropine in cholera is productive of much benefit. Unfruitful as these investigations were toward discovering a specific for cholera, they nevertheless seem to establish the fact that the cause of the choleraic stools is a paralysis of the mesenteric nerves, and very probably the paralysis is due to the absorption of a ptomaine.

The symptoms of idiopathic and traumatic tetanus are practically the same, both seeming to point to some irritation of the reflex centers of the medulla oblongata and spinal cord. The theories which have been brought forward to account for the occurrence of this disease are exceedingly unsatisfactory, as, for example, reflex irritation due to pressure on a peripheral nerve by a cicatrizing wound; "catching cold," a meaningless term, but a most successful loop-hole for escape when one is unwilling to admit his ignorance as to the cause of disease; or the statement we find in Bartholow to the effect that many competent judges supposed "cold water as a dressing for wounds during the rebellion was responsible for many cases." When tetanus follows an injury there is usually an interval of considerable duration before the convulsions manifest themselves, and I can see nothing fanciful in supposing that during this time a poison is being elaborated which, by its absorption, would produce nervous phenomena resembling those of strychnine. That reliable and perspicacious authority, Austin Flint, in his "Practice of Medicine," says there is "a strong point in favor of the supposition that the disease involves the presence in the blood of a toxic agent acting upon the spinal cord and medulla oblongata." Moreover, no constant pathological lesion has ever been described, while from tetanus cultivations a strong base called tetanine ($C_{18}H_5N_2O_4$) has lately been obtained, and, furthermore, the disease exists endemically in some localities. If this is not confirmatory, it is at least suggestive.

From cultivations of the typhoid bacillus a ptomaine has also been extracted which proved fatal to small animals within twenty-four hours. When we consider the course and clinical picture of many cases of lobar pneumonia in which the disparity between the pathological changes and their alleged effects is often most marked, it is difficult to reconcile these severe symptoms with the idea of a simple inflammation of the lungs. In broncho-, or lobular, pneumonia, in which both lungs are commonly affected with a true inflammation, we rarely, if ever, see such profound disturbances as obtain during an attack of lobar pneumonia, even though but a small portion of lung is involved. The mental hebetude or perturbation; the abeyance of the renal functions; the distressing dyspnoea, notwithstanding the lesion is limited in extent, and especially the fatal tendency to cardiac paralysis; but the sudden defervescence at the time of crisis often after a preceding rise of temperature, together with the general disappearance of the morbid symptoms—are strongly indicative of the presence and influence of some toxic agent, the cause of

which is possibly destroyed by the exacerbation of temperature, while the ptomaine or other morbid matter is eliminated during the critical evacuation, which usually appears at that time; as a large urinary discharge, a profuse diarrhoea, a general sweating, or some other form of depuration. And in connection with this it may not be amiss to state that poisons have been extracted from the excretions of persons suffering from different diseases. According to Lépine and Guérin, the urine in different diseases contains poisons differing from one another in their physiological actions. From the urine of both typhoid fever and pneumonia two extracts have been obtained, either of which will produce death; but, whereas one leaves the heart in diastole, the other leaves it in systole.

In 1881 Gautier announced that there appeared in a constant manner in the excretions from living animals in full health, also during disease, although in very different proportions, as Bouchard had shown, bodies of the nature of ptomaines. He has found like alkaloids in saliva and venom, and to them he gave the name of leucomaines in order to distinguish them from the cadaveric poisons. Some of the compounds obtained and analyzed by this author are xantocreatinine ($C_8H_{10}N_4O$), erusocreatinine ($C_8H_8N_4O$), amphicreatine ($C_9H_{10}N_7O_4$), and pseudoxanthine ($C_4H_4N_6O$); they were all extracted from fresh tissues and possessed poisonous properties.

We have been taught to look upon Bright's disease as a local affection of the kidneys, and upon urea as accountable for most of the general symptoms. Others, in order to explain the cardiac hypertrophy, maintain that the urea is decomposed and transformed into NH_4CO_3 , and ascribe the heart changes to its stimulating effects. This may answer when the hypertrophy succeeds the renal changes, but will hardly pass when the reverse is the case or when they occur concomitantly. At present, however, I think the consensus of opinion is being modified, and some forms at least of Bright's disease are beginning to be classed as general diseases of the arterio-capillary system. Here, too, we may find the cause to lie with some irritating ptomaine or leucomaine.

I might continue to cite various diseases—as rabies, anthrax, and the contagious maladies—in illustration of this subject, but to do so would encroach unduly upon your time and patience, while enough has been said to show how fertile is the topic for research and speculation. To question the influence of bacteria in the production of fermentation and putrefaction, which is simply nitrogenous fermentation, at this late day, would be merely a waste of words. That spontaneous fermentation can not take place without the intervention of these active agents is as well established as that the earth moves. The investigations of Dumas and Pasteur on this subject, as also the experiments of John Tyndall on spontaneous generation, have rendered it indisputable. As to ptomaines, Gautier states that there is always produced in the course of the putrefaction of animal tissues a certain number of poisonous alkaloidal substances, which form at the expense of the albuminoid materials.

When we come to apply this to disease, however, opinion differs. Yet we know that in the case of contagious maladies there is an invisible and intangible something

which, existing as it may in infinitesimal quantities, can nevertheless be conveyed by an infected person from place to place, and, provided the soil and other conditions are suitable, give rise to most extensive and fatal epidemics. That this can not be an inanimate chemical substance must be evident to all of us. Given a fixed quantity of dead matter, and you may cause it to pass through any number of mutations, but it will not become self-augmented. Nor, on the other hand, can a germ, by its mere physical presence within the body, give rise to morbid phenomena any more than a piece of glass or a grain of sand under like circumstances. But the germs have life, and in order to grow must be nourished, and, finding a favorable soil, appropriate to their own use those substances necessary for their development, and, in so doing, by-products are formed which may be ptomaines. Whether each ptomaine has its specific microbe, or whether one polymorphous microbe during different phases of its life produces distinct ptomaines, or whether it depends solely upon the nature of the soil, I shall not attempt to say, but will leave it to the members present as a subject for rumination. That the question will meet with opposition is natural to suppose, since all new theories in medicine have their opponents; but it is only by such a course of careful and methodical investigation as the discoverers of ptomaines have made use of that we can hope to see our profession liberated from the bonds of a vacillating empiricism and elevated to the dignity of a true science.

BRIGHT'S DISEASE

AS A COMPLICATION OF SURGICAL PROCEDURES.

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WHILE the frequent sequence of kidney disease to operations upon the genito-urinary tract has been recognized for a long time, the influence of operations foreign to this particular region upon the excretory organs has been almost completely overlooked. The dangers of surgical interference in patients who are already the victims of any kidney involvement are also fully appreciated by all operators. It is true, however, as attested by practical experience, that surgical manipulation, independent of the portion of the body involved, may be the means of setting in motion a disease of the renal glands in patients who are apparently in perfect health. Experience has taught that there is a condition, due to a renal disease following this alteration in the usual duties of the different organs, the symptoms of which so closely resemble those of surgical shock or septicæmia as to be readily mistaken for the one or the other. This is more apt to be the case where a considerable time has been occupied in the operative procedure and the etherization has been continuous and profound. It is true that the kidneys may be slightly affected and yet the examiner not find any evidences of this when he makes the usual preliminary urinary examination. Bright's disease does not absolutely forbid operative procedures, but, when it is present, they should be undertaken only after careful preparation, and then a very guarded prognosis should be given.

The administration of the anæsthetic should be confined to as small an amount as possible—a precaution which should be observed in every case, whether there are any urinary symptoms present or not. Sometimes, if an examination of the urine is made daily for several days, some indication of a renal lesion may be found.

There are a number of causes which operate to produce this result. First, the ether; second, the influence of the nervous system; third, the increased blood pressure; and fourth, the increased amount of excrementitious material circulating in the blood, and dependent upon the kidneys for its elimination.

First, the Ether.—Ether produces a defective oxygenation of the blood, which is general. This is evidenced in nearly every operation where this anæsthetic is used, and is one of the means whereby the operator is able to regulate the amount which the patient ought to receive. He notices, as soon as the etherization becomes profound, the well-known physiological fact that the character of the hæmorrhage changes, and only venous blood appears in the wound; showing conclusively that the blood is deprived of its proper amount of oxygen, and is overloaded with carbon dioxide. (See "Renal Diseases," by William H. Porter, M.D., p. 78.)

This condition of the blood often lasts for several hours, and probably persists for a longer period than one would expect without any of its effects showing themselves. During this period the organs are constantly overloaded with insufficiently oxygenated blood. The action of osmosis, so necessary to healthful life, is partially, if not completely, arrested, and the system is flushed with the products of waste that should have been eliminated. The kidneys naturally are involved in this condition of the other organs, and, as they are the chief eliminating agents, they suffer more than any of the other glandular organs. A congestion of these glands at any other time causes a diminution or a complete suppression of the urine, and it is natural to suppose that the same result may follow upon an induced congestion. If the etherization occupies any considerable period of time, as it frequently does, the cessation of the action of the renal glands allows the blood to take up again the quantities of excrementitious matter which would be thrown off under normal conditions. This continues to increase, and when the patient begins to recover and the dormant organs once again take up their proper duties, as the artificial congestion is relieved by the cessation of the administration of ether and the recovery of the patient from its effects, they find themselves called upon to do an increased amount of work. Thus, if a latent disease has been present, it is set in motion again, or a new lesion is instituted by the sudden overwhelming of the renal organs with the products of waste, causing the death of the patient before the glands have an opportunity of freeing themselves from their flushed condition, or before this overplus of material to be eliminated can be taken care of by the other excretory organs. Serious symptoms may show themselves within a few hours, or only after several days, and then they may be so gradual in their approach as to excite but little, if any, suspicion of the real condition. Hence, we find that the patient's condition may

resemble shock or septicæmia. It is probable, if we examined the cases in which death has apparently been caused by blood-poisoning following a surgical operation, we should find a serious lesion of the renal glands in a large percentage of them.

In a number of cases which have fallen under my personal observation I have had an opportunity of watching the results from a clinical point of view, and Professor Porter has found an acute parenchymatous inflammation of the kidneys in a number of instances where an opportunity has offered of making an autopsy upon patients who had died after a more or less severe surgical operation. It has happened several times that after the operation was completed, and the patient had fully recovered from the effects of the ether, a diminution or suppression of the urine has been noticed. This has not necessarily been the case when the operation occupied a long time, or the ether was crowded to its full physiological limit, although it has been oftener the result in those cases than when only a short period of time was occupied and the amount of the anæsthetic was small. In those cases where a sample of the water was examined as soon as it could be obtained, it was found to contain more or less albumin and casts, and, when active treatment was instituted, the recovery was continual and apparently complete. In one instance in particular this condition of the kidneys was very marked. Operations were performed for recurrent nodules, at intervals of about six months, upon a patient who had had a carcinoma of the breast removed. The first time coma, simulating shock, came on in a few hours, and was relieved only after heroic treatment directed toward the re-establishment of the renal function; and at each succeeding operation, although they only required a very short time, there was always a recurrence of the albumin and casts, which followed the return of the flow of urine after the first operation.

Even with this added danger from the administration of ether we should not discard it for chloroform, for it still outranks the latter anæsthetic in safety. The action of the first interferes with the centers of respiration, and thus not only gives warning of the impending danger, but, since the heart continues to act after the respiration has ceased, gives time for the surgeon to take measures for the relief of the condition by instituting artificial respiration and the employment of stimulants. The latter, by its direct action upon the heart, is sudden in its onset, and fatal in its results.

The Nervous System.—It is an undisputed fact that the nervous system exercises a very close and potent control over the action of the kidneys. In patients who have suffered some sudden or severe nervous shock, it is not uncommon to find retention, or even absolute suppression, of the urine. This sometimes lasts for quite a time after the outward manifestations of the disturbing influence have passed away. That this is not necessarily due to the presence of kidney disease is plain, since it is quite as frequent in persons who are not victims of any renal complication as in those who are. Nor does it necessarily indicate the inception of Bright's disease, for, when the natural function is recov-

ered, urinary analysis may still reveal no indication of serious inroads into the integrity of the kidneys. It is equally true, however, that if this condition were superinduced upon some one of the forms of Bright's disease, the result might be exceedingly fatal, and, consequently, when this condition exists in patients who are subjected to an interference with the normal function by some surgical procedure, both from analogy and clinical observation we may expect the same result. That a patient who is about to undergo even a so-called slight operation is the subject of great anxiety or apprehension, often amounting even to terror, is a well-known fact. Before he goes to the operating-table the pulse will gradually increase in rapidity and decrease in volume, sometimes becoming irregular or intermittent. The countenance will be blanched and the extremities cold, and everything will indicate a severe nervous strain. When it is considered that this may have continued for several hours or days, it is not surprising that the normal functions are interfered with, and that we have a number of symptoms attributable to the controlling influence of the nervous system. This shows very strongly in those patients who are affected with indigestion, which may begin a few hours or even days before the time for the operation. An instance of this is very common. Patients who have abstained from food for several hours preceding the etherization, and who have lived upon liquid diet for a day or two, will often vomit, as they recover from the effects of the ether, great masses of undigested food. This very condition of indigestion is one more element of trouble, for it naturally shows that the normal function of the digestive organs is disturbed, and this, added to the other conditions, would soon develop danger in itself. When the indigestion has lasted for several days, it is well to be fully prepared for kidney trouble after an operation. I have seen a patient upon whom an operation for lacerated perineum was to be performed, and who was notified of the date of the operation several days before, who invariably compelled a postponement on account of the return of the flow just as she was preparing to go to the table. Finally, the operation was performed under the supposition that she was only to undergo an examination. The fright existing prior to the operation is greatly intensified during the progress of the anæsthesia, and often persists for some time after the effects of the ether begin to wear away. It is, therefore, no strange thing if in these cases we find suppression or retention of the urine, with all their usual train of symptoms. It may be that, in cases where the nervousness is particularly pronounced, the urine will be free from albumin during the days preceding the operation, but will contain more or less on the morning appointed. Naturally, if this was known, more care would be taken to look after the action of the renal glands, and to see that they performed their normal function properly after the patient had been returned to his bed. But how often this fact, which is recognized by the general practitioners and nearly all neurologists, has been completely overlooked by surgeons who examine the urine a week or a month before the time set for the operation, and, finding it normal, imagine that they have done their whole duty, not remembering that urine voided just

as the patient is going to the operating-room may be loaded down with casts and albumin, indicative of a diseased condition of the renal organs.

Blood Pressure.—This becomes an important consideration in cases where a limb is removed, or an important artery ligated. The case of inguinal aneurysm of the external iliac artery reported by Dr. William F. Fluhrer in the "Medical Record" is an illustration of this fact. While this condition in itself would cause disease only in the most exceptional instances, yet, when it is added to the other conditions, it becomes important.

Increased Amount of Excrementitious Material in the Blood and depending upon the Kidneys for Elimination.—This, of course, only obtains in those cases where the attack comes on gradually and the alteration of the renal function is not sudden, but occupies several days. It is easily recognized that, if there is a large wound and the system is taxed to any extent in accomplishing the needed repair, the work thrown upon all the organs of the body must be considerably increased. In other words, that increased action in the part which has been operated upon necessitates an increase in the action of the other parts of the body, and naturally the kidneys are obliged to take up their portion of this additional work. If the interference with the normal function is but slight, all the organs bear their part of the labor with but little trouble, and no signs are noticed save those of the usual shock immediately following the operation and its consequent reaction. A few days pass—a week—and all moves on surely and swiftly to a cure. On the other hand, if the disturbances are considerable, or the recovery from the shock is slow and incomplete, if the nervous system is overthrown, the digestion impaired, repair—if attempted at all—only partially successful, and the exudations from the wound considerable, it is no wonder if the organs of elimination gradually wear out, and finally refuse to carry on their normal duties. In this instance we find the urine gradually diminishing in quantity and finally suppressed. The symptoms point to septic disease; in reality the trouble is in the kidneys, and, if it is recognized in time, the probabilities are that the patient may be saved. It is and has been a recognized fact that it is hazardous to operate upon persons who are subjects of any of the kidney lesions, and when it is necessary to undertake operative measures it is done with great caution and appreciation of the danger.

If, then, when these conditions are known to exist, the gravity of the case is fully appreciated and the necessary precautions are taken, may it not be fully as serious, if not more so, when its appearance is masked under apparent good health, and is only discovered when it is too late to be of any service? So closely do shock and uræmia resemble each other that it is not surprising that many cases are not recognized, which would not be the case if the necessary interrogation of the attendants and catheterization of patients in shock were attended to.

It may be said, and perhaps justly, that this is presenting only one side of the case, and that it is the condition of the patient that has caused the cessation of action on the part of the kidneys. This may be true; but it is also a

matter of quite as much importance to get the kidneys acting under such circumstances as though they had been the initial cause of the trouble, and the attention given to them can only assist in relieving the shock.

If, then, these facts are granted, it becomes necessary to know how best to prevent them, or, in case they are present in spite of every care, how to treat them.

The symptoms may be dismissed in a few words, and only depend upon the form in which the trouble first appears. In the one instance, the symptoms are those of shock or coma with absolute suppression of the urine. In the second, they are characteristic of septicæmia or exhaustion, and the urinary symptoms are gradual in their approach. In the first, suppression of the urine is the prominent symptom. In the second, a gradual diminution in the quantity, and a final suppression, if the patient lasts long enough, will be the result.

It should be an invariable rule with every surgeon, no matter how slight the operation or how little anæsthetic he proposes to employ, to carefully examine the urine daily for several days prior to that on which the operation is to be performed. The patient should be instructed to have the bowels acting freely during this time, and should be encouraged to drink copiously of some one of the carbonated waters and milk. If albumin and casts are found, the tincture of chloride of iron should be prescribed, the bowels should be freely opened, and the free action of the skin encouraged by means of warm baths and thorough rubbing. This should be continued for at least a week before the operation. In case much fright is present on the day, the bromides, bromo-caffeine, or some one of the nerve sedatives should be employed. Any anæsthetization in such a case should be in the hands of a skilled assistant rather than intrusted to the inexperienced junior assistant surgeon of the hospitals. Instead of the suffocation method, the patient should be encouraged to breathe naturally, and should be allowed a full breath from time to time. Immediately upon recovery from the ether, Vichy and milk in equal quantities may be given. This at first should be taken by the teaspoonful until the stomach recovers its tone and is able to retain food. A little tincture of digitalis may be added to the milk, and, if exhaustion is very marked, alcoholic stimulants may be employed. The bed should be kept as warm as possible and the room at an equable temperature. Warm bottles should be placed about the body, and perspiration should be encouraged. As rapidly as the tonicity of the stomach is recovered, the quantities of milk and water should be increased, and the patient encouraged to partake as freely as possible of both. The urinary organs should be carefully watched, and, in case no water is passed within a reasonable period from the time of the operation, catheterization should be resorted to and the condition of the bladder noted. This should be impressed upon nurses particularly, as they often consider a retention of urine for a few hours of little or no consequence. The examination of the bladder may reveal, first, retention; or, second, suppression. If the first condition is present, the catheter should be used quite frequently—the instrument being always kept in a carbolized or mercurialized water when not in use. The

water drawn should be examined, and if albumin is present the condition of the patient should be carefully watched. If the second condition exists, there should be no delay in applying dry cups to the region of the kidneys, followed by a good-sized mustard plaster, and then by a flaxseed poultice. The patient should be wrapped in warm blankets or the hot-air bath may be used, and, if he is not too much depleted by the operation, a hypodermic injection of one eighth of a grain of hydrochloride of pilocarpine may be administered, and repeated if necessary. Tincture of digitalis and whisky may be given hypodermically or *per anum*, in case it is impossible to administer them *per os* with safety. Careful examination of the urine is as important during the convalescence as it is in the days prior to the operation, for this may enable us to forestall the impending kidney trouble.

THE BUFFALO LITHIA WATERS IN THE TREATMENT OF DISEASES OF THE NERVOUS SYSTEM.

By G. HALSTED BOYLAND, M. D., M. A.,

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THERE is no physiological process that is not executed either directly or by reflex action by the nervous system—waking, respiration, deglutition, walking, sleeping; in a word, life itself begins and ends in the medulla oblongata. It is not necessary to look beyond the *par vagum* to observe the great variety of physiological functions and far-reaching psychical influences exercised by a single nerve. The deduction naturally drawn therefrom that the majority of diseases are referable to derangements of the nervous system, be it through the plexus affected, the sympathetic, or the cerebro-spinal system, is fully established by pathology.

Almost all morbid changes thus find their origin in a neurosis. Neuroses dominate pathology. A remedy therefore suitable to diseases of the nervous system in general—such as neurasthenia, hyperæsthesia, chorea, neuralgia, neuritis, dyspepsia, amenorrhœa and dysmenorrhœa of nervous origin, impotence, sterility and hysteria, cerebral hyperæmia and anemia, melancholia, paralyses, and cephalalgia—is one to commend itself to the neurologist as well as to the general practitioner. Such an one there is provided by nature in the waters of the Buffalo Lithia Springs of Virginia, a remedy which, independent of drugs and medicines, has alleviated all cases of such character in which it was prescribed, cured many, and been successfully exhibited whenever a revitalizing of the nerve-cells was indicated. Dr. Hunter McGuire was the first to direct attention to the re-constituent powers of the Buffalo Lithia waters. In speaking of Spring No. 2, used in cases of nervous dyspepsia caused by mental over-work, and to quote from his article on the subject: "It has never failed me as a powerful nervous tonic when I have prescribed it as such. I sometimes think it must contain hypophosphites of lime and soda."

The writer, who has had a large experience in the treatment of diseases of the nervous system by these waters, extending over a period of four seasons as resident physician

at the Buffalo Lithia Springs, is decidedly of opinion that their chemico-physiological action is analogous to that of the hypophosphite compound, as mentioned by Dr. McGuire. In confirmation of this, Dr. William A. Hammond writes that he has for some time made use of them in cases of affections of the nervous system, stating that his results have been eminently satisfactory, and that he often prescribes Buffalo Lithia water "in those cases of cerebral hyperæmia resulting from mental over-work in which the condition called nervous dyspepsia exists, and generally with marked benefit."

As the limits of a single article forbid the introduction of long lists of cases in detail, it will be impossible to do more than briefly refer to one or two out of some thousands, either treated by myself or that have come under my own professional observation. Cases I and II are selected as being typical of their class of nervous affections:

CASE I. *Atonic Dyspepsia.*—Mr. A. presented the following symptoms: Pain in the epigastrium after eating, anorexia and dyspnœa of many years' standing. This patient had been under treatment all that time, the remedies exhibited not only having failed, but also left the gastric membrane in a state of chronic engorgement, involving the glands. He drank from six to eight glasses a day before meals of Spring No. 1, during a stay of six weeks at the springs, at the end of which time all of his distressing symptoms had disappeared; he could eat freely of dishes previously proscribed without post-prandial malaise, pain, or dyspnœa, and returned home completely restored to health.

Many other cases of atonic dyspepsia have been treated in the same way with uniformly similar results.

CASE II. *Neurasthenia.*—This patient had likewise been under treatment, having taken quantities of drugs and elixirs, such as strychnine, iron and quinine, phosphide of zinc, belladonna, etc. His condition was one of emaciation, lethargy, cerebral exhaustion, and melancholia, with torpidity of the bowels and liver. Spring No. 1 was prescribed, two glasses three times a day before each meal. After six weeks of this treatment at the Buffalo Lithia Springs he was able to take regular exercise and enjoy his meals, having gained several pounds of flesh. This patient was seen by me some months later; there had been no return of the melancholia, and his cerebral activity was fully up to the average.

I now prescribe this water freely in all cases where loss of nerve-force and want of tone are present without further classification of the malady. That Spring No. 2 is equally beneficial in properly selected cases has been well established in my own practice as well as in that of many others, among them that of the late Dr. Harvey L. Byrd, in whose opinion Spring No. 2 was a general nerve-tonic and restorative, and he strongly recommended it to a very large class of sufferers as a nervous exhilarant, having used it with eminent success in most nervous diseases, especially those where depression was a prominent symptom, when there was nothing to contra-indicate its exhibition.

In neuralgia, cephalalgia, and cerebral hyperæmia, as well as in cases of general hyperæsthesia of the nervous system, the water of Spring No. 2 is chiefly indicated, and where anemia exists, that of Spring No. 3 as an adjuvant, on account of its strongly chalybeate property, which it pos-

sesses in the most desirable form for administration—namely, the carbonate of iron. It will be found very serviceable in these maladies taken in quantities of a wineglassful, to four ounces (twenty minutes after meals), according to the nature of the case, whether the anæmic condition is cerebral or general. The same rules apply to their administration in neuritis of the sensory nerves.

The benefit to be derived from the use of the Buffalo Lithia waters in paralytic affections—such as multiple degenerative neuritis of the motor nerves, chorea, paralysis of the rectum and bladder, and paralysis of the facial nerve—has been attested by numerous well-authenticated cases, apart from my own. I have found them especially valuable in facial paralysis and hemiplegia; in the two last-named diseases Spring No. 1 exercises the greater therapeutic potency. In hemiplegia the patient, while using the water internally, should also douche the paralyzed parts with it at the temperature at which it is taken from the spring. Its action in multiple degenerative neuritis of the motor nerves is manifested during a course of the water by a diminution of the muscular contraction at times present and a return of reflex and electrical conduction, thereby preventing the paralyzed muscles from becoming atrophied.

When exhibited in cases of paralysis of the bladder, tone is imparted to the organ generally; the muscular coats are strengthened and incontinence of urine is checked. In chorea, the water of Spring No. 1 acts directly upon the inhibitory nerve-fibers, exercising a steadying power and causing a gradual disappearance of that tremulous condition known as paralysis agitans. In a communication to the "Virginia Medical Monthly,"* Dr. M. H. Houston, after observation of the action of Spring No. 2 in numerous cases in his practice and alluding to its virtue as a powerful and permanent nerve-tonic, says of its employment in paralysis of the rectum, that its effects in improving and restoring the organic sensibility of the entire intestinal tract were strikingly illustrated in one of his cases. Under a continuous use of the water the sensibility was restored to a considerable extent tonic contraction of the paralyzed bowel took place, and its contents, which it had before been necessary to remove by mechanical means, "were expelled, with very slight assistance, from the use of simple water."

Locomotor Ataxia.—In a case of tabes dorsalis sent to these springs for treatment by the waters, and occurring in the practice of Dr. Landon B. Edwards, the attending physician, the improvement was so notable that when the patient returned to Dr. Edwards he would have been inclined to doubt the correctness of his diagnosis had it not been for the fact that this had been previously fully established in consultation, several eminent *confrères* concurring in the opinion that the case was one of true sclerosis of the posterior columns.

The therapeutic action of the waters in this instance was unquestionably exercised upon the nerve-centers in just the same manner as in cases of multiple degenerative neuritis, or as it would be in affections of the anterior horns. They would thus seem to be indicated in all forms of spinal paralysis.

Hysteria.—I use the term in its broad sense, including

hysterical attacks and sensations, hystero-epilepsy, reflex mental disturbances, cephalalgia, nausea, and vomiting—a neurosis and yet only a symptom, for which, in the majority of cases, the uterus is responsible in the opinion of Dr. Graily Hewitt. This conclusion, however, is not shared by the latest writers on hysterical affections, and among them Professor Charcot, who adopts the view that the ovaries are the real cause of manifestations of this nature. It is, however, my purpose to deal with the subject clinically only, and to accept the condition as presented in practice. Experience has led me to the belief that hysteria is rather a symptom than a disease, and, whether attributable to the uterus or ovaries or in some cases to both, certain it is that this condition rapidly ameliorates under treatment by the Buffalo Lithia water of Spring No. 1 in those cases [and they are many] in which faulty innervation of the uterus and ovaries is the *fons et origo morbi*. To prove that hysteria is only a symptom, we have but to follow the pathological process one step farther, and we observe this same deficient innervation finding expression in the different flexions and versions of the uterus, dragging now one then the other, sometimes both, ovaries out of position, whether the displacement is antero-posterior or lateral. This hystero-neurosis is most frequently met with in derangements of the catamenia, notably in amenorrhœa and dysmenorrhœa.

My friend and colleague, the late Dr. J. Marion Sims, who had used the water of Spring No. 2 in his very extensive gynæcological practice for two years prior to his death, found it highly efficacious in such cases. This has been the experience of many others in the treatment of diseases of women, whether organic or functional, the prescribed quantity acting directly upon the nerve-centers of the pelvic viscera, imparting through them strength and tone to the muscular layers, and to the round and broad ligaments, thus enabling the uterus to resume its proper axis and to derive the necessary support from its appendages, which now retain it *in situ*.

The waters also regulate the menstrual flow in much the same manner that digitalis regulates cardiac action. In dysmenorrhœa the excessive discharge is lessened in quantity and the ovaralgic pain alleviated; in amenorrhœa the appearance of the catamenia is brought about at the regular interval of twenty-eight days, not only in cases where the menses have been suppressed temporarily, but also in those in which they have been entirely absent for a protracted period. We have here the same neurosis, causing in one case dysmenorrhœa, in another amenorrhœa, according to the idiosyncrasy of the individual patient, an illustration of the physical phenomenon that the same cause produces different effects; the same neurosis productive of different pathological process. The nerve-cells are revitalized under the influence of the waters, the cause is removed, and the effect ceases. The majority of my own cases of this class were treated with Spring No. 1, which also possesses, in common with Spring No. 2 but to a greater degree, decided aphrodisiac powers.

Impotence and Sterility.—In numerous cases of loss of sexual power, and sterility, treated with the water of Spring No. 1, as well as in cases of absence of orgasm, in both the

* "Virginia Medical Monthly," February, 1878.

male and female, there was a return of erotism, the sexual appetite was restored with normal function, and in several cases of sterility patients bore children at term. In some of these cases, iron, cantharides, aloes, damiana, nux vomica, phosphorus, and electricity had been resorted to without benefit. In this class of cases the waters of Springs Nos. 1 and 3 combined will be found most serviceable, prescribed in the manner above mentioned.

It will be seen from the foregoing that there are three springs comprising the group known as the Buffalo Lithia Springs, and designated respectively by the Nos. 1, 2, and 3. It is evident that each case must be properly selected and the spring suitable to each individual patient carefully chosen from the symptoms, *or, in the absence of these, from the dyscrasia*. During treatment, tea and coffee should be avoided, as well as all stimulants and acids, the latter exercising a special deleterious influence in nervous subjects, apart from causing molecular and chemical changes by neutralization of the alkaline constituents of the waters. These, for obvious reasons, should only be taken when the stomach is in an alkaline condition—viz., one hour before meals, with the exception of Spring No. 3, as noted. We possess, then, a remedy that may be used not only *ab initio*, but one which will prove grateful to the stomach in patients that have taken drugs *ad nauseam*, spent many painful moments of instrumentation on the operating-table, and languished for months under the wearing routine of ordinary gynecological practice. It will be readily conceded from the foregoing that the Buffalo Lithia waters merit a prominent place in the therapeutics of diseases of the nervous system, both as a quasi-specific and as a general nervine tonic—properties that distinguish them from all other mineral waters known to science. The relief obtained from the exhibition of drugs and electricity in these maladies is too often ephemeral. That afforded by these waters is more radical and permanent, being based upon molecular change throughout the nervous system, which in its turn alters the diathesis and thus removes those neuroses from which diseases originate.

The analyses of the Buffalo Lithia waters, Springs Nos. 1, 2, and 3, are hereto appended. It will thus be seen that the following paper disclaims all advocacy of a secret remedy and is intended solely as a contribution to the therapeutics of diseases of the nervous system, based upon scientific research and personal experience in the treatment of those affections, by the author.

Analyses.—Analyses of the waters of the Buffalo Springs, in Mecklenburg County, Virginia, made by Professor William P. Tourey, of the Maryland Institute, Baltimore, March 17, 1874. (Results expressed in grains to the imperial gallon.)

SPRING No. 1.	
GRAINS.	GRAINS.
Sulphate of magnesium... 1.530	Chloride of silicon..... 1.725
" aluminium... 8.180	Phosphoric acid..... traces
" potassium... 0.463	Iodine..... traces
" calcium..... 19.251	Organic matter... small amount
Bicarbonate of calcium... 39.277	Total number of grains
" lithium... 1.484	in a gallon..... 73.693
" iron..... 0.500	Sulphureted hydrogen. 5.9 cub. in.
Chloride of sodium..... 1.256	Carbonic-acid gas... 69.1 "

SPRING No. 2.		SPRING No. 3.	
GRAINS.		GRAINS.	
Sulphate of magnesium... 0.885		Sulphate of magnesium... 0.150	
" aluminium... 9.067		" aluminium.... 3.035	
" calcium..... 33.067		" calcium..... 2.353	
Carbonate of potassium... 29.300		Carbonate of potassium... 1.852	
Bicarbonate of calcium... 14.963		Bicarbonate of calcium... 2.524	
" lithium... 2.250		" lithium.... traces	
" barium... 1.750		" iron..... 3.774	
" iron..... 0.300		Chloride of sodium..... 0.217	
Chloride of sodium..... 4.921		" silicon..... 0.570	
" silicon..... 1.873		Phosphoric acid..... traces	
Phosphoric acid..... traces		Organic matter... small amount	
Iodine..... traces		Total number of grains	
Organic matter... small amount		in a gallon..... 14.475	
Total number of grains		Sulphureted hydrogen. 3.4 cub. in.	
in a gallon..... 98.376		Carbonic-acid gas... 11.6 "	
Sulphureted hydrogen. 8.3 cub. in.			
Carbonic-acid gas... 59.2 "			

TWO UNUSUAL CASES OF SUICIDE.

By G. G. HUBBARD, M. D.,

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MEDICAL experts have expressed the opinion that it is impossible for one to shoot himself through the heart and also through the head, but a case came under my observation recently, as coroner, that seems to disprove this opinion. In twenty-nine cases of wounds of the cavities of the heart, collected by Sansom and Oliver, only two were fatal within forty-eight hours; the rest in periods varying from four to twenty-eight days. Fournier found a bullet in the heart six years after it was shot, the man dying from another cause. (See Woodman and Tidy's "Forensic Medicine," p. 1025.) The following case may be of interest, as the literature of the subject is not extensive:

C. C., aged twenty-nine, a farmer, prosperous, with pleasant environment, was found dead by his wife in his barn, lying on his back on the floor. His own revolver lay within reach of his right hand. It was a twenty-two caliber, five-barreled revolver; three chambers of it contained empty shells, the others were loaded. There were three bullet-wounds on his body: two of them were in the cardiac region, and the clothing surrounding them was scorched and powder-burnt, indicating a very short range. The autopsy showed that one of the bullets had entered the cavity of the right ventricle of the heart; the other one had not touched the heart. The third bullet had entered the right temple and penetrated the brain at least four inches. This one had evidently been shot last, and the wound was also powder-burnt. The wife of Mr. C. testified at the inquest that she was awakened at 5 A. M. by her husband vomiting. He arose and went into the pantry (where he kept his pistol), to get some peppermint, he said. He then went out of the house and she fell asleep again, and awoke in an hour, and went out to hunt him up, as he had not returned, and found him dead in the barn. All the evidence pointed to suicide, and the jury brought in a verdict to that effect.

Can a man shoot himself in the uncovered face with a pistol held in his hand without having the bullet-wound powder-burnt? A case bearing upon this query occurred recently in this vicinity:

T. M., a man with domestic troubles that made life a burden, was seen late one night, in the outskirts of the town, flourishing a revolver. He sat down under some bushes. A few minutes afterward a pistol-shot was heard, and the man was found with a bullet hole in the center of the forehead. The bullet penetrated the brain in a direction slightly downward and to the left, and it was found lying against the occipital bone. The wound was not powder-marked in the least, nor could any powder be discovered within the wound after the most careful search. The four charges remaining in the revolver, when found, were fired at targets covered with white chamois-skin, at distances of three, eight, eighteen, and thirty inches, respectively, and in every case the skin surrounding the bullet-hole was powder-burnt. All the other evidence indicated suicide. The jury at the inquest disagreed. Those who dissented from a verdict of suicide did so entirely on account of the absence of powder-marks around the wound, holding to the opinion that that was conclusive that the man had not shot himself. Were they right or wrong?

Correspondence.

LETTER FROM LONDON.

The Annual Meeting of the British Medical Association.—Professor Gairdner on Stability in Medicine.—Medical Politics.—Bone-setters.

LONDON, August 6, 1887.

THE fifty-fifth annual meeting of the British Medical Association is now a matter of history. The meeting commenced last Monday (five days ago) in Dublin, this being the second time that the Irish capital has played the host to the association, and the third time within the last ten years that the meeting has been held on Irish soil. Irish hospitality is proverbial, and our brethren in "dear dirty Dublin," as it has been called, have fully sustained the national reputation in this respect. The general plan of the meeting is that each day there shall be a general meeting, at which the ordinary business of the association is transacted, such as the election of officers, etc., and one general address given. This year, in addition to the presidential address, by Dr. Banks, there was an address in medicine delivered by Professor Gairdner, of Glasgow; an address in surgery, by Dr. Edward Hamilton; and one in public medicine, by the Rev. Samuel Haughton, M.D. Dr. Banks, as in duty bound, gave a general review of Irish medicine from the foundation of the University of Trinity College, Dublin, by Queen Elizabeth, down to the present day. Dr. Hamilton dealt chiefly with the treatment of abscess, while the Rev. Dr. Haughton treated his audience to a brief but brilliant disquisition on the health of Dublin, and contrived to make a speech literally bristling with statistics highly interesting. Professor Gairdner, who, by the way, will next year be the president of the meeting, as Glasgow has been selected as the place of meeting, took as his text "Has the Art of Medicine advanced during the Present Century?" and delivered, as was to be expected, a most sterling address. After reference to the times of Hippocrates and Galen, he spoke at more length on Brunonianism and the medical art as it existed in the time of Cullen. One chief point in which we had made progress was, he considered, in the greater stability of our views and doctrines; it would be impossible now for any new theory to come and completely upset the received doctrines. Speaking of the revolution in the

treatment of fevers and inflammations, which in some minds occupies in relation to medicine as advanced a position as antisepticism does to surgery, he said that he had no doubt at all as to the advantages in some cases, in a limited sense, of the so-called antipyretic treatment, but that he had yet to be convinced of the advantage of its application as a matter of routine in typhoid or any other kind of fever. It was not clear to him that this treatment had resulted in a permanent lessened mortality when compared with results obtained without such active procedures. He was by no means insensible, he said, to the value of the work done by Liebermeister, Jürgenssen, and others, and if the opportunity arose he would gladly witness or concur in any therapeutic experiments to decide the point. The treatment of phthisis by cod-liver oil and that of epilepsy by bromide of potassium were two great advances that their century had witnessed, and the same was to be said of digitalis and the other heart tonics, of nitrite of amyl, and nitro-glycerin, and of the salicyl compounds in rheumatism; but these latter remedies had not been as yet sufficiently long on their trial to justify their being adduced as evidence of the increasing stability of the medical art.

For the present, London is very quiet and empty, and medical politics is quite in abeyance, but in October all will be very different, and the Privy Council will receive and have to consider three separate petitions on matters medical. There will be one from the University of London embodying the changes which the senate proposed to make to satisfy the present demand; there will be one from University and Kings Colleges jointly asking that they be made the foundation of a new university; and there will be the petition from the Colleges of Physicians and Surgeons asking for power to give a degree. With so many different proposals before them, it is unlikely that the Privy Council will do more than advise a special commission of inquiry, and that will mean the postponement of the final settlement for two or three years. That we must have a degree obtainable in London as easily as it is in Edinburgh or Dublin is certainly the minimum that will satisfy present demands, and ultimately every qualified practitioner must have the right to call himself doctor; it is so in almost every other country, and it ought to be so with us, and I have no doubt that it will come eventually.

The death of Mr. Hutton, the bone-setter, a few days ago, from an inadvertent dose of laudanum, has given the daily papers the opportunity of having a fling at the medical profession, of which they have not been slow to avail themselves. Mr. Hutton's success and skill may have been derived from his uncle (who founded the business and made a great name for himself), but they were certainly not due to any knowledge of anatomy on his part, for on one occasion in a law court he was unable to distinguish between the right and left bones of the leg. The public only heard of the successes of such a man, and the medical profession only came across his failures; so that it is no wonder we are unable to agree on the subject of his merits. The bone-setter's trade is dying out in London, however, as our surgeons are learning to be much more free in dealing with adhesions, fixed joints, etc.

A Correction.—In the letter from Dr. Mary Willits, "A Visit to Dr. Hiram Corson," which was published in the Journal for August 6th, the dose of infusion of cimicifuga, which was given as "a teaspoonful three times a day," should have been *from a tablespoonful to a wineglassful three times a day*. The tincture or fluid extract may be used in teaspoonful doses.

Dr. Morell Mackenzie is stated in the "Internationale klinische Rundschau," for July 31st, to have earned, up to that date, 54,000 marks by his services in the case of the Crown Prince of Germany.

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FRANK P. FOSTER, M. D.

NEW YORK, SATURDAY, AUGUST 20, 1887.

NIGHT WORK BY SCHOOL CHILDREN.

SIR JOSEPH FAYRER, who is a foreign correspondent of the Paris *Académie de médecine*, lately made a remarkable communication to that body, an excellent translation of which, by Dr. Catrin, of the medical corps of the French army, is published in the "*Gazette hebdomadaire de médecine et de chirurgie*." His theme was one that has been much discussed of late in England and France—that of over-work in schools (the *surmenage scolaire* of the French). After a general survey of the subject of the injuriousness of forcing the brain at the expense of the organism at large in the case of the young, the writer devoted particular attention to a feature that is certainly one of the most harmful, that of assigning to school children tasks which demand that they should work upon them at night.

Dr. James Crichton Browne is quoted as saying that, although most of the class work comes in the morning, the simplest inquiry is enough to convince one that the heaviest part of the pupil's labor is not performed in the class-room, for the invariable answer to the question as to what constitutes the severest work is that it is that of preparing for the class-room, and this preparatory work is done at night. The greatest effort demanded of the child's brain is thus reserved for a time when the organ is at its minimum of power, after a whole day of fatigue. The interval allowed for recreation, between the close of school for the day and the arrival of the hour for work, is insufficient, however long it may be, to do away with the noxiousness of the evening toil, which too often produces sleeplessness and leads to nervous derangement and debility, affections that have now become common in children, especially in large cities. Children should be made to do their most arduous mental work at a time when both body and mind are at the height of their capability—namely, between nine o'clock in the morning and midday.

From the physician's point of view, all lessons should be prepared at the school, and with the assistance of the teacher, whose proper function it is to point out and explain difficulties. Too many teachers, however, think they have done their whole duty when they have corrected the pupil's errors and allotted him his tasks for the succeeding day, and leave the essential part of their work to be done by the governess or the parents. Sixty-five in a hundred of the young girls whom Dr. Browne has questioned as to the severest part of their work have said that it was the part they did at home, and fifty-seven in a hundred said that it was done in the evening.

A striking instance of the injuriousness of this state of things is cited from the observation of an eminent physician whose name is not mentioned. He was called to a girl, four-

teen years old, whom he found in bed, pale, with her pupils dilated, her muscles tremulous, and her cerebral action deranged, and with a pulse of 120, her whole aspect being such as to lead him to fear that some grave affection of the brain was impending. The night before, she had worked until an hour past midnight, and this she had done regularly twice a week; the other nights, she had worked until eleven o'clock. Her tasks for one day were as follows: The story of Touchstone, with citations; twelve questions in geography, giving the courses of rivers, etc.; six pages of French grammar to copy; and copying a printed page of "*Picciola*" and learning all the verbs.

Sir Joseph Fayrer concludes that the most dangerous periods, so far as regards this matter, are that of the second dentition and that which precedes puberty. He alludes to several instances in which mental over-work has terminated fatally, in one case by encephalitis consequent on the labor of preparing for the Sandhurst examinations. Two or three hours' work in the morning, with the teacher, is wholesome and even necessary for a child, but evening work is absolutely injurious, so that it should be wholly prohibited up to the age of ten or twelve years; after that, it may be allowed, but to a much smaller extent than at present prevails. It is not enough, Sir Joseph Fayrer thinks, to impress these views on teachers and parents, but they should be embodied in legal enactments.

MINOR PARAGRAPHS.

THE PASTEUR TREATMENT OF RABIES.

M. LUTAUD, the editor of the "*Journal de médecine*," is, or lately was, lecturing to the Londoners, in English, after the manner of his published articles in opposition to the Pasteur system. M. Lutaud is regarded as a man of ability, but his opposition is considered of little weight in Paris, where the question is now looked upon as lying chiefly between M. Pasteur and M. Peter, the general feeling being that all that can be done is to wait. In the mean time, two more deaths after Pasteur's treatment are mentioned in our private advices as highly suggestive of what is called *rage paralytique*. On the other hand, doubt having been cast upon the occurrence of rabies among so many thousand "French persons" of late, our informant calls attention to the fact that many hundreds of the patients treated at Pasteur's laboratory were Algerians, Mauritians, Arabs, etc.

AN ALLEGATION OF PRIORITY.

Nor long ago, we mentioned a proposition put forth by the humorous *feuilletoniste* of the "*Union médicale*," to the effect that no apparatus was necessary for carrying out the Bergeon treatment, but that it would answer to make the patient eat beans. He now states that Professor Ewald afterward presented the idea, in all seriousness, at a meeting of the *Gesellschaft für innere Medizin*, of Berlin. But "*Simplissimus*" *feuilleton* was dated May 28th, and it was not until the 4th of July that Ewald's suggestion was made, so that the French man was thirty-seven days ahead. He maintains that Ewald must have known of his article, for, he says, he is very much read in Germany, as was shown by the avalanche of abuse heaped on him by German journalists two or three years ago, because, as they thought, he had spoken somewhat disrespectfully of the

German Chancellor. It is only the rich that are robbed, he adds, and he has no intention of allowing his ideas to be taken possession of. Therefore he is going to write a letter to the president of the Berlin society, setting forth his title to priority in this matter, and avowing himself a candidate for corresponding membership, in which candidacy he counts on Professor Ewald's support. *Mutatis mutandis*, much of this whimsical line of argument would fit many a case in which vigorous contests as to priority are carried on.

LEPROSY CONSIDERED AS A FORM OF SCROFULA.

PROFESSOR PRIMO FERRARI has recently made a study of a placenta from a leprosy woman, and his account of his investigation is published in the "Gazzetta degli ospitali." No micro-organisms were found, nor any leprosy cells. There was a remarkably scanty infiltration with leucocytes, but there was an abundance of those elements in their normal state. The mucous connective tissue of the villi was condensed, and some of the arterial vessels of the villi were obliterated by endarteritis, and others by thrombosis. Professor Ferrari thinks that leprosy is a constitutional disease, but one that is neither infectious nor contagious; that leprosy, lupus, and tuberculosis are all manifestations of scrofula; and that Hansen's bacillus of leprosy, that of tuberculosis, that of lupus, and that of scrofula are the same organism, which manifests itself whenever suitable conditions are present, such as scrofulous processes.

THE INSENSIBLE PERSPIRATION.

DR. E. PEIPER, of Greifswald, has lately published in the "Zeitschrift für klinische Medicin" a digest of certain investigations of the insensible cutaneous transpiration by Weyrich, Röhrig, Reinhard, and Janssen. Many of the author's conclusions, as summarized in the "Deutsche Medizinal-Zeitung," are in conformity with what has long been taught, and therefore need not be mentioned. Some of the others, however, are noteworthy. The insensible perspiration is said to be greater on the right side of the body than on the left. Early in the morning the transpiration begins to show a gradual increase, which becomes more marked in the afternoon and reaches its maximum in the early hours of the night; after midnight the function decreases. Very great fluctuations in the humidity of the atmosphere seem to exert an influence on the exhalation of aqueous vapor by the skin, but its absolute humidity has no effect; and the same is true of barometric variations. An increase of the renal secretion, as well as that of the true sweat, diminishes the insensible perspiration. The exhalation is relatively much greater in children than in adults, although absolutely of smaller amount. The ingestion of food, the frequency of the pulse and respiration, and the bodily temperature, within the normal range, also weight, size, and sex, seem to have no effect upon the function.

AN ALLEGED DEATH FROM CIGARETTE-SMOKING.

THE "New York Times" lately took a step decidedly in advance of the ordinary run of newspaper medicine. Taking as its text a case in which a coroner is reported to have come to the conclusion, after an inquest, that a certain person had died in consequence of cigarette-smoking, the "Times" practically admits, on what seem to us logical grounds, that any increased danger entailed by cigarette-smoking, over and above what pertains to any other form of tobacco-smoking, is caused by the habit that devotees of the cigarette have of inhaling the smoke. But inhalation is practiced by many smokers of cigars, and not by all who use cigarettes; so that the expression "the

deadly cigarette" may be more fanciful than just. This question, of course, is quite unconnected with that of the temptation into which the cheap and convenient cigarette leads the very young, but the two are often confounded by popular writers.

TYPHO-MALARIAL AND "MALARIO-TYPHOID" FEVERS.

MR. J. G. LAFFAN, of the British Colonial Medical Service ("Lancet"), writes that he thinks all cases of the "Rock," "Levant," "Mediterranean," "Cyprus," "coast," "colonial," or "Peshawur" fever resemble one another, but that he would divide them into two classes, calling those in which malarial phenomena predominate "malario-typhoid," and those in which such phenomena are subsidiary "typho-malarial."

ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Fourth Division of the Health Department for the following statement of cases and deaths reported during the two weeks ending August 16, 1887:

DISEASES	Week ending Aug. 9.		Week ending Aug. 16.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever.....	42	3	55	12
Scarlet fever.....	28	4	29	6
Cerebro-spinal meningitis....	3	3	5	5
Measles.....	24	1	18	3
Diphtheria.....	80	23	82	25
Small-pox.....	7	1	0	0

The University of Berlin—It is reported that Professor Virchow's liberal opinions have caused his rejection as a candidate for the rectorship.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from August 7 to August 13, 1887:*

McKEE, J. C., Major and Surgeon. Ordered for duty at Watertown Arsenal, Mass. S. O. 181, A. G. O., August 6, 1887.

BROWN, H. E., Major and Surgeon. Sick leave extended to August 6, 1887, on account of sickness. S. O. 184, A. G. O., August 10, 1887.

CLEARY, P. J. A., Major and Surgeon. Ordered to Fort McDowell, Arizona Territory, instead of Fort Assiniboine, Montana Territory. S. O. 180, A. G. O., August 5, 1887.

DICKSON, JOHN M., Captain and Assistant Surgeon. Died August 8, 1887. (Station, Fort Mason, California.)

MERRILL, J. C., Captain and Assistant Surgeon. Ordered from Fort Klamath, Oregon, to Watervliet Arsenal, New York. S. O. 181, A. G. O., August 6, 1887.

MACAULEY, C. N. B., First Lieutenant and Assistant Surgeon. Promoted to be Assistant Surgeon with the rank of Captain by operation of law. August 10, 1887.

HOPKINS, WILLIAM E., First Lieutenant and Assistant Surgeon. Ordered from Angel Island, California, to Fort Mason, California. S. O. 184, A. G. O., August 10, 1887.

PILCHER, J. E., First Lieutenant and Assistant Surgeon. Ordered from Fort Monroe, Virginia, to Fort Wood, New York Harbor. S. O. 180, A. G. O., August 5, 1887.

ANDERSON, C. L. G., First Lieutenant and Assistant Surgeon (Station, Whipple Barracks, Arizona Territory). Ordered to Fort McDowell, Arizona Territory. S. O. 81, Department of Arizona, August 3, 1887.

SUTER, WILLIAM N., First Lieutenant and Assistant Surgeon. Ordered to return to Washington Barracks, D. C., on the breaking up of the Camp at Creedmoor, N. Y. S. O. 166, Division of the Atlantic, August 10, 1887.

Letters to the Editor.

A REGISTERING THERMOMETER.

August 13, 1887.

To the Editor of the *New York Medical Journal*:

SIR: I have had the opportunity for the past two weeks of watching the action of an advance in thermometry which I believe will be of great service in the regulation of the temperature of hospital wards and sick-rooms. The instrument to which I refer is a registering thermometer that has lately been invented by Dr. Daniel Draper—a son, by the way, and the only surviving one, of the late John W. Draper. It consists essentially of a metallic bar, made of copper and steel, which, by the alternate contraction and expansion of heat, indicates the temperature, and registers it by tracing it on a paper disc with a pointer supplied with aniline ink from a trough at its extremity. It is at once seen that by the use of this thermometer we have the means of showing the exact number of degrees of variation of temperature in any given time. The pointer is moved by a mechanism similar to that of an ordinary clock. I have been much interested in the tracings upon the disc, of the temperature at Dr. Draper's observatory, in Central Park, New York, as compared with the record here, at Blue Mountain Lake, Adirondacks, for the week ending August 6th. This week was an exceptionally hot one in both places. The highest temperature in Central Park was 90° F. on Sunday, July 31st, at about 2.30 P. M.; at the same time here it was 80°. The highest temperature reached here was on Wednesday, August 3d, at 4 P. M., 84°, about half a degree higher than it was in New York at the same time.

But I did not begin this note to do anything more than call the attention of the profession to the merits of this new instrument of precision. With it it will now be possible to positively show what the temperature has been during twenty-four or any number of hours, and, hence, to correct or remove the sources of variation. The instrument will be for sale at the opticians', and will cost, I am informed, about thirty dollars.

D. B. ST. JOHN ROOSA.

A CAUTION IN REGARD TO ACETANILIDE.

123 EAST FIFTY-NINTH STREET, August 8, 1887.

To the Editor of the *New York Medical Journal*:

SIR: As every adverse observation of a new drug that has rapidly grown into favor must be of practical interest to the profession, I offer no apology for asking space in your columns for this communication. Quite recently I was called in consultation to see a lad, thirteen years old, of a delicate constitution, the subject of a relapse of a mild attack of typhoid fever that had run a short and favorable course. He had taken to bed about eighteen days before I saw him. In the course of fourteen days the temperature, which had never risen above 103° F., fell to normal. He was now allowed to be up, and was not much restricted in his diet. Two days afterward, a recrudescence of the fever occurred. The temperature now went up to 103°, and on one occasion to 104°. The physician in charge prescribed acetanilide in five-grain doses every four hours. After it had been given for twenty-four hours, the temperature remaining about the same, the dose was increased to ten grains, to be given with the same frequency. When six of the latter doses had been given as prescribed, the parents became alarmed at the decided increase of a blueness of the lips, face, and fingers that they had observed the

evening before, and sent for me to meet the attending physician. I found the patient with a temperature of 103°, breathing regularly about thirty-two times to the minute, with a weak, soft, and compressible pulse of 116. There was very marked cyanosis of the lips, face, and fingers up to the second joints. The expression of the countenance was pinched, and the patient was restless and complained of feeling very weak. My impression from a rapid and superficial examination was that something of a very serious nature had occurred, but a subsequent thorough examination of the heart and lungs revealed no pathological changes in those organs. There was no opportunity to analyze the urine, the bowels were regular, and there had been no hemorrhages at any time. There were no evidences of perforation or peritonitis. I gave it as my opinion that the cyanosis and impending collapse were due to the large quantity of acetanilide taken—an opinion which the attending physician, a man of intelligence and education, did not share. However, the administration of the drug was stopped, all antipyretics were to be withheld, and the patient was to be kept on the use of a strict milk diet, to which was to be added a quarter of an ounce of whisky every two hours. Twenty-four hours afterward, when I saw the patient again, there was a marked improvement in every respect; the temperature was only 102° in the evening, the pulse was of a better volume, the cyanosis had almost entirely disappeared, and the patient expressed himself as feeling better and stronger. The improvement progressed gradually under the foregoing course of treatment, so that on the evening of the sixth day after I had first seen the patient the evening temperature was normal, the pulse (90) was of good volume, and the bowels were slightly constipated. The apyrexia has continued ever since, and convalescence is now progressing favorably.

It seems to me that there can be no reasonable doubt that the unfavorable symptoms were due to the use of the acetanilide, of which the patient had taken sixty grains in the course of forty-eight hours. It is my firm conviction that, had the parents gone on giving the drug in the same doses during the night as had been prescribed, collapse would have taken place out of which it would have been extremely difficult to extricate the patient.

H. N. VINEBERG, M. D.

Book Notices.

House-Plants as Sanitary Agents; or, the Relation of Growing Vegetation to Health and Disease. Comprising also a Consideration of the Subject of Practical Floriculture and of the Sanitary Influences of Forests and Plantations. By J. M. ANDERS, M. D., Ph. D., lately Lecturer on Botany in the Wagner Free Institute of Science, etc. Philadelphia: J. B. Lippincott Company, 1887. Pp. 334. [Price, \$1.50.]

THE title on the back of this handsome volume "*House-Plants as Sanitary Agents*"—indicates only a portion of its scope; as its full title shows, it goes further, and deals with the sanitary aspects of forests and plantations. Much of it is devoted to the task of overthrowing the popular prejudice against plants in sleeping rooms on the score that they are detrimental to health. The author's argument on this question seems to us very fair and such as ought to be convincing to a logical mind. Except for a few plants, the emanations from which may be injurious, we are inclined to think that no harm is likely to happen from the presence of plants in dwellings other than that which depends on exclusion of fresh air for fear of the action of cold on the plants. Dr. Anders has certainly done a good work

in helping to dispel the notion that house-plants are directly detrimental to health, and, in addition, he has given a great deal of useful information about the management of plants. The work ought to be widely read.

GENERAL LITERARY NOTES.

AMONG recent foreign publications we note the following:

J. B. BAILLIÈRE & FILS, Paris.—Oré, "Hygiène des maternités."

A. DELAHAYE & E. LECROSNIER, Paris.—G. Sée and Labadie-Lagrave, "Médecine clinique," vol. v. (4fr.) — Motais, "Anatomie de l'appareil moteur de l'œil de l'homme et des vertébrés."

O. DOIN, Paris.—J. Fontan and C. Ségard, "Éléments de médecine suggestive." (4fr.) — François-Franck, "Leçons sur les fonctions motrices du cerveau." (12fr.) — L. Poisson, "Voyage chirurgical en Allemagne." (3fr.)

GAUTIER & VILLARS, Paris.—M. Vulpian, "Statistique générale des personnes qui ont été traitées à l'Institut Pasteur," etc.

BUREAUX DU "PROGRÈS MÉDICAL," Paris.—P. Budin, "Du cloisonnement transversal incomplet du col de l'utérus." (0fr. 50.) — H. Picard, "L'infiltration urinaire." (0fr. 50.) — Reliquet, "Persistance du canal de Müller." (0fr. 75.)

G. STEINHEIL, Paris.—De St.-Germain and E. Valude, "Traité pratique des maladies des yeux chez les enfants." (8fr. 50.)

A. STORK, Lyons.—J. P. Henry-Coutagne, "Manuel des expertises médicales en matière criminelle." (3fr.)

W. BRAUMULLER, Vienna.—"Vortrag über Cholera asiatica im Wiener medicinischen Doktoren-Kollegium." (1M. 60.)

H. DÜRSELEN, Leipsic.—Cracau, "Gift u. Gegengift." (5M.)

F. ENKE, Stuttgart.—H. Fehling, "Das Dasein vor der Geburt." (1M.)

G. FISCHER, Jena.—Ziegler and Nauwerck, "Beiträge zur pathologischen Anatomie u. Physiologie." Vol. ii, part 1. (9M.)

HEUSER, Neuwied.—Eichholz, "Kaiserschnitt." (1M.) — B. Flothmann, "Ein Beitrag zu den Operationen d. Cephalocelen." (2M.)

A. HIRSCHWALD, Berlin.—M. Tuchmann, "Die Diagnose der Blasen- und Nierenkrankheiten mittels der Harnleiterpincette." (3M.)

KAROW, Dorpat.—W. Fromhold-Treu, "Beeinflussung d. peripheren Gefäße durch Hautreizmittel u. den elektrischen Strom." (1M. 20.)

H. LAUPP, Tübingen.—G. Walcher, "Senkung u. Vortfall in Scheide u. Gebärmutter, sowie die veralteten Dammrisse." (4M. 60.)

H. POHLE, Jena.—L. Brandt, "Zur Aetiologie des Lupus vulgaris." (1M.)

F. WREDEN, Brunswick.—A. Seeligmüller, "Lehrbuch d. Krankheiten des Rückenmarks u. Gehirns, sowie d. allgemeinen Neurosen." 2d part. — H. FROHLICH, "Militärmedizin." (16M.)

E. DEIKEN, Naples.—R. Massalongo, "L'atrofia muscolare nelle paralisi isteriche."

FRATELLI RECHIEDEI, Milan.—F. Orsi, "Lezioni di patologia e terapia speciale medica." 2d ed. (12L.)

F. VALLARDI, Rome.—D. Barduzzi, "Dermatologia propedeutica." (4L.) — A. Biondi, "Trattato di semiotica medica." (15L.) — G. Strambio, "Trattato elementare di anatomia descrittiva." 2d ed., 3 vols. (6L.)

ALVAREZ & CA., Havana.—V. de La Guardia, "Algunas Consideraciones relativas a la Fiebre Tifoidea."

BOOKS AND PAMPHLETS RECEIVED.

Cyclopædia of Obstetrics and Gynæcology. Volume Six. A Handbook of General and Operative Gynæcology. By Dr. A. Hegar, Professor of Obstetrics and Gynæcology, etc., at the University of Freiburg, and Dr. R. Kaltenbach, Professor of Obstetrics and Gynæcology, etc., at the University of Giessen. In Two Volumes. Volume I: Gynæcological Examinations, Minor Therapeutic Manipulations, and Elementary Operations, Operations on the Ovaries. With One Hundred and Twenty-nine Fine Wood Engravings. Edited by Egbert H. Grandin, M. D., Obstetric Surgeon to the New York Maternity Hospital, etc. New York: William Wood & Co., 1887. Pp. v-352.

Cyclopædia of Obstetrics and Gynæcology. Volume Ten. Diseases of the Female Urethra and Bladder. By F. Winckel, M. D., Professor

of Obstetrics and Gynæcology at the Royal University, Munich. And Diseases of the Vagina. By A. Breisky, M. D., Professor of Obstetrics and Gynæcology at the Royal University, Vienna. With Ninety-nine Fine Wood Engravings. Edited by Egbert H. Grandin, M. D., Obstetric Surgeon to the New York Maternity Hospital, etc. New York: William Wood & Co., 1887. Pp. iv-393.

Practical Thoughts for Physicians. Address delivered before the Indiana State Medical Society, May 10, 1887. By G. W. H. Kemper, M. D., Muncie, Indiana.

The Technique of Tracheotomy and Intubation of the Larynx. By Charles Godwin Jennings, M. D., Professor of Chemistry and of Diseases of Children, Detroit College of Medicine, etc. [Reprinted from the "Transactions of the Michigan State Medical Society."]

Contributions to the Comparative Craniology of the North American Indians: the Skull in the Apaches. By R. W. Shufeldt, M. D., C. M. Z. S., etc. [Reprinted from the "Journal of Anatomy and Physiology."]

Reports on the Progress of Medicine.

SURGERY.

By M. L. FOSTER, M. D.

Ichthyol in the Treatment of Erysipelas.—Nussbaum ("Ctbl. f. Chir.") recommends smearing the entire erysipelatous surface with an ointment composed of equal parts of ichthyol and vaseline, to be covered with a dressing of salicylic acid. He says that the action of the diluted ichthyol so interferes with the nourishment of the erysipelas cocci that their multiplication and activity cease. He mentions good results in five cases.

Massage for Fungous Joint Disease.—Nichaus (*ibid.*) says this treatment is applicable only to those joints in which the fungous masses are directly accessible to massage. This is not the case in the elbow, ankle, and hip joints, while the wrist is the most favorable of any. Abscesses and fistulae do not contra-indicate its employment. The rubbing and squeezing, which should in these cases be combined with efficient antisepsis, hasten the opening and evacuation of the abscesses and set up reparative action in the sinuses. In four cases he has obtained good results from this treatment continued from three to twenty months.

Congenital Dislocation of the Hip.—This subject, which seems to have attracted less attention than it deserves since it was accurately described by Dupuytren, is treated of briefly by Adams in the "British Medical Journal." He considers these points in the pathological and clinical history of such cases to be established: 1. In all specimens the head of the femur, though displaced upward, has been found to be still within the capsular ligament, so that no true dislocation exists. 2. In every dissection the osseous rim and the cotyloid ligament have been found wanting, so that the acetabulum is represented only by a flattened triangular depression. This defective condition can only be a congenital malformation. 3. The head of the femur is diminished in size, flattened and irregular in outline, and covered with a thin layer of articular cartilage. The round ligament is sometimes elongated, but is often absent. The neck of the femur is nearly horizontal and curved or twisted backward on account of the altered position of the head in adults. The great trochanter is diminished in size and altered in form. 4. The capsular ligament becomes elongated and greatly increased in thickness and density, sometimes almost equal to cartilage, compensating to a certain extent for the absence of the acetabulum. 5. In consequence of the absence of the acetabulum, the head of the femur gradually ascends to the dorsum illi after the child begins to walk. It is doubtful whether any displacement exists at birth or until the walking period, though the requisite conditions undoubtedly are present. Shortly after this time the lameness is noticed, and subsequently inequality in the length of the limbs becomes apparent, but before this no inequality can be detected. There is no evidence that the displacement is ever due to muscular action. 6. The gluteal muscles, from disuse, pass into

a state of fatty degeneration. 7. If treatment is neglected in cases of displacement at both hip joints, the pelvis gradually becomes horizontal, with the lumbar vertebrae projecting anteriorly and the sacrum depressed between the iliac bones and quite horizontal. The pelvic bones are also altered in shape. When the displacement is at only one hip, obliquity of the pelvis, altered shape of the pelvic bones, and severe lateral curvature of the spine result. 8. The theory that this is a traumatic dislocation produced by the accoucheur in difficult labor is negatived by the pathological conditions and by the fact that in a very large proportion of the cases in which the character of the labor was known it was easy and natural. The treatment consists in recumbency and light, continuous traction. Mr. Adams uses an extension-couch consisting of a movable plane on which the child can be lifted from the bed, carried about the house, or taken into the open air on a spinal carriage, the extension being made by a check-pulley.

Cerebral Surgery.—In the same journal, Mr. Victor Horsley reports ten consecutive operations on the brain and cranial cavity. These operations were undertaken for irritative and destructive lesions causing epilepsy, epileptoid seizures, paralysis, and headache. The lesions found were cicatrices, cysts, tubercular masses, and tumors. One case of intractable localized headache was cured by the removal of a piece of bone at the seat of pain, the inner table of which was being eroded by a Pachionian body. The only fatal case was one in which the operation was undertaken as a last resort in a tubercular patient. All the other patients were improved or cured. Mr. Horsley emphasizes the necessity of an intimate acquaintance with the physiology and pathology of the central nervous system in order to diagnose these diseases, and to insure the safety of the operation. It is obvious that, for the full advantage of the operation, the disease must be attacked in an early stage; at about the period at which a patient dies from such cause surgical interference is as powerless as medicine. Regarding anaesthesia, he considers that it should not be so profound as in ordinary cases, and is of the opinion that the system is most sensitive to the action of an anaesthetic after the dura mater has been opened. He no longer employs the crucial incision through the scalp, but prefers to turn back a large flap outlined so as to preserve either the superficial temporal or occipital arteries uninjured. The periosteum he also lifts up in continuity with the rest of the flap. Where it has been possible to preserve the dura mater, fragments of bone have been replaced; their vitality has been preserved, but not much ossification has been noticed. The cavity becomes covered with a tough fibrous membrane. Where a large area of bone was removed, the patient has worn a perforated celluloid cap. He urges that plenty of the surrounding brain-tissue be removed, especially in cases of new growths in the brain, and that the dura mater, wherever adherent, be removed. Regarding drainage, he employed the usual drainage-tube for twenty-four hours in the first cases, but has latterly given it up. He says: "I now sew the wound all round closely, except for an inch at the most dependent part, where any tension of wound discharge can relieve itself by escape between the edges. I am more than ever convinced that the object to be attained is immediate union of the flap, and that the arachnoidal, like the peritoneal, cavity may be trusted to absorb excess of fluid." He still adheres to the original form of Listerism in its strictest details, operating under the spray, which gives him no inconvenience.

Psoas Abscess.—Owen (*ibid.*) advances these views regarding the treatment of psoas abscesses: It is impractical to look forward to the spontaneous absorption of the pus; sooner or later it must be let out by nature or art. Art has the advantage, because by its aid the cavity can be emptied, cleansed, and drained at once. The earlier this is done the better, for delay may entail the extravasation of pus and the formation of a large and intractable cavity. The abscess should be opened in front and also in the loin, so that irrigation and drainage may be thorough. For a small abscess a single opening in the back may suffice. He recommends warm iodine water for irrigation, as he thinks the 1-to-1,000 solution of corrosive sublimate dangerous, especially in large abscesses in children. Bilateral abscesses should be opened at the same time, as otherwise the cavity can not be kept aseptic. If the temperature remains high after opening a unilateral abscess, the formation of another abscess should be suspected, and this should be opened as soon as it is detected.

Iodol.—Seifert ("Contrib. f. Chir.") is much pleased with the use of iodol in tuberculosis of the larynx. At first he used a mixture of equal parts of iodol and starch, but latterly he has used iodol pure, and has found that no irritation resulted. He praises it highly as being non-irritant, inodorous, and disinfectant, as well as having a distinct influence in lessening secretion. The insufflations were well borne and were followed by no loss of appetite, such as commonly results after the similar use of iodoform; the ulcers quickly became clean and showed a tendency to cicatrize. He has used this remedy also in atrophic rhinitis, after applications of the galvano-cautery in the nose or nasopharynx, and as a dressing to syphilitic ulcers, suppurating buboes, and acne pustules after they have been opened. In order to study the excretion of iodol from the body, Seifert took seven grains without injury. Iodine appeared in the urine and saliva at the expiration of twelve hours. In eighteen hours the most decided reaction and the taste of iodine in the mouth were noticed. The excretion of iodine lasted three full days.

Spina Bifida; a New Method of Cure after Rupture of the Sac.—Davidson ("Glasgow Med. Jour.") reports a case of spina bifida in which, despite the greatest care, the sac ruptured on the third day after birth. An unsuccessful attempt was made to prevent the outflow of the fluid by means of a pad and bandage, but at the end of a week it was evident that stronger means must be used to save the child's life. A piece of ordinary sponge was steeped a few hours in dilute hydrochloric acid. From this a thin shaving, of about the thickness of half a crown, was taken, and its edges were trimmed so as exactly to fit the wound. After this had been steeped in a two-and-a-half-per-cent. solution of carbolic acid, it was inserted between the lips of the wound well into the cavity, the edges of the sponge and the surface of the wound being in the same plane. Over the part was placed a piece of protective silk, secured with adhesive plaster. Three days later granulations were seen extending into the slice of sponge from each side, and only a trace of fluid could be found escaping. The dressing was then reapplied, and left in place for a week, at the end of which time the granulations had completely covered in the sponge, and no trace of the escape of fluid could be detected. A few days later the wound was entirely healed, and covered with healthy-looking epidermis. Eight months later the child was enjoying good health.

Gangrene of the Limbs.—Lang ("Edinburgh Med. Jour.") recommends, in order to ascertain whether gangrene is likely to follow a severe injury of a limb, "gently raising the limb, and keeping it raised for two or three minutes, so as to empty it of blood to some extent. Then a tourniquet or a piece of elastic webbing is to be applied on the proximal side of the injury, and kept applied about a minute. Then, on lowering the limb and removing the tourniquet, if sufficient circulation remains, the part beyond the seat of injury will blush very red, and will show the condition of the blood-vessels in an unmistakable manner."

Amputation of the Penis under Cocaine.—This operation, for epithelioma, is reported in the "Lancet." Twenty minims of a five-per-cent. solution of the hydrochloride of cocaine were injected around the site of the incision and into the urethra. Fifteen minutes later the operation was performed without causing pain. There was scarcely any hemorrhage, except from the large blood-vessels, probably on account of the constricting effect of the drug on the capillaries.

A Modification of Pirogoff's Amputation.—It would seem to the student of surgery that the numerous modifications of this operation which have been proposed from time to time would be able to meet all the various conditions which may be present in cases for which the operation is proper, but Tauber ("Arch. f. klin. Chir."; "Contrib. f. Chir.") presents another modification, which is applicable to cases in which the integument of the outer side of the heel is for any reason rendered useless or unsuitable for conversion into flaps, while that of the inner side is unimpaired. In other cases the author alleges no superiority for his operation over the original form. The flaps are formed by an incision starting near the outer border of the insertion of the tendo Achillis, passing obliquely along the outer side of the heel, below the malleolus, to the line of Chopart's incision, then over the top of the foot and down the inner side to the middle of the sole, then backward to the point of starting. The foot is then exarticulated, the

calcaneum sawn through longitudinally, and the outer portion removed. The ends of the bones of the leg are removed just above the malleoli, the remaining portion of the calcaneum is brought up, and the sawn surfaces are secured in apposition. The advantages alleged for this operation are: (1) the preservation of the posterior tibial artery; (2) the preservation of the insertion of the tendo Achillis and the bursa mucosa retrocalcanea; (3) the great size of the sawn surface of the calcaneum, which is very nearly the same as that of the bones of the leg.

Renal Calculus.—Very little mention is usually made of the difficulty in distinguishing certain cases of spinal caries and renal calculus, but, according to Wright ("Med. Chronicle"), the chief difficulty in the diagnosis of renal calculus is to distinguish it from tubercular disease of the kidney and from spinal disease. In one of the cases which he describes there was no deformity or tenderness of the spine, while there was unilateral rigidity, testicular pain, intermission of symptoms, frequent micturition, nausea during attacks, oxaluria, and local pain and tenderness. Finally an abscess formed and was opened, revealing a small patch of caries of the spine, the kidney lying exposed in the wall of the cavity. In such a case the renal symptoms may probably be caused by the disturbance incident upon the obstruction of the vessels and the ureter, which might perhaps cause hæmaturia, as similar disturbances cause hæmaturia in cases of floating kidney. Excluding obvious cases, if lumbar pain and tenderness, with radiating pains and frequent micturition, are present, the case may be one of renal calculus, early tuberculous kidney, floating kidney, spinal caries, pyelitis, or superacid urine. The latter two yield readily to treatment, and so can be readily excluded. If no blood or pus has been found on repeated examinations at long intervals, the probability of spinal caries is great, especially if the patient is tubercular. If hæmaturia is found, even once, in large or microscopical quantities, if the symptoms are intermittent and of long duration, a renal calculus is probably present. Considerable pyuria indicates a tuberculous kidney. A floating kidney can usually be felt. In some cases the diagnosis can be made only by exploration. Mr. Wright thinks that renal hæmaturia is the only single symptom of anything like cardinal importance, and that this, if the trouble is of more than a year's standing, if there is no evidence of nephritis, and if no tumor is to be felt, makes the diagnosis of calculus fairly certain.

Subcoracoid Dislocations.—Caird ("Edinburgh Med. Jour."), after a consideration of reported cases and anatomical specimens, holds that this dislocation is "always associated with an indentation fracture of the head of the humerus, caused by impact upon the dense, hard, anterior lip of the glenoid." By this impact of the anterior lip of the glenoid cavity upon the anatomical neck he explains the occurrence of intracapsular fracture complicating dislocation. If there is complete fracture, the capsule may remain intact, retaining the upper fragment, or the capsule may give way and the displaced fragment remain outside. Old cases of the subcoracoid variety of dislocation at the shoulder joint are least favorable for reduction, on account of the more rapid atrophy of the glenoid from the pressure exerted upon it.

Luxated Internal Cartilage of the Knee Joint.—Lang (*ibid.*) advises, in order to reduce a luxated internal fibro-cartilage, flexing the knee fully, keeping it flexed for a little time, then rotating the leg firmly inward, and extending it somewhat suddenly while maintaining rotation inward, at the same time pressing the rim of the cartilage inward over the inner tuberosity of the tibia. He considers the inward rotation of the leg most important, as it brings the inner condyle of the femur more closely in apposition with the corresponding articular surface of the tibia, and by extending the knee while maintaining this inward rotation the internal condyle is kept moving truly in its socket and does not ride upon too much of the semilunar cartilage. This rotation is opposite to that in which the leg is placed when the luxation happens. A practical point of after-treatment is for the patient to habitually walk with the toes turned inward after recovery from luxation of the internal, or outward if it was of the external, cartilage.

Cancer and Phthisis as Correlated Diseases.—Williams ("Lancet") gives some interesting statistics taken from the "Middlesex Hospital Reports," for 1885, showing the inaccuracy of Rokitsansky regarding the incompatibility of these diseases, and suggesting, on the contrary,

a correlation between them. He arranges the evidence under two heads—family histories and necropsies. Of 134 families subject to breast cancer, one or more relatives among the adults were known to be subject to or to have died from phthisis in 74, or 55·2 per cent. Of 129 families subject to uterine cancer, one or more adult relatives were known to be subject to or to have died from phthisis in 60, or 46·5 per cent. In 53 families subject to cancer of the tongue and mouth, phthisis prevailed among the adults in 17, or 32 per cent. Thus in 316 cancerous families there was a history of phthisis in 151, or 47·7 per cent. There was a history of both phthisis and cancer in 18 out of 134 cases of breast cancer, and in 14 out of 129 cases of uterine cancer. In a large proportion of the foregoing cases the causes of death were unknown. If these had been eliminated, the proportion of phthisis would probably have appeared much greater, as may be judged from the following statement: 40·9 per cent. of the fathers and 33·9 per cent. of the mothers of patients with breast cancer, 40 per cent. of the fathers and 30·3 per cent. of the mothers of patients with uterine cancer, 29·4 per cent. of the fathers and 5·8 per cent. of the mothers of patients with cancer of the tongue and mouth, were of phthisical families. Regarding the prevalence of phthisis among these patients' brothers and sisters, there were one or more deaths among the adults from this disease in 40 out of 88 families subject to breast cancer, in 41 out of 81 subject to uterine cancer, and in 14 out of 52 subject to cancer of the tongue and mouth. Old, arrested phthisical lesions were found in 4 instances out of 44 necropsies in cases of breast cancer. In 2 other cases phthisis was in active progress. Old, arrested phthisical lesions were found in 12 cases out of 88 necropsies in cases of uterine cancer. Of 34 necropsies in cases of cancer of the tongue and mouth, in 5 cases old, arrested phthisical lesions, in 4 other cases phthisis in active progress, were found. Thus the two diseases were found associated in 27 out of 166 necropsies, or in 16·2 per cent.

Excision of the Larynx.—Gardner (*ibid.*) reports an excision of the larynx for epithelioma occurring in a man sixty years of age. A rectangular lead tube of the full diameter of the trachea was first inserted between the cricoid cartilage and the first ring of the larynx. Through this the anæsthetic was given, and it prevented the passage of blood down the trachea. The entire larynx was removed and the patient supplied with an artificial one, by means of which he could talk so as to be understood. Four months after the operation the patient was very comfortable and well nourished, but the disease had recurred.

Dupuytren's Contracture.—From the description by Langhans of the histological conditions of the cords of tissue removed in a case of finger contracture, as given by Kocher ("Ctbl. f. Chir."), the trouble seems to consist of neoplastic or inflammatory changes, partly in the palmar aponeurosis, partly in the neighboring tissues, including the coats of the arteries and also the capillaries, about which a subendothelial granular adventitia has formed. The principal change is the great increase in number and size of the cells of the tissues affected, causing a very great crowding, with the appearance of granules, either rod-shaped or oval, for the most part regularly arranged in a longitudinal direction, separated laterally by fibers of the ground-substance. These present, after staining with borax-carmin, under the microscope, the appearance of reddish stripes or bundles. Only in the middle of the most granular places is this regular arrangement interrupted. Here the granules are shorter and broader, and lie very close, in every possible relation to each other, so that the fibrous structure of the aponeurosis seems lost. When the granules lie upon the surface, they resemble vesicles. The adventitia of the arteries is very rich in granules, mostly oval. An occasional round one is seen, perhaps an oval one seen foreshortened. No migration of leucocytes was found to mark an inflammatory process. Langhans, on this account, is of the opinion that the trouble is neoplastic. Kocher maintains that the migration of leucocytes has not been excluded with certainty, and that their absence is not sufficient to prove the condition to be non-inflammatory. He considers it a chronic plastic inflammation. In either case, the evidence is indubitable that it is a disease of the palmar aponeurosis, and that a mere division of the skin or aponeurosis can not give lasting benefit, in whatever way it may be performed. Kocher maintains that the proper operation is the complete extirpation of the aponeurosis with all its offshoots through a single integumental incision, with immediate closure

of the wound with sutures. Primary union usually takes place. If this is done in the early stages, a soft, non-adherent cicatrix remains. In old cases the skin is sometimes more or less adherent; the adherent portions should be excised.

If Langhans's opinion that there is a neoplastic formation is correct, the entire extirpation of the aponeurosis is the only operation which promises any security against recurrence of the disease.

Miscellany.

Medico-legal Entomology.—It is often desirable in the interests of justice to determine the length of time which has elapsed since death took place. Notwithstanding the greatest attention and the most careful observation and comparison, no really reliable data are available which enable the medical jurist to form a reliable opinion. Take, for example, the instance quoted by Mayer, of Hilsberg, where two old men committed suicide at the same time and by the same means. They were found in the same bed and were covered by the same bedclothes, yet their appearance was so different that, on the strength of the usual indications, it would have been easy to suppose that an interval of ten days or more had intervened between the death of one and the other. At first sight entomology would seem little likely to render assistance, but as a matter of fact recourse has often been had to this science. In 1855 Dr. Bergeret published the first recorded case of the determination of the date of death in the mummified corpse of a newly born child from the presence of the larvæ of insects, the result being subsequently confirmed by other evidence. Since then the same method of estimation has been resorted to on several occasions by Professor Brouardel and others. According to M. Mègnin, when a body is freely exposed to the air numerous insects at once deposit their ova on the surface, more particularly in the neighborhood of the natural orifices. The larvæ which follow penetrate the tissues and consume the moist constituents. This is accomplished by the diptera, known to the vulgar as "gentles," and certain coleoptera by whom the fluid constituents of the body are almost entirely absorbed, leaving the skeleton covered with fatty substances. It is at this period that the larvæ of the dermestæ are developed, which consume every particle of fat. When this has been done, the body, reduced to the condition of a mummy, consists of the dried organic constituents, the tendons, the skin, and the undestroyed muscular structures, and these are now attacked by insects belonging to the genera *Tyroglyphus* and *Glyciphagus*, which complete the destruction of the remaining organic structures, leaving a pulverulent *débris* composed of their dejections and remains. The conclusions to be drawn from the foregoing observations are based on a knowledge of the life of the various generations of insects which co-operate in the destruction of the body, allowance being of course made for the influence of season and temperature on their activity. To afford anything like reliable information, a long familiarity with the physical characteristics, habits, and duration of life of these insects is indispensable, as an incomplete acquaintance may easily lead to the most serious errors of calculation, as was proved by a recent case in which an error of a year was made in estimating the date of death.—*British Medical Journal*.

Science and Religion.—Every candid man, whatever his convictions, must sympathize with the purpose of the Victoria Institute, whose primary aim has been to promote the examination and, if possible, the reconciliation of apparently opposite scientific and religious views on questions of common interest. The address delivered by Professor Stokes last Tuesday week in the institute was distinguished by a fairness of argument which was characteristic of this purpose. As he pertinently observed, it is necessary first of all, in order to arrive at a just conclusion from such discussions, that there should be a disposition to follow the guidance of truth wherever it may lead. The effort to do this does not imply merely that supple versatility of intellect which goes with the habit of lightly turning over prevalent opin-

ions without any serious attempt at mental penetration. What it does imply is a resolute and patient sincerity in dealing with facts and opinions from whichever side of the discussion they may come, while admitting for all concerned the possibility of misunderstanding. If arguments of this kind were more often conducted in a dispassionate spirit, we should hear less of the antagonism between science and religion. We will confess that we have no belief in the reality of this supposed antagonism. The conflict, when it arises, is rather between the votaries of one creed or the other than between the creeds themselves. Nor is it found that the best minds engaged on either side are the most bitter partisans. It is not usually the laborious investigator of scientific problems who concerns himself with the disparaging statements of revelation. It is not the man whose chief desire is to model his belief, his daily thought and action, according to the plan of an inspired Scripture who cavils at the honest doubts of the scientific reasoner. In both of these types there is not wanting the charitable fellow-feeling which comes of personal sincerity and seeks to promote agreement wherever that is compatible with a conscientious exercise of judgment. Contentions arise much more commonly from the impatience of half-instructed disputants. The unwise immoderation of persons of this class has done much to obscure the harmony naturally existing between the truths of science and those of revelation—a harmony which has been repeatedly denied but never disproved, and which is to-day more widely admitted than perhaps at any former time in the history of this controversy. The address above mentioned was itself a model of reasonableness, and in this respect may serve as a pattern for any one who may hereafter discuss from either standpoint the subjects with which it dealt.—*Lancet*.

The Library of the Surgeon-General's Office, says the "Maryland Medical Journal," is now being moved into the fire-proof building erected for its special use on the Smithsonian grounds. Books are not available for use until after the first of September, by which time the library will be safely established in its new and permanent quarters.

The Association of American Medical Editors will give a banquet in honor of distinguished medical editors from abroad, on Monday evening, September 5th, at the Riggs House, Washington.

The Amœbæ of Dysenteric Stools.—The "Lancet" says that "Dr. O. Uplavici [see the article entitled "An Homeric Nod," in the *Journal* for August 6th, p. 161], from an extensive series of observations on dysenteric stools, has come to the conclusion that bacteria, though they are to be detected in large numbers and of many varieties in the evacuations of dysenteric patients, are nevertheless not the cause of the disease. He made out nineteen different micro-organisms, but not one of them was constant. It was otherwise, however, with amœbiform masses which were present in each of the sixty cases of dysentery, some of them of the acute and some of the chronic form, which he examined. These amœbæ have been described by various writers. The first observer to notice them appears to have been Loesh, of St. Petersburg, who mentions having found them in a case of dysentery in 1875, since which time Leuckart, Koch, Grassi, Cunningham, Normand, and more especially the Bohemian professor, Dr. Hlava, and Kartulis, of Alexandria, have paid considerable attention to these curious masses of protoplasm, both of the two last-named observers having recognized the causal relationship of these bodies to the disease. The observations of Professor Hlava were referred to in the 'Lancet' of March 19th. Dr. Kartulis found amœbæ in every case to the number of one hundred and fifty in which he examined the stools, and he entirely failed to find them in the stools of patients suffering from other diseases, such as typhoid fever and phthisis. He was unable to cause the amœbæ to propagate in any medium, and he injected them into the intestines of two pigs and a rabbit without result. Professor Loesh, however, had succeeded in getting them to multiply in one dog out of four into which he injected them. Dr. Uplavici [*sic*] has now prosecuted this line of research with better results. He injected fresh stools containing amœbæ into the rectums of seventeen dogs, and in two cases succeeded in producing dysentery with multiplication of amœbæ. In four cats out of six experimented on, positive results were obtained, but no effects were produced on eight rabbits, two fowls, and six guinea-pigs. In one case

of dysentery 'giant amœbæ' were found, which, when introduced into a cat, were found in the stools."

A Curious Case of Hystero-epilepsy.—The "British Medical Journal's" Berlin correspondent says: "Professor Mendel recently showed to the Berliner medicinische Gesellschaft a very curious case of hystero-epilepsy. The patient was a glazier, aged fifty-one, who was deaf and dumb the whole day, except during the three hours from 6 to 9 o'clock A. M. The disease did not interfere with his mental faculties; he could look after his business, answering written questions in writing. In addition to the condition just described, he had a slight contraction of the right arm. If this limb were pressed near the wrist, he was seized with epileptiform convulsions, accompanied by loss of consciousness. Pressure on the long branches of the brachial plexus made him recover consciousness and stopped the convulsions. As the mental condition was not affected, Professor Mendel thought that the seat of the disease could not be the cortex of the brain. There was neither aphasia nor aphonia, properly speaking; consequently there was no lesion of the higher centers. Professor Mendel believed it to be due to a pathological change in the subcortical parts. He said that the prognosis was not bad, sudden recoveries taking place in all kinds of hysterical diseases. He proposed to treat the case by hypnotism and 'suggestion.'"

The Permanent Bath.—Since the brief note we published last week upon the alleged value of continued immersion in a bath for the relief of dropsy, we have seen a paper by Dr. James Barr, which will appear in the forthcoming issue of the "Liverpool Medico-surgical Journal." Dr. Barr gives details of the case of a girl, eighteen years of age, who was in a most critical condition from pyæmia, acute periostitis of the left femur, acute arthritis of the left hip and knee joints, and extensive bedsores. It was decided, as a last resource, to immerse the patient in a boracic bath at a temperature of about 95° F. For seventeen weeks she was thus kept continuously immersed, with the most satisfactory results. Dr. Barr appends a case of pyæmia treated for four months in a bath by Mr. Chauncy Puzey some years ago. It is evident that the practice is one which might well be more widely adopted, and there does not appear to be any serious difficulty in carrying it out. As Dr. Barr points out, it was a plan long since advocated by Hebra in cases of extensive burns and widespread dermatitis, and at Vienna bath-rooms specially adapted for the purpose are fitted up; but in this country it has been but seldom resorted to, one instance which occurs to us being a case of acute pemphigus, which Dr. Southey brought before the Clinical Society five or six years ago. Dr. Barr's paper is additionally interesting from the description he appends of the "hydrostatic bath" introduced by Dr. Neil Arnott, which consists in supporting the patient (without total immersion) in a bath of water of sufficient depth to permit of it. The description is given in the first edition of Dr. Arnott's famous work on the "Elements of Physics," and it is to be regretted that in the later editions this description should have been curtailed by the editors. The ordinary form of water-bed, although involving less management, is certainly not so well designed for the purpose in view as this very ingenious plan of Dr. Arnott's.—*Lancet*.

The Ninth International Medical Congress.—For the benefit of those of our foreign *confrères* who purpose attending the congress, the New York Bureau of Information, consisting of the Health Officer of the port, thirteen New York physicians, and Dr. W. H. Pancoast, of Philadelphia, has prepared the following circular, which has been sent to the foreign medical journals, and will be posted on incoming steamships:

The Ninth International Medical Congress will convene in Washington on Monday, September 5th. Washington is 200 miles from New York, six hours by railroad. Foreign steamers to New York land at New York, or at Jersey City or Hoboken, opposite New York. The New York Bureau of Information have engaged a reception parlor in the Hoffman House, corner of Broadway and 25th Street. The Broadway car-line, which is crossed by the car-lines from the steamer landings, passes in front of the hotel. Rooms at the Hoffman House, which is conducted on the European plan, can be obtained through the committee at a reduction of 25 per cent. One or more of the reception

committee will be in attendance between 2 P. M. and 4 P. M. each day on and after August 20th. At other hours the clerk of the hotel will act for the committee. Members intending to attend the congress are requested to send their names in advance to the reception committee, Hoffman House, New York, so that the committee can secure for them reduced hotel and railroad rates.

[THE SAME IN FRENCH.]

Le neuvième congrès médical international s'assemblera à Washington le lundi 5 septembre. Washington est à deux cents milles de New York, six heures de voyage par chemin de fer. Les steamers étrangers débarquent à New York, Jersey City ou Hoboken. Ces deux dernières villes sont situées sur la rive opposée à celle de New York. Le bureau d'informations de New York a engagé un salon de réception au Hoffman House, au coin de Broadway et de la 25^{me} rue. Le tramway de Broadway, qui est traversé par tous les autres venant de tous les débarcadères des steamers transatlantiques, passe devant l'hôtel. Le comité a pris des arrangements avec le Hoffman House, lequel est conduit sur un plan tout à fait européen, pour fournir des chambres à une réduction de 25 pour cent. Un ou plusieurs membres du comité de réception, à partir de 2 à 4 heures chaque jour, sera à la disposition des voyageurs depuis le 20 août. Après les heures indiquées on s'adressera à l'employé de l'hôtel. Les personnes qui ont l'intention d'assister à l'assemblée du congrès médical international sont priées d'envoyer leurs noms d'avance, adressés au "Reception Committee, Hoffman House, New York," de manière que le comité puisse leur fournir chambres et billets de chemins de fer à prix réduits.

[THE SAME IN GERMAN.]

Der neunter internationaler medicinischer Kongress wird am Montag den 5ten September, zusammenkommen. Washington ist 200 Meilen (englische) oder 6 Stunden Eisenbahnfahrt von New York entfernt. Fremde Dampfer nach New York landen in New York, oder in Jersey City und Hoboken, welche New York gegenüber liegen. Das New-Yorker Auskunftsbureau hat sich ein Empfangszimmer in dem Hoffman House gesichert, an der Ecke des Broadway und der 25ten Strasse. Die Broadway Tramway, welche von allen Strassenlinien von allen Dampfbootlandungen gekreuzt wird, läuft gerade vor dem Hotel vorbei. Zimmer in dem Hoffman House, welches ganz in europäischer Weise geleitet wird, können durch das Comité zur einer Preisreduction von 25 pro cent. besorgt werden. Ein, oder mehrere Mitglieder des Empfangscomités werden zwischen zwei und vier Uhr Nachmittags an jedem Tage, an und nach dem 20ten August zugegen sein. Zu anderen Stunden wird der Geschäftsführer des Hotels das Comité vertreten. Mitglieder, die beabsichtigen den Kongress zu besuchen, werden ersucht im Voraus ihre Namen dem Empfangscomité, Hoffman House, New York, zu schicken, so dass das Comité ihnen reducirte Hotel- und Eisenbahnpreise sichern kann.

The Health of Boston.—During the week ending Saturday, August 13th, the following numbers of cases and deaths from infectious diseases were reported to the Board of Health: Diphtheria, 8 cases and 1 death; scarlet fever, 12 cases; typhoid fever, 26 cases and 6 deaths; measles, 10 cases. There were also 20 deaths from consumption, 5 from pneumonia, 9 from whooping-cough, 10 from heart disease, 5 from bronchitis, and 16 from marasmus. The total number of deaths was 237, against 219 in the corresponding week last year.

Government Health Reports.—By direction of the Secretary of the Treasury, Dr. John B. Hamilton, Surgeon-General of the Marine-Hospital Service, has issued the following abstract of sanitary reports received during the week ending August 11th:

England and Wales.—The deaths registered in twenty-eight great towns of England and Wales during the week ending July 23d corresponded to an annual rate of 22.2 in a thousand of the aggregate population, which is estimated at 9,245,099. The lowest rate was recorded in Derby, viz., 11.7, and the highest in Preston, viz., 36.7 in a thousand. Small-pox caused 1 death in Sheffield.

London.—One thousand nine hundred and seventy-seven deaths were registered during the week ending July 23d, including 48 from measles, 22 from scarlet fever, 1 from typhus fever, 24 from diphtheria,

100 from whooping-cough, 7 from enteric fever, 483 from diarrhoea and dysentery, and 18 from cholera and choleraic diarrhoea. There were 174 deaths from diseases of the respiratory organs. Different forms of violence caused 72 deaths, and 12 suicides were registered. The deaths from all causes corresponded to an annual rate of 24.6 in a thousand. In greater London, 2,375 deaths were registered, corresponding to an annual rate of 22.9 in a thousand of the population. In the "outer ring" 10 deaths from measles, 76 from diarrhoea, 6 from whooping-cough, and 7 from diphtheria were registered.

Ireland.—The average annual death-rate represented by the deaths registered during the week ending July 23d, in the sixteen principal town districts of Ireland, was 25.3 in a thousand of the population. The lowest rate was recorded in Newry, viz., 3.5, and the highest in Galway, viz., 40.3 in a thousand.

Dublin.—Two hundred and two deaths were registered during the week ending July 23d, including 21 from measles, 3 from whooping-cough, 1 from scarlet fever, 2 from enteric fever, 18 from diarrhoea, and 3 from dysentery. Diseases of the respiratory organs caused 28 deaths. Two accidental deaths were registered, and in twenty-seven instances the causes of death were uncertified. The deaths from all causes corresponded to an annual rate of 29.8 in a thousand.

Scotland.—The deaths registered in eight principal towns during the week ending July 23d corresponded to an annual rate of 20.9 in a thousand of the population, which is estimated at 1,299,000. The lowest mortality was recorded in Edinburgh, viz., 18.7, and the highest in Dundee, viz., 23.7 in a thousand. The aggregate number of deaths registered from all causes was 523, including 5 from measles, 5 from scarlet fever, 8 from diphtheria, 37 from whooping-cough, and 39 from diarrhoea.

Germany.—The deaths registered in fifty-two cities of Germany, having an aggregate population of 6,821,222, during the week ending July 16th, corresponded to an annual rate of 26.3 in a thousand. The lowest rate was recorded in Lubeck, viz., 11.9, and the highest in Chemnitz, viz., 43.1. The average annual death rate during the week ending July 9th was 24.3.

Malta.—The United States consul, in his dispatch dated August 3d, states: "Cholera declared here."

Messina.—The following dispatch, under date of August 6th, was received from the United States consul: "Yesterday three deaths from cholera, originating here."

Naples.—A dispatch under date of August 4, 1887, states: "Several cases of cholera here."

Athens.—The Greek Government has ordered a strict quarantine of eleven days to be enforced at the Lazaretto in Corfu against all arrivals in Greece from Sicily, and from the eastern and western coasts of the Italian peninsula from Cotrone to Pizzo, in the Gulf of St. Euphemia.

Palermo.—The United States consul, in his dispatch under date of July 25th, relative to the existence of cholera, states that "on the 23d and 24th instant 5 cases and 4 deaths occurred among Palermitans (not fugitives). The deaths were very sudden, occurring within a few hours after the attack. The annual feast in honor of St. Rozalia, the patron saint of Palermo, which was to have taken place on the 13th, 14th, and 15th of July, has been indefinitely postponed, and the structures erected for the occasion, costing about fifty thousand francs, ordered to be taken down. . . . The weather is excessively warm, the thermometer ranging from 32° to 38° centigrade in the shade for the past eight or nine days. Many people have left the city for various parts, but those remaining appear resigned and tranquil, which is different to all previous alarms."

Caracas.—According to the decree published by the Government here, all vessels coming from Key West, Fla., will be subjected to a quarantine of fourteen days, including voyage.

Havana.—One thousand five hundred and fifteen deaths were registered during the months of June and July, 1887, including 233 from yellow fever, 155 from small-pox, 39 from enteric fever, 36 from "pernicious fever," 6 from diphtheria, 5 from measles, and 5 from croup. The United States sanitary inspector states that "the beginning of the small-pox epidemic was probably caused by the disembarking from one of the Spanish mail steamers to the military hospital of quite a large number of soldiers who were suffering from the disease."

Demerara.—The United States consul, under date of July 12th, reports that "British steamships, bound for the United States via West Indian Islands, frequently leave this port without applying for a bill of health. The steamship *Klyde* left here June 14th for Barbadoes to load for the United States, and the steamship *Belair* sailed July 8th for the same destination, both neglecting to call for bills of health. . . . I respectfully suggest that, if at any time Demerara should become an infected port, the health regulations of the United States may be evaded in this manner."

San Juan, Porto Rico.—In reply to an inquiry through the Department of State as to the reason for declaring vessels suspicious arriving from the United States, referred to in Abstract No. 62 of this series, the United States consul reports that the decree was issued by the Governor-General on account of the cholera epidemic in South America, from which, in his opinion, the United States was not sufficiently protected. On July 23d his Excellency the Governor-General issued a decree abolishing the board of health's edict requiring three days' observation or any quarantine of any vessels arriving from the United States having clean bills of health.

MORTALITY TABLE, FOREIGN CITIES.

CITIES.	Week ending—	Estimated population.	Total deaths from all causes.	DEATHS FROM—						
				Cholera.	Yellow fever.	Small-pox.	Typhus fever.	Enteric fever.	Scarlet fever.	Diphtheria.
Paris	July 16.	2,260,045	894	10	24	9	25			
Paris	July 23.	2,260,045	853	8	20	4	25			
Glasgow	July 23.	545,678	216			5	1	1		
Warsaw	July 16.	439,174	232	8						
Calcutta	June 18.	433,219	159	8						1
Amsterdam	July 23.	378,686	160			1				2
Rome	June 4.	369,214	137	6		1	1	4		
Rome	June 11.	369,214	133							
Munich	July 16.	269,000	153				1	3		2
Pulmow	July 23.	250,000	120	5				11		5
Edinburgh	July 23.	228,373	93				1			2
Bristol	July 23.	223,695	65					4		
Leipsic	July 23.	190,000	65							8
Genoa	July 23.	179,313	104	1		2				3
Trieste	July 16.	150,157	72	1				9		
Havre	July 23.	112,074	73	1		12				
Pernambuco	July 19.	111,000	64		1					
Reims	July 23.	97,903	47							1
Edinburgh	July 23.	72,297	29			1				2
Gibraltar	July 17.	23,631	11				1			

UNITED STATES.

Epworth Key, Florida (refuge station).—The United States sanitary inspector (Dr. E. Hebersmith) reports, under date of August 6th: "Case of yellow fever developed yesterday at station."

Delaware Breakwater Quarantine Station.—Bark *Ada Gray*, from Havana, arrived August 8th, with one case of yellow fever on board.

Sapelo Quarantine Station.—The medical officer in charge reports that the bark *Lucia* (sent to that station from Brunswick, Ga., for disinfection) is not infected with any contagious or infectious disease. "The case of intermittent fever yielded under the treatment of sulphate of quinine."

Key West—Yellow Fever.—Total number of cases to date, 233; deaths, 46.

THERAPEUTICAL NOTES.

The Treatment of Gonorrhœal Cystitis.—According to a contributor to the "Union médicale," M. Diday advises the patient to take, every half-hour for one forenoon, a tablespoonful of an infusion of 3 parts of hyoseyanus leaves in 100 of boiling water, refraining from all other drinks during that time. Its use is to be stopped if the mouth feels dry or if there is any drowsiness. This infusion is said to give relief almost always, and sometimes to cure exceedingly protracted cystitis. Applications of ice are useful when the cystitis is accompanied by prostatic engorgement, seminal emissions, or anal tenesmus; they are contra-indicated by the hemorrhoidal habit. If the cystitis becomes chronic, it is to be treated with rectal infusions, the application of deep revulsives to the hypogastrium, the loins and the perineum, and the use of the waters of Contrexeville and Evian. Whenever the affection is supposed to be kept up by the dourous dis-

thesis, the waters of Uriage are recommended, to be drank and used as baths.

Nitrate of Silver in the Treatment of Gonorrhœal Epididymitis.—M. Debout ("Normandie méd.") recommends the constant application of a compress soaked in a one-per-cent. solution of nitrate of silver to the scrotum on the affected side. If there is no relief in twelve hours, the strength of the solution may be doubled or tripled. No pain is produced, but the treatment can hardly be kept up more than five or six days, as an irritated state of the skin is then set up. The author thinks that the remedy does not act as a revulsive.

A New Cure for Stuttering.—Coen ("Ctrlbl. f. klin. Med.;" "Lyon méd."), acting on the principle that a stutterer does not stutter when he speaks in a low tone, advises the following course of treatment: Absolute silence for a preparatory period of eight or ten days; speaking only in a low tone for another period of the same number of days; and a gradual elevation of the voice during the next ten or fifteen days.

Pavesi's Hæmostatic.—The "Gazette de gynécologie" gives the following formula:

Sulphophenic acid, {	each.....	25 parts;
Alcohol, {		
Benzoic acid, {	each.....	5 "
Tannic acid, {		
Glycerin.....		125 "
Rose-water.....		200 "

The sulphophenic acid is made by digesting 2 parts of sulphuric acid and 1 part of carbolic acid together for a few minutes over a water-bath. The benzoic acid is dissolved in alcohol and glycerin, and the tannin in alcohol. For tamponing the vagina, M. Chéron recommends cotton soaked in this mixture. While it coagulates the blood perfectly, it does not act as an irritant.

The Treatment of Phtheiriiasis Pubis.—To kill the crab-louse ("Jour. de méd. et de chir. pract.;" "Gaz. de gynécol."), it is better to use a five-per-cent. ointment of calomel than ordinary blue ointment. The following preparation, much used in Vienna, may be employed:

Petroleum, {	each.....	15 parts;
Balsam of Peru, {		
Oil of laurel.....		1 part.

This should be washed off after three hours. Another efficient method is to bathe the parts twice a day with a mixture of a teaspoonful of a one-per-cent. alcoholic solution of corrosive sublimate and a pint of water. None of these applications kill the nits, but vinegar will, as it softens the adhesive chitin by which the ova are held on the hairs, when they should be detached.

A Mixture for Flatulent Dyspepsia.—"Lyon médical," quoting from the "Revue de chirurgie et de thérapeutique," gives this formula:

Tincture of gentian, {	each.....	8 parts;
Tincture of star-anise, {		
Tincture of nux vomica, {		
Chloroform.....		2 to 4 "

From eight to ten drops are to be taken before each meal, in a wine-glassful of water.

A Mixture for Infantile Diarrhœa.—The "Union médicale" credits Zinnis with this formula:

Fennel-water.....	75 parts;
Lime-water.....	6 "
Subnitrate of bismuth.....	3 "
Syrup of orange-flowers.....	15 "

A teaspoonful is to be given every two hours to infants whose dejections are green and contain masses of undigested casein. Farinaeous food should be withheld.

An Antarthritic Collodion.—Monin is credited by the "Union médicale" with the following formula:

Elastic collodion, {	each.....	15 parts;
Sulphuric ether, {		
Salicylic acid.....		4 "
Morphine hydrochloride.....		1 part.

In cases of gout of the great toe, this should be applied every hour. The pain soon ceases, it is said, the swelling subsides, and metastasis is not to be feared.

The Treatment of the Bites of Insects.—Bernbeck ("Vereinsbl. pfälzer Aerzte;" "Allg. med. Ctrl.-Ztg.;" "St. Petersburger med. Wehnschr.") gives these two formulæ:

(1) Salicylic acid.....	1 part;
Elastic collodion.....	19 parts.
(2) Corrosive sublimate.....	1 part;
Elastic collodion.....	1,000 parts.

On applying either of these solutions, the pain, it is stated, is allayed at once, and it is only in the rarest cases that the neighboring parts become swollen.

ANSWERS TO CORRESPONDENTS.

No. 25.—The addresses are as follows: J. B. Baillièrre et fils, 19, rue Hautefeuille; A. Delahaye et E. Lecrosnier, place de l'École de médecine; O. Doin, 8, place de l'Odéon; G. Masson, 120, boulevard St.-Germain; and G. Steinheil, 2, rue Casimir-Delavigne.

No. 26.—We understand that the meeting is to be held in New York, in November.

No. 27.—We think that such an undertaking as you have in mind could be made successful.

To Contributors and Correspondents.—*The attention of all who purpose favoring us with communications is respectfully called to the following:*

Authors of articles intended for publication under the head of "original contributions" are respectfully informed that, in accepting such articles, we always do so with the understanding that the following conditions are to be observed: (1) when a manuscript is sent to this journal, a similar manuscript or any abstract thereof must not be or have been sent to any other periodical, unless we are specially notified of the fact at the time the article is sent to us; (2) accepted articles are subject to the customary rules of editorial revision, and will be published as promptly as our other engagements will admit of—we can not engage to publish an article in any specified issue; (3) any conditions which an author wishes complied with must be distinctly stated in a communication accompanying the manuscript, and no new conditions can be considered after the manuscript has been put into the type-setters' hands. We are often constrained to decline articles which, although they may be creditable to their authors, are not suitable for publication in this journal, either because they are too long, or are loaded with tabular matter or prolix histories of cases, or deal with subjects of little interest to the medical profession at large. We can not enter into any correspondence concerning our reasons for declining an article.

All letters, whether intended for publication or not, must contain the writer's name and address, not necessarily for publication. No attention will be paid to anonymous communications. Hereafter, correspondents asking for information that we are capable of giving, and that can properly be given in this journal, will be answered by number, a private communication being previously sent to each correspondent informing him under what number the answer to his note is to be looked for. All communications not intended for publication under the author's name are treated as strictly confidential. We can not give advice to laymen as to particular cases or recommend individual practitioners.

Secretaries of medical societies will confer a favor by keeping us informed of the dates of their societies' regular meetings. Brief notifications of matters that are expected to come up at particular meetings will be inserted when they are received in time.

Newspapers and other publications containing matter which the person sending them desires to bring to our notice should be marked. Members of the profession who send us information of matters of interest to our readers will be considered as doing them and us a favor, and, if the space at our command admits of it, we shall take pleasure in inserting the substance of such communications.

All communications intended for the editor should be addressed to him in care of the publishers.

All communications relating to the business of the journal should be addressed to the publishers.

Original Communications.

MYALGIA

OF THE PHARYNX AND LARYNX.*

By S. H. CHAPMAN, A. M., M. D.,
NEW HAVEN, CONN.

MYALGIA means, of course, muscular pain. The name defines as carelessly affections of muscles as neuralgia does those of nerves. But, with the modern increase of knowledge of morbid anatomy, the name has become more and more limited in use, until, at present, it represents a few still imperfectly known affections.

I would still further limit the use of it to a peculiar condition of the muscular tissues of the chest and upper air-passages; a condition the cause of which is understood, but the morbid anatomy of which is still to be discovered.

All the muscular tissues which are directly involved in the respiratory act may be affected; but those usually so affected are the pectoral muscles, the muscles of deglutition, and those of the voice. The first and principal symptom of this condition, the symptom which leads patients to seek advice, is a sense of uneasiness in one or more muscles of the chest or of the upper air-passages. This sense of uneasiness does not amount to pain, even on motion; in that respect it differs from both muscular rheumatism and neuralgia. But pressure upon it, as with the finger or some portion of the clothing, produces pain more or less acute.

In that respect it resembles the affections spoken of. The muscle affected shows no sign to touch, sight, sound, or thermometer, of the presence of disease. Adjoining tissues, not muscular, are not at all implicated in the process.

If the affected muscle is contiguous to an important organ, the invalid fears disease of that special part. Fears of heart disease and of cancer of the breast are unusually common, and are often the cause of seeking advice.

The second and equally important symptom is a sense of loss of power in the affected part. This is specially prominent when the muscles of one side of the chest or the muscles of deglutition are affected.

In the former case, complaint is made that the affected side does not inflate so much as the unaffected one. But the most careful examination in very many cases fails to substantiate any such condition. The affected muscles are as sensitive also to electrical tests as the unaffected. In the latter case, the condition is profoundly deceptive.

The pain on swallowing produces a natural shrinking from the act, and a partial loss of power is thus readily simulated.

Electrical tests can not be applied with advantage in such a location, and cocaine, affecting the superficial tissues only, does not aid us. But, after repeated trials with foods of different consistences, and on finding that the more fluid the food the less the difficulty of swallowing until the difficulty vanishes altogether, I have come to the conclu-

sion that the pressure of solids on the passage down gives rise to the pain, which is similar in character to that produced by the pressure of the finger upon a muscle elsewhere. I have been able to verify this statement by pressure with blunt probes, and in this manner to locate the muscles affected.

In the worst cases of this description, the passage of bougies has been resorted to in order to eliminate the possibility of stricture of the œsophageal opening. In the majority of these cases also, there is an entire absence of any affection of the mucous membrane.

Negative evidence is furthermore given of the correctness of this conclusion in the fact that the disease affects at the same time some of the pectoral muscles. Laryngeal myalgia is far less frequent than the pharyngeal, yet a sufficient number of cases are interspersed with others of this disease to enable us to diagnosticate and differentiate it.

The symptoms are a sense of fullness with pain on pressure, a feeling of constriction, and the sensation of uneasiness with loss of power, denoted by the adoption of a suppressed vocal intonation. At the same time there is entire absence of inflammation of any sort, and the co-ordination and strength of the laryngeal muscles seem to be perfect. I am not a sufficiently acute observer to have been able to discover whether the affection attacks single muscles or single groups of muscles in the larynx.

The third symptom in this disease is an irritable pulse, increasing to cardiac palpitation in the cases of long standing or of severity, and with it a faint cardiac systolic murmur is perceptible, reminding one of mitral regurgitation.

It has not, however, the accentuation of insufficiency, nor the loud, blowing character of the anæmic bruit; it gives one the impression of the scraping noise made by a ship passing through buoyant flotsam.

The fourth symptom is tenderness, more or less marked, in the region of the spleen, and, in cases of severity or of long standing, the spleen is found enlarged. The conclusion has been reached that this is a muscular and not a sensory condition, because, first, there is no actual pain, no neuralgia; second, the unpleasant sensation does not follow the location of the nerves; third, electrical treatment has no effect upon it; fourth, it does not seriously impair the general health. Usually patients complaining of these peculiar sensations are found to be in fair condition—do not show to a casual observer any marked depreciation of the general health.

The cause of this peculiar condition is the absorption of the germ poisons of moist air or of unsanitary drainage. In short, it is a species of blood-poisoning, affecting particularly the respiratory muscular system and the heart. The absorption of the poison takes place through the lungs, whence it is taken up by the blood, and is thence discharged into the muscular fascias. The direct irritation of the poison is the cause of the palpitation, and the presence of the abnormal substance is the cause of the unusual cardiac tone.

It is a poison of some virulence and of quick action, since the disease is seen to reach its full development with-

* Read before the American Laryngological Association at its ninth annual congress.

in a few hours, and, under the influence of proper treatment, to disappear almost as rapidly.

Yet it is also capable of acting slowly—no doubt in greater attenuation—producing a chronic invalidism of some portion of the tract usually affected.

On account of the curable nature of the disease, it is impossible to give any data of the morbid anatomy of the parts affected, but the foregoing conclusion has been arrived at for the following reasons: 1. The presence of the disease beside malarial affections of all grades. 2. The presence of the disease beside diseases due to undoubted blood-poisoning, such as diphtheria and typhoid pneumonia. 3. The similarity of some of the symptoms to those of the graver diseases mentioned. 4. The indirect evidence from the absence of any real muscular or nervous disorder. 5. The rapid disappearance of all symptoms under an anti-malarial germicide treatment.

The treatment which has proved the most effectual consists of inhalations of oxygen, of rapid saturation with quinine, especially of the form containing also salicylic acid, and of chloride of iron. Local treatment by counter-irritation, whether with blisters, iodine, mercury, or the moxa, has proved unavailing. Local treatment also of the throat has been of no service whatever, and the patient and prolonged use of the electrical current has proved equally useless. Immediate change to a different locality and atmosphere has been advised, and, where this recommendation has not been accepted, relapses have been sure to follow.

In closing, permit me to give four cases from my notebooks which seem to be fairly representative of the different conditions observed:

CASE I.—Patient seen in consultation because of peculiar symptoms arising during the second week of repair of a broken leg. He was a strong, large man of twenty-four years of age, suffering from palpitation and distress from inability to swallow freely, with a sensation of choking. He complained of soreness of the chest, and cringed when pressure was applied over the chest-walls in front and on the sides and to the larynx. Pulse, 110; temperature below 98° F. The symptoms had come on suddenly two days before, and had become gradually worse, and his general health was being depressed by them. Examination revealed no inflammation of the larynx or pharynx, though there was much pain on pressure low down in the pharynx. I found that the patient had been placed in a ground-floor room where there was a disused sink, and beneath which was no cellar. To facilitate ease of care of the patient, I had him removed to the second story on the south side of the house. Ordered oxygen and quinine in large doses, and the symptoms gradually disappeared during the following week.

CASE II.—A gentleman, aged fifty-two, who looked robust, had consulted specialists in this and other countries for an apparent lung trouble with occasional unpleasant sensations in the throat. The chief symptoms on first examination were: moderately accelerated pulse with faint systolic bruit; pain on pressure localized to the right side of the chest over the second, third, and fourth ribs; a feeling that his collar was too tight for his neck, with pain in the region of the larynx when pressed; a tendency to use a small, soft voice, which became strong and natural again under excitement. He was quite sure that he suffered from both heart and lung disease. He acknowledged having had malarial fever once and dumb-ague at times, for the cure of which he had taken a sea voyage. He confessed that these

symptoms were not always present, but usually came on suddenly while he was at his country place, and were not relieved except by change of climate. His wife and daughter had both suffered from malarial disease in one form or another. He was quite sure that the right lung was contracted and the inflation of the right side much less than that of the left. His appetite was good, and he felt strong otherwise; but he was too nervous to sleep quietly.

Examination showed no lung or pleural disease, and no laryngeal congestion or inflammation. Examination of the urine disclosed nothing abnormal. On going to his country place, I found the house surrounded by a dense wood, and consequently damp. To the right and close to the house also was a dark pool with spongy banks. I ordered change of climate, with quinine and iron, and recommended thinning of the grove and drainage of the pool.

This occurred in August, 1884. My recommendations were followed, since which time the health of the family has been good, and the patient has had but one slight recurrence of the affection—in April, 1886—the apparent result of a visit to the country to oversee the erection of a new building.

CASE III.—A young lady, aged nineteen, who looked healthy, had a good appetite and digestion, but had been obliged to be careful to take soft foods for some weeks, on account of an apparent difficulty and pain in swallowing, had constantly an uneasy sensation in the throat, which did not affect the larynx. She had heard of consumption beginning in this manner, and was anxious about it on that account. Menstruation was regular, normal in quantity, and painless. There was no constipation. She lived on a high bank overlooking a sluggish stream running through a deep and narrow valley. The mists filled the valley at night in summer, and the house was damp; the drainage consisted of an untrapped earthen pipe extending into the river and below the surface of the water, the house-end of which was open, directly under the living room of the house. The autumn previous she had had typhoid fever. At the time of my visit in April her mother was suffering, as she said, from neuralgia of the head and stomach.

Examination disclosed a systolic bruit, with a pulse of 100, temperature normal, tenderness on pressure all over the chest, although she had not complained of any unusual sensations there; tenderness on pressure over the spleen, but no perceptible enlargement; great sensitiveness to pressure all over the pharynx, with no unusual appearance of the mucous membrane; larynx normal. A sugar-coated pill was given her to swallow, and seemed to give great pain on its passage toward the œsophagus, although it passed down with ease. The patient felt well except when attempting to swallow; but this had produced considerable nervous excitement and consequent exhaustion. I ordered quinine salicylate, fifteen grains daily, and fifteen minims of tincture of chloride of iron thrice a day.

In order to test the treatment upon what seemed to me an allied disease, I sent her mother directions to use the same treatment. There was in both cases an improvement after a few days, and with my special patient an entire absence of the disagreeable symptom and the bruit after a lapse of about three weeks. She has, however, had two relapses, milder than the original attack, which have been routed by the same treatment.

CASE IV.—An overseer of large quarries which send so much freestone to New York, aged sixty and over, had used tobacco and stimulants in rather more than moderation. He had had for years attacks of chills, which were often accompanied by pains in the chest and throat. Lately he had had no regular chills, but did not feel well. About a year before, he had tried to swallow a "junk of meat"—that was his expression—and

thought it would choke him. Since then solids had seemed to hurt his throat, and he had lived on soft food as much as possible. He used to be very fleshy, but looked at the time of examination in good flesh and health. He had suffered from diarrhoea. Physical examination gave a pulse of 60, temperature normal; spleen perceptibly enlarged and tender. The urine gave bile colors and high specific gravity and excessive acidity, but no casts and no albumin. The pharynx looked somewhat inflamed, and the mucous membrane thickened. Pressure with a probe produced pain at the mouth of the oesophagus. Bougies were passed without difficulty, though with much pain. The larynx was normal.

Here was a case which seemed to be complicated by the tobacco-and-alcohol habit; but I determined to try first the treatment adopted for other uncomplicated cases of this kind, and to permit the continued use of the stimulants as formerly. The treatment varied from that already prescribed only in the addition of free and repeated inunction of mercurial ointment over the region of the spleen until a marked alterative effect had been produced. The process of swallowing became so much better after a treatment of three weeks that solids could be taken with very little difficulty or pain, but at this time I lost sight of the patient altogether.

If I have been able in the statement of these cases to give the salient points, you may, on consideration of them, conclude that the point taken is a correct one—viz., that there is a more or less obscure affection of the muscles of the respiration and throat which may be called a myalgia malarialis.

PROFESSOR BELL'S INDUCTION BALANCE

USED IN A CASE OF

BULLET LODGED IN A BRAIN.

By C. W. DE LANNOY, M. D.,

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THE courts have just disposed of an indictment for murder against a young man accused of shooting a young woman. The case has excited peculiar interest among both legal and medical men, even more so among the latter, as several eminent physicians from Philadelphia and New York were associated in the management of the case. Their consultation resulted in an attempt to locate and remove a bullet lodged within the cranial cavity. On this occasion, for the first time, Professor Bell's induction balance and Dr. John H. Girdner's telephonic probe were entirely relied upon in the selection of the point over which the trephine should be applied.

The ball penetrated the skull a little above and in front of the left ear, on a line with the ramus of the jaw-bone, and, not having found exit through the opposite wall of the cranium, its whereabouts could only be inferred from the location and amount of manifest paralysis. The tests were made by Dr. John H. Girdner, of New York, in the presence of Dr. Pancoast, Dr. Wile, Dr. Wharton, and myself, of Philadelphia, Dr. E. C. Spitzka, of New York, Dr. Brown, the local physician, and six or eight of his colleagues. The characteristic sound manifest to the ear of the listener when the induction coils are brought in the neighborhood of a

metallic substance was heard most distinctly when the instrument reached a spot above and considerably behind the right ear. All the physicians present, some twelve in number, with their backs turned to the patient, were permitted to test the instrument, and without a single exception agreed upon the same locality as that over which the telephone receiver conveyed to their hearing the greatest intensity of sound. After a general and serious consultation, during which each physician was called upon to express personal opinions, the application of the trephine over the spot designated and an attempt to remove the bullet were unanimously agreed upon, and declared to be the only chance for life remaining to the youthful sufferer. With the consent of her parents, Dr. Pancoast removed a button of bone seven eighths of an inch in diameter. The membranes of the brain bulged through the opening in the skull, presenting the strongest evidences of fluctuation. A puncture made with the point of a small knife liberated an ounce or more of sanious pus containing shreds of broken-down brain tissue; here, then, was an abscess, the cautiously explored cavity of which was found to equal the size of a hen's egg. The telephonic probe was now carefully introduced with the hope of obtaining contact with the foreign body. Upon two occasions Dr. Girdner professed to have elicited the peculiar telephonic "click" which evinces contact with a metal, but the extreme softness and peculiar delicacy of the tissues, as well as the precarious condition of the patient, would no longer permit of exploratory measures; hence all operative procedure was suspended. The trephine was applied on Wednesday afternoon, and the following Saturday the patient, after five weeks of suffering, died from the effects of her injury. The post-mortem examination (notes and illustrations from which are appended) was performed on Monday.

Autopsy.—Upon either side of the head were found two wounds, consisting of oval skin-flaps, convexities downward, which were partially healed, though the stitches on both sides were still *in situ*. The left flap bore the mark of a recent puncture situated on a line with the posterior border of the ramus of the jaw-bone, an inch above and in front of the ear. The skin-flap upon the right side occupied a position two inches above and an inch behind the pinna. An incision was next made through the tissues of the scalp from the insertion of the ears, over the top of the head, and the scalp reflected both ways.

The cranium on its left lateral aspect exhibited a perforation, like that made by a trephine, three quarters of an inch in diameter, involving the attenuated margins of both temporal and parietal bones. The center of the perforation was a quarter of an inch in front of and the same distance below the summit of the squamous plate of the temporal bone; the upper margin of the opening corresponded to the same horizontal plane as that of the summit of the squamous plate.

The right lateral aspect presented a perforation of the parietal bone circular in outline, measuring seven eighths of an inch in diameter, the center of which was an inch and seven eighths behind the coronal suture, one and one eighth above and half an inch behind the summit of the squa-

mous plate, a quarter of an inch anterior to and half an inch below the parietal eminence.

The top of the skull was now removed on a circular line passing above the external occipital protuberance and slightly above the supra-orbital ridges in front. The vessels of the dura mater were found filled with blood, this membrane as well as those beneath it presenting all the conditions pertaining to general and diffuse meningitis. The membranes covering the brain contained perforations on both the right and left sides which corresponded in location to the openings in the skull previously described. Division of the membranes was next effected on a level with the edge of the bone, and they were reflected toward the middle line of the brain or falx cerebri; the latter structure was perforated near its lower concave margin on a horizontal plane slightly behind the left cranial opening and considerably in front of that upon the right side. The breach of continuity in the falx corresponded to punctures of the internal surfaces of both right and left hemispheres.

Cortical Brain Lesions, Fissures and Convolutions Involved.—Left hemisphere. Perforation through the fissure of Sylvius, entailing injury to the following convolutions (see Fig. 1): Posterior portion of third frontal. Lower end of ascending frontal. Lower end of ascending parietal. Anterior portion of first temporal. Also upon the internal surface of the left hemisphere, immediately below the callosomarginal sulcus, the brain surface was perforated continuously through from the puncture described in connection with the fissure of Sylvius. Surrounding this lesion the cortex of the internal surface was considerably softened.

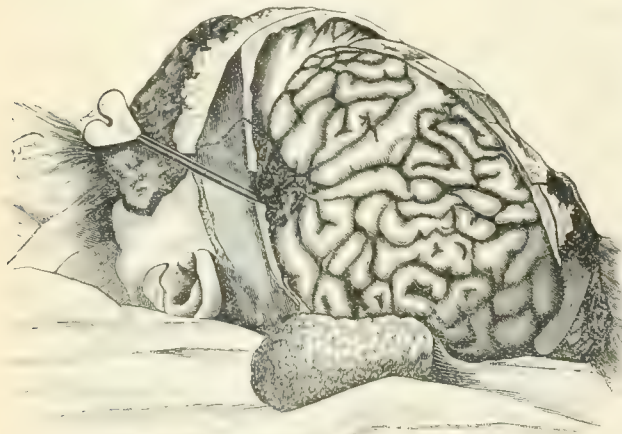


FIG. 1.—Point of entrance of bullet, left fissure of Sylvius.

Right Hemisphere Cortical Lesions.—Destruction of the median portion of the ascending parietal convolution. Softening of the anterior termination of the inter-parietal fissure. Partial destruction of the antero-superior portion of the second parietal convolution. The internal surface of this hemisphere presented a punctured opening exactly opposite that described in connection with the left hemisphere.

After removing the reflected dura, including the falx cerebri, the brain was cut away in successive horizontal slices; at a depth of three quarters of an inch upon the right side

and an inch or more upon the left, two cerebral abscesses were reached, representing cavities of the size of large horse-chestnuts, that of the right hemisphere being considerably larger. Surrounding these, the white substance of the brain

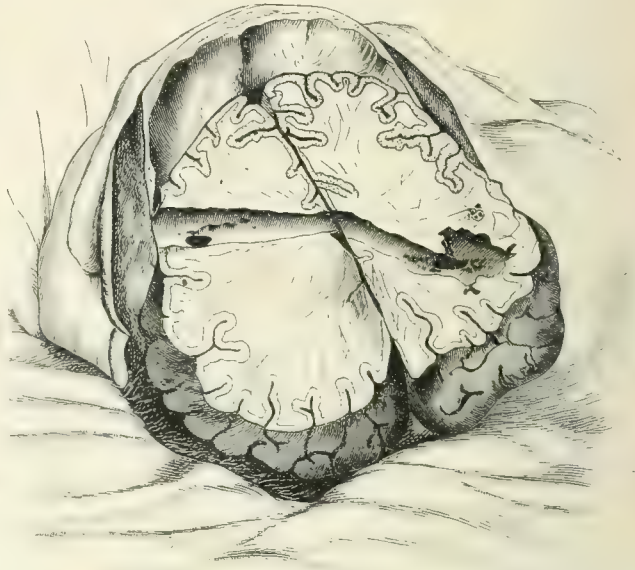


FIG. 2.—Section of the cerebral hemispheres showing the track of the bullet obliquely across from left to right; also the right cerebral abscess where the bullet was located by the induction balance.

not only was much softened and puriform, but contained blood-clots and extensive deposits of pigment. Slicing of the cerebrum was now continued with no new developments until a depth situated on a level with the perforation in the left fissure of Sylvius was reached, when a continuous track could be discerned, beginning at this perforation and proceeding in a direction obliquely backward and upward, finally ending in the right cerebral abscess (see Fig. 2).

The course of whatever projectile caused this lesion was deviated at the moment it reached the falx, for at that point it presented an obtuse angle tending more decidedly backward and upward. A continuance of deeper and parallel brain sections demonstrated the presence of two pus tracts or sinuses representing downward extensions of the abscesses previously described; of these two diverticula, the one leading from the right abscess had the larger diameter. In direction, both accessory channels converged obliquely downward and inward, tending to meet at a common focus upon the floor of the skull directly over the median line; here, resting upon the body of the sphenoid bone, was found a conical leaden bullet, the point of which was flattened toward its base; the circular outline of the latter corresponded to a No. 22. The foreign body rested upon the dura mater covering the body of the sphenoid bone, which location corresponded to the common terminus of the two pus sinuses previously described as leading from the abscess cavities. The bullet was not encysted, nor was there any indication that it would have become so had the patient continued to live.

The above-described brain lesions, associated with the finding of this bullet, would inevitably prove that the projectile, entering upon the left side of the head from a direc-

tion inclined obliquely upward and backward, traversed both hemispheres along the track seen in Fig. 3, and finally

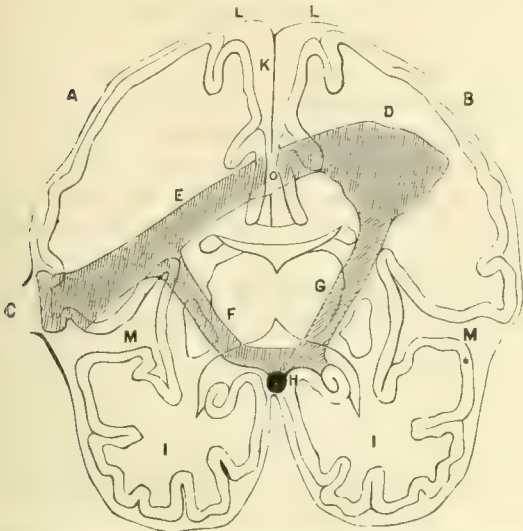


Fig. 3.—Diagram showing track of bullet and sinuses leading to the point where it was found at the post-mortem examination. A, left, and B, right hemispheres; L, dura mater; K, falx perforated at O; C, point of entrance of bullet; E, track through left hemisphere; D, abscess in right hemisphere; G, sinus leading from floor of abscess; F, sinus upon left side; I I, temporal lobes; M M, Sylvian fissures.

lodged in the right hemisphere, where it was located by the induction balance in the hands of Dr. Girdner several days previous to the girl's death. From this point, in virtue of its weight and other irritating qualities and the consequent breaking down of brain-tissue, it slowly gravitated to the floor of the skull, upon which it was found.

The tentorium cerebelli was intact, and the soft structures beneath it presented no evidence of either primary or secondary lesions. The skull-cap and dura mater, with the attached falx, as well as the bullet, were retained as evidence to be used in court. An incision was now made extending from the root of the neck to the pubes, and the contents of the chest and belly were subjected to examination. The heart was rather below the normal size, but presented no evidences of disease affecting either its walls or its valves. The lungs were also healthy, showing only a slight amount of post-mortem congestion along the region of the spine. The stomach and bowels were absolutely empty, but afforded no evidences of disease. The liver, spleen, pancreas, and kidneys were successively examined, all of which organs evinced absolute freedom from disease. The womb was that of a virgin; the ovaries, somewhat congested, presented the appearances met with at the onset of menstruation. Careful examination of the lining of the womb, as well as that of the vagina, fully corroborated previous conclusions as to the girl's virginity.

The weight of the bullet removed from the brain was:

The large piece found upon the
floor of the skull..... 1.788 grammes;
The small piece found near the
point of entrance..... .048 "

or 28.43 grains.

The average weight of bullets of the same caliber as those found in the revolver picked up at the place of the alleged shooting is 1.865 grammes, or 28.78 grains.

The opinion of the general public, taken from the secular press, their only source of information, was largely against the usefulness of the induction balance as a means of locating the bullet in the patient's brain. There was a failure to comprehend what could be reasonably expected from Professor Bell's apparatus—namely, the locating but not the extraction of bullets—hence failure to accomplish the ultimatum entailed condemnation of the accessory means employed in attempting it.

None of the physicians who witnessed the post-mortem examination could deny that the induction balance had correctly located the foreign body in the right hemisphere near the parietal eminence; that it had subsequently fallen from this position to the floor of the skull was evident.

EPILEPSY:

ITS CLINICAL MANIFESTATIONS, PATHOLOGY, AND TREATMENT.

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(Concluded from page 158.)

I CAN not refrain from giving a description of the convulsive paroxysms induced in rabbits after ligation of the great arteries of the neck, in the eloquent language of Kussmaul and Tenner. The quotation is made from the paper already referred to:

"General convulsions usually followed in from eight to eighteen seconds after complete withdrawal of arterial blood. We killed six rabbits solely for the purpose of determining in what space of time convulsions would come on. After the arteries had been laid bare, and the ligatures had been passed round, we allowed the animals to rest undisturbed in an erect position for a quarter of an hour, without making any experiments by compression. One of us then, as quickly as possible, tied the left subclavian and innominate arteries, while another, watch in hand, observed the time when the symptoms first manifested themselves.

"In a very strong male rabbit, two years old, general convulsions came on three seconds after the innominate had been tied; and this is the shortest period that we have noticed in any. In two female white rabbits, four weeks old, the convulsions appeared after an interval of twelve seconds; in a female gray rabbit, two or three years old, in ten seconds; in a male of the same age, in sixteen seconds; and in an old strong female, from four to five years old, in forty-five seconds. None of these animals lost during the operations any considerable quantity of blood.

"Out of a hundred strong rabbits, we met with four only in which, after perfect closure of the above-named vessels, convulsions did not appear till after four to six minutes, and one only, as already mentioned, in which they did not appear at all after the lapse of ten minutes and until the aorta had been opened."

The occurrence of convulsions is always preceded by various motor phenomena, which have been exhaustively

described by Kussmaul.* The most important of these are as follows:

1. "Immediately after stoppage of the blood the various sphincter muscles of the face contract, especially, and in a very striking manner, those of the iris and eyelids; then, in the order of their distinctness, the conchæ of the ears, the nostrils, and the mouth. The jaws, which are generally already closed, become spasmodically locked. Then, usually a little before, but sometimes simultaneously upon the occurrence of general convulsions, the pupils and the fissures of the eyelids, ears, and nostrils are widened, sometimes the mouth also, very distinctly. The adductors of the lower jaw seem also for a few moments to become paralyzed; but during the attack the jaw becomes locked, either uninterruptedly or in broken succession, by the alternate occurrence of spasmodic and more feeble *abductions* and stronger *adductions*."

2. "Convulsive efforts are almost invariably made to turn the pupils toward the internal angles of the eyes, after which the eyeballs generally roll about, first inward, forward, and downward, then outward, backward, and upward, until at length the pupils are turned toward the external angles of the eyes, and are wholly or partially concealed by the upper eyelids."

3. "The eyeballs are first drawn back into the sockets, and again become prominent as the pupils dilate."

4. "Respiration is at first accelerated, but shortly afterward, a little while before the approach of general convulsions, it becomes prolonged and deep."

5. "The muscles of the neck generally become paralyzed and unable to bear the weight of the head, which sinks down upon the breast or side, the animals afterward falling down in a swoon on their fore feet, occasionally on their hind ones. The symptoms of paralysis are the more distinct and constant the greater the time that elapses before general convulsions come on."

"The signal for general convulsions is given by a tonic contraction of the muscles of the neck. Then commences a terrible scene, the more surprising by contrast if preceded by swooning. The head is drawn violently backward, the pupil becomes uncommonly enlarged, violent lock-jaw ensues, and the animal, if strong, is generally flung forward with great force to a distance even of from one to two feet, and sometimes over the shoulders of the observer seated before it. The legs are alternately contracted and extended by clonic convulsions in the most violent way; the enlarged pupil appears again fixed in the center of the palpebral fissure, as the eyeball is again rolled somewhat inward; respiration is scarcely to be perceived, while the heart continues throbbing very vigorously. The clonic convulsions gradually subside, assuming more the appearance of tetanus, and eventually disappear altogether, passing away as they do so from the front to the back. First, the muscles of the neck and fore legs become paralyzed, while the back part of the body is bent backward and the hind legs are tetanically extended until these movements also cease. The du-

ration of these attacks was, according to several observations, from eighteen seconds to two minutes.

"Very frequently, after a pause of from fifteen to seventy-five seconds, a second attack comes on, always weaker and shorter than the first, and often limited to the hinder part of the body, in the form of tetanic convulsions; sometimes, however, affecting the whole body, under the form of clonic convulsions. We once observed such a second attack to last, in an exceptional case, two minutes. Sometimes, indeed, convulsions, in which the hind legs become tetanically stretched, recur even for a third and fourth time, at intervals of from fifteen to thirty seconds. They returned in the strongest and most regular manner in those animals whose arteries were tied forthwith, and whose strength had not been previously exhausted by experiments of compression. Toward the end of the attacks, urine and feces were sometimes voided; at other times no such voiding took place, even when the bladder was full.

"In rabbits, cats, and dogs, dying from hæmorrhage, the convulsions are of exactly the same character.

"These convulsions present precisely similar features to those of epilepsy in their complete form, as the following enumeration of the most important symptoms will show:

1. "The animals fall down before general convulsions come on, and completely lose the spontaneous use of their muscles."

2. "They give the observer the impression of their being perfectly unconscious."

3. "Not one of the many animals operated upon cried out, so long as the circulation was interrupted, either before or during the spasmodic attack, and two only while the latter was abating. Subsequently, however, they began to cry piteously directly arterial blood began to flow again, or, at all events, soon afterward. From the want of power to cry, and from the gradual swelling of the veins of the brain during the attack, to which we shall direct attention further on, we infer that spasm of the glottis (laryngismus) took place."

4. "The pupils are dilated during the attacks, and, to judge from several experiments, appear rigid, the eyeballs being motionless. Before and subsequent to the attacks, however, and when at the very last gasp, the pupils being at the same time very much enlarged, the eyes of some animals that were accurately examined appeared sensible to the influence of light."

5. "The attacks commence with a tonic spasm of the muscles of the neck (trachelismus)."

6. "Respiration ceases, while the heart continues beating."

7. "The limbs are seized with strong clonic convulsions, and become at last spasmodically stretched."

Besides the experiments above referred to, Kussmaul and Tenner inaugurated a series of researches which had for their object the more precise localization of the cerebral regions from whence general convulsions arise.*

* *Vide* article by Adolf Kussmaul in "Zeitschrift des Würtzburg. phys. med. Vereins."

* "On the Mode of Procedure for determining the Cerebral Region from whence General Convulsions after Profuse Hæmorrhage arise," by Adolf Kussmaul and Adolf Tenner. "The New Sydenham Soc.," 1859, vol. v, p. 60 *et seq.*

The *modus operandi* in these researches was as follows: Various districts of the brain were cut out, and a comparison of the effects produced by compressing the great arteries of the head before and after the operation was instituted. In this manner the following conclusions were arrived at: That anæmia of those parts of the brain situated in front of the crura cerebri produces unconsciousness, insensibility, and paralysis; if spasms occur with these symptoms, some excitable parts behind the thalami optici must have likewise undergone some change.*

This portion of their experiments is, however, open to criticism, since the sources of error are numerous. Among the latter, I will only mention the complications liable to arise from opening the skull—a procedure inevitably accompanied by changes in pressure, and, in this case, by escape of the cerebro-spinal fluid, and no little hæmorrhage.

I shall take occasion to refer at length to the further conclusions arrived at by Kussmaul and Tenner relative to the pathology of epilepsy in the subsequent paragraph on the mechanism of the epileptic seizure.

Landois has conducted some interesting experiments, which show the relation of venous hyperæmia of the brain and superior portion of the spinal cord to epileptoid convulsions.†

The mode of procedure in these researches was as follows: The right thoracic cavity was opened and the superior vena cava exposed in such wise that it was possible to close the lumen of the same by means of an ordinary artery forceps. Artificial respiration was instituted, in order to neutralize as far as possible the respiratory derangements unavoidably arising from opening one side of the thorax.

Among other phenomena, Landois observed, after closure of the superior vena cava (in the rabbit): 1. Retardation of the heart's action; and, 2. "Complete epileptoid seizures."

The latter observation is of great importance from a pathogenic point of view, since we are thus made aware not only that cerebral anæmia is capable of producing epileptoid convulsions (as shown by Kussmaul and Tenner), but that profound venous hyperæmia of the central nervous system is equally provocative of the same phenomena.‡ We can readily understand, moreover, why the convulsions are perpetuated during the second stage of the epileptic attack—that period of the seizure when the brain is evidently in a state of profound venous engorgement.

In 1868, Dr. H. Nothnagel § drew attention to the fact that, although it had long been known that irritation of the floor of the fourth ventricle gave rise to irregular general convulsions, no attempt had been made to locate the district in question with greater precision. That more exact

researches in this regard were really necessary was proved by the fact that experiments, undertaken in the light of the popular conception with regard to the "convulsive" functions of the floor of the fourth ventricle, frequently failed to produce any spasmodic phenomena whatsoever.

Accordingly, Nothnagel instituted a series of experiments with a view to determining with greater precision the locality in the medulla whose irritation is followed by general convulsions.

The technique of these experiments was extremely simple. The animal was placed upon the abdomen and secured with appropriate appliances. The soft parts were then divided so as to expose the occipital portion of the head between the crista and protuberantia occipitalis. Then the skull was pierced by means of a strong needle (care being taken to avoid the openings for the vasa emissaria Santorini). Finally, penetration of the organs within was effected by means of a fine needle. This procedure was followed by compulsory movements, *general epileptoid convulsions*, or the animal remained perfectly quiet, according to the part penetrated. Confirmatory evidence was subsequently afforded by post-mortem examination.

In this simple manner Nothnagel was able to determine with great exactness the boundaries of what he has expressively termed the "convulsion center" (*Krampfbezirk*). The lower limit of this district is situated at the upper portion of the *alæ cinereæ*; the upper limit lies somewhat above the *locus cæruleus*; the inner limit is constituted by the outer lateral border of the *eminentiæ teretes*; the outer limit is more difficult to locate, but the upper boundary line appears to be formed by the *locus cæruleus*, whereas below it corresponds to the inner border of the *tuberculum acusticum*.*

The depth of the district is very difficult to determine, as the slightest movement on the part of the hand of the operator causes the needle to penetrate unduly the yielding nervous tissue. When the needle penetrates the above-mentioned district (the "convulsion center"), the following phenomena are observed:

"At the moment of penetration severe opisthotonus and tetanic extension of the spinal column take place. Although firmly secured, the animal makes spasmodic movements with the extremities. When released it presents the spectacle of the most pronounced epileptoid convulsions. The extremities are the seat of violent irregular contractions, the posterior being sometimes more affected than the anterior limbs. At the same time the entire animal is thrown from side to side. . . . In from one half to three minutes the violence of the paroxysms subsides, and the animal remains quiet, but the extremities still continue extended and the spinal column is perfectly rigid." A blow upon the table is sufficient to again evoke the convulsions, but the latter sometimes break forth anew spontaneously.

From these experiments, Nothnagel concludes that the central point of departure of general convulsions is to be sought for in the pons. The lower limit of that portion of the central nervous system which is the point of departure

* Vide under head of General Summary, *op. cit.*, p. 105.

† "Ueber den Einfluss der venösen Hyperæmie des Gehirns und des verlängerten Markes auf die Herzbewegung, nebst Bemerkungen über die fallsuchtartigen Anfälle," von Dr. Leonard Landois. "Centralblatt für die medicinischen Wissenschaften," p. 146, 1867.

‡ "Die Entstehung allgemeiner Convulsionen vom Pons und von der Medulla oblongata aus," von Dr. H. Nothnagel. "Archiv für pathologische Anatomie und Physiologie und für klinische Medicin," Bd. xlv, p. 1, 1868.

* *Op. cit.*, pp. 146 and 147.

* *Op. cit.*, p. 5.

of general epileptiform convulsions is represented by a transverse section situated at the lower boundary of the pons.*

These, then, are the experiments upon which Nothnagel has founded his theory of epilepsy. I shall take occasion to again refer to the latter in the subsequent paragraph on the nature of the paroxysm.

In 1850 Dr. Brown-Séquard † succeeded in demonstrating that certain lesions of the spinal cord in mammals are followed in a few weeks by convulsions bearing a strong resemblance to those of epilepsy. After a long series of experiments on guinea-pigs, he found, moreover, that all the lesions of the cord enumerated below are capable of evoking these convulsive phenomena:

1. Complete or almost complete transverse section of one lateral half of the cord.
2. Simultaneous transverse section of the posterior columns, of the posterior horns of gray matter, and of a portion of the lateral columns.
3. Transverse section of the posterior columns, or of the lateral columns, or of the anterior columns alone.
4. Complete transverse section of the cord.
5. Simple puncture of the cord.

Of these lesions the first two are apparently those which are most liable to develop the convulsive condition.

That portion of the cord situated between the seventh or eighth dorsal and the third lumbar vertebræ is most susceptible to wounds. Lesions of this region are particularly prone to develop the convulsive condition.

In the majority of cases, the convulsive symptoms appear during the third week subsequent to the lesion.

Sometimes the convulsions appear without the aid of extraneous excitation. As a rule, however, they are readily evoked by irritation of certain circumscribed portions of the integument. That portion of the body the irritation of which causes convulsions has been termed by Brown-Séquard the "*epileptogenous zone*."

This author has also shown that section of the more important nerve-trunks, such as the internal popliteal and sciatic, and also lesions of the crura cerebri or corpora quadrigemina, are particularly prone to develop the epileptic condition. ‡

The offspring of animals affected by epilepsy caused by lesions of the nervous system may develop the epileptic condition, as Dr. Brown-Séquard has conclusively demonstrated.

A suggestive circumstance in connection with the epileptogenous zone is the fact that the latter is always situated on the same side as the lesion of the spinal cord or nerve; but, when the crus cerebri is injured, it is found on the opposite side to the lesion.

* *Op. cit.*, p. 9.

† *Vide* "Comptes rendus de la Société de biologie," 1850, vol. ii; "Archives générales de médecine," 1856, vol. i (v. série, tome 7), p. 143; "Lancet," 1861; "Bull. de l'Académie de méd. de Paris," Jan., 1869. Also, "Researches on Epilepsy; its Artificial Production in Animals," etc., 1857.

‡ "Researches on Epilepsy," etc., by Brown-Séquard, 1857. Also articles in journals already referred to.

Westphal,* while endeavoring to determine whether the epileptoid convulsions previously described by Brown-Séquard might be determined by certain injuries to the skin, discovered the interesting fact that, when a guinea-pig receives a blow, or a series of blows upon the head, the animal is at once seized with a violent convulsive attack. The convulsions thus induced resemble in every respect those produced by Brown-Séquard in the same animal by injuries to the nerves or spinal cord. The seizure takes place immediately after the blow, or after the lapse of a few minutes. When the convulsions have subsided, the animal appears to recover its normal condition; and attempts to cause a renewal of the seizure by irritating that portion of the skin which Brown-Séquard has called the "*epileptogenous zone*" are without avail. A different state of things is, however, observed to exist after the lapse of a few weeks; for, if now the animal is irritated by pinching, particularly in the neighborhood of the lower jaw, an attack of convulsions is immediately produced.

The susceptibility to a convulsive condition evoked by blows is hereditary, like the corresponding state which Brown-Séquard succeeded in establishing by means of injuries to the spinal cord and nerve-trunks.†

Dr. V. Magnan‡ and M. Challand § have shown in animals that absinthe, when introduced into the system, produces convulsions of an epileptoid character. The following experiment, performed by Dr. Magnan on a dog, is most interesting, as showing the possibility of producing hallucinations as well as epileptic attacks by the administration of absinthe: "In a dog weighing thirty-one pounds, into whose stomach we injected five grammes (about seventy-five minims) of essence of absinthe at 9.15 A. M., we observed a first attack of epilepsy at 9.45 A. M.; ten minutes later a second attack occurs, followed by a slight degree of stupor; quickly becoming himself again, the animal continues playful, answers a call, walks and runs easily. Quite suddenly, and without any provocation, he raises himself on his feet, with hair bristling, angry look, eyes injected and brilliant; he fixes his gaze on a wall which is completely bare, and on which there is nothing to draw his attention; bending down with the paws forward, and the neck stretched ready to spring, he advances and recoils alternately, barks furiously, and gives himself up to a furious battle; clashing his jaws, and making sudden movements as if to seize an enemy, he shakes his head from side to side, clinching his teeth as if to tear his prey. By degrees he becomes calm, but still looks several times in the same direction, growling, and then regains confidence completely." ||

Finally, it is worthy of note that both Ferrier and Bartholow have succeeded in evoking epileptoid convulsions by the direct application of the faradaic current to the brain.

* "Ueber künstliche Erzeugung von Epilepsie bei Meerschweinchen," "Berliner klinische Wochenschrift," No. 38, 1871.

† *Op. cit.*, p. 451.

‡ "On Alcoholism, the Various Forms of Alcoholic Delirium and their Treatment," by Dr. V. Magnan, London, 1876, p. 26.

§ Challand, "Experiments made at the Hôtel Dieu at Professor Behier's Clinique," cited by Dr. Magnan in his monograph on "Alcoholism," p. 26 *et seq.*

|| *Op. et loc. cit.*

Convulsions have also been caused by injury to the cortical motor areas.* In all experiments of this nature, in which electricity is employed for the purpose of exciting the nervous substance, it should be borne in mind that the localization of the current is a matter of so much difficulty that great caution should be exercised in drawing conclusions as to the relative functional importance of neighboring districts.

Having thus reviewed in succession those experimental researches which are best calculated to shed light upon the intricate questions of pathology involved, it now remains to discuss the mechanism of the attack itself—a task which will be greatly facilitated by the preliminary knowledge at our disposal.

Patho-anatomical Findings.—So various have been the changes recorded by pathologists in epilepsy that, if an attempt were made to construct an explanation of the seizure upon such a basis, it would be found to resemble in intricacy a veritable Gordian knot. There is, in truth, hardly an organ in the entire body which has not been found diseased in this affection. Ignoring the morbid changes in the viscera, which are evidently of collateral importance, it will be well for the completeness of the argument to bestow a glance upon the more striking appearances found in the brain, medulla, and the remaining portions of the cord, and their appendices.

First of all, then, it has been affirmed that the weight of the brain is increased in epilepsy; † but, on the other hand, equally positive statements are at hand which go to show that, in some cases at least, the weight of the organ is decreased.‡

Unequal proportions of the two hemispheres has also been alleged, but is certainly by no means so frequently met with as was formerly supposed.

Meynert and others have found sclerosis of the cornu Ammonis, but I believe he rightly considers this change of secondary origin only. But I would go a step further and maintain that the lesion in question can not possess the slightest importance whatever, so far as the development of the paroxysm is concerned, since, when this portion of the brain is removed, convulsive phenomena are neither evoked nor increased when they already exist.

Without entering upon a recapitulation of the various tumors which have been found associated with epileptic phenomena, I will content myself with enumerating some of the further and more obvious changes about the cord and brain which have been noted within the last few years: (1) atheroma and aneurysm of blood-vessels; (2) dilatation of the vessels of the superior portion of the cord; (3) temporary or permanent anemia of the brain, resulting from general causes or from local vaso-motor insufficiency; (4) increase in quantity of the cerebro-spinal fluid; (5) thickening of the meninges of the brain.

Of these changes, the latter must be regarded as of most importance, since it is found in a considerable number of

cases. But, though cortical function is interfered with in all true cases of epilepsy, it would be a decided mistake to ascribe such alterations to meningeal changes, since in a by no means insignificant number of cases neither they nor indeed any other morbid appearances are discernible, even upon the closest and most improved methods of scrutiny. There is consequently no question in my own mind that, where these evidences of meningitis do occur, they are, like most of the other changes recorded, to be regarded as of purely secondary origin—to be accounted for, perhaps, by the violent circulatory fluctuations which are so characteristic of the disease.

Still, when once established, these thickened membranes have an undoubted influence upon the prognosis. Thus, in three cases of severe epilepsy, with psychical complications, in which I have made post-mortem examinations, these thickened and adherent membranes were a prominent feature. In such cases there is, I believe, little or no chance of either recovery or benefit, since the derangements in cortical nutrition caused by such lesions must of necessity be profound in character, and practically irremediable.

The Mechanism of the Epileptic Seizure.—Enough has already been said concerning the various morbid anatomical findings in epilepsy to prove conclusively that there is absolutely nothing either characteristic or constant in their occurrence. Consequently, if epilepsy is to be regarded as a malady *per se*, and not as a mere symptom of multitudinous forms of central nervous disease, we must look elsewhere for an adequate explanation of the true nature of the affection. Undoubtedly the most consistent theory of the disease is based upon considerations derived from experimental physiology and pathology.

Without anticipating further, however, it will be well to review briefly the more prominent hypotheses relative to the nature of the disease which have been advanced by various writers on the subject from time to time.

According to Marshall Hall,* the mechanism of the seizure may be formulated somewhat as follows: (1) excitation of a sensory nerve or direct central excitation, which gives rise in the first place to reflex spasm of the muscles of the neck, causing compression of the cervical veins with consequent comatose symptoms; and, secondly, to a reflex tonic spasm of the muscles of the larynx, closing of the rima glottidis (laryngismus), causing asphyxia with consequent convulsions. In other words, the condition of unconsciousness is ascribed to venous engorgement, and the convulsions to general asphyxia.

Plausibility was lent to that portion of the theory which assumes contraction of the muscles of the neck as the cause of the venous stasis by the experiments of Reynolds. This observer found that contraction of the cervical muscles

* "Untersuchungen über das Gehirn," 1864, and other writings of Hitzig.

† Echeverria, "On Epilepsy," New York, 1870.

‡ Meynert, "Vierteljahrsschrift für Psychiatric," 1867.

* The following are the principal writings in which Marshall Hall has embodied his views relative to the pathology of epilepsy: "Essays on the Theory of Convulsive Diseases and Derangements of the Nervous System"; "Synopsis of Cerebral and Spinal Seizures of Inorganic Origin and of Paroxysmal Form"; "Synopsis of Apoplexy and Epilepsy, with Observations on Tracheismus, Laryngismus, and Tracheotomy," 1852; "On the Neck as a Medical Region," "Lancet," 1849; "Memoirs on the Nervous System," London, 1857.

actually did produce stasis of the veins of the neck, with concomitant cerebral disturbances. But, on the other hand, Kussmaul and Tenner* have shown, by conclusive experiments, that occlusion of the larynx is capable of producing both coma and convulsions. As a consequence, they refuse to accept the first portion of Hall's theory. It may be well to add in this connection that both of these observers, guided by clinical and experimental data, arrived at the conclusion that the phenomena of the affection, and particularly the unconsciousness, could not be accounted for by any merely local anatomical lesion, since the concomitant participation of the cerebrum was evidently a *sine qua non*. Moreover, they conclude that it is not necessary to assume a constant or gross change appreciable by the pathological anatomist, but that a pervasive functional change of transient duration is sufficient to account for the phenomena of the ordinary epileptic seizure. Such a pervasive, transitory change they perceive in cerebral anæmia—a condition which, as is well known, constitutes a prominent feature of the first portion of the epileptic attack. Besides this clinical fact, they adduce the evidence afforded by their own experimental researches, to which extended reference has already been made, by which it was conclusively shown that, when the brain of an animal is suddenly deprived of arterial blood, either by ligation or compression of the four great arteries which supply the brain, or by bleeding, epileptic convulsions and coma are invariably produced.† These observers also endeavored to cause convulsions by faradization of the sympathetic nerves. Only in one case, however, were their efforts successful; but, had the interrupted galvanic current been employed, it is possible that more uniform results might have been obtained. These failures are, however, not to be accepted as absolutely negative, or as fatally damaging to the general argument advanced by these gentlemen, since their experiments with arterial compression and ligation served to show that the profound cerebral anæmia resulting therefrom invariably evoked general convulsions and unconsciousness.

But, while recognizing the important part played by cerebral anæmia in the *immediate* production of the epileptic attack, Kussmaul and Tenner do not fail to note that behind all this there must be an ultimate morbid state—an epileptic "condition" or an epileptic "affection" which is responsible for the occurrence of all the phenomena concerned in the production of the seizure. In speaking of this "proximate" or ultimate cause of the attack they proceed to state "that the proximate cause of the attacks can not be

* "On the Nature and Origin of Epileptiform Convulsions caused by Profuse Bleeding," by A. Kussmaul and A. Tenner, "New Sydenham Society," 1859.

† These researches, as we have already seen, were, to a certain extent, anticipated by Sir Astley Cooper (*vide* "Guy's Hospital Reports," vol. i, 1836), who succeeded in demonstrating upon rabbits that ligation of both carotids and compression of the vertebrals gave rise to convulsions, suspension of respiration, and unconsciousness. The experiments of Kussmaul and Tenner were, however, more thorough, and were conducted upon cats and dogs as well as rabbits (*vide* Moleschott's "Untersuchungen," 1857, Bd. ii, pp. 247, 248, *et seq.*; also, "Epileptiform Convulsions caused by Profuse Bleeding," by Adolf Kussmaul and Adolf Tenner, "The New Sydenham Society," London, 1859).

one of long duration, but an alteration merely of a temporary kind. . . . It must be quickly developed to its full extent, and pass during the attack through its different phases, and, when the latter are over, cease completely or nearly so. How otherwise is it reconcilable that, after an attack, the patient so frequently, and often for so long a time, recovers the full use of the action of the brain?" And again: "It can be no visible alteration of the brain, anatomically demonstrable, that can act as the proximate cause of an epileptic attack. . . . Every physician of the present day, who is at all judicious, will relinquish the hope, cherished with childish confidence by certain schools and times, that pathological anatomy is destined to give an explanation of the nature and seat of epilepsy, and he will only expect that result from the progress of the experimental physiology of the nerves. Material alterations in the brain and its membranous and osseous coverings are, it is true, most frequently found in those who have died from epilepsy and eclampsia, and are often enough recognized as the cause during life. Often, however, in spite of most careful examinations, no anatomically demonstrable alterations are found in the structure of the brain, and those which do exist must be generally regarded, especially in epilepsy, as produced by interruptions to the circulation and nutrition during the attacks, particularly if the latter have frequently been repeated and for a long time. Most of the patients suffering from this disease for years afford the usual appearances found in chronic diseases of the brain. . . ." But "not one of all the anatomical alterations in whose train epilepsy frequently appears—such as cicatrices, tubercles, and atrophy of the brain, or premature coalescence of the sutures of the skull, with lessening of its cavity—leads invariably to this disease."

The "disposition," then, "is nothing else but that state of the brain which forms the basis from which the attacks arise, and can scarcely be conceived of otherwise than as a very slight alteration of the whole brain, or of a narrowly circumscribed district, while the alteration which is the cause of the attacks must always affect the whole substance of the brain, or at all events the greatest part of it, and that, moreover, in an energetic manner."

The following is a general summary of the more important conclusions which Kussmaul and Tenner derived from their long series of experiments:

1. "The convulsions appearing in profuse hæmorrhage of warm-blooded animals (including man) resemble those observed in epilepsy."

2. "When the brain is suddenly deprived of its red blood, convulsions ensue of the same description as those occurring subsequent to ligation of the great arteries of the neck."

3. "Epileptic convulsions are likewise brought on when the arterial blood rapidly assumes a venous character, as, for example, when a ligation is applied to the trachea."

4. "It is highly probable that in these cases the attack of spasms depends upon the suddenly interrupted nutrition of the brain. It is not caused by the altered pressure which the brain undergoes."

5. "Epileptic convulsions in hæmorrhage do not proceed from the spinal cord."

6. "Neither do they proceed from the cerebrum."

7. "Their central seat is to be sought for in the excitable districts of the brain lying behind the thalami optici."

8. "Anæmia of those parts of the brain situated in front of the crura cerebri produces unconsciousness, insensibility, and paralysis in human beings; if spasms occur with these symptoms, some excitable parts behind the thalami optici must have likewise undergone some change."

9. "Anæmia of the spinal cord produces paralysis of the limbs, of the muscles of the trunk, and of respiration. When the anæmia suddenly attains its greatest intensity, then only, and even then but rarely, do slight trembling movements of the limbs precede paralysis. The sphincter ani acts analogously to the constrictor muscles of the face in anæmia of the brain—that is, it contracts spasmodically before it relaxes."

A more explicit account of the experiments from which Kussmaul and Tenner derived these conclusions has already been given in the paragraphs on "Experimental Researches." These experiments constitute without doubt one of the most brilliant chapters in the whole range of experimental pathology, and it is difficult to conceive how a theory of epilepsy possessing the slightest title to consistency could have been formulated had they never been undertaken.

While it is doubtful whether some of the opinions expressed by the gifted authors can at present receive unqualified indorsement, there is no denying the great perspicuity displayed throughout the entire argument. When interpreted, moreover, from the broad standpoint of more recent scientific acquisitions, their importance to scientific medicine can hardly be overestimated.

Finally, I will only add that I have been able to confirm many of the statements and conclusions of Kussmaul and Tenner by researches conducted on human beings. As I shall have occasion to refer at length to these researches in other portions of this article, I will content myself with merely indicating the titles of the more important papers and monographs in which they are embodied.*

Nothnagel,† as we have already seen, has formulated a theory of the paroxysm, which is the outgrowth of a series of experiments performed with the object of determining

* Vide "Medical Record," Feb. 18, 1882. Article on "Sleep," "Medical Record," July, 1882. Monograph on "Carotid Compression," Anson D. F. Randolph & Co., New York, 1882. Paper read before the New York Neurological Society, June 6, 1882, and subsequently published in the "Philadelphia News" of June 17, 1882, and also in the "American Journal of Neurology and Psychiatry," 1882. A paper on "Electrization of the Sympathetic and Pneumogastric Nerves, with Simultaneous Bilateral Compression of the Carotids," "New York Medical Journal," Feb. 23, 1884. Monograph on "Brain Rest," G. P. Putnam's Sons, New York, 1883. A treatise on "Brain Exhaustion," with some preliminary considerations on cerebral dynamics, by J. Leonard Corning, M. D., D. Appleton & Co., 1884. "The Electro-mechanical Tonus of the Cortical Blood-vessels," a paper read before the New York Neurological Society, and subsequently published in the "Medical Record," February, 1885.

† "Ueber den epileptischen Anfall," von H. Nothnagel. Volkmann's "Sammlung klinischer Vorträge," Leipzig, 1872.

the rôle played by the medulla oblongata and pons Varolii in the evolution of general convulsive phenomena. In the course of these investigations this observer ascertained that there is a limited spot in the floor of the fourth ventricle, the irritation of which (with a needle, etc.) causes tonic and clonic spasms of the entire system of voluntary muscles. This spot has been appropriately designated by him as the "convulsion center."

According to Nothnagel's theory, the convulsions of the epileptic paroxysm are due to irritation of this circumscribed locality.

But, while such irritation is sufficient to evoke the spasms, it is not adequate to account for the unconsciousness. Accordingly, to overcome this difficulty, Nothnagel assumes a concomitant irritation of the neighboring vaso-motor center. As a result of this irritation the arteries of the brain, as well as those of the rest of the body, are contracted, causing anæmia; and it is to this cerebral anæmia that the unconsciousness is due. The co-ordinate excitation of the vaso-motor and "convulsion center" constitutes, then, according to this theory, the essential pathological feature of the typical paroxysm.

But, while this is assumed to be the course of events in typical cases, it does not serve to explain the occurrence of variations in the character of the seizure.

Accordingly, with a view to rendering the theory as broad as possible, Nothnagel furthermore assumes that the centers above referred to are in a certain sense independent of each other, so that one may be irritated without the other. Thus, when the "convulsion center" is irritated alone, the paroxysm is characterized by convulsions without unconsciousness; whereas, when the "vaso-motor center" is excited, mental disturbances and loss of consciousness are the prominent features.

This is certainly an ingenious method of avoiding a logical dilemma; but, unfortunately, the extreme contiguity of the two centers renders their independent irritation extremely improbable, since any morbid changes affecting the one would be practically certain to involve the other.

With regard to the nature of the irritation which calls forth the activity of the above-named centers, Nothnagel confesses that little can be said with certainty.* He believes, however, that in epilepsy "the convulsions do not depend upon an anæmia of the pons, acting as an excitant upon the convulsion center";† though admitting that anæmia of the pons can occasion convulsions, as shown by certain of Kussmaul's experiments.

As to the second stage of the attack, Nothnagel believes that the intense venous hyperæmia is attributable to the violent contractions of the muscles of the neck, which, pressing upon the large veins, impede the return of the venous blood to the heart. The continuance of unconsciousness, as well as the convulsions, are to be ascribed to this venous hyperæmia, one of the effects of which is to cause irritation of the "convulsion center."

It now remains to consider briefly that theory of epi-

* Von Ziemssen's "Cyclopædia," article "Epilepsy," by H. Nothnagel, vol. xiv, p. 269, seventeenth line from the top.

† *Op. cit.*, p. 268.

lepsy which ascribes the essential feature of the disease to a discharge or explosion of nerve force. Dr. Robert B. Todd* was the first to regard the disease from this point of view. It is impossible to read the paper in which this gifted writer formulates his views upon this, one of the most intricate chapters in pathology, without experiencing a sense of admiration for the perspicuity and logical adroitness displayed.

Dr. Todd considers that the abnormal explosiveness of nervous tissue, which is the principal factor in his theory of epilepsy, is due to the gradual accumulation of a morbid material in the blood. This foreign substance finally becomes so abundant as to cause the discharge of nerve force from the brain, by which the phenomena of the fit are produced.

This theory of epilepsy was suggested to the mind of Dr. Todd from the fact that the disease occasionally occurs with renal affections. "Upon this fact of the dependence of attacks of epilepsy upon renal disease," he says, "I have been enabled to construct a theory of the cause of epileptic fits generally." Continuing the argument, he adds: "I hold that the peculiar features of an epileptic seizure are due to the gradual accumulation of morbid material in the blood, until it reaches such an amount that it operates upon the brain in, as it were, an explosive manner; in other words, the influence of this morbid matter, when in sufficient quantity, excites a highly polarized state of the brain, or of certain parts of it, and these discharge their nervous power upon certain other parts of the cerebro-spinal center in such a way as to give rise to the phenomena of the fit. A very analogous effect is that which results from the administration of strychnine, which is best seen in a cold-blooded animal like the frog. You may administer this drug in very minute quantities for some time without producing any sensible effect; but, when the quantity has accumulated in the system up to a certain point, then the smallest increase of dose will immediately give rise to the peculiar convulsion phenomena. The animal is thrown into a series of paroxysms of opisthotonos, which exactly imitate the phenomena which we often witness in tetanus, as it affects man and some of the higher animals."†

This, then, is Dr. Todd's conception of the causation of the paroxysm—the so-called humoral theory of epilepsy.

The theory enunciated by Dr. Todd has been modified and developed by Hughlings Jackson.‡ According to Dr. Jackson, epilepsy, "defined from the paroxysm, is a sudden, excessive, and rapid discharge of gray matter of some part of the brain; it is a local discharge. To define it from the functional alteration, we say there is in a case of epilepsy gray matter which is so abnormally nourished that it occasionally reaches very high tension, and therefore occasionally explodes. The two definitions are different faces of the same thing."

This discharge, beginning at the cortex, is propagated

* "A Clinical Lecture on a Case of Renal Epilepsy, and on the Treatment of Epilepsy in General," by Robert B. Todd, M. D., "Medical Times and Gazette," Aug. 5, 1854.

† *Op. cit. loc. cit.*

‡ "West Riding Lunatic Asylum Medical Reports," 1873.

along the course of the centrifugal nerve channels. As to the loss of consciousness, Dr. Jackson feels justified in ascribing it to the transitory exhaustion of nervous energy, consequent upon the previous inordinate discharge.

The fact that in a considerable number of epileptics the paroxysm is ushered in by a psychical warning, or an aura of the special senses, has been urged as strong evidence in favor of the proposition that the discharge begins in the convolutions. And, in truth, it must be acknowledged that it is difficult to conceive how a primary functional implication of the medulla or pons Varolii could evoke phenomena which, by common consent, are conceded to be the expression of the activity of the highest centers.

According to this theory, then, the protoplasm of the ganglion cells is in an unstable, super-explosive condition, attributable, perhaps, to excessive nutrition (as the result of expanded blood-vessels, etc.). Jackson has not, however, remained content with explaining the *modus operandi* of the ordinary epileptic paroxysm, but has also sought to render his theory sufficiently comprehensive to account for the evolution of irregular forms of the attack. Accordingly, it is assumed that in one class of cases certain portions of the gray matter may be affected, while in a second class of cases other portions may be involved. The various modifications of the seizure are, therefore, explained by a consideration of the physiological properties of the group of nerve-cells involved in each case.

While heartily indorsing the main features of this theory, I can not accept it in all its details, for the very excellent reason that cerebral physiology is not as yet sufficiently developed to admit of such pathological refinements.

Of Dr. Jackson's able researches on the pathology of epileptiform seizures I refrain from speaking on the present occasion, since the phenomena in question owe their origin to coarse organic lesions, and are consequently not included within the scope of an article of this character.

METRORRHAGIA AT THE TIME OF PUBERTY.

By HENRY C. COE, M. D.

Sudden hæmorrhage from the uterus is always an alarming symptom, especially to a patient in whom the phenomenon is noted for the first time; when occurring in a child, it naturally creates no small degree of apprehension. While the gynæcologist is prepared to expect every variation in the amount and manner of appearance of the menstrual flow, both at puberty and during the climacteric, to the general practitioner these variations are often unexpected, not to say mysterious. Profuse metrorrhagia nearly always indicates to the specialist the necessity of making an immediate local examination, since his experience teaches him that the failure to adopt this as a routine practice may result in the overlooking of a serious pathological condition. It is true that he sometimes fails after the most careful search to find any adequate local or general cause for the hæmorrhage, but this renders the examination none the less obligatory. There are some circumstances under which

such an examination is not to be thought of unless it is absolutely necessary. I allude to cases included under the heading of this article. In dealing with them it is advisable to avoid, on the one hand, a premature resort to local treatment, and on the other a timidity in employing the only means of establishing an exact diagnosis by the vaginal touch. The specialist is apt to err in the former direction, the general practitioner in the latter. Where the patient is a child, the physician's duty becomes a delicate and painful one.

Excessive hæmorrhage from the uterus at the beginning of puberty is sufficiently infrequent to awaken some interest. While amenorrhœa, irregularity in the character and time of appearance of the flow, and dysmenorrhœa, are commonly observed, the amount of blood lost, even by plethoric subjects, is seldom sufficient to be compared with the hæmorrhage observed later in life, especially at the menopause.

The following brief notes of a case now under observation will serve as an illustration :

J. B., aged thirteen, is a perfectly healthy girl, well developed for her age, her breasts and pelvis presenting signs of maturity. She is of a full habit and phlegmatic disposition, and has never shown any evidences of sexual precocity or nervous excitability. She began over a year ago to menstruate at long intervals, and since spring the flow has reappeared more regularly, and on one or two occasions has been profuse, but not excessive. There has never been any dysmenorrhœa. She has now been at the sea-shore nearly five weeks, and has during that time been exposed to the usual excitement, late hours, improper diet, etc., incident to life at a fashionable watering-place. She has, however, neither danced nor indulged in sea-bathing. She had just finished menstruating when she left home, her last period dating from the 26th of June. The flow was moderate. She had been at Long Branch two weeks, and had felt as well as usual. She went to bed about ten o'clock on July 13th, without being conscious of any abnormal sensations, and was awakened during the night by cramps in the stomach, which were not particularly severe, accompanied by a sudden gush of blood from the vagina. The flow continued steadily, and when I saw her the next morning she presented the appearance of a woman after a smart post-partum hæmorrhage, her night-dress, the sheets, and the mattress being literally soaked with blood, while there was a large mass of blood-clot in the bed. From the shape and appearance of the clot, it was evident that it had been retained in the vagina for some time and had been forced out by the expulsive pains. The blood was bright-red in color, and did not have the characteristic menstrual odor. The patient lost a moderate amount of blood during the day, but at the end of the following day the flow had entirely ceased. She presented no symptoms referable to the hæmorrhage, except slight faintness and vertigo on raising her head from the pillow. Her pulse remained full and slow, and her skin retained its healthy color. I estimated the loss of blood at about twelve ounces. The child was kept for three days in the recumbent posture, on low diet, and had twenty-five drops of the fluid extract of *Hydrastis canadensis* every six hours. On the fifth day the mistake was made of allowing her to walk down stairs to breakfast, since there had been no show for two days. While eating she felt a peculiar sensation in her stomach and at once returned to her room and lay on the bed. Suddenly there came a gush of blood, as on the first occasion, although the amount was somewhat smaller than before. The use of hydrastis, which had been dis-

continued, was resumed in doses of twenty-five drops every two hours without results. Several napkins were saturated in rapid succession, and the child's mother became greatly alarmed. Ergotin in full doses was administered every two hours, and an ice-bag was applied over the hypogastrium, but was removed at intervals of half an hour. A pint of hot water containing two drachms of alum was carefully injected into the vagina with great difficulty. The little patient had no pain, except an occasional cramp which preceded the expulsion of a clot. Her pulse and temperature were not affected. The flow diminished during the afternoon, but was still excessive, even for an adult. The blood was bright-red in color, and was certainly not menstrual in character. After consultation with Dr. Mackenzie, I decided not to suggest a local examination except as a *dernier ressort*. The use of the ice-bag was discontinued, but during the next forty-eight hours two alum injections and two drachms of the fluid extract were given daily. The hæmorrhage gradually diminished, until by the fourth day only two ounces of blood were lost. On the sixth day there was no show and the patient was allowed to sit up and walk across the room, as her appetite was impaired by the close confinement. She felt a little weak, but was not otherwise affected by the loss of blood. She was not allowed to leave her room. Four days after the complete cessation of the last hæmorrhage the regular menstrual flow began at exactly the proper time. There was no pain, but the flow was unusually profuse. She was kept absolutely quiet in bed during the first five days, and received twenty-five drops of aromaticsulphuric acid every six hours, with alum injections night and morning during the first two or three days, neither of which seemed to have the slightest influence upon the menorrhagia. She will continue the use of the acid until the next period, together with Bland's iron pills. She will go to the mountains as soon as she is able to travel, since I am convinced after careful observation that the excessive loss is directly due to residence at the sea-shore.

Note, August 20th.—Since the foregoing was written, the patient has been at the White Mountains, and has had no return of the metrorrhagia.

The interesting points in this case are :

1. The amount of blood lost by so young a patient, and the absence of general disturbance in consequence.
2. The time and the irregular mode of occurrence of the hæmorrhage without any known exciting cause.
3. The fact that the blood came with a gush, and was not preceded by any marked premonitory symptoms. In most cases of uterine hæmorrhage there is a "show" before the excessive flow occurs.
4. The possible influence of locality upon pelvic congestion, especially in young girls. The amount of blood lost was certainly unusual for so young a child, and can not be explained on the theory of plethora, since the patient, although large of frame and well developed, was not particularly "full-blooded." Moreover, no functional or organic trouble could be discovered which might account for the phenomenon.

It would naturally be inferred that a child, after flowing for nearly three weeks as profusely as a woman after a miscarriage, would be quite weak and anæmic. On the contrary, she is apparently as well as ever, and has an excellent appetite. The hæmorrhage was essentially inter-menstrual in character, being separated by distinct intervals from the preceding and the following periods; hence it can

have had no direct connection with the menstrual *nisus*. The fact that the condition was true metrorrhagia, and that the flow began suddenly, diminished under the influence of rest, and then as suddenly reappeared in consequence of slight exertion, suggests a comparison with certain cases of uterine fibroid. May there exist some morbid condition of the uterus or its annexa, such as a displacement, or a fibrous polypus, or possibly some ovarian trouble? But this is highly improbable from the fact that the patient has never had a similar experience before; that dysmenorrhœa (or even actual pain) has never been present. If the hæmorrhage had been due to either of these causes, it would not have been so strictly inter-menstrual in its time of appearance. The physical character of the blood is worth noting. It had not the characteristic menstrual color and odor, but was bright red, and coagulated firmly. The coagula which were expelled from the vagina had undoubtedly formed within that canal (practically closed against their exit), because such masses could never have accumulated within a virgin uterus. Palpation of the abdomen showed that the latter organ was neither enlarged nor sensitive; there was no tenderness in the ovarian regions.

An interesting question in this case is this: Is there a possibility that the increased pelvic congestion may be due to climatic influences? I think that this is quite probable, since many ladies have told me that they flow more frequently when at the sea-side, and young women frequently complain of disturbances of menstruation. Undoubtedly, in the case of a young, impressionable girl, whose menstruation is only recently established, other influences (improper diet, late hours, and unaccustomed excitement) are active in heightening the congestion. But that these alone are not enough to account for the hæmorrhage in this instance is shown by the fact that it was quite as profuse when this patient was kept in bed.

As regards the practical side of the matter, it may be said that the diagnosis was naturally somewhat uncertain at first, but, at the same time, there were sufficient indications that there was no serious local trouble to make me unwilling to suggest an examination, even after the second attack of flooding. It would have been necessary to administer an anæsthetic, and the nervous shock to the little patient would, doubtless, have increased the congestion. Of course, if the excessive flow had continued for several days, and the girl had given evidence of failing strength, it would have been unwise to defer the examination. Notwithstanding the irregular time of appearance of the hæmorrhage, with regard to the menstrual epoch, I was convinced that the congestion was rather hyper-physiological, so to speak, than pathological.

The prognosis in such a case is naturally most interesting to the parents. Is the hæmorrhage dangerous, is it likely to recur every month, and will the child outgrow it? The fact that there was absolutely no disturbance of the circulation proves that the loss of blood was not sufficient to awaken alarm, at least in this particular instance. Since it had never occurred before, and there was no discoverable cause, except the probable influence of climate, I felt justified in promising that the metrorrhagia would probably

not recur if a change was made in the residence, and that the menstruation would eventually become normal, although it would doubtless be somewhat profuse. In fact, the mother and sisters of the girl all lose more than the average amount of blood every month. This case, as was stated before, is instructive from the fact that it teaches the necessity of taking into account all the facts, even those which apparently have but little bearing on it, before deciding upon the gravity of a uterine hæmorrhage, and inferring that there is some serious local trouble. The family physician, who is familiar with the constitution and hereditary traits of the patient, is less apt to err than a stranger (even though a gynæcologist), who sees her for the first time.

As regards the treatment, I can only add that it should be largely expectant, since the hæmorrhage tends to cease spontaneously. Absolute rest in the recumbent posture, with the avoidance of all disturbing influences, is generally sufficient. The patient ought not to be allowed to get out of bed for the purpose of emptying the bladder or bowel; neither should be permitted to become distended, since this tends to increase the hæmorrhage. On the other hand, violent purgation is equally to be avoided, since it augments the pelvic congestion.

As regards drugs, the fluid extract of *Hydrastis canadensis* has been highly recommended in uterine hæmorrhage, but it did not seem to act so well in this case as ergot. I have not met with such good results from the use of aromatic sulphuric acid as others. Since the hæmorrhage in these cases is an expression of the general pelvic congestion, it is a question if by endeavoring to promote uterine contractions, and hence local anæmia, we do increase the existing hyperæmia in the pelvic vessels. The conditions in the case of a virgin and in that of a multiparous uterus are manifestly different.

As regards the application of cold to the abdomen, as recommended by German writers, it is to be noted that this agent should not be employed indiscriminately. I should not have ventured to use it in this instance if I had not been sure that the hæmorrhage was not the true menstrual flow. Even then the ice-bag was left *in situ* for only half an hour at a time. Its use in such a young patient during the period might be productive of harm, by modifying unnaturally the normal hyperæmic condition of the pelvic organs, just as sometimes occurs in consequence of a cold bath at that time.

Vaginal injections are always extremely distasteful to a young girl, and, in consequence of the anatomical condition of the parts, they can not be given thoroughly. If employed at all, they should be administered slowly, and should be non-irritating. The amount of water and the force of the stream must necessarily be smaller than would be used in the case of a multipara. A simple astringent, such as alum, is preferable. It is a question if they accomplished much good in the case described; they were, at least, not productive of harm.

To summarize: Metrorrhagia at the time of puberty is not necessarily pathological, and rarely calls for local treatment. If dysmenorrhœa is absent, if no general cause can be discovered, and the patient is not profoundly affected by

the loss of blood, the chances are that the condition is temporary, and that it will cease when she is placed under proper hygienic conditions, which conditions can only be determined by experiment. Treatment should be mainly expectant, while vaginal examinations are rarely necessary.

LONG BRANCH, July 30, 1887.

SENSORY AFFECTIONS OF THE THROAT.*

By FREDERICK I. KNIGHT, M. D.,
BOSTON, MASS.

OF the neuroses of sensation in the throat, my experience has been chiefly with hyperæsthesia and paræsthesia.

Hyperæsthesia of the fauces is still unpleasantly familiar to all laryngologists, not so often from complaint on the part of our patients as from the annoyance and hindrance in the use of the laryngeal mirror and other exploration of the throat, though in marked cases the reflex movement of gagging is excited so easily by slight causes as to be of great annoyance to the patient, oftentimes such irritability existing that cleansing the teeth, opening the mouth, and even disagreeable sights are attended with reflex gagging.

In this form of trouble it has always seemed to me that practitioners did not consider the general condition of the patient sufficiently. Although we find the fauces, especially the soft palate, congested and relaxed, and probably the same condition of the upper part of the larynx, the worst of these cases are alcoholic or in the subjects of digestive derangement, the morbid disturbance showing itself not only in the mucous membrane of the throat, but also in that of the eyes and other parts. This form of hyperæsthesia will often yield to a withdrawal of alcohol and regulation of the diet without local measures, though astringents are often of great additional service.

For immediate help in conducing to toleration of the throat-mirror the local applications are uncertain, even that of cocaine, which is the best, often failing to abolish the reflex.

There is one class of patients, generally markedly neurotic, in whom a hyperæsthetic condition of the pharynx causes very distressing dysphagia. On examination, the pharyngeal mucous membrane is found to be rough, granular, from slight glandular hypertrophy. In these cases, while the local application of nitrate of silver may relieve, lasting benefit must be sought in tonics and general hygiene.

Of cases of paræsthesia I have had the usual number, cases in which the sensations complained of by the patient are out of all proportion to any apparent cause. These have been sensations of fullness, of pressure, pricking, burning, the globus hystericus, pain on speaking (causing phonophobia), or of some foreign body in the throat, such as a seed, a bone, a hair, etc. They have varied very much in intensity at different times, and have sometimes at intervals been wholly absent. They have been developed or increased by mental or physical fatigue.

In regard to the cause of this perversion of sensation, it

may be regarded that in most cases an impairment of the general nervous system is present, though the exciting cause may be some local disease of the throat or a foreign body. I have seen a case within a week of a strong man, with only slight local disease in the naso-pharynx, who suffers, especially when fatigued, as if from a hot iron in the region of the soft palate. He is subject also to a peculiar pulling sensation in the hepatic region, so strong that it prevents his lying on that side. Otherwise he is a robust man, weighing over two hundred pounds. The abnormal sensations often remain a long time after the removal of the apparent exciting disease or foreign body. I had a patient return to me a few days ago, complaining of the same old orange-seed which I had failed to find six years and a half ago.

Few explanations of the mechanism of these strange sensations have been offered, among which the ingenious one presented by Dr. Andrew H. Smith, at the meeting of this association in 1881, deserves special mention. He called attention to the fact that two sets of muscles attached to the hyoid bone acted antagonistically to one another, and that these two sets of muscles received their motor-nerve supply from entirely different sources; so that in case of slight paresis of one set, the other being left without sufficient antagonism, the hyoid bone and the structures connected with it would be approximated to the vertebral column, and a sense of something pressing backward would be felt.

I have not met, or certainly do not remember meeting, with paræsthesia of the larynx as the earliest symptom of pulmonary phthisis, as held by Jurasz and Gottstein.

My experience has led me to believe the prognosis in most cases of paræsthesia of the throat to be good, if treatment is faithfully carried out, though the course may be tedious.

The treatment of all neuroses of sensation, besides any local repair which may be possible, must be aimed to correcting the constitutional vice, whatever that may be.

It is safe to say that failure in this often comes from following routine instead of seeking the special requirement of each case. For instance, the conditions of anæmia, neurasthenia, or lithæmia, may either of them be the underlying cause of a patient's trouble, and would require very different remedies, the last condition being often seriously aggravated by tonics and the routine treatment given the former.

Correspondence.

LETTER FROM PARIS.

The Mineral Springs of France and those of America. Lead Lining for Water-pipes.—The Treatment of Phthisis Pubis.—The Hydatid Thrill.—The Treatment of Hydrocele. A French Physician called to Moscow. The Paris Clinic of Physiology. The Grades of Medical Practitioners in France.

PARIS, August 1, 1887.

PASSING a part of my summer vacation at Luchon, a noted sulphurous water station in the Pyrenees, I feel disposed to call attention again to the very considerable therapeutical ad-

* The opening of a discussion before the American Laryngological Association at its ninth annual congress.

vantages of French mineral-water resorts, and to the fact that we also certainly have in America just as good mineral waters. What we lack is the thorough medical and governmental supervision that exists here, and that gives the general public an assurance that the best care will be taken of their health. It may well be that it is overdone in Europe, and that there are too many doctors at the springs who take advantage of the public, but the fact remains that at all mineral springs in France that have been examined by government chemical experts, and that have been declared to be of "public utility," there exists a number of good, capable physicians to direct patients how to make the best use of the waters according to their complaints; and it seems to me that it is just this last body we need. We have the mineral waters, but we require correct analyses of them and a corps of competent physicians who will reside, at least for the season, at the springs, and devote themselves to hydrology only. It can not be urged that we have not enough physicians, in a country that has the credit of having more to its population than any other, so that all we need to prevent our people from coming out to Vichy, Carlsbad, Luchon, and such like places, is for Congress to pass such a law as the French one, which forbids the use of any mineral spring until it has been examined and passed upon first by the government chemist, and then by the Academy of Medicine. This fixes the value of the spring, and determines the nature of its constituents by proper authority. That physicians, on this guarantee, should fix upon the place as a residence follows naturally enough; they study the therapeutical value of the springs, and as a rule devote themselves to practice at them only, so that their professional brothers practicing in other places do not hesitate to confide their patients to them for the mineral-water treatment. I feel convinced that there is a great future for American mineral waters and an honorable as well as interesting specialty to be formed of hydrological scientific men, if it is properly organized; so that I could continue to develop this subject by describing the methods used at the different baths we visit yearly, if space permitted it. One of the most original and effective uses of mineral waters that I have seen is what is called *humage* at Luchon. All the strong sulphur waters here give off hot vapors, which are thought to contain the elements of the water that should be used in inhalation. This is arranged as follows: The different springs are conducted into great marble tanks placed beneath two large rooms in the bathing establishment, and the sulphur vapor is conducted by a large converging marble tube to stands in the room, and the force of the vapor is graduated into one, one half, and one quarter, by the opening and closing of the tube by appropriate graduating apparatus, that not only controls the force, but also the heat given by a system of obturators at the lower and upper ends of the shaft. The superior part of the marble pipe is turned like the mouth of a hydrant, and a mouth-piece is attached to this like a gas-inhaler. The physician orders, for instance, a half inhalation of the vapors of a certain spring of which he knows the strength and temperature. The patient is placed before the tube for a certain time (ten minutes at first), breathing only the vapor. From the first, there is nothing unpleasant; a sensation of soft warmth is felt, which penetrates the lungs, making inspiration ample and easy—so much so that most patients wish to go on longer than the doctor advises. It does not cause any coughing, and expectoration becomes at once loose and free in most cases. It is given once or twice a day in chronic laryngitis, bronchitis, coryza, asthma, and even phthisis, with excellent results. I am indebted to Dr. de Laverrenne, one of the principal physicians of Bagnères de Luchon, for reports of cases that show the merits of this form of medication with mineral waters, and certainly the results are striking. It is requisite, of course, that

the mineral springs used for this form of treatment should be hot enough to give off vapors, or that the water should be heated and dashed against the walls of the shafts leading to the supply-tubes.

Speaking of water reminds me of the fact that the Director of Public Works in Paris was lately compelled to line a portion of the aqueduct bringing the water of the river Vanne into the city, owing to an infiltration of matters from the parts around the tube. He used sheet-lead for the purpose, and Professor Gautier feared that this would not be entirely innoxious, so he ordered an analysis of the water to be made after a month's use of the lead lining. Fifty litres of the water were taken before it had passed the portion lined with lead, and the same quantity after it had passed that point. The two portions were carefully submitted to the same tests. They were filtered, acidulated with acetic acid, and saturated with sulphureted hydrogen, but not the slightest trace of brown coloration or deposit appeared to show any lead. After a long series of other careful experiments by our best chemists, with counter-trials, it was concluded that the quality of the water was not modified or rendered toxic by the lead lining in the pipes.

The treatment of phtheiriasis pubis by the usual blue ointment has so many inconveniences, with its disagreeable application and its often toxic effects, that I will speak of the use made of the well-known antiparasitic action of salicylic acid. The formula given is:

Salicylic acid	2 to 3 parts;
Toilet vinegar	25 "
Alcohol (80°)	75 "

The parts are to be rubbed with a piece of flannel wet with the mixture. In most cases a single application will be enough to destroy the pediculi.

Dr. Tillaux, surgeon to the Hôtel Dieu, calls attention to the fact that what is called here *frémissement hydatique*, a trembling sound or feeling got in the examination of hydatid cysts, is a reliable diagnostic sign, quite enough of itself to establish the diagnosis. He states that no one has given an explanation of this sign, and he finds that it comes from the fact that the pocket giving the *frémissement* does not contain any liquid. The disposition of the mother-sac and the vesicles is such that, when there are fluid contents, the vesicles swim in it and give no sound, but, when the sac contains no liquid, the vesicles are piled one upon the other and produce this characteristic sign.

Professor (*agrégi*) Reclus, in a recent clinical lecture, gave the treatment of hydrocele used here, which can be stated at once in his conclusions. 1. The old plan of puncture followed by an injection of tincture of iodine is the usual and best operation, and it should be retained for use by most physicians. 2. Antiseptic incision of the scrotum (Volkman's operation) should be used only in certain special cases, such as those of congenital and multilocular hydroceles, where there is also a complication of foreign bodies, and when the liquid has returned again after the first operation, or when the tunica vaginalis is thickened and hardened. But Volkman's operation is one that requires special surgical skill, and it should not be attempted by every one. A modification of the regular treatment that must be mentioned is that now used by M. Périer, surgeon to the Lariboisière Hospital here. He removes the liquid in the usual way with a trocar, and, leaving the cannula in place, proceeds to inject from 30 to 50 grammes of a one-per-cent solution of cocaine. He leaves this in contact with the serous membrane for about five minutes, being careful to knead the scrotum with the fingers so that the solution shall reach all parts of the vaginal sac. It is then drawn off and followed by the usual injection of tincture of iodine. The result is an almost complete

anæsthesia of the parts, a consequent suppression of the usual severe pain, and as satisfactory a cure as usual.

Quite a compliment is paid to the Paris faculty by the fact that Baron de Mohrenheim has just asked Professor Potain to go to Moscow to attend M. Katkoff, who is lying so ill there. M. Potain left Paris last week. The Russians must be rich to call a doctor such a distance, almost as far as from New York to San Francisco, and the expense of such a physician's visit can not be much less than \$10,000.

M. Charles Richet has just been presented *en première ligne* as a candidate for the chair of physiology in Paris, in place of the late Professor Bécларd. This is equivalent to his election. M. Richet, who will be the youngest professor, being not much over forty, is a physiologist of great merit, belonging to a talented family, his father being one of the present professors of surgery at the faculty and surgeon to the Hôtel Dieu.

From official statistics it seems that there are 36,512 persons in France holding diplomas that permit them to exercise some branch of the healing art. Of this number, 2,188 physicians, 1,523 midwives, 762 druggists, and 548 herbalists belong to the department of the Seine—i. e., Paris and its environs. The 2,000 odd Paris physicians are divided into two classes, as they are throughout France—namely, those of the first class, or *docteurs en médecine*, and those of the second class, or *officiers de santé*. Both classes practice medicine, about the only difference being that the second-class physicians can not perform any important operation without the aid of a *docteur*. They are known as *médecins*, and they pass a very much easier examination than the *docteurs*. Their diploma only allows of practice in one department, and does not apply to all France, as that of the *docteurs* does. This is the degree usually given to foreign physicians who practice in this country.

Cholera in Italy.—Since cholera first appeared in Calabria, early in July, there has been a slow but steady extension of the disease. Rocella was at first the principal seat of the outbreak, but it soon appeared that the cholera which in an early part of the year had existed on the eastern coast of Sicily had broken out again, Catania having for some time past been implicated. Gradually the epidemic has extended over most parts of Sicily, the provinces of Calabria, Caltanissetta, Syracuse, Messina, Gergenti, and Palermo being affected. On the mainland a number of additional towns on the Calabrian coast, such as Palmi, Reggio, and Melita, have also been attacked. Then came news as to the extension of the disease to Malta, and to Resina in the bay of Naples. Since Malta was first attacked there has been a daily record of fresh cases, the largest number of attacks having taken place on the 9th inst., when as many as fourteen were returned. Hitherto the troops have remained free from the disease, which is limited to the poorest classes of the population. The last report of cases in Sicily was on the 7th, where fresh cases are stated to have occurred at Messina and Palermo. —*Lancet*.

The European Faculties.—In a summary of recent Continental university intelligence, the "Lancet" states that Dr. Brühl has been appointed *Privat-Dozent* in gynecology at Berne; that Dr. T. Rumpf and Dr. E. Ungar, *Privat-Dozenten* at Bonn, have been made extraordinary professors; that Dr. Rokitsky, professor of internal pathology at Innsbruck, has been appointed dean; that at Lille the teaching of experimental pathology has been added to the duties of the chair of internal pathology, Dr. Leroy being appointed *agrégé*; that Dr. Don Fausto Garagozza has been appointed professor of analytical chemistry at Madrid; and that Professor Gasser, of Berne, has been made professor of anatomy at Marburg.

Sudden Death of Dr. William A. Byrd.—Dr. William A. Byrd, of Quincy, Ill., died on August 14, 1887, at Slater, Mo., to which place he had gone for a visit to his father. He is reported to have been attacked with sunstroke on the 13th, and survived only about eighteen hours. He was forty-four years of age, and one of the most active and well-known surgeons in that section of the State. —*Journal of the Am. Med. Assoc.*

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IMMUNITY AND PHAGOCYTOSIS.

HARDLY any theory has been propounded in bacteriology more attractive than that suggested by Metschnikoff to account for immunity against disease. It harmonized so well with known facts, and could be so easily adapted to varying conditions, while at the same time it was apparently so well substantiated by experimental data, that it early obtained a wide acceptance. Some recent investigations, however, would seem to throw considerable doubt upon Metschnikoff's interpretation of the action of the white blood-corpuscles in the production of immunity. A recent number of the "Fortschritte der Medizin" contains an article on "Immunity and Phagocytosis," by J. von Christmas-Direcknick-Holmfeld, that presents some very interesting observations upon this subject.

The term phagocytosis was first employed by Metschnikoff some years ago. He meant by it the process by which, as he maintained, the leucocytes of certain animals took up and destroyed bacteria that were making their way into the organism; and immunity against the infectious diseases he thought should bear a constant relation to this capacity of the white blood-cells, for each organism would be proof against all parasitic diseases the germs of which the "phagocytes," or leucocytes, could destroy, while it would be susceptible to those diseases the germs of which possessed such chemical or physiological properties as enabled them to resist the action of the leucocytes. Metschnikoff maintained that immunity did not depend upon any peculiarity of the blood in a humoro-pathological sense, but upon a peculiarity of the living cells in a cellulo-pathological sense—a peculiarity which consisted especially in the capacity of the phagocytes to take up foreign substances which they yet might not be able to assimilate. The fact that animals might be insusceptible to inoculations with small quantities of virus, but died after the introduction of larger quantities, might be explained on the ground that this immunity depended upon the power of the leucocytes to take up and destroy the micro-organisms. But the immunity thus conferred must be confined within certain limits, since the number of bacteria that could be destroyed by the leucocytes at one time was limited. The relation of the organisms to the germs might be described, then, as a contest between the leucocytes and the pathogenetic germs. If the former were able to destroy the bacteria, they remained the victors, but, if they were not able to do this, the germs multiplied in the organism, and the disease to which they belonged was produced.

There have been but few critics of this theory—so attractive is it, and so completely does it fulfill the given conditions. Baumgarten's arguments to show the weak points in it were

afterward refuted by Metschnikoff. Ribbert and Wyssokowitsch have also made the same attempt, without touching upon the experiments of the originator. Ribbert injected the spores of *Aspergillus fumigatus* and *Aspergillus flavescens* into a vein of a rabbit's ear, and found that a wall composed of leucocytes quickly formed around the spores in the various organs, especially the liver, the spleen, and the lungs. By this in part the spores were prevented from germinating, and in part the offshoots from them were restricted in their growth; and Ribbert concluded that the leucocytes acted injuriously upon the germs by preventing the access of oxygen. Wyssokowitsch found, in his injections of non-pathogenetic organisms into the blood-vessels, that some of the bacteria were taken up by the endothelial cells of the capillaries, but he could see no marked tendency of the white blood-corpuscles to take up the micro-organisms; and he concluded from this that the phagocytes, in any event, played only a subordinate part in rendering the bacteria harmless.

Von Christmas-Direcknick-Holmfeld says that, from his experiments, it seems probable that Metschnikoff's theory as to the action of the leucocytes is not quite correct, at least in the sense in which that author intended it. The phagocytes probably play a certain part in the destruction of germs in insusceptible organisms, but this part is of much less moment than others to which Metschnikoff attached quite insufficient weight. By his experiments he attempts to answer two questions: 1. Do the local lesions produced by inoculations of pathogenetic micro-organisms in different species of animals vary according as the animals are more or less susceptible to the disease? 2. Do the leucocytes in reality play the part ascribed to them by Metschnikoff? He says that the organism used in these experiments was the anthrax bacillus, because of its well-known characteristics, its peculiar form, and the ease with which it can be cultivated. Rabbits, mice, and white rats were the animals used for the inoculations. The special value of these species of animals consisted in their varying susceptibility to anthrax. Rabbits are very susceptible, while white rats show considerable resistance to this disease, and can be made quite proof against it. A series of experiments with this germ resulted in showing that, in these species of animals, there was a marked difference in the course of the local processes, according to the greater or lesser susceptibility to the virus introduced. In mice and rabbits, after twenty-four hours, there was slight oedema, more marked in the mice. Upon opening the point of inoculation, a drop of clear serous fluid ran out, which showed under the microscope a large number of anthrax bacilli, and no leucocytes, or next to none. There was no material subsequent change in the local lesions up to the time of death, and especially it should be noted that there was never any suppuration. In rats the result was quite different. In them there was always some pus in the secretion of the inoculation wound, and its amount bore a constant relation to the virulence of the anthrax cultivation and to the susceptibility of the animals experimented upon. Inoculations with an artificially attenuated anthrax virus, again, gave quite a different

result, so far as mice and rabbits were concerned. Such inoculations were followed by a small area of suppurative inflammation at the point of inoculation; a drop of thick pus was constantly present. In full-grown rats the result was the same.

The conclusions from these experiments are, briefly, as follows: The inoculation of a virulent anthrax cultivation produces, in very susceptible animals, but slight if any local reaction, and is not attended by suppuration. The anthrax bacilli quickly find their way into the organs through the lymph- and blood-vessels; they multiply with great rapidity, and soon produce the death of the animal. In less susceptible animals, the virus acts as an inflammatory irritant, and produces a suppuration inversely proportionate in amount to the susceptibility of the animal. Insusceptible animals show very slight constitutional symptoms, as the disease seems to be localized at the point of inoculation and its immediate neighborhood. In animals which stand upon the border-line between susceptibility and insusceptibility, such as half-grown rats, the local lesions are less marked and the entrance of the bacilli is somewhat restricted, but after some time, usually eight days, the animals die of the disease. It is very evident from the results obtained in these experiments that the suppuration has no insignificant relation to the degree of susceptibility to anthrax in certain animals, and there can be no doubt that this relation is not restricted either to these animals or to this single disease, but has a very general application. It is a well-known fact that the most virulent infectious diseases destroy life without producing any very great anatomical changes, while those that either do not destroy life or do so only after very long periods of time produce quite clearly marked pathological lesions. It must also be true that the suppuration has a conservative action, in so far as the organism is concerned, in the preservation of health; and the question arises as to how this is exerted. Von Christmas Direcknick-Holmfeld says that, judging from his experiments, it is apparently to be ascribed far more to some chemico-biological condition or influence than to the taking up of the bacteria by the leucocytes. In white rats inoculated with virulent anthrax, and in rabbits and mice inoculated with an attenuated virus, when a certain degree of insusceptibility was shown, it was unusual to find any bacilli in the white blood-corpuscles, by far the largest number being present in the liquor puris outside of the cells. As, in some cases, a complete immunity was shown, the organisms must have been destroyed in some other manner than by being taken up by the leucocytes. This fact was also shown in the following experiment: The anthrax virus used for the inoculation was derived from fresh gelatin or agar-agar cultivations, in which the micro-organism was found in the form of long homogeneous filaments that showed no trace of spore-formation. If the wound secretion was examined twenty-four hours after the inoculation of full-grown rats with such a cultivation, it was found that the long filaments had been replaced by short rods lying singly or in twos. The rods were for the most part rounded at both ends, a little shorter than usual, and often surrounded by an area highly re-

fractive of light. If a small amount of this pus was spread out upon gelatin, after two days an abundant growth of anthrax colonies was found, and, if a mouse was inoculated with the pus, death followed in about two days. If the pus from the same rat was examined after forty-eight hours, the appearance of the bacilli was changed. The bacilli, which before had been homogeneous, had become granular, many of them clearly showed a granular disintegration, and some of them refracted light less sharply and showed a less distinct contour. If this pus was spread out upon gelatin, as a rule no growth followed, and mice inoculated with it presented no symptoms of anthrax. Sometimes the bacilli lived more than forty-eight hours, but death almost invariably occurred before the end of the third day. In rats which had been rendered insusceptible to anthrax by repeated inoculations, the destruction of the bacilli often took place within twenty-four hours.

The death of the bacilli here was evidently not brought about by the process of phagocytosis. It might be supposed that the bacilli, which are found in such numbers free in the pus, might have been at first taken up by the leucocytes, and thus destroyed, and only have become free after the death of the cells and their consequent destruction. To eliminate this possibility, a small amount of pus was drawn up into a capillary tube from the wound, twenty-four hours after inoculation of an immense rat with anthrax virus. The bacilli in this pus were active and virulent, as was shown by the inoculation of a mouse. After the collection of the pus, the tube was closed at both ends and placed in a thermostat at 37° C. From this tube inoculations were made daily upon gelatin, and a mouse was also inoculated each day. In the course of one, two, or three days, the bacilli were destroyed outside of the living body in such pus, while the organisms were not taken up by the leucocytes. After this time, transfers upon gelatin and inoculations of mice fail. The bacilli live for indefinite periods of time when introduced into such tubes with nutrient media. From these experiments, says von Christmas-Direcknick-Holmfeld, it is evident that the pus found in rats after inoculations with anthrax exerts a destructive action on the anthrax bacilli, without their being taken up by the white blood-corpuscles.

MINOR PARAGRAPHS.

SURGEON-GENERAL HAMILTON'S "COLLEGE ADDRESSES."

UNDER the general title of "College Addresses," the Surgeon-General of the Marine-Hospital Service, Dr. John B. Hamilton, who, in addition to the performance of his duties under the Government, manages to find time to practice and teach surgery and to attend to the arduous tasks necessarily falling upon him as Secretary-General of the Ninth International Medical Congress—in all of which capacities his work is known to be excellent—has lately issued a pamphlet containing his response to the toast of "the medical faculty," at a dinner of the alumni of Georgetown College; an introductory lecture entitled "An Epitome of the History of Medicine" (an exceedingly satisfactory sketch, we may remark); and an address to the graduating class, in which, under the title of "The Medical Variations," he gives a very instructive account of some of the

more prominent medical doctrines, heresies, and delusions that have influenced the profession or the public from time to time.

THE RÔLE OF THE THYROID GLAND.

IN a recent issue of the "Centralblatt für klinische Medizin," Dr. O. Langendorff gives an interesting abstract of an account published in the "Berliner klinische Wochenschrift," by J. R. Ewald, of certain observations upon the functions of the thyroid gland in dogs, agreeing in the main with Schiff's. The dog has two thyroid glands. When one of them is removed, no disturbance takes place, but if the second one also is removed, even after a long interval, death follows, preceded by peculiar symptoms, prominent among which are convulsive seizures involving chiefly the temporal, scapular, and lingual muscles, together with a remarkable apathy, and finally difficulty of swallowing, while a highly repulsive odor proceeds from the mouth. Very striking results followed subcutaneous injections of a watery extract of the thyroid practiced on healthy dogs—the occurrence of an apathy so decided as to resemble narcotism or hypnosis, so that the animals showed no resistance when placed in the most uncomfortable positions. In other animals the phenomenon was not observed, even after intravenous injections. It is stated that injections of the extracts of other organs are wholly without effect. Like Schiff, Ewald thinks that the thyroid gland contains a substance of great importance to the central nervous system, either produced within it or only collected and metamorphosed there.

THE DANGERS OF THE PUBLIC BATHS.

A CORONER'S inquest was lately held in the case of a lad who, according to the accounts published, came to his death from some erysipeloid disease thought to have been contracted in a public bath on the East River. It does not appear whether the infection was imputed to a contamination of the water of the bath by some person making use of it or to a more than ordinary prevalence of offal in the river. No doubt there are real dangers of infection of one kind and another connected with bathing in the waters that immediately surround Manhattan Island, but it is somewhat startling to learn that one of the medical witnesses in this case is reported to have testified that he "had frequent cases of this sort."

AN INCIDENT AT AN ANTIVIVISECTION MEETING.

THE Paris correspondent of the "New York Times" tells of an amusing occurrence at a recent meeting of an antivivisection society held in that city. One of the speakers, a woman, having inveighed particularly against medical students, was asked by a student, who happened to be present, why she wore a bird in her hat—"a poor little robin" that "had been slaughtered simply to supply a vain woman with a foolish ornament." The account goes on to say that the lady was cut short in her eloquence, and could only stammer forth the poor protest that she had not done the bloody deed herself.

THE USE OF A BONE PEG IN AN OPERATION FOR PSEUD-ARTHRITIS.

AT a recent meeting of the Paris *Société de chirurgie*, a report of which appears in the "Deutsche Medizinische Zeitung," M. Richelot related the case of an hysterical girl, sixteen years old, with a congenital atrophy of the face, for which resection of a portion of the lower jaw was performed. The fragments were united with silver wire, but the patient was restless, and the union which took place was by fibrous tissue. Dr. Rouvier sub-

sequently drilled a hole through the fragments, excised the callus, and pegged the two parts of the bone together with a portion of the tibia of a calf, which had been steeped for twenty-four hours in a solution of 1 part of corrosive sublimate in a mixture of 900 parts of distilled water and 100 of alcohol. Bony union followed, with only slight asymmetry, and the patient could eat better than before. No disturbances of the dental nerves were observed.

"AIR-ETHER."

It appears by a notice inserted in the Berlin journals, emanating from the president of the Police Department of that capital, that a certain druggist, whose name and place of business are given, has been selling a nostrum which he calls *Luft-Äther*, intended as a remedy for headaches, at 50 Pfennig a bottle. An official analysis has shown that the liquid is a solution of acetic ether and oil of peppermint in alcoholic ammonia, and it is stated for the benefit of the people of Berlin that a bottleful of it is not worth more than 5 Pfennig.

ARTIFICIAL CRIPPLES.

THE New York "Evening Post" quotes from the Paris correspondence of the London "Daily Telegraph" a shocking account of an abominable industry in which puny children, bought of their parents or guardians, are deliberately converted into *culs-de-jatte* (i. e., cripples as to their lower limbs), and then compelled to beg in the streets and turn their gains over to the monsters who assume to own them. The process of crippling, as described, is not unlike that by which the Chinese are popularly supposed to deform the feet of their women. It is said that most of the victims are brought into France from Spain. The matter has been brought to the notice of the prefects of the southwestern departments officially, and it is to be hoped that the infamous trade will be suppressed.

MESSAGE UNDER THE AUSPICES OF A CORPORATION.

THE "Deutsche Medizinal-Zeitung" remarks that its prophecy, made several years ago, that medicine was likely to become a matter of joint-stock companies, is approaching its fulfillment, as is shown by the formation of a corporation having a capital of 200,000 Marks for the purpose of conducting an institute for mechanical curative gymnastics—in Kissingen in summer, and in Würzburg in winter.

ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Fourth Division of the Health Department for the following statement of cases and deaths reported during the two weeks ending August 23, 1887:

DISEASES	Week ending Aug. 16		Week ending Aug. 23	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever.....	55	12	48	14
Scarlet fever.....	29	6	28	3
Cerebro-spinal meningitis....	5	5	2	2
Measles.....	18	3	9	0
Diphtheria.....	82	25	72	21

The American Academy of Medicine will meet in Washington on Saturday, September 3d.

The Health of New York City.—During the four weeks ending Tuesday, August 23d, the following numbers of cases and deaths from infectious diseases were reported to the Sanitary Bureau of the Fourth Division of the Health Department: Typhoid fever, 175 cases and 45 deaths; scarlet fever, 118 cases

and 21 deaths; cerebro-spinal meningitis, 14 cases and 14 deaths; measles, 80 cases and 9 deaths; diphtheria, 324 cases and 98 deaths; small-pox, 9 cases and 2 deaths.

Army Intelligence.—Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from August 14 to August 20, 1887:

BAXTER, J. H., Colonel and Chief Medical Purveyor. Ordered to proceed from Washington, D. C., to New York city, on public business, and, on completion thereof, to return to this city. Par. 5, S. O. 187, A. G. O., August 13, 1887.

BAILY, JOSEPH C., Lieutenant-Colonel and Assistant Medical Purveyor. Granted leave of absence for one month. Par. 10, S. O. 191, A. G. O., August 18, 1887.

WOLVERTON, W. D., Major and Surgeon, Washington Barracks, D. C. Granted leave of absence for twenty days. Par. 3, S. O. 171, Division of the Atlantic, August 16, 1887.

BYRNE, CHARLES B., Captain and Assistant Surgeon, Washington Barracks, D. C. Granted leave of absence for one month, with permission to apply for an extension of one month. Par. 4, S. O. 171, Division of the Atlantic, August 16, 1887.

WILSON, GEORGE F., Captain and Assistant Surgeon. Granted leave of absence for fifteen days. S. O. 78, Department of Dakota, August 8, 1887.

DIETZ, WILLIAM D., First Lieutenant and Assistant Surgeon. Granted leave of absence for two months, with permission to apply for an extension of one month. Par. 7, S. O. 189, Headquarters of the Army, A. G. O., August 16, 1887.

MCCAW, W. D., First Lieutenant and Assistant Surgeon. Relieved from temporary duty at Fort Riley, Kansas, and ordered to his proper station, Fort Leavenworth, Kansas. Par. 3, S. O. 84, Department of the Missouri, August 15, 1887.

JOHNSON, HENRY, Captain and Medical Storekeeper. Ordered, in addition to his present duties, to take charge of the office and perform the duties of acting assistant medical purveyor in New York city during the temporary absence on leave of Lieutenant-Colonel Joseph C. Baily, Assistant Medical Purveyor. Par. 11, S. O. 191, A. G. O., August 18, 1887.

Naval Intelligence.—Official List of Changes in the Medical Corps of the United States Navy for the week ending August 20, 1887:

ROBINSON, S., Medical Inspector. Placed on retired list.

GARDNER, J. E., Passed Assistant Surgeon. Detached from Naval Hospital, Norfolk, Va., and ordered to the Fish Commission steamer Albatross.

MARTIN, WILLIAM, Assistant Surgeon. Ordered to Naval Hospital, Norfolk, Va.

VAN REYDEN, W. K., Surgeon. Appointed Medical Inspector from August 16, 1887.

SIMONS, M. H., Passed Assistant Surgeon. Appointed Surgeon from August 16, 1887.

Marine-Hospital Service.—Official List of Changes of Stations and Duties of Medical Officers of the United States Marine-Hospital Service for the two weeks ending August 20, 1887:

LONG, W. H., Surgeon. Leave extended six days on account of sickness. August 13, 1887.

FESSENDEN, C. S. D., Surgeon. Leave extended thirty days on account of sickness. August 19, 1887.

GODFREY, JOHN, Surgeon. Granted leave of absence for thirty days. August 17, 1887.

GLENNAN, P. H., Passed Assistant Surgeon. Granted leave of absence for thirty days. August 18, 1887.

McINTOSH, W. P., Assistant Surgeon. Granted leave of absence for twenty-five days on account of sickness. August 17, 1887.

OBITUARY NOTES.

Nathaniel A. Randolph, M. D., of Philadelphia, professor of hygiene in the University of Pennsylvania, and one of the editors and publishers of the "Medical and Surgical Reporter," of Philadelphia, was drowned while bathing at Atlantic City, N. J., on Sunday, the 21st inst. The deceased was about thirty years of age, and was considered a man of much promise.

Professor Spencer F. Baird, of Washington, who for many years had been at the head of the Smithsonian Institution, died on Friday, the 19th inst., at Wood's Holl, Mass., whither he had gone on business connected with the United States Fish Commission. The deceased pursued a course of medical study in his youth, but the work of nearly his entire life was in the field of natural history. His contributions to the advancement of that branch of science were conspicuous.

Sylvester Teats, M. D.—The death of this well-known member of the New York profession is announced as having taken place on Friday, the 19th inst. The deceased was in the sixty-second year of his age.

Letters to the Editor.

THE PHILADELPHIA SANITARIUM AT RED BANK, N. J.

PHILADELPHIA, August 8, 1887.

To the Editor of the New York Medical Journal:

SIR: July 26, 1887, was called "Physicians' Day" at the Philadelphia Sanitarium, situated at Red Bank, N. J., and several members of the profession availed themselves of the opportunity to inspect the new purchase of the association.

Two steamers, Relief and Riverside, ply between Philadelphia and Red Bank, one leaving each wharf every hour. A great number were waiting for the 11 o'clock boat: mothers with infants in their arms, and little ones of two and three years of age clinging to their skirts; groups of children were alone, the oldest, perhaps not more than ten years old, having charge of three or four who were younger and smaller. It was a noisy, eager crowd, and all seemed to enjoy the ride of fourteen miles down the river. When they disembarked they were counted, and we learned they numbered three hundred and fifty.

As we walked from the landing to the grounds, situated directly on the river-bank, we saw a long line of women ranged near the picket-fence along the river-front. At first we could not tell why they were in this position, but soon discovered that they were waiting for soup. After watching several of them file past the two windows of the soup-kitchen, each mother coming away with nearly a pint of soup and three crackers for herself, and soup and two crackers for her child, we entered the building to investigate the quantity and quality of the soup. One hundred and sixty gallons had been made that day, and we learned afterward that nearly all of it was used: upon tasting it we found it good and nutritious.

Only those who arrive before 12 o'clock, noon, are supplied with soup; in the afternoon each child has a cup of milk, each nursing mother a cup of tea. To those having the care of children who depend upon the "nursing-bottle," fresh milk is given out freely, without regard to regular hours.

We next wandered over the well-shaded grounds to the large brick building, the Sanitarium proper, situated on the highest

point of the estate, overlooking the river, and well adapted for receiving permanent cases. On the first floor there is one large ward, with windows on three sides of it, opening into a wide piazza which surrounds the building; the wards on the two other floors are smaller, but are cheerful and airy, having high ceilings and large windows. There are eighteen rooms, some of them being allotted to the matron and nurses, and one used as a bath-room, which is very complete in its arrangements. At the time of our visit there were no cases in the wards, but there had been a short time before.

Under the trees, in front of the buildings, were the women and children who had gone down on the boat with us, as well as many who had arrived earlier, there being about 1,200 in all.

Babies were swinging in hammocks or lying on the grass, the older children were playing around, watched by weary mothers or caretakers, all seeming to enjoy themselves as they gained new life and strength from the river breeze.

The Sanitarium was opened at Red Bank, June 2, 1887. Up to July 26th there had been thirty-eight working days, during which time 36,963 children and caretakers were admitted to the grounds, making a daily average of 972. The highest number for one day was 2,098, the lowest for one day, 245. The association commenced its work in 1877 at Point Airy, Windmill Island, in a small way, which seemed ample for the first few years, but, as time passed on, greater numbers of our city poor availed themselves of the opportunity to give their little ones a breath of fresh air, and the accommodations became too limited; then, too, the tide encroached upon the island, and the drainage was imperfect; so about one year ago the present location was decided upon, the property purchased, and early in September the work of removal begun. During the ten years' residence at Point Airy, the greatest number of admissions was during the summer of 1885, 53,968 children and caretakers having been admitted to the grounds.

During the summer of 1886 there were 52,866 admissions, but as the number of working days was less than that of any previous season this slight decrease in numbers is not surprising. With enlarged grounds and accommodations which are better in every way, we may reasonably expect a greatly increased number of admissions at the present location.

MARY WILLITS, M. D.

AN OLD DISLOCATION OF THE ELBOW

97 BROAD STREET, LYNN, MASS., August 15, 1887.

To the Editor of the New York Medical Journal:

SIR: There came to the out-patient department of the Lynn Hospital, on the 9th inst., a woman giving the history of a fall, and complaining of severe pain in the wrist. Upon rotating the forearm, before removing the clothing, I discovered an unusual deformity of the elbow joint: removing the clothing and examining further, I found a complete outward dislocation of the radius and ulna of long standing. She met with an accident some twenty years ago, which caused an incomplete dislocation outward that was never reduced; a subsequent injury to the same part completed it. The woman has the movements of the arm for all practical purposes, the bones being held only by the soft parts. The olecranon and the head of the radius, when the arm is semiflexed, lie on the outer side of the humerus, at the junction of the lower and middle thirds, while the lower extremity of the humerus will rest in the hollow of one's hand.

Hamilton speaks of so few cases being reported, and of the condition being one of such rarity, that I have thought perhaps your readers would be interested to learn of this one.

W. B. LITTLE, M. D.

Proceedings of Societies.

AMERICAN LARYNGOLOGICAL ASSOCIATION.

(Continued from page 190.)

Sensory Affections of the Throat.—A discussion of this subject was opened by Dr. FREDERICK I. KNIGHT, of Boston (see page 241).

Dr. J. N. MACKENZIE, of Baltimore: This is a very important subject, and I hope it will be thoroughly discussed. I fully agree with Dr. Knight in the estimate he has placed upon sensory neuroses of the throat, and in his insisting on constitutional treatment. Among the drugs that I have used, arsenic has been especially serviceable in controlling the excitability, which in the vast majority of cases is a reflex phenomenon. I have also occasionally found the constant current of electricity of service; it is useful likewise in hyperæsthetic conditions connected with chronic nasal inflammation, with sudden stoppage of one or both nostrils—a condition generally supposed to be due to gravitation of the blood to the more dependent portion. This explanation of the phenomenon has always seemed to me to be absurd. I believe it to be merely a vaso-motor phenomenon. To control it, I have used zinc, arsenic, and electricity, applying the latter carefully with one electrode over the nape of the neck and the other indifferently on the cheek, on the ala of the nose, or within the nostril. I think that marked relief has resulted from that treatment in several cases.

Dr. C. E. SAJOUS, of Philadelphia: I have seen two or three cases of sensory affections of the throat. In one case the patient had follicular pharyngitis. The follicles had not been destroyed, and the parts had apparently been restored to their natural condition, but the patient continued to suffer from a sharp, boring pain over the thyroid cartilage. I noticed that the pain usually occurred during cold, damp weather. It was probably of rheumatic origin, but this supposition was not verified by treatment. The patient was accustomed to bathe in cold water every morning, winter and summer. He showed no mental peculiarity.

Dr. W. C. GLASGOW, of St. Louis: The neuralgias mentioned by Dr. Knight are considered in the malarious regions of the United States to be signs of malarial affection. I have also seen these sensitive conditions of the throat in connection with the gouty diathesis and with the condition called lithiasis. The pain is sometimes referred to a few follicles or to a single one. The follicles may be so concealed that it is difficult to find them. They are sometimes behind the palate or the tonsil, sometimes at the junction of those structures. The reduction of inflammation in them is followed by subsidence of the neuralgia. A common cause of such neuralgia is rheumatism, and exacerbations occur at night. These affections are easily corrected if we ascertain the cause. Certain patients date the sensation from the swallowing of some foreign substance. One of my patients had swallowed a watermelon-seed about two years before, and had ever afterward believed that it was still in his throat. I found the peculiar sensation to be due to a hidden inflamed follicle near the pillar of the palate; when this was reduced, the disagreeable sensation disappeared. A local cause for the trouble may generally be found, although in some cases it seems to be the result of a constitutional condition, such as malarial poisoning, gout, rheumatism, or lithæmia.

Dr. S. H. CHAPMAN, of New Haven: I have very little to say in addition to the statements contained in my paper, but it seems to me that the discussion has shown a conflict either of terms or of the results of observation. We have heard a good deal about diseases of the mucous membrane and of the

nerves of the throat, but the fact seems to have been overlooked almost entirely that there may be idiopathic diseases of the pharynx and larynx. On examining other parts of the body which are the seat of pain, we desire to make a differential diagnosis between affections of the nerves and those of the muscles; and, although difficult, it is always possible to do so. The region which constitutes my field of practice is very malarious, and we often see the severer forms of malarial disease manifest themselves in great anæmia, chronic infiltration of muscular tissues, and splenic affections. The pain in these cases we conclude to be due to intra-muscular pressure on the nerves of the parts affected, and not to a diseased condition of those nerves. Is it not, therefore, quite fair to consider the pain in the pharynx and larynx present in the majority of such cases to be also due to an affection of the muscles rather than of the nerves of these parts? Two arguments particularly favor this view—namely, the irresponsiveness of the nerves to the electrical current, and the sudden entire cessation of the pain under constitutional treatment.

NEW YORK ACADEMY OF MEDICINE.

Meeting of May 19, 1887.

The President, Dr. A. JACOBI, in the Chair.

THE subject of the management of empyema, medical and surgical, having been presented by the Section in Theory and Practice of Medicine, the discussion was opened by the reading of a number of papers.

Spontaneous Absorption in the Empyema of Children; the Relative Advantages of Aspiration and Early Incision in Children.—Dr. L. EMMETT HOLT read a paper in which he discussed these two points. The prognosis was much better in children than in adults. This depended upon the fact that the ætiology differed at the earlier and later ages. In adults empyema occurred commonly in tuberculosis, which was not the case in children. Spontaneous absorption took place very rarely; he had been able to find but two recorded cases in which the diagnosis had been proved by the withdrawal of some of the pus. It was evident that in children the chances of recovery from empyema by nature's unaided efforts were not great. One of the conditions of cure of an abscess, wherever located, was that the walls should come in contact. This was accomplished in the chest by expansion of the lung, for the outer wall was unyielding. The more rapidly and completely the expansion took place, the quicker the recovery. The indications for treatment were to get rid of the pus by the easiest, safest, and most thorough means as early as possible. He would discuss only aspiration and incision with drainage. Puncture with the trocar and siphon drainage was an incomplete form of drainage, and could not easily be carried out in children. The advantages of aspiration were: its simplicity; with ordinary skill and clean needles, its freedom from danger; the fact that the fluid was not removed rapidly, so that gradual expansion of the compressed lung was favored; the absence of any necessity of confinement to bed or of general anæsthesia; and the cure of many cases by it alone, the fluid after one or two aspirations becoming serous and then being absorbed rapidly. But there were some very obvious objections. Not all the fluid could be removed. One sac might be emptied when another was not touched, whereas by incision and insertion of the finger the septa could be broken down. There were also certain cases in which aspiration was not applicable, as where the pus was of a septic nature, or associated with gangrene of the lung, or contained much clot.

The advantages of incision and drainage were pointed out,

and then the use of general anæsthetics was considered. The author had twice known rupture to take place in a bronchus while the patient was unconscious, and death to result from suffocation. Both these cases were in adults. But local anæsthesia should be relied upon. It seemed that cocaine would suffice. The results of incision and drainage had been much improved in the recent statistics. He had collected eighty cases treated by antiseptic incision in which the duration of the discharge had been given. In five cases it was four months or over; in the remainder it averaged six weeks. In twenty-one cases, mostly cases of early operation, the duration was a month or less.

The author drew the following conclusions: 1. All methods of treatment of empyema in children yielded better results than in adults. 2. It was never justifiable to leave a case to nature. 3. Aspiration held out a reasonable prospect of success in cases of localized empyema, but a very slender one when the exudation was general. 4. If, after two aspirations at the most, pus accumulated again, showing no tendency to change to serous effusion, aspiration should not be persisted in. 5. In a case of large effusion, one aspiration might be done as a preliminary to a cutting operation. In all other cases a free incision should be made as early as possible.

Acute Empyema in Children.—Dr. FRANCIS HUBER discussed this part of the subject in a paper. The subjective symptoms seen in acute empyema were mentioned. The purulent process might go on at the same time with a pneumonia, and it was difficult to say which began first. The primary acute cases were more fatal than the subacute. Many of the former proved fatal within two weeks. The physical signs and clinical history would not warrant a positive diagnosis of acute empyema; the character of the fluid in the pleural cavity remained doubtful until some of it was withdrawn. An absolute diagnosis could be made only by an exploratory incision, which was without danger if made carefully. The treatment by medicinal means was symptomatic and palliative; no reliance could be placed on measures intended to cause absorption of the pus. Tonics, good food, and good hygiene were required, and stimulants were indicated. Surgical measures were required to get rid of the pus and stop the suppuration, and the more promptly we acted the greater would be the prospects of cure. But he would favor deferring aspiration until the acute condition had subsided, or until the twelfth day, provided life was not endangered. Aspiration could be tried first, and not too much pus should be withdrawn at one time. If, after four or five days, pus accumulated again, he would not repeat the aspiration, but would resort to incision. Cocaine, injected locally, was efficient as an anæsthetic. Out of thirteen patients whom he had incised, three had died. Injections of bichloride of mercury were given in all of his cases. The retraction of the chest on the affected side had been only temporary.

A General Consideration of the Surgical Treatment of Empyema.—Dr. ROBERT ABBE read a paper on this part of the subject. The first thought which should come to the mind of the physician was to abandon all hopes of promoting absorption of the pus, and to rid the patient of it by the safest and quickest means. A brief review of the different operative procedures was given. Aspiration, repeated several times, was competent to cure a small number of cases. They were of the simple type, and would do well by any method of treatment, except the expectant. If, after aspiration of all that could be removed, the pulse rose and other unfavorable symptoms continued, the pleura should be opened freely. But by far the best results were known to follow incision and the insertion of a drainage-tube. Accumulated experience now said that the eighth or seventh intercostal space was the best place to make

the opening, for the reason that, in the natural process of contraction of the cavity, all the boundaries approached that point. What was wanted first and last was a thoroughly free outlet. The purity of the wound was important. There was no need of irrigation of the cavity in the great majority of cases. A bichloride-of-mercury solution was the best for irrigation. The two risks of washing out the cavity were, first, the toxic action of the solution, and, second, death, the cause of which the post-mortems had not yet fully explained. As to an anæsthetic, a few whiffs of chloroform were sufficient for children. In adults local anæsthesia might be effected by the ether spray, rhigolene, or freezing by salt and ice; but a superior method was the use of cocaine, injected partly into the muscle and partly into the integument posterior to the wound. Thoracoplasty was briefly considered.

Dr. T. H. BURCHARD said his experience in the surgical treatment of empyema was limited to eleven cases, all of which were chronic. One case, the most prolonged, had existed thirteen months. The youngest patient was three years of age; the oldest about fifty. Each patient had been subjected to aspiration prior to the cutting operation. The smallest amount of pus removed after incision was seven ounces; the greatest amount was twelve quarts. In one case, which had been reported in the journals, the drainage-tube, in spite of precautions, slipped into the pleural cavity, and was removed some time subsequently by another surgeon. Seven patients were kept under observation a year or more. Three recovered entirely. Two developed phthisis and died; one had phthisis at present; one died of dysentery fourteen months after the operation, the dysentery being evidently tubercular. In one, hæmorrhage took place twenty-four hours after the operation, and the patient died within forty-eight hours. There was found extensive extravasation of blood over the entire surface of the pleuræ. No artery had been cut; there had been no bleeding from the wound. He had seen two such cases. He emphasized the importance of an early operation.

Dr. H. N. HEINEMAN thought that empyema in children and in adults constituted two entirely different conditions. It was much more common in children; in them it was rarely unilateral, and the pericardium was apt to be involved, especially in empyema of the left side. The physical signs in children and adults were different. As a rule, distinct flatness was not so common in children as in adults. One was apt to make a diagnosis of phthisis in children, but distinct tympanitic breathing just beneath the ear led him to suspect pleurisy, not a lung with a cavity. Pleuritic fluid that contained a few pus cells gradually changed to pus in the adult; more rapidly in children.

Dr. E. G. JANEWAY said that, unless in exceptional cases, he would resort to incision after the first aspiration. There were certain cases complicated by septicæmia in which after incision a cure would not result. Again, there were cases of double empyema and purulent pericarditis in which the disease ran a rapid course, terminating fatally. The operation itself in these cases would be fatal. He referred to a case of pyo-pneumothorax, with sepsis, a spot of gangrene in the lung, and consolidation of a part of the lung, yet in which nature had effected a recovery. He also referred to a case in which aspiration failed to remove thin serous pus in the pleural cavity, not containing flocculi of fibrin. The pus was afterward let out through an incision made at the place of puncture. He was decidedly in favor of an early operation — as a rule incision.

Dr. W. H. KATZENBACH said that from his experience with empyema in the adult he had formulated the rule to make an exploratory puncture with the hypodermic needle, and, if pus was found, to perform aspiration; if the pus was fetid, finish the operation with incision; if the pus accumulated again rapid-

ly, and there was fever, to make an incision; and, if the drainage was not satisfactory, to make a counter-opening. He related a case in which the duration of the empyema was eight years, during which time repeated aspirations were done.

Dr. A. L. Loomis had been accustomed to regard the pleurisy of children as a very different affair from that of adults. Acute suppurative pleurisy in children was of very common occurrence. In fact, whenever he found fluid in the chest of a child, the chest becoming pretty rapidly filled, he was pretty certain that it was purulent, not sero-fibrinous. According to his observation, suppurative pleurisy in the adult was in the majority of cases a dangerous thing, and rather rapidly dangerous. He had come to recognize it as infectious pleurisy in almost all instances. He had rarely found acute suppurative pleurisy in the adult without also finding some acute pneumonic disease in the opposite lung. He had seen the pleural cavity become filled with pus to its utmost capacity within twenty-four hours. And it seemed that the constitutional disturbance and fever went on in the same degree after removal of the fluid as before. We had to contend at this time with an acute disease which could not be removed simply by withdrawing the products of inflammation. But after the subsidence of the acute process, when the case became one of simple empyema, the chances of effecting a cure were decidedly in favor of treatment by incision. He thought the incision was of no benefit at the beginning of an acute suppurative pleurisy. He believed the cases were at the start fibrinous pleurisy, but within twenty-four hours afterward the chest cavity might be filled with pus.

Dr. J. W. ROOSEVELT had observed considerable destruction of the serous membrane itself in the empyema of adults, while in children it was affected only superficially; hence the difference in the prognosis. He referred to a case in which, while giving ether prior to the operation, he turned the patient over to relieve dyspnoea. A pus cavity discharged into the bronchus and trachea and the patient strangled. Speaking of antiseptic irrigations, he said it was difficult to conceive how they could reach the deep fibrinous deposit on the pleural surfaces.

Dr. A. CAILLÉ had operated for empyema twenty-two times, nineteen of the patients being children, one five and another six months old. There had been six deaths and fifteen recoveries. Empyema should be treated like any other abscess, by incision and free drainage. He would not inject the pleural cavity of a child with a solution of carbolic acid, because of its toxic effects.

Dr. JOSEPH E. WINTERS had, during the past four years, seen ninety cases of pleurisy in children. Four had empyema while under observation. All the others recovered completely without a change of the effusion to pus. He had never seen a case of empyema in a child in which there was not much serum with the pus, and this was the reason why the fluid was readily absorbed in children. He objected to aspiration, as he believed it increased the tendency to the formation of pus.

Dr. A. SEIBERT thought there was no more danger attending the use of the hypodermic needle in pleurisy than for other purposes.

The PRESIDENT had noticed in a number of his cases severe cough coming on during the operation for removal of fluid from the pleural cavity. In one case, after the withdrawal of some of the fluid, the cough would come on, and could be relieved by partly refilling the pleural cavity with some liquid. He thought the cause of the tendency to cough and to hæmorrhage from the pleural surfaces was the same, namely, diminished pressure upon the bronchial tubes and blood-vessels. There was an effort to fill this partial vacuum, so to speak, by the blood suddenly rushing into the blood-vessels. This was the first step toward a broncho-pneumonia.

Book Notices.

A Manual of Midwifery. By ALFRED LEWIS GALABIN, M. A., M. D., Obstetric Physician and Lecturer on Midwifery and the Diseases of Women to Guy's Hospital, London, etc. Illustrated with 227 Wood Engravings. Philadelphia: P. Blakiston, Son, & Co., 1886. Pp. xxiii-18 to 753. [Price, \$3.]

Dr. GALABIN is well known to obstetricians and gynaecologists by his contributions to periodical literature, and this book ought to make him equally known to the great mass of general practitioners in the two great English-speaking nations, for it is emphatically a book for the general practitioner. Although it purports to be only a manual, it is really a treatise sufficient for all ordinary purposes. By restricting his discussions of theoretical matters to points that may fairly be called essential (save in the appendix on Nägele's obliquity of the head), the author has been able to give within a moderate compass a more adequate exposition of practical questions than it is common to meet with in a manual. In its general teachings the work does not differ materially from the other well-known British textbooks of midwifery, but we find in it a clearness of description, a directness of statement, and a fair and manly appreciation of other men's convictions that seem to us to entitle it to special esteem. We can only allude briefly to some of the features that relate to subjects in a more or less unsettled state, or to those on which the author holds opinions somewhat distinctive. In cases of moderate pelvic contraction, in which the choice lies between version and the high forceps operation, Dr. Galabin is rather a firm advocate of the English preference for the forceps, as opposed to the favor shown to version in America and Germany, and his argument on this point leads him into somewhat greater attention to theory than he displays in most other parts of the book; but he ends by admitting, practically, like many another writer, that much depends on the operator's superior skill with the one procedure or the other. In the section on occipito-posterior positions of the head the author makes a decided point in favor of the use of the vectis, an instrument now almost discarded from practice, which he highly recommends for pulling the occiput forward so as to produce flexion and consequent rotation—a manoeuvre in which he has been successful in a number of cases where he was called in to perform craniotomy, resorting afterward to the forceps if necessary. Concerning the practicability of axis-traction with an ordinary forceps, Dr. Galabin gives one of the best demonstrations that we remember to have met with. Some prominence is given to the advisability of noosing the prolapsed arm in cases of shoulder presentation where podalic version is to be attempted. In so far as the object is to enable the operator to prevent the ascent of the arm by the side of the head during extraction, the procedure has a certain utility, and we think it has been too much neglected of late years. Its special advantage, as the author points out, is to be seen in cases in which the arm belongs to the same side as the foot that is seized and brought down, and that eventually becomes the anterior arm, the more difficult of the two to liberate. We regret to see that Dr. Galabin's views of the Cæsarean operation and its various modifications are hardly more favorable than those generally held in the United Kingdom, where craniotomy still has a firm hold. The Porro operation is spoken of favorably, and laparotomies are mentioned as perhaps the most hopeful procedure in desperate cases, provided the operator is expert. These particular points we are glad to note, but still this book, like almost all British writings on the subject, goes to confirm the im-

pression that the Cæsarean operation and its congeners fall far short of adequate appreciation in Great Britain. The book has two appendices—one on Nägele's obliquity of the head, and the other on the choice of the leg in podalic version. They are both excellent examples of clearness in argumentative writing. Many of the pictorial illustrations are lacking in clearness, and the type used is rather small. We hope to see these defects remedied in subsequent editions.

Treatment of Disease in Children, including the Outlines of Diagnosis and the Chief Pathological Differences between Children and Adults. By ANGEL MONEY, M. D., M. R. C. P., Assistant Physician to the Hospital for Sick Children, Great Ormond Street, etc. Philadelphia: P. Blakiston, Son, & Co., 1887. Pp. xiii-560. [Price, \$3.]

THIS thoroughly practical treatise is a meritorious exception to the hackneyed rule of text-books and lectures which, after a relapse of traditional symptomatology rarely completely verified at the bedside, usually circumscribe "treatment" within the narrow bounds of prescribing pharmaceutical formulæ. While not disregarding these, Dr. Money gives them a subordinate place, dwelling rather upon the more important clinical management on which the issue of recovery chiefly depends. The work is in no sense a "cram-book" for students about to undergo the parrot-like formality of an examination, but presupposes that "the reader is already acquainted with a work on general medicine"; and with this proviso sets forth the information most needed and hardest to be gained by the practitioner after graduation. Instead of the customary misleading attempt to portray the typical features of each malady, the author starts with the caution that "It is the unexpected that happens in infantile physio-pathology. Perhaps this non-conformity of disease and health to the type or test is the most striking characteristic of children, and especially infants." Hence, even more than in adults, it is important to treat the patient and not the disease, or, to quote the opening words of the book, "the fundamental principles of therapeutics in childhood are those of prevention, hygiene, and expectancy."

The first two chapters deal respectively with the general treatment of disease, including the therapeutic application of hygienic agents, and with feeding. The various forms of indigestion, from transient functional disturbance or simple gastric catarrh to athrepsia, are next considered, and their pathogeny and treatment—the latter mainly by hygienic means—admirably expounded. Subsequent chapters cover the range of the pathology of childhood, commencing with general diathetic diseases and terminating with the acute specific fevers. Wherever pertinent, the peculiarities of infantile anatomy and physiology, as modifying diagnostic methods, are well described, the chapter on disorders of the respiratory system being notably interesting in this respect. As regards internal medication, the views and favorite drugs of nearly all contemporary writers are given, with the author's reasons for adopting or discarding them, and, in the former case, with useful suggestions as to the most available modes of administration, though we confess to some doubt of the safety of the recommendation that in a recalcitrant little patient a pill protested against "be neatly dropped within the region of the involuntary reflex apparatus for deglutition, especially if the child draws a deep breath of astonishment." We note, too, the conventional British dogma that the temperature of the nursery should be "about 60° F.," which, however tolerable in the English climate, and with purely radiant heating methods, is neither comfortable nor safe in our latitude and with the convecting appliances advocated in the text.

The manner is more open to criticism than the matter, be-

traying numerous evidences of carelessness and haste in composition. In the directions for making "brandy and egg," for example, the brandy is altogether omitted; "syrup of the iodide" (meaning presumably of iron) is several times alluded to; and here and there a disagreement in number between verbs and their nominatives occurs; for example (p. 145), "enlarged glands . . . is a cause of the peculiar kind of coughing that is most frequently heard in whooping-cough," and again (p. 175), "Counterirritation . . . are most valuable." The proof-reader has overlooked not a few typographical errors, seemingly making the author prescribe (p. 65) doses of 3 xx [?] of glycerin as a menstruum for cod-liver oil, and discountenance (p. 249) "excess of sugars and starches, as preventive" (? productive) "of acidity and intestinal catarrh." Minor blemishes of this sort, however, we trust to see rectified in future editions of a work which we cordially commend to our readers as occupying a field almost untouched in medical literature, and affording a model which may be profitably followed in other branches of practice.

GENERAL LITERARY NOTES.

AMONG recent foreign publications we note the following:

F. ALCAN, Paris.—J. Boeckel, "Étude sur les kystes hydatiques du rein au point de vue chirurgical."

J. B. BAILLIÈRE & FILS, Paris.—A. Cullerre, "Nervosisme et névroses." (3fr. 50.)

A. DELAHAYE & E. LECROSNIER, Paris.—P. Bénard, "La glosso-stomatite épithéliale chronique superficielle. (Psoriasis buccal de Bazin.)" (2fr. 50.) — Gélinau, "Traité de l'angine de poitrine." (8fr.) — Hasmon du Fresnoy, "Considérations pratiques sur l'avortement." (2fr.) — Odent, "Des angines pseudo-membraneuses au cours de la scarlatine." (2fr.) — Pouillet, "De l'onanisme chez la femme." (3fr. 50.)

T. ACKERMANN, Munich.—J. Steinbacher, "Die männliche Impotenz u. deren radikale Heilung durch ein rationelles combinirtes Naturheilverfahren." (4M.)

E. BESOLD, Erlangen.—G. Schwalbe, "Lehrbuch d. Anatomie des Auges." (8M.) — G. Schwalbe, "Lehrbuch d. Anatomie des Ohres." (9M.)

W. BRAUMÜLLER, Vienna.—"Vorträge über Cholera asiatica im Wiener medicinischen Doktoren-Kollegium." (1M. 60.)

DENICKE, Leipsic.—O. Zacharias, "Ueber gelöste u. ungelöste Probleme d. Naturforschung." 2d ed. (4M. 50.)

F. ENKE, Stuttgart.—J. Veit, "Die Anatomie des Beckens."

G. FISCHER, Jena.—E. Schwald, "Bedeutung des Nervensystems f. die Niere." (2M.)

E. GROSSER, Berlin.—W. Lublinski, "Die Kehlkopfschwinducht." (0M. 50.) — T. Schott, "Behandlung d. chronischen Herzkrankheiten." (1M.)

HEUSER, Neuwied.—Hüllmann, "Zur Therapie d. Chlorose." (0M. 75.) — H. Janke, "Die willkürliche Hervorbringung des Geschlechts bei Menschen u. Hausthieren." (11M.) — P. Kadner, "Zur Anwendung diätetischer Kurmethoden bei chronischen Krankheiten." (1M.) — Levy, "Zur Behandlung d. Sterilität." (1M.)

A. HIRSCHWALD, Berlin.—C. A. Ewald, "Handbuch d. allg. u. spec. Arzneiverordnungslehre." 9th ed. (20M.) — J. M. Da Costa, "Handbuch d. spec. med. Diagnostik." 2d Germ. ed., transl. by H. Engel and C. Posner. (12M.) — S. W. Mitchell, "Die Behandlung gewisser Formen von Neurasthenie u. Hysterie." Transl. by G. Klemperer, preface by E. Leyden. (2M. 40.) — A. Wiegand, "Lehrbuch d. Pharmakognosie." 4th ed. (10M.) — H. v. Ziemssen, "Die Elektrizität in d. Medicin." 5th ed. (12M.)

LIPSH & FISCHER, Kiel.—H. Meyer, "Knochenabscesse." (1M.) — F. Mose, "Ueber Exenteratio bulbi." (0M. 80.) — F. Plehm, "Beitrag zur Lehre vom chronischen Hydrocephalus." (1M.)

BOOKS AND PAMPHLETS RECEIVED.

The Modern Treatment of Diseases of the Heart. A Manual of Clinical Therapeutics. By Prof. Dujardin-Beaumetz, Member of the

Academy of Medicine, and of the Council of Hygiene and Salubrity of the Seine, etc. Translated from the Fourth French Edition by E. P. Hurd, M. D., etc., Newburyport, Mass. Detroit: George S. Davis, 1887. Pp. x-179. [The Physician's Leisure Library.]

Sexual Impotence in the Male and Female. By William A. Hammond, M. D., Surgeon-General, U. S. Army (retired list), Professor of Diseases of the Mind and Nervous System at the New York Post-graduate Medical School, etc. Detroit: George S. Davis, 1887. Pp. 305.

Neuerungen und Verbesserungen in den Applicationen der Fracturenbehandlung. Von Dr. Aug. Schreiber, Oberarzt am städt. Krankenhaus in Augsburg. Mit 107 Abbildungen. [Separatabdruck aus der "Illustr. Monatsschrift d. ärztl. Polytechnik."]

State Control of Medicine. By Louis A. Weigel, M. D., Rochester, N. Y. [Reprinted from the "Medical Press of Western New York."]

Suppurative Inflammation of the Antrum. By E. Fletcher Ingals, M. D., etc., Chicago. [Reprinted from the "Journal of the American Medical Association."]

Manual of the United States Hay-fever Association, containing a Report of the Annual and Adjourned Meetings of 1886, Prize Essays, etc. Lowell, Mass.: Vox Populi Press, S. W. Anse & Co., 1887.

The Management of Eczema Infantile. A Paper read before the Ohio State Medical Society, Toledo, June, 1887. By B. Merrill Ricketts, M. D., etc., Cincinnati. [Reprinted from the "Cincinnati Lancet Clinic."]

A Review of the most Important Advances in Surgery, Medicine, and Pharmacy in the Last Forty Years. By C. W. Moore, M. D., San Francisco. [Reprinted from the "Pacific Record of Medicine and Surgery."]

The Radical Cure of Retro-displacements of the Uterus and Proclivencia, by Alexander's Operation and Median Colporrhaphy. By J. H. Kellogg, M. D., Battle Creek. [Reprinted from the "Transactions of the Michigan State Medical Society," 1887.]

Report on the Etiology of Leprosy to the California State Medical Society. By W. F. McNutt, M. D., M. R. C. P., etc.

Miscellany.

Anthropological Notes.—At various recent meetings of the *Société d'anthropologie*, of Paris, the following were among the subjects presented:

Polymastia.—M. Fauvelle, after reviewing the zoological significance of polymastia in different genera, remarked that the condition did not recall any particular ancestral form, but was an anomaly by excess of development during embryonic life, produced at a time when great vascularization of the integument caused, by proliferation within the generative cells of the epidermis, the formation of hairs, sebaceous glands, and mammae. M. Manouvrier, one of the society's secretaries, thought that, in spite of M. Fauvelle's interesting discourse, the question was still obscure, and the hypothesis of atavism had not by any means been disproved.

The Ancient Egyptians.—M. Maspero presented a detailed description, by M. Fauquet, of an Egyptian mummy which, from the unusual character of the embalming, was thought to be that of a person who had been the subject of violence. None of the cavities of the body had been emptied. M. Maspero considered belladonna to have been the base of many poisons used in ancient Egyptian magic, the secret of which had been handed down among the sorcerers to the present day.

Suppression of the Menstrues in Cold Countries.—In a discussion on the inhabitants of eastern Greenland, it was stated that during the most rigorous seasons the catamenial flux was suspended, and the same was reported for the upper Alpine regions. It was also said that physicians in the mountainous portion of the department of Isère, France, a cessation of menstruation during the six cold months, a cause of evil consequences.

Tattooing.—An essay on this subject, by Lacassagne and Magitot, being an extract from the "Dictionnaire encyclopédique des sciences médicales," treated of the purposes of tattooing, its processes, its geographical distribution, the accidents and complications attending or following it, and its medico-legal relations.

The Utilization of Monkeys.—M. Topinard presented, on behalf of M. Victor Meunier, an essay in which the latter unfolded the idea of a plan of selection, cross-breeding, and education for the purpose of rendering monkeys useful animals.

Talismanic Belts.—About two years ago a physician of Saint-Germain, having been called to a woman in the last stages of consumption, found her body tightly girt with a belt or band made of cords (the *ceinture de Saint-François*). These *ceintures* are believed by the superstitious to have the power to preserve those who wear them from hell. A *ceinture bénie*, supposed to facilitate parturition, is given out from one of the principal convent-schools of Brittany. It bears the painted inscription "*Notre-Dame de Délivrance, protégez-nous.*" Before it is sent out, great care is taken to touch it with a fragment of the *ceinture* that is reputed to have belonged to the Holy Virgin, the authenticity of which piece of material is guaranteed by numerous parchments.

Errors of Development.—M. Blet showed a human foetus in which the two eyes were fused together in the median line. On another occasion, M. Magnan presented three cases of vicious conformation of the genital organs, and called attention to co-existing arrest of development in other parts—the pharynx and the brain—with dependent insanity, in the same person. The occurrence of feminine brains in masculine bodies, and *vice versa*, was noted, and it was remarked that heredity seemed to have been a potent formative factor in these instances.

Bromidia.—Messrs. Battle & Co., the manufacturers of this proprietary preparation, announce a decree by the Circuit Court of the United States, for the Eastern District of Pennsylvania, enjoining the firm of D. W. Gross & Son from "manufacturing, selling, or offering for sale, directly or indirectly, any medical preparation or compound manufactured by them or any other person than complainant, having affixed thereupon or upon the bottles or packages containing the same, in any manner, the word 'bromidia,' or by affixing to bottles or packages containing any medical preparation not manufactured by complainant any word which is a colorable imitation of the word 'bromidia.'"

The Library of the Post-graduate Medical School.—In the "Sixth Annual Announcement" of the New York Post-graduate Medical School and Hospital it is stated that the library now contains more than a thousand volumes.

The Medical Society of Virginia will meet in Richmond on Tuesday, October 18th. "The Choice of Anesthetics" is announced as the subject of a general discussion, to be opened by Dr. Hunter McGuire, of Richmond. The full programme is not yet issued.

The College of Physicians and Surgeons under a New Name.—In an advertisement of the Italian translation of Bumstead and Taylor's work on "Venereal Diseases," the first-named author is mentioned as "Professore di malattie veneree al College di Iyticiny ad Lurgeous."

The American Medical Association.—The "Journal of the American Medical Association" has information to the effect that Dr. R. B. Cole, of California, has felt constrained to decline to give the address in general medicine at the next annual meeting, and that Dr. Roberts Bartholow, of Philadelphia, has promised to deliver it.

The Health of Boston.—During the week ending Saturday, August 20th, the following numbers of cases and deaths from infectious diseases were reported to the Board of Health: Diphtheria, 6 cases and 5 deaths; scarlet fever, 2 cases and 1 death; typhoid fever, 37 cases and 3 deaths; measles, 19 cases and 1 death. There were also 25 deaths from consumption, 6 from pneumonia, 3 from whooping-cough, 11 from heart disease, 3 from bronchitis, and 13 from marasmus. The total number of deaths was 213, against 215 in the corresponding week last year. During the month of July there were 1,119 deaths. This greatly

increased death-rate, as compared with that of July, 1886, in which month 889 deaths were registered, is said to have been largely due to the excessive humidity of the atmosphere, which was much greater than in any corresponding month during the past fifteen years.

The Health of San Francisco.—According to the Health Department's "Condensed Statement of Mortality," for the month of July, there were 459 deaths during the month, including 1 from cholera morbus, 19 from cholera infantum, 5 from cerebro-spinal meningitis, 27 from croup and diphtheria, 6 from diarrhœa, 1 from dysentery, 6 from typhoid fever, 1 from remittent fever, 1 from malarial fever, 1 from measles, 2 from whooping-cough, 2 from pyæmia, 1 from scarlet fever, 1 from septicæmia, and 3 from small-pox.

Government Health Reports.—By direction of the Secretary of the Treasury, Dr. John B. Hamilton, Surgeon-General of the Marine-Hospital Service, has issued the following abstract of sanitary reports received during the week ending August 18th:

England and Wales.—The deaths registered in twenty-eight great towns of England and Wales during the week ending July 30th corresponded to an annual rate of 23·2 in a thousand of the aggregate population, which is estimated at 9,245,099. The lowest rate was recorded in Huddersfield, viz., 12·7, and the highest in Preston, viz., 30·1 in a thousand. Small-pox caused 1 death in Sheffield.

One hundred and twenty-eight thousand four hundred and thirty-six deaths were registered in England and Wales (population, 28,247,151) during the quarter ending June 30, 1887, including 6,144 from measles, 2,986 from whooping-cough, 1,632 from diarrhœa, 1,354 from scarlet fever, 1,066 from fever, 786 from diphtheria, and 47 from small-pox, corresponding to an annual rate of 18·2 in a thousand.

London.—Two thousand and seven deaths were registered during the week ending July 30th, including 62 from measles, 20 from scarlet fever, 20 from diphtheria, 92 from whooping-cough, 9 from enteric fever, 517 from diarrhœa and dysentery, and 9 from cholera and choleraic diarrhœa. There were 169 deaths from diseases of the respiratory organs. Different forms of violence caused 55 deaths, and 9 suicides were registered. The deaths from all causes corresponded to an annual rate of 24·8 in a thousand. In greater London, 2,420 deaths were registered, corresponding to an annual rate of 23·3 in a thousand of the population. In the "outer ring" 109 deaths from diarrhœa and 8 from whooping-cough were registered.

Ireland.—The average annual death-rate represented by the deaths registered during the week ending July 30th, in the sixteen principal town districts of Ireland, was 24·6 in a thousand of the population. The lowest rate was recorded in Lurgan, viz., 0, and the highest in Kilkenny, viz., 59·2 in a thousand.

Dublin.—Two hundred and nine deaths were registered during the week ending July 30th, including 22 from measles, 3 from whooping-cough, 2 from scarlet fever, 1 from typhus, 2 from enteric fever, 1 from cerebro-spinal fever, and 16 from diarrhœa. Diseases of the respiratory organs caused 16 deaths. Five accidental deaths were registered, and in twenty-four instances the causes of death were uncertified. The deaths from all causes corresponded to an annual rate of 30·9 in a thousand.

Two thousand five hundred and twenty-nine deaths were registered in the Dublin registration district (population, 353,082) during the quarter ending July 2, 1887, corresponding to an annual rate of 28·7 in a thousand.

Scotland.—The deaths registered in eight principal towns during the week ending July 30th corresponded to an annual rate of 19·9 in a thousand of the population, which is estimated at 1,299,000. The lowest mortality was recorded in Perth, viz., 6·5, and the highest in Leith, viz., 28·1 in a thousand. The aggregate number of deaths registered from all causes was 497, including 4 from measles, 12 from scarlet fever, 4 from fever, 3 from diphtheria, 41 from whooping-cough, and 39 from diarrhœa.

Germany.—The deaths registered in fifty-two cities of Germany, having an aggregate population of 6,821,222, during the week ending July 23d, corresponded to an annual rate of 24·1 in a thousand. The lowest rate was recorded in Kassel, viz., 14·2, and the highest in Aachen and München, viz., 38·4.

Nice.—One hundred and eighteen deaths were registered during the first fifteen days of July, 1887, including 5 from small-pox.

Palermo.—The United States consul, in his dispatch dated August 1, 1887, states that "during the week just closed only 12 cases and 6 deaths from cholera have been reported in the journals. . . . No public official reports have been made thus far, . . . but it is known that many more cases and deaths have occurred than those reported in the journals, a larger number, indeed, having come under my own observation. In view of the temper and character of the people, the authorities naturally desire to keep the matter quiet as long as possible. A few 'demonstrations' have been held and the municipality threatened because of its having temporarily discontinued the free distribution of rice. Upon the occasion of former threatened epidemics in Palermo, Sicily has been practically quarantined and shut out from all other ports of Italy, thus ruining trade for months. This year, however, she is fortunate in having a Palermitan in the cabinet at Rome, . . . to whom she is indebted for perfect freedom to enter Italian ports, thus far, after inspection, disinfection, etc."

Copenhagen.—The United States minister, in his dispatch under date of July 29, 1887, states that a quarantine order has been issued by the Danish Government July 18, 1887. "According to this order, the provisions of the quarantine law of March 31, 1885, are to be enforced in regard to ships coming from Sicily or Italian continental ports between the Capes St. Maria and Spartivento, and the importation of rags, etc., from these ports is prohibited. The provisions of paragraph 1, section 2, of the quarantine law of July 2, 1880, are to be enforced regarding the following places: Italian continental ports on the coast between Cape Spartivento and the French boundary, Trieste, Tunis, Egyptian ports, Red Sea ports, Fez, Mequinez and Dar el Beida in Morocco, Rio de Janeiro, and Havana. The importation of rags, hides, etc., from the following places is still forbidden: Chili, Sicily, Paraguay and Uruguay, the Argentine Republic, Austrian-Hungarian ports, and Italian continental ports between Cape St. Maria and Cape Spartivento. The importation of rags, etc., is still prohibited from Rio de Janeiro and Havana, and special attention is to be paid to the cleansing, under official inspection, of the effects of travelers brought from these places."

Havana.—The United States sanitary inspector reports that, owing to the prevalence of small-pox in Cuba, he vaccinates all persons leaving the city who have not had small-pox or been protected by vaccination. All passengers and their baggage are carefully inspected before leaving Havana. Forty-five deaths from small-pox and 18 from yellow fever were registered during the week ending August 6, 1887.

MORTALITY TABLE, FOREIGN CITIES.

CITIES.	Week ending—	Estimated population.	Total deaths from all causes.	DEATHS FROM—									
				Cholera.	Yellow fever.	Small-pox.	Typhus.	Fever.	Enteric fever.	Scarlet fever.	Diphtheria.	Measles.	Other.
Paris.....	July 30	2,260,045	866	.....	13	.....	22	4	20	.....	.....	.....	.....
Glasgow.....	July 30	524,039	184	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Warsaw.....	July 23	439,474	241	.....	.....	16	.....	.....	.....	.....	.....	.....	.....
Calcutta.....	June 25	433,219	144	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Calcutta.....	July 2	433,219	169	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Amsterdam.....	July 30	378,686	137	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Rome.....	June 18	369,214	180	.....	.....	3	.....	.....	.....	.....	.....	.....	.....
Munich.....	July 23	269,000	201	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Palermo.....	July 30	250,000	117	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Belfast.....	July 30	224,422	96	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Genoa.....	July 30	179,339	100	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Lopside.....	July 30	170,000	89	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Trieste.....	July 23	150,151	104	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Bremen.....	July 23	119,000	42	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Havre.....	July 30	112,074	78	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Mayence.....	July 23	65,701	28	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Florida.....	August 2	50,000	45	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Guayaquil.....	July 21	35,000	13	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Guayaquil.....	July 24	35,000	48	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Liquique.....	June 25	16,000	12	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

UNITED STATES.

Cape Charles Quarantine Station, Virginia (Passed Assistant Surgeon F. M. Urquhart, M.-H. S., in charge).—The British steamship "Elginshire," from Matanzas, an infected port, arrived August 14th, and is now undergoing a quarantine of observation.

Edmont Key, Florida (refuge station).—The sanitary inspector (Dr.

E. Hebersmith) reports 2 cases of yellow fever among refugees landed August 12th; now convalescent.

Key West, Fla.—Yellow Fever.—The medical officer in charge of the U. S. Marine-Hospital Service reports 252 cases and 52 deaths to date.

Sympathetic Inflammation of the Eyeball.—Gunn ("Roy. Lond. Ophth. Hosp. Rep."), as a result of the analysis of about fifty cases of sympathetic inflammation of the eye under his own observation, draws the following conclusions: 1. It is well to employ mercurials in all cases during the acute stage, from the commencement. 2. When and while the inflammation is of a very severe type, treatment should be merely palliative, and no operative measures are warranted. 3. Cases of moderate severity are best left alone, without operation, for the first six months at least, and then iridectomy may be attempted if the tension is plus and the iris bulged forward. If at the end of a year the tension is about normal, but the pupil excluded and occluded, improvement may be expected from a large iridectomy, with extraction of the lens, followed subsequently by division of the lymph and opaque membrane with Weiss's scissors.

THERAPEUTICAL NOTES.

Trimethylcarbinol and Dimethylcarbinol.—At a recent meeting of the Paris *Société de thérapeutique* ("Gaz. hebdom. de méd. et de chir."), M. Blondel read an account of certain investigations of these substances by Dr. Chapiroff, of St. Petersburg. Both of them are tertiary alcohols, and, unlike the primary alcohols, they are sedatives. Dimethylcarbinol is a powerful depressant of the nervous system, more rapid and intense in its action than the other. Trimethylcarbinol, given to man in doses of from five to fifteen drops twice a day, causes a manifest lowering of the arterial pressure, together with a state of apathy and drowsiness, followed by deep, tranquil sleep. It appears to be indicated, therefore, in cases characterized by excitability, whether from alcohol or from a neurosis.

Borate of Ammonium in Phthisis.—Lashkevich (cited in the "Lancet") has found this salt of great value in phthisis. He gives five grains three times a day, in solution, alone or with codeine, hyoscyamus, or some other sedative. The effect is to reduce the expectoration and, in some cases in the early stage, to diminish the fever. Inhalation of a spray of the solution also reduces the expectoration and alleviates irritating and painful conditions of the mouth and throat.

A Mercurial Potash Soap as a Sorbefacient.—Svetukhin ("Russk. Medits.;" "Lancet") finds a preparation termed *sapo kaliumi hydrargyrosus*, made by mixing metallic mercury, mercurial ointment, caustic potash, and olive-oil in certain proportions—the resulting soap containing a third of its weight of mercury—an advantageous application for promoting the absorption of pleuritic effusion. It is said to be more easily rubbed in than mercurial ointment, less irritating to the skin, and not so rapidly productive of stomatitis. From half a drachm to a drachm is agitated with hot water, so as to form a good froth, and lightly rubbed into the skin. In cases of simple watery effusion, an effect may be detected after from six to ten inunctions, and after twenty the water is usually found to have wholly disappeared.

Green Hellebore in Diseases of the Heart.—Tschistowitsch ("Nowost. Therap.;" "Bull. gén. de therap.") has used an aqueous extract and an infusion of the root of *Helleborus viridis* in eleven cases of various cardiac affections, in the stage of absence of compensation. In six cases, fifteen drops of a one-per-cent. solution, every two hours, diminished the frequency and force of the heart-beats, increased the flow of urine, and caused a prompt subsidence of the symptoms due to lack of compensation. In two cases, amelioration was caused by the concomitant use of hellebore and an infusion of *Adonis vernalis*, although each drug alone had failed to produce any effect. In two cases complicated with nephritis, and in a case complicated with pleurisy, no effect was produced.

Cyanide of Zinc in Cardiac Affections.—According to the "Lancet," Lashkevich has produced remarkable effects with this remedy in functional disorders of the heart, some cases being positively cured. Even in cases of organic heart disease it caused a decided amelioration, and

had the advantage over other drugs of not deranging the digestive apparatus. The dose is from a tenth to an eighth of a grain, three times a day.

ANSWERS TO CORRESPONDENTS.

No. 28.—You will find many anatomical anomalies described in a series of articles contributed by Gruber to Virchow's "Archiv für pathologische Anatomie und Physiologie und für klinische Medicin," published at intervals for several years past.

No. 29.—The proper expression is Bartholin's glands (not Bartholini's), but one may say *glandule Bartholini*, the latter word being in that case the genitive of the Latinized form of the name.

No. 30.—An English translation of Wunderlich's work, entitled "On the Temperature in Diseases: a Manual of Medical Thermometry," was published by the New Sydenham Society in 1871.

No. 31.—Sulphuric acid is a very powerful drying agent, but anhydrous chloride of calcium, which is also very efficient, is much more convenient for such a purpose as the one you mention.

No. 32.—For information concerning alveoloz, see this Journal for January 31, 1885, p. 127; for January 9, 1886, p. 56; and for June 4, 1887, p. 630.

To Contributors and Correspondents.—The attention of all who purpose favoring us with communications is respectfully called to the following:

Authors of articles intended for publication under the head of "original contributions" are respectfully informed that, in accepting such articles, we always do so with the understanding that the following conditions are to be observed: (1) when a manuscript is sent to this journal, a similar manuscript or any abstract thereof must not be or have been sent to any other periodical, unless we are specially notified of the fact at the time the article is sent to us; (2) accepted articles are subject to the customary rules of editorial revision, and will be published as promptly as our other engagements will admit of—we can not engage to publish an article in any specified issue; (3) any conditions which an author wishes complied with must be distinctly stated in a communication accompanying the manuscript, and no new conditions can be considered after the manuscript has been put into the type-setters' hands. We are often constrained to decline articles which, although they may be creditable to their authors, are not suitable for publication in this journal, either because they are too long, or are loaded with tabular matter or prolix histories of cases, or deal with subjects of little interest to the medical profession at large. We can not enter into any correspondence concerning our reasons for declining an article.

All letters, whether intended for publication or not, must contain the writer's name and address, not necessarily for publication. No attention will be paid to anonymous communications. Hereafter, correspondents asking for information that we are capable of giving, and that can properly be given in this journal, will be answered by number, a private communication being previously sent to each correspondent informing him under what number the answer to his note is to be looked for. All communications not intended for publication under the author's name are treated as strictly confidential. We can not give advice to laymen as to particular cases or recommend individual practitioners.

Secretaries of medical societies will confer a favor by keeping us informed of the dates of their societies' regular meetings. Brief notifications of matters that are expected to come up at particular meetings will be inserted when they are received in time.

Newspapers and other publications containing matter which the person sending them desires to bring to our notice should be marked. Members of the profession who send us information of matters of interest to our readers will be considered as doing them and us a favor, and, if the space at our command admits of it, we shall take pleasure in inserting the substance of such communications.

All communications intended for the editor should be addressed to him in care of the publishers.

All communications relating to the business of the journal should be addressed to the publishers.

Original Communications.

HAY FEVER.

ANALYSIS OF FORTY-TWO CASES TREATED BY THE WRITER,
TOGETHER WITH THE RESULT OF TREATMENT.*By JOHN O. ROE, M. D.,
ROCHESTER, N. Y.

ON considering the cloud of nebulous theory which has surrounded the subject under consideration, and the mass of speculation which has been propounded by the numerous writers on this subject during the past four years, it is with some hesitation that I have presumed to occupy any portion of your valuable time with a further discussion of this subject. It is my purpose, however, not to enter into a theoretical discussion of the subject, or to review the various opinions held by different writers, but to give a brief analysis of the cases which have come under my observation, and to present the conclusions deduced from such observation.

I have purposely retained the term "hay fever" to designate the affection under consideration, for the reason that it is a universally accepted term, and that all fully understand what is implied by it. In applying to the affection the more scientific terms that have been proposed, we have, in many instances, to explain the meaning of the terms before their significance is fully understood. In some instances the names proposed for the affection imply a mere hypothesis.

Since I first observed that this affection was related to nasal disease, I have treated forty-four cases, including the hay-fever season of last year. It is often true that an erroneous conclusion is drawn from the observation of a single case of a disease, because it may present phenomena of an unusual character. The number of cases which I have treated, although not large, is, however, sufficient, I think, to direct us to quite definite conclusions, as I have been particularly careful to observe and systematically record them.

The study of these cases has substantially confirmed the opinions which I expressed in my first article on this subject in February, 1883,† although in some respects my views have been more or less modified. While, as you already know, Dr. Daly‡ was the first to call attention to the clinical connection between hay fever and nasal diseases, the writer was the first to explain the relation of cause and effect between them, through the correlation of the vaso-motor or the sympathetic nervous system, and to point out the value of the galvano-cautery in the treatment of the nasal disease.§

* Read before the American Laryngological Association at its ninth annual congress.

† "The Pathology and Radical Cure of Hay Fever, or Hay Asthma," "N. Y. Med. Jour.," May 12, 19, 1883. See also a second article on the same subject, "N. Y. Med. Jour.," May, 3, 10, 1884.

‡ "The Relations of Hay Asthma and Chronic Naso-pharyngeal Catarrh," "Arch. of Laryngol.," iii, 1882, p. 157.

§ Since that time both Dr. Daly's observations and my own have been fully confirmed by many careful observers and writers on this subject both in this country and in Europe, among whom are Hack, Herzog,

Of the 44 cases I now report to you, 27 were in males and 17 were in females, the ages of the males ranging from 21 to 51, and of the females from 19 to 58. Of the males between the ages of 20 and 30, there were 6; between 30 and 40, 13; between 40 and 50, 4; and between 50 and 60, 4.

Of the females between the ages of 15 and 20, there was 1; between 20 and 30, 7; between 30 and 40, 3; between 40 and 50, 5; and between 50 and 60, 1.

Of the 27 males, there were 5 farmers, 5 merchants, 2 railroad engineers, 2 real-estate dealers, 1 physician, 1 lawyer, 1 banker, 1 clergyman, 1 insurance agent, 1 contractor, 1 book-dealer, 1 hotel clerk, 1 superintendent of public instruction, 1 commissioner of pensions, 1 grocer, 1 carpenter, 1 traveling salesman. Of the 16 females, there were 1 vocalist, 1 music teacher, 1 school-girl, and 1 worker in a shop, and the remaining 12 had no occupation other than their domestic duties. Of these 42 patients, 7 had been suffering for 10 years, 7 for 8 years, 6 for 4 years, 4 for 2 years, 3 for 14 years, 2 for 6 years, 2 for 12 years, 2 for 15 years, 2 for 20 years, 2 for 30 years, and 1 each for 3, 7, 9, 11, 13, 16, and 17 years.

The date of the commencement of the attack varied from May 1st to August 21st. It is a significant fact that in every instance active symptoms of the affection subsided soon after the appearance of frost. The connection between the cause of the irritation and the frost will be alluded to further on.

In nearly every case there was a special proclivity to repeated and successive colds in the head, with more or less nasal obstruction. In several instances the attacks dated from a particular year in which the patient had taken, during the summer months, *an exceedingly severe cold in the head*. About one fourth of the forty-four patients—from the fact that they were subject to repeated colds in the head—considered their hay fever, for the first two or three years, simply an aggravated form of their accustomed colds.

In several instances, on interrogating the patients regarding the nasal passages and asking whether they suffered from so-called nasal catarrh during the remainder of the year, they stated that they were entirely free from any such difficulty during the remainder of the year, except an occasional cold in the head. An examination of these cases revealed in every instance, however, disease of the nasal passages, and areas so sensitive that the slightest touch of the probe excited sneezing, and in some instances well-marked hay-fever symptoms.

In all but 5 of these 44 cases I found inferior turbinated hypertrophy. In these 5 cases there was an excessive vascularity of the parts and dilatation of the cavernous sinuses, which were collapsed when free from irritation so that the passages were entirely clear, but by the application of the slightest irritant they would at once become distended sufficiently to occlude the nostrils. In 19 cases, deviation of the septum was found with angular projection from the deflected side. In 11 cases there was deviation to the left side,

Hering, Boeker, Bresgen, Massei, and McBride, of Europe and MacKenzie, Bosworth, Allen, Sajous, Ingals, Robinson, and Seiler, of our own country.

and in 8 to the right. In 23 cases the middle turbinated bodies on one or both sides were found hypertrophied and projecting against the septum. The location of the special points of sensitiveness was by no means constant. They were usually found over the region of the greatest amount of hypertrophy. In very few instances were they confined alone to the posterior end of the turbinated bodies, or alone to the anterior inferior turbinated bodies. Not only in a majority of the cases were they not confined to the turbinated bodies, but in most of the cases the septum was quite as sensitive as any portion of the turbinated bodies. In some instances the septum was more sensitive, and sneezing and hay-fever symptoms were more readily developed than in any other portion of the nose.

The sensitive areas of the septum were in a majority of the cases over the lower and posterior part. In one third of the cases, however, small, rounded, pad-like masses of hypertrophied tissue were also found on the middle of the upper portion, and so exquisitely sensitive that violent sneezing would be induced by the lightest touch of the probe. In some other cases, every portion of the septum was exquisitely sensitive.

In 33 of the 44 cases, dust was found to be an exciting cause, while in 26 of these 33 cases it was given as the principal cause. Rag-weed was an exciting cause in 15 cases, in 9 of which it was the principal cause. In many cases irritation was also produced by other substances, as the fumes of matches, coal-gas, new-mown hay, and the pollen of flowers, especially of roses. In some cases an attack could be caused by a large number of different substances.

So positively were many affected by the pollen of rag-weed that they could predict the date of their attack by the time of the ripening of the weed. If for any reason the season was backward, and the rag-weed retarded in ripening, their attack would be correspondingly delayed.

Of the 44 cases, 32 of the patients were attacked with asthma. In six it came on at the beginning of the hay fever, in thirteen after the affection had continued for about two weeks, while in the remainder it appeared only after the greater portion of the irritation in the nose had subsided.

The presence of the dust of dried hay at any time of the year would excite in some a temporary attack of hay-fever and asthma, and ten were thus subject to asthmatic attacks brought on by the inhalation of certain substances which the patients recognized as especially irritating to them, such as the fumes of a sulphur match or coal-gas.

In some cases, asthmatic attacks were associated with each fresh cold in the head, while in some others, asthmatic attacks were excited by the inhalation of these substances without the occurrence of a coryza. It is a noticeable fact in these cases that those most sensitive to the inhalation of foreign substances, and those in whom the asthmatic attacks were excited with less apparent irritation in the nose, were those who had been long sufferers from this affection; while in those who had been sufferers but a short period, it was exceptional that asthmatic attacks were excited without a more decided irritation of the nasal passages. In every case where there was marked disease in the nasal cavity,

there was also more or less hyperæmia of the larynx and pharynx, and in some cases this amounted to a chronic pharyngitis, laryngitis, and bronchitis. As a rule, the amount of pharyngeal, laryngeal, and bronchial inflammation depended upon the severity of the attacks, the amount of chronic disease existing in the nasal passages, and the length of time the patient had been subject to hay-fever.

Of these 44 patients, but 12 had what is termed a nervous temperament, while 9 were distinctly phlegmatic. The others were of intermediate types of temperament, the classification of which is somewhat arbitrary. Four of the patients who were distinctly nervous were entirely free from any nervous excitability before their first attack of hay fever; but this condition developed afterward in a corresponding degree to the severity of the subsequent attacks, and the systemic depression that followed them corresponded in nearly every instance to their severity or to the number of years the patients had been sufferers.

In order, therefore, for the production of this affection, we must have, first, a localized disease in the nasal passages, rendering the tissues unduly sensitive to local irritation, and, secondly, an external irritant brought by the atmosphere in contact with the sensitive tissue. Irritation reflected to the nose from other organs which may be diseased and susceptible to local irritation can not properly be classed with the affection under consideration, but should be considered with the diseases of the parts from which the irritation is reflected. It is on account of a lack of discrimination that hay fever is so often confounded with all the other affections of a reflex character in which the nares and bronchi may be involved.

The sequence of events in the evolution of this affection, it is believed by the writer, is as follows: A continued irritation of the nerve-filaments in the nose causes the nerve-ganglia, or centers from which these nerves are derived, to become unduly active, and in due time abnormally so. This abnormal activity is in turn reflected to the other nerves radiating from this center, and these nerves in turn take on increased activity, which is made manifest in increased vascularity of the parts which they supply, owing to the diminished control of the afferent vessels. This activity of the nerve-centers increases in proportion to the degree or length of time that the primary irritation continues, and finds expression in a corresponding increased vascularity and irritability of the parts to which these nerve-filaments go. Now, inversely in proportion to the increased activity of the center is the degree of irritation required to excite it.

At the beginning of the attack of hay-fever a strong irritant is required to start the train of symptoms. After a time, as the nerves and the nerve-centers become more sensitive to impressions, a lesser irritant is required to start the same train of symptoms, and the influence of the irritation is also extended to other connecting nerve-centers and the parts supplied by them. After a time, also, the parts that were secondarily irritated become primary points of irritation, and act in conjunction with the primary seat. This train of symptoms can be traced in nearly every case. At first we see simply an inordinate vascularity of the parts directly irritated, next we have the same condition in all

the parts to which this ganglion sends its nerve-filaments—as the conjunctive lacrymal apparatus and the larynx and pharynx—then in the next ganglion in the chain and the parts to which it sends nerve-filaments, and so on till every nerve-center of this chain becomes involved in this undue activity, and the point is reached when the centers controlling the vascular supply of the trachea and bronchi are involved, culminating in a chronic bronchitis. This clearly explains why asthma is readily induced by the inhalation of substances that may have ceased to be irritating to the tissue in the nasal passages, when their susceptibility has been removed by appropriate treatment. Those writers who have been led to believe that there is no connection between nasal disease and this asthma overlook the influence which the disease in the nose has exerted in bringing about this condition.

It can not be denied that the ganglionic centers of persons having a susceptible nervous organization are more readily affected by such local irritation than those having a less susceptible organization, but I do not believe that such natural susceptibility is necessary in order that this train of symptoms may be started.

The neurotic habit, as it has been termed, is therefore imaginary, and not a necessary factor in the evolution of this affection; but, with the continuance of the affection, a neurosis, as above explained, is developed that is as much secondary to the primary disease in the nose as the nervous disturbance resulting from an abscess in the ear is secondary to a diseased tooth that may have been the direct cause of the abscess by the irritation of the otic ganglion. Hack recognizes this factor when he says: "It certainly can not be determined, *a priori*, how many of the symptoms may be attributed to a neurotic condition, for, in not a few cases, the neurasthenic symptoms may be secondary, produced by the depressing influence of hay-fever attacks."*

Even in choreic affections Dr. Jacobi observes that "there is not necessarily a direct connection between these irregular choreic symptoms of local origin and general neurosis—at least, the former do not depend upon the latter."†

As this ganglionic involvement continues, the patients become susceptible to minor irritations from sources quite different from those which were at first required to excite an attack. This is shown by the fact that in every case the patient soon became susceptible to the inhalation of lesser irritants throughout the year, which before the onset of his hay fever would have had no effect whatever upon him.

An engorgement of the turbinated bodies that may be the result of an irritation reflected to the nose from a diseased tooth or a diseased ear, can with propriety be termed a "vaso-motor coryza," but is not to be classed with the affection termed hay fever. This affection is one distinctly excited by irritation applied to some portion of the lining membrane or tissue of the respiratory track, and taken there in the inspired air. That this is the invariable direction from which the irritation comes is shown by the fact

that in every instance all the phenomena will cease immediately on the removal of the patient to a place where the air is entirely free from all foreign substances, no matter how hot the atmosphere or bright the sunlight. The local irritants that are carried in the atmosphere during the summer months are numerous, but it is unquestionable that the most virulent irritant to this diseased nasal tissue is the pollen or spores of plants, the pollen of some plants being more irritating to one individual than to another, and *vice versa*. Why this is so we do not know. It is according to an unexplained law, which, if we knew, would explain why some foods, medicines, etc., can be taken by some persons with the happiest results, while to others they are decidedly poisonous. It is a significant fact that, with the appearance of frost, the active symptoms of this affection cease. The only conclusive explanation of this is that the exciting cause is a vegetable substance which the frost affects by destroying its virulence and rendering it inert.

The conditions of temperature or sunlight are not direct excitives of attack; where they aggravate the attack it is by lowering the resistance of the person to the action of the irritant, in the same manner that, as we lessen the resistance to a galvanic current, the electrical action becomes correspondingly stronger.

No small amount of the relief obtained at sea-side or mountainous hay-fever resorts is due to the bracing effect of the atmosphere and changed mode of living, which simply increase the inhibitory force of the whole system, as well as to the comparative freedom from dust, pollen, and other irritating substances. The relief during the attack that is often afforded by drugs, or even, as in some cases, by a single dose of opium, is due more to the inhibitory effect of the drug in arresting the transmission of the irritation than in the benumbing of the local sensibility.

Mental emotions have a marked effect on the inhibitory action of the system, and especially on the part on which the mental effort is concentrated, and have the same effect on the vascular control of the part as irritation of the part—that is, to dilate the capillaries and increase the vascular supply. In this manner the connection between the mental association of a hay-field or roses and a coryza is accounted for.

The direction in which this irritation may be reflected or carried is in every instance, like the electric current, in the line of the least resistance. If one set of ganglia is weaker and has less inhibitory power, it is in that direction that the irritation will be transmitted. Thus, in one instance the irritation may be expressed in a supras-orbital neuralgia, hemicrania, or megrim; in another, in facial spasm, choreic symptoms, or epileptiform seizures; while in others it may find expression in a coryza, a pharyngitis, a laryngitis, a bronchitis, or in sneezing, cough, laryngeal spasm, or asthma.

We come now to perhaps the most interesting and important part of the subject—the question of the nature of the treatment, and the success attending it, for, without the latter, our other studies are without value.

The only rational and successful treatment of this affection is to restore the parts involved to a normal condition.

* "Ueber Catarrhus autumnalis und Heufieber," "Dtsch. med. Woch.," xii, 1886, p. 143.

† "Am. Jour. of the Med. Sci.," April, 1886, p. 518.

If we find a preponderance of local disease in the nose, we must of course restore the nose to a normal condition. If we find a limited amount of disease in the nose, but the resistance of the system so lowered from any other cause as to permit a ready transmission of the irritation to the nerve-centers, we must of course restore the system to a normal condition, and thus increase its resistance to local irritation. In some instances in which the irritation of the nose is slight and of short duration, the use of bromides and of the so-called nerve tonics, or a sojourn at a sea-side or mountain resort, will increase the inhibitory force sufficiently to give entire relief. In some cases of this kind where the affection is slight, the use of cocaine in benumbing the terminal filament of the nerve-fibers—thus cutting off the local irritation in the nose—is sufficient to arrest an attack. The effect of cocaine, however, in nearly all cases is merely temporary, for, as soon as the effect is gone, the symptoms return with renewed vigor from the fact that the secondary effect of cocaine is in nearly all cases that of a slight irritant.

In a number of cases in which I have resorted to the use of cocaine, when patients have consulted me during the attack, the relief was almost instantaneous, but unfortunately the application of the drug must be frequently made, and in sufficient quantities to produce some constitutional effect, and, as this effect is depressing to the system in a marked degree, its use during the entire hay-fever period can not be continued.

In the majority of cases there is so much local disease in the nose that no amount of tonics can increase the inhibitory force of the system sufficiently to overcome the affection. The only way to effect a radical cure in these cases is to remove by local treatment the conditions in the nose, and in other portions of the respiratory tract that have become secondarily involved, which render the individual so highly susceptible to local irritation.

The plan which I have followed in the main has been to remove the redundant tissue in the nose by the cold-wire snare before employing other agencies; then to correct any deflections of the septum and to remove all bony out-growths; next with a probe to seek out sensitive areas and cauterize them with chromic acid or destroy them with the galvano-cautery. The plan of the superficial alteration of the nasal mucous membrane by the galvano-cautery, which is advocated by Dr. Sajous,* has not given me the satisfactory results he claims for it. It has been by means of deep cauterization that I have obtained the best results. I do not wish it to be understood that I recommend the wholesale destruction by the galvano-cautery of all the tissues of the nasal passages that may contain limited sensitive areas, whereby unnecessary cicatrices may be caused, and, as Dr. Cohen† very justly remarks, thus prepare the ground for less benign diseases in the future. The inordinate desire which is often shown to completely exterminate with the galvano-cautery every turbinated body possessed by persons subject to hay fever should be condemned, not only on account of the irreparable damage that

is done, but because, as Dr. Beverley Robinson* remarks, structures are often removed which are in reality inoffensive.

There are two plans of deep cauterization which I adopt according to the requirements of the case. When there is connective-tissue hypertrophy, I make linear incisions with a fine cautery point well down to the bone. In this manner we cut off the sensitive nerve-filaments, and at the same time leave ample mucous membrane to spread over the surface destroyed, and, as the deep cicatricial tissue contracts, the remaining tissues are firmly drawn down over the turbinated bone, whereby both the sensitiveness and the vascularity are obliterated.

Another plan, and one which I adopt in cases where there is great distensibility of the cavernous sinuses without interstitial hypertrophy, is to attack the part when in a distended condition, employing a long and very fine platinum point, and thrusting it when heated deeply into the tissue. We can then sweep the point about to any desired extent and destroy the cavernous sinuses underneath by making but one small opening in the surface where the point is introduced. The septum is dealt with according to the plan of making linear incisions when hypertrophy exists, and the destruction of limited areas found to be sensitive. But for the *superficial alteration* of the mucous membrane, chromic acid is by far preferable to any other agent. Not only should every portion of the nasal cavity receive the requisite attention, but the condition of the pharynx, larynx, and bronchia must not be overlooked. It is not uncommon that enlarged tonsils will keep the turbinated bodies in a condition of chronic hyperæmia. Dr. Jacobi very truly says: "Many a rhinitis has to be treated in the pharynx, and many a pharyngitis in the nose; and both may never get well unless the enlarged and abnormal tonsils have been removed or resected."†

It is often also that the neglect to cure a chronic bronchitis accounts for the reappearance of hay asthma after the susceptibility of the nasal passages to irritation has been entirely removed.

The result attending these cases is as follows: 36 of the 44 patients have been cured; 4 were not relieved owing to imperfect treatment, due to the neglect of the patient; and 4 I have lost sight of. Of the 36 who were cured, 20 have remained exempt from the first year of treatment to the present time—1 of them for 9 years, 1 for 7 years, 1 for 5 years, 2 for 4 years, 6 for 3 years, 5 for 2 years, and 4 for 1 year. The remaining 16 of the 34 had some slight irritation about the nose and eyes on hot, dusty days during the first season following treatment. This was found to be due to some remaining disease in the nose, the treatment of which has rendered them exempt since that time.

From a study of these cases I am led to the following conclusions:

1. That all cases of hay fever have their initiatory lesion in a diseased condition of the tissues of the nasal fossæ.

* "N. Y. Med. Jour.," Dec. 6, 1884, p. 629.

† "Am. Jour. of the Med. Sci.," xci, 1886, p. 310.

* "Med. News," xlix, 1886, p. 59.

† *Op. cit.*, p. 522.

2. That the disease of these tissues induces, in the ganglionic centers connected with them, an abnormal activity, which is reflected to other tissues and organs.

3. That the sensitive areas in the nose are not confined to any particular locality, and that there are no zones in the nose that when irritated invariably produce the same manifestations.

4. That the direction in which the irritation is reflected is, like an electric current, always along the line of least resistance, and that from the same region it may be reflected in one direction at one time, and in the opposite direction at another time.

5. That the disease in the nose may produce disease in other portions of the respiratory tract, which may become independent centers of irritation.

6. That the affection distinctly recognized as hay fever is due to the effect of a local irritant, brought by the atmosphere in contact with the sensitive regions of the air-passages.

7. That the affection is not *per se* a neurotic disease, nor necessarily associated with a nervous temperament, although persons having a highly nervous temperament or a neurosis are much more susceptible to the influence of a local irritant.

8. That the neurotic condition which is often regarded as a cause of hay fever is itself often developed as the result of the local irritation.

9. That by carefully correcting all abnormal conditions found in the nasal or other portions of the respiratory passages, and the use of such systemic medication as may be required to remove any associated or consequent general derangement, we need not fail to cure hay fever.

DOES PULMONARY CONSUMPTION TEND TO EXTERMINATE THE AMERICAN INDIAN?

A REPLY TO DR. WASHINGTON MATTHEWS, OF THE UNITED STATES ARMY.

By THOMAS J. MAYS, M. D.,
PHILADELPHIA, PA.

NOTWITHSTANDING that I possess neither fitness nor taste for entering the arena of controversy, I am compelled to reply to the strictures made by Dr. Washington Matthews in his last article on "The Study of Consumption among the Indians," published in the "New York Medical Journal" for July 30, 1887, and which are to stand for an answer to my paper on the same subject, and published in the same Journal for May 7, 1887.* I should have hesitated very much before taking this step if Dr. Matthews had not shown a disposition to magnify the shortcomings of my paper, while at the same time he put forth the most zealous efforts to conceal, or to close his eyes to, the naked defects and fallacies in his own work, and to which I could, and probably should, have called attention in my previous communication. The shortcomings of which my paper is guilty

were in most instances frankly acknowledged as being the necessary outcome of the difficulty of the undertaking, and for those not thus acknowledged—especially for the historical error of substituting the name of Hidalgo, a Mexican revolutionist, for that of Guadalupe Hidalgo, a town of Mexico, and which was pointed out by Dr. Matthews—I am willing to share the humiliation which naturally belongs to the effects of such mistakes. In my behalf I may be permitted to state, however, that in my original notes from which the table was compiled it is stated that the Mission Indians were received "by treaty with Mexico in 1848." How the transposition occurred and was overlooked I am unable to say.

Any work is always best judged by an examination of the methods which were employed in performing it. Both Dr. Matthews and myself endeavor to ascertain whether pulmonary consumption increases or decreases in the main among the American Indians. He maintains that the best method for getting at the truth is to proportion the number of deaths from consumption to a thousand deaths from all known causes—the deaths from all known causes then being his standard for comparison. Now it is needless to state that any standard which is used for comparison, and which is worthy of the name, must be as free from variation as possible. Obviously the deaths from all known causes can not be such a standard; for if the death-rate from all other causes is high, the consumption-rate must be low, and *vice versa*. Such a fluctuation in the general death-rate may, on account of the presence or the absence of epidemics, occur every year, and his consumption-rate would, therefore, be as shifting as the "lovely fickleness of an April day."

I employed the method which is in general use by statisticians—viz., that of proportioning the number of deaths from consumption to the number living. The number living is almost constant, and any increase or decrease which may take place in the population is gradual and can be accurately computed; hence it always serves as a reliable standard for comparison. Of course I was not able to compare the number of deaths from consumption among the Indians, for the simple reason that the Indian reports, whence I obtained my statistics, do not specify the number of deaths from consumption, but only give the number of Indians who suffer from this disease during each year. But I think it must be admitted that there necessarily exists some definite relationship between the number sick of a disease and the number dying from it, especially in a disease like consumption, which is so generally fatal; therefore, in the absence of the death reports, I can see no legitimate reason why I am not justified in instituting a comparison between the number of cases of consumption and the population. Dr. Matthews admits that "this method would undoubtedly be the best if it were possible to obtain data to sustain it," and he says that at the beginning of the investigation it occurred to him, but he "soon abandoned it on account of a lack of material to work with." It is very difficult to understand why—with the death statistics of the Indian Office at Washington, to which he had private access, and which are withheld from the public, and with the population of each In-

* It should also be stated that my paper was written as a rejoinder to Dr. Matthews's first paper on this subject, and which also appeared in this Journal for January 1, 1887.

dian reservation contained in the published reports—he should have abandoned it for this reason.

As further evidence of the unreliability of Dr. Matthews's researches, I wish to call attention to the refreshing manner in which he compares his Indian consumption-rate with the general consumption-rate (meaning thereby the consumption-rate among the white or civilized population) of Dakota and Washington territories, and of the States of New York, Michigan, and Wisconsin. Is he really willing to deceive himself to the extent of believing that, in any of the States and territories mentioned, there is even a pretense made to collect reliable mortality statistics in the rural districts, independent of the larger towns and cities? And if not in the rural districts, what use is there in comparing and in wasting words on the general consumption-rate of a State which exists nowhere except in the imagination of the rustic census-taker who comes around and makes a guess at it every decennium?

Now, in regard to the details of Dr. Matthews's statistics. He makes the general tabular statement, which is entirely unsupported by any given data, that among the Indians living in the older States of New York, Wisconsin, and Michigan—States in which the Indians have been longest under the influence of civilization—the consumption-rate is far in excess of what it is among those in the younger States and territories. Beyond this he only gives three instances throughout the whole paper in which he attempts to show the same relative infrequency of consumption among the uncivilized Indians, and, moreover, that the disease increases among these people as they advance in civilization. The first of these instances is a comparison between his consumption-rate of the Indians of Santee and that of the Indians of Pine Ridge and Rosebud agencies. The Indians of Santee Agency are the most civilized of the three, and, according to Dr. Matthews, they should have the highest consumption-rate. This is partially true, for in the fiscal year of 1875 the consumption-rate of the Santee Indians was 631; that of the Pine Ridge, 96; and that of the Rosebud, 476. In 1880 the consumption-rate of the Santee Indians was 294; that of Pine Ridge, none; and that of Rosebud, 388. The Rosebud Indians, therefore, although a wilder tribe, show a higher death-rate from consumption in 1880 than the Santee Indians; but I must credit Dr. Matthews with acknowledging this weak point in his argument.

The second instance which he has selected is the report from the Fort Berthold Agency. He says: "The rate of Fort Berthold, computed from the records of the Indian Office, is as follows: For the fiscal years ending June 30, 1875, 41; 1876, 538; 1877, 500; 1878, 250; 1879, 133; 1880, 187. Here we see that the rate of 1880 is considerably greater than that of 1875, but that during three of the intermediate years the rate is higher than in the last year." Let us examine these data and ascertain whether they prove what Dr. Matthews thinks they do. Apparently they do, but really they do not, for, although the rate for the last is higher than for the first year, these figures do not, as he assures us, show that pulmonary consumption has increased among these people during this time, but absolutely demonstrate that it has diminished nearly 50 per cent. The aver-

age consumption-rate for the first three, or half the whole number of given years, is 357.33, and that of the last three years, or the latter half, is exactly 190—showing, according to his own statistics, that the death-rate from consumption for the last three years was only a little more than one half of what it was during the first three years. It is very obvious that, by placing too much confidence in the apparent value of figures, the doctor has, in this case, proved more than this theory can comfortably endure.

The next and last instance which he gives is the consumption-rate among the Cheyenne River Indians, which, it must be admitted, sustains the doctor's proposition.

To sum up, then, two out of the three only instances in which original data are given are thus shown to lend no support whatever to Dr. Matthews's view—in fact, point the other way. I have, however, already occupied too much space and wasted too much time in discussing statistics which are without the slightest value from a scientific or from any other standpoint; and I shall continue to cherish the belief that my statistical table is in general correct, in so far as it shows that the consumption-rate of those Indians living in New York, Michigan, and Wisconsin, who have been longest in contact with civilization, is lower than that of those Indians of the Cheyenne River, Pine Ridge, Fort Hall, Fort Berthold, Santee, Rosebud, and other agencies who have a more westerly residence, and who are just now suffering from the baneful effects of the first clash between civilization and savagery. At the same time I beg to state that, if Dr. Matthews possesses the statistics of the number of deaths from consumption among the Indians of those States and territories which he mentions in his first paper—*i. e.*, if they cover a period of five or ten years, and are in such a shape that legitimate comparisons can be drawn—their publication is very much to be desired. They would make a most interesting and valuable addition to the mortality statistics of the Indian Reports, and would, if properly computed, effectually settle the dispute between him and myself. Until such a system of reckoning shows that I am in error, I shall believe that I am right.

August 10, 1887.

ON CERTAIN MEASURES FOR THE RELIEF OF CONGESTIVE HEADACHES.*

By WILLIAM C. GLASGOW, M.D.,

ST. LOUIS, MO.

ONE of the most prominent, and at times the most distressing, symptoms of congestion of the nasal chambers and sinuses is the pain and the sense of constriction of the forehead experienced during the attack, lasting in the acute cases for a few hours; in the more chronic forms it may remain for days, or even weeks. In some cases there is a periodical return, after a longer or shorter interval, the life of the sufferer is rendered almost intolerable, and he is unfitted for any mental or physical activity. If we analyze this pain, we shall find that it is distinctly of two kinds. The one kind

* Read before the American Laryngological Association, at its ninth annual congress.

gives a dull, heavy sense of fullness, with occasional throbbing over the temple. The other is the sharp, lancinating pain so generally recognized as neuralgia.

At times both varieties of pain are present in the same case; in others they are entirely distinct. In the one case we recognize a fullness or local increase of the tension of the vessels; in the other a distinctly disordered nerve action. Both varieties are often due to the same pathological condition of the nasal chambers, and the relief of the one is often followed by a cessation of the other. I do not, however, in this paper propose to consider the nasal reflexes which are now attracting so much attention, and which are distinctly neuralgic in character, but the pain and sense of constriction arising from an over-distension of the vessels.

This disturbing cause is seen in the frontal headache, browache, or so-called catarrhal headache, radiating from the root of the nose; it may be limited to the forehead; it may be felt as a dull, throbbing pain in the temples; it may give rise to intense dull ocular pain, or, extending over the head, it may be felt in the occipital region, occurring frequently from cold or exposure; we also find it often conjoined with certain vaso-motor disturbances of the mucous membrane. It is frequent at the menstrual epoch, coincident with a turgescence of the cavernous bodies, and it is the cause of many of the so-called nervous headaches, or uterine headaches, with which a similar condition of the cavernous bodies will be found. If we examine the nasal chamber during the attack of congestive headache, we shall find the cavernous bodies in a state of tension; they may not be greatly swollen or enlarged, but to the eye the condition of the mucous membrane is that of tension and fullness. The degree of tension corresponds in a measure with the severity of the headache.

A few years ago I treated these cases with hot alkaline sprays, gently applied, and the use of hot fomentations, combined with the use of the usual constitutional remedies. This mode of treatment has not been altogether satisfactory, and during the past four years I have substituted for it the local abstraction of blood, for which I can allege unqualified success. In many cases there is experienced an immediate relief of the pain, and in all there is a sense of the loosening of the constriction. A simple bleeding may relieve the headache, or it may have to be repeated in a day, a week, or a month. I have seen but few cases which were not permanently relieved by a bleeding repeated from two to six times.

To produce the bleeding no cut is required. The cavernous body is simply pricked, and the blood flows freely until the excessive tension has been reduced; then it ceases. The amount of blood drawn rarely exceeds one ounce, in many cases it is less than this, and in some cases a single drachm of blood removed will give the requisite relief. In cases of excessive congestion the flow will equal several ounces before it ceases, the quantity of blood being dependent on the distension of the vessels, and this corresponds with the severity of the symptoms. From a normal membrane, or where there is no excessive vascular distension, scarcely a drop of blood will flow from a simple puncture of the membrane such as would produce a free flow in this pathological

condition. In cases where the mucous membrane is thickened, a sharper puncture will be necessary to bring blood. A lance-headed probe may be best used in making the puncture, although a sharp-pointed bistoury, or any pointed instrument, will answer. The probe has the advantage that it does not excite the apprehension of the patients, many of whom become nervous at the sight of a knife, and dread the idea of being cut.

The following are given as types of the cases relieved by this method of treatment, and I feel assured that relief would not have been so prompt under any other mode of treatment:

CASE I.—Miss M. F., a nurse, has had persistent headaches for more than a year. They would recur every few weeks, and the attack would continue several days. February, 1886, half an ounce of blood was removed, and this was repeated four times at intervals of ten days. At the last operation the flow consisted only of a few drops; since then she has been entirely free from headaches of this character.

CASE II.—T. R., a merchant, has had attacks of intense frontal pain and constriction, accompanied by orbital and supra-orbital neuralgia, for the past eight years. The distress was so great that he was compelled to remain in bed during the paroxysm, which would usually last four days. As a rule, the paroxysm would occur every three or four weeks. He had tried all manner of drugs and many physicians, but had obtained no permanent relief. The paroxysms occurred more frequently in winter than at the other seasons. Local depletion was practiced during the summer and autumn of 1885 on the commencement of the paroxysms; relief of the throbbing pain and the tightness of the head was always immediate, the neuralgic pains continuing a few hours and then disappearing. During the past winter and spring he has had but one attack, and this promptly subsided after a single bleeding.

CASE III.—Dr. B., a prominent and most intelligent physician of a neighboring town, has for many years been a martyr to congestive headaches and neuralgia. He has suffered so much that he is greatly broken in health and has found great difficulty in continuing his practice. His pains were frontal, with throbbing in the temples, and a dull, heavy aching pain at the occiput. These were frequently combined with severe orbital and supra-orbital neuralgia. When the attack came on he was compelled to give up his duties and to remain in bed: the paroxysm lasted for three to five days. Dr. B. was bled some ten times during the autumn and early winter. Since then he has been entirely free from his headaches and neuralgia, although he has suffered with laryngitis, and he has had a severe attack of bronchitis and rheumatism. This last illness was brought on by exposure during a long night ride in the country, and he states that it would, in former years, have certainly brought on his headache and neuralgia.

CASE IV.—Miss L. E. has had, as a rule, at the menstrual epoch, a severe frontal pain with constriction. The flow is excessive and lasts usually five or six days. She called on me in January of this year, complaining of an intense headache. A local bleeding, which was repeated the next day, entirely relieved the head, and she stated the flow was less than it had been for many months. The next menstrual period passed without a headache, and she reports that they have been absent to the present date.

CASE V.—Miss S. G., a sufferer with sick headaches. A local bleeding during the paroxysm gave quicker and greater relief than had ever been attained by the use of numerous remedies which had been tried.

CASE VI.—G. W., a merchant, a sufferer from hay-fever, came to my office during a paroxysm with a most intense sense of constriction of the head and a blinding headache. His face was swollen, with congested eyes and lachrymation. He presented on the whole a most perfect picture of the misery of a congestive headache and the congestive stage of hay-fever. The puncture of the cavernous body allowed the blood to gush out, and the flow continued until some three ounces had passed. Relief of constriction was immediate, the pain was greatly lessened, and the next day he was able to return to his business.

In bringing this remedy for the relief of congestive headaches before you, I may be recommending what some of you have already practiced. Now, if this should be the case, I think the practice is of such value that an emphatic indorsement is justifiable. Our forefathers undoubtedly made use of it, perhaps not in this manner, but certainly they had the same idea when leeches were applied to the temples or to the nape of the neck. A somewhat similar practice was recently related to me by an old Southern planter, who told me that in the days of slavery, whenever a slave complained of a headache, he would run his penknife into the tip of his nose and the headache would be relieved.

THE PULMONIC FORM OF CEREBRO-SPINAL MENINGITIS.

By REYNOLD W. WILCOX, M. A., M. D.

ABOUT April 1st of last year a twelve-year-old girl was brought to the hospital of a large institution for children, complaining of chilly sensations, severe frontal headache, neuralgic pains in the back of the neck of a boring character, some vomiting, pains in the spinal column, and great weakness, yet was restless; also constipation in spite of vigorous treatment. She was dull, her skin was very sensitive to the touch, tongue coated with whitish fur, pulse 75, temperature taken in rectum 100° F., pupils widely dilated, respiration 22, labial herpes as well as a small patch on the left index finger. The next day the temperature ran from 98.5° in the morning to 103.7° in the afternoon; the *tache cérébrale* was well marked, head thrown back and boring into the pillow, headache very severe; the pulse now was 94, of fair volume. The physical examination of the lungs showed a few coarse râles over the larger bronchi, but there was no dullness nor expectoration, and but little cough. The daily range of temperature for the next three days was 102° to 105°, the pulse keeping about 100; the other symptoms remaining unchanged, except that the cutaneous hyperæsthesia became still more marked; the legs were drawn up. On the tenth day the extraordinary rectal temperature of 110° was reached, which had fallen to 107° when she was seen an hour later; pulse 124; roused with difficulty. Two days later the temperature ranged between 98° and 106°, pulse 108; then for two days the range was 101° to 105°, with a pulse of 120. Now dullness over both lower lobes of the lung posteriorly was found with fine moist râles. From this time on there was a gradual amelioration of symptoms until the seventeenth day, when the temperature remained at about normal, with a pulse of 100 to 116, but the patient was very apathetic. Now convalescence was established, and she was discharged, completely well, on the twenty-fifth day.

I do not regard either the early bronchitis or the hypo-

static pneumonia as unusual, and it seems fair to call this a nearly typical case of cerebro-spinal meningitis.

In marked contrast, however, are the four following cases, in two of which the patients came to the hospital two weeks, and the remaining two in four weeks, from the date of entrance of the patient whose case is detailed above:

CASE I.—A boy of thirteen came under observation after a chill, with a temperature of 104.5° and pulse of 130. He had suffered from violent frontal headache for the past few days, pains in his back, regurgitation from the stomach without nausea, pain about the umbilicus, vertigo, especially on standing, and great weakness. His skin was so sensitive that he could not bear the weight of the bedclothing; he was constipated, his pupils were contracted, tongue heavily coated, herpetic patches on the right ear, conjunctivæ red and injected, *tache cérébrale* well marked. His temperature on the fifth day fell to 102° and pulse to 108, when he began to be troubled with considerable cough. Physical examination showed harsh respiration and coarse mucous râles over right apex; not much dullness, but voice sounds were transmitted with unusual intensity. The nervous symptoms had already somewhat diminished, and from this time the patient improved, and was considered to be convalescent on the twelfth day.

CASE II.—A boy of twelve had complained of chilly sensations for three days, violent pains in back and sides, vomiting without nausea, severe frontal headache, pain in loins and spinal column, restless, skin very sensitive, diarrhœa. His pupils were widely dilated and sluggish, temperature 103°, pulse 106, tongue coated, *tache cérébrale* very well marked, respiration 36, left ear very red and hot, labial herpes. Physical examination showed harsh respiration and sonorous râles on cough. He passed his water involuntarily. The next day his temperature ran to 107° and pulse to 140, head was thrown back, legs flexed upon the abdomen, crying out, and roused with difficulty. During the next four days his temperature ranged from 101° to 105°, and his pulse 112 to 124. On the ninth day his pulse was 102, very compressible, intermittent; the cough and expectoration were more free and there was some vomiting. He was continually picking at the bedclothes. On the eleventh day physical examination showed slight dullness on percussion to the lower border of the third rib on the right side, with high-pitched respiration over the same area; also increased vocal fremitus and bronchophony. The tussive signs were coarse mucous râles over trachea and primary bronchi; fine dry râles over dull area, not well marked on deep breathing. At both bases subcrepitant râles; also dullness in interscapular space, with marked bronchial breathing. These signs gradually disappeared, and convalescence was established by the twentieth day.

CASE III.—A ten-year-old boy was dull and apathetic, complained of pain in the back of his head, lancinating neuralgic pains in back of his neck, very restless, annoyed by the weight of his clothing. His pupils were contracted, tongue clean, notwithstanding his constipation, pulse 100, temperature 101°, respiration not accelerated, strabismus, gurgling in iliac fossa. He had also had some nose-bleed. On the fifth day he became delirious, respiration was 20, pulse 120 and very weak, temperature 103.5°, no pulmonary signs nor symptoms. On the seventh day, however, I found dullness on the right side of the upper chest, coarse transmitted râles, local fremitus increased, knee jerk exaggerated. The next day there was marked opisthotonus; cries out in his stupor. His symptoms gradually improved, and pulse and temperature returned to the normal, and he was considered to be on the rapid road toward recovery on the eighteenth day.

CASE IV.—A boy of eight had felt chilly for two days. He complained of a sharp pain in the back of his head and neck, and had vomited without much nausea. He had also pain in the spine, was restless when lying down, yet was unable to walk or stand, even when placed on his feet; had some diarrhoea. His temperature was 101° , pulse 90, patellar reflexes exaggerated. There was no *tache cérébrale*; his pupils were contracted, and responded sluggishly to light. The fourth day showed a pulse of 90 and temperature of 102° , slight dullness on right side from apex to third intercostal space in front; behind, dullness over corresponding area more marked over inner border of upper lobe; respiration puerile; inspiration prolonged and high-pitched. The tussive signs were dry, low-pitched râles over larger bronchi, firm subcrepitant râles behind, vocal fremitus increased. The pulse and temperature showed many irregular variations, but the symptoms gradually subsided, and he was believed to be convalescent on the fourteenth day.

In the consideration of these four cases the pneumonia from entrance of food into the air-passages (von Ziemssen), and that of hæmic stasis from orthotonos (von Ziemssen), can be excluded. Three conditions must be discussed: First, whether these cases are merely pneumonia, with severe nervous symptoms, such as might arise from simple cerebral congestion—the suggestion of Fagge; but this view is negatived by the long duration of the nervous symptoms, which were far more than simple cerebral excitement; or, secondly, that these cases may have been pneumonia, complicated by meningitis. On the contrary, we have the fact that the meningeal symptoms were all primary, and the pulmonary were secondary, the reverse usually obtaining (Jürgensen). So Heguenin states that, if the meningitis is a complication, there are never any changes in the skin or other concomitants of cerebro-spinal meningitis, nor was the pulse slow in any of his cases. Further, in the cases given above, as the nervous symptoms improved, the pulmonary appeared. Finally, are these cases those in which both the pulmonary and meningeal symptoms are due to the same cause? This I shall endeavor to show to be the case.

The title of this paper is due to Webber, who called attention to the fact that there existed a variety of cerebro-spinal fever in which the cerebro-spinal axis was but slightly involved, and the brunt of the disease fell upon the respiratory organs.

Various theories to account for the occurrence of the cerebro-spinal meningitis have been advanced, but none covered the whole ground until the recent work in bacteriology, which, bringing new methods of investigation into common use, will not only account for the meningitis itself, but the particular form we have now under consideration. Let us review the observations concerning the micrococcus. Leyden found in the fresh cerebro-spinal fluid of a sporadic case of cerebro-spinal meningitis oval micrococci, generally diplococci, but rarely in small chains, resembling those of pneumonia. Nauwerck gives the same description, and states that the same organisms exist in alveolar exudations, in false pleural membranes, and in the pleura; such, also, is the description of Ughetti. Marchiafava and Celli, in two cases of epidemic meningitis, found oval micrococci, isolated or as diplococci, never in chains. Klebs found the

same organisms in the cerebro-spinal fluid, pulmonary alveoli, and bronchial mucus. So also Cornil and Babès, Foa, Senger and Weichselbaum, and Bordoni. Uffreduzzi arrived at the same conclusions. These micrococci were found by Friedländer and Talamon, Netter, Griffin, and Cambria during life in the blood; by Ziehl in the sputum in pneumonic cases; by Giles, Salvioli, and Zäselein in both sputum and blood; by Leyden in the exudation and in the tissue of the pia mater; by Marchiafava and Celli, partly free and partly imbedded in the white blood-corpuscles, rarely in the endothelial cells of the cerebral blood-vessels, also in the tissue of the pia; by Ughetti in the sero-purulent fluid of the ventricles; by Weichselbaum in the cranial sinuses; by Netter in the circumvascular spaces in the brain; by Nauwerck in the tissue of the pia and in the lumen of the vessels. To produce cerebro-spinal meningitis, the micrococci must have access to the brain, and indeed they have been found to exist by Netter in the nasal fossæ, bone sinuses, and ears; by Sternberg and Fraenkel in the buccal cavity; by Thost in the mouth and nasal fossæ. In cases of pneumonia they have been found in the posterior pharynx. Cornil has found them in the crypts of the tonsils. I regret that at the time these observations were made I had not had any practical experience in bacteriological methods, and, consequently, did not make any studies of the micro-organisms.

Cultivations of these organisms have been successfully made by Giles from both blood and sputum, by Zäselein from the blood, and also by Fraenkel, Senger, Foa, and Klebs.

The results of inoculations have been equally satisfactory. Salvioli and Zäselein, with cultivations from blood, have inoculated rabbits and obtained pneumonia with micrococci. Netter injured the brains of animals with the thermocautery, and injected purulent fluid from a mouse with pneumonia, and death resulted from meningitis with an abundance of micrococci. Italian observers have injected the micrococci under the membranes of the brain and have produced meningitis. Klebs transmitted pneumonia to animals from cultivations from cerebro-spinal fluid and pulmonary exudation. The constant association of the pneumococcus with pneumonia, as noted by Klebs, Ebarth, Koch, Leyden, and Friedländer, is now, I believe, generally accepted.

The micrococcus has undoubtedly easy access to the lungs and can be carried through the blood, where it has been found, to the central nervous system. I have noted above the presence of these organisms near to the cranial cavity. Confirmatory observations are those of Strumpell, who noted remarkable loss of smell in the premonitory coryza of children sick with cerebro-spinal meningitis. Weigert has noted suppurative changes in the upper nose. Leyden and Senger believe in the micrococcic nature of a certain number of cases of meningitis following otitis, and even that the otitis itself may be due to the same cause. Baginsky has reported cases of otitis with severe meningeal symptoms, with pneumonia, the whole, he believes, due to micrococci. Steiner confirms Streekeisen's observations in regard to the relationship of otitis and pneumonia. Eichhorst thinks that the micro-organisms may also be trans-

ported by the lymph-vessels. So much, then, is the evidence as to the way of access of these micro-organisms to the nervous system. As regards cerebro-spinal meningitis and pneumonia, taken separately or together, we must regard Koch's postulates as demonstrated.

The clinical evidence as to the occurrence of cerebro-spinal meningitis and pulmonary disease is equally widespread. Jürgensen notes that in epidemics of cerebro-spinal meningitis, pneumonia cases are often complicated by it. Immermann and Heller, in post-mortem examinations in thirty cases of death from pneumonia, found evidences of meningitis in nine, and this was during an epidemic of cerebro-spinal meningitis. Githens, in ninety-eight cases of cerebro-spinal meningitis, found nine cases of pneumonia, and seven of bronchitis, and says that "many had more or less tendency to irritation of the air-passages."

De Willich notes a case where the symptoms were meningeal until the fourth day, when pneumonia became evident. Lewis Smith also cites a similar case where the diagnosis was not made until the sixth day. Rothman cites analogous cases. Lewis Smith has remarked the prevalence of pneumonias of an ataxic type during epidemics of cerebro-spinal meningitis, also sometimes of pharyngitis. Bascome made the same observations of the epidemics of the sixteenth century. It is also stated that the influenza often precedes meningitis with or without pneumonia. In the German epidemic of 1864-'65 one half of all patients with cerebro-spinal meningitis had pneumonia also. In the French epidemic of 1866, cases of amygdalitis were very common. In the Philadelphia epidemic of spotted fever phenomena of pulmonary and bronchial inflammation were frequent. Dreschfeld saw two children of the same family, one sick with pneumonia and the other with meningitis.

It is probable that pneumonia is more frequent than cerebro-spinal meningitis because the micrococci have easier access to the lungs. Netter's observation that, if the brain had been previously injured, meningitis was more easily produced by injection of micrococci, is confirmed by clinical evidence. One of Immermann and Heller's patients was insane; one third of all who died were alcoholic subjects. Of Barth's cases, three out of four were alcoholic. Grobe's patient had suffered from great disappointment.

So, if the brain has been before diseased, it is the organ of least resistance, and cerebro-spinal meningitis is likely to occur. Nearly all observers note that the onset of the disease follows severe mental or nervous strain.

I believe that we may agree with Bozzolo and Barth and Greenfield and M. Sée and Netter in concluding that both cerebro-spinal meningitis and pneumonia are due to the same micro-organisms, the relative frequency of the diseases being determined by the factors above noted. The grounds for this belief are the morphological identity of the micro-organisms, their habitat in living and dead bodies, the results of cultivations and inoculations, and the clinical evidence of the occurrence of the two diseases together.

That the four cases cited above are cases of the pulmonary form of cerebro-spinal meningitis is shown by the precedence of an undoubted case of cerebro-spinal meningitis, and by the meningeal symptoms being too severe for

merely cerebral excitement; and, as in the cases of De Willich and Lewis Smith, only as the meningeal symptoms subsided did the pulmonary become marked, thus showing that the brunt of the disease fell upon the lungs.

THE USES AND EFFECTS OF OXYGEN GAS AND NUX VOMICA IN THE TREATMENT OF PNEUMONIA.*

By GEORGE E. HOLTZAPPLE, M. D.,
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MEDICAL literature does not inform us of much advancement having been made in the treatment of pneumonia for some years. I think there are certain agents which, from their physiological effects, should have a place in the armamentarium of this disease. I refer to the use of oxygen gas and nux vomica.

Studying closely the physiological effects of each, and the pathological conditions and clinical phenomena of pneumonia, it seems to me there are stages in this disease when at times both agents are indicated and must be of decided value. The first is necessary to hæmaturia; the second is indicated from its physiological effects upon the respiratory and circulatory apparatus. It is one of the deep respiratory stimulants (A. A. Smith). These effects upon respiration and circulation have been produced repeatedly by administering strychnine or nux vomica.

Clinically, strychnine has been observed to stimulate respiration. If a dose not sufficient to tetanize is administered, it increases the depth and energy of the respirations. It antagonizes respiratory poisons and those morbid conditions of the system which depress the respiratory function. These physiological effects given to us by authorities I have repeatedly reproduced during the last two years. "The same dose mentioned above will also stimulate the cardiac ganglia, the pneumogastric, the accelerator nerves of the heart, the vaso-motor center in the medulla, and the vaso-motor functions generally" (Bartholow). Larger doses will paralyze the very structures that full doses will stimulate. There are stages in this disease when life depends upon stimulating the very structures which I have so far enumerated. The difference of effect depends on the dose administered. It is a powerful remedy and has to be administered with care. Yet, if only half enough is administered and no favorable effects are produced, or if entirely too much is administered and unfavorable effects are produced, it is not the fault of the remedy, but of the one who administered it. According to some observers, strychnine diminishes the amount of carbonic acid formed in the blood.

I am not aware that strychnine or nux vomica was ever administered in acute disease with a view of obtaining the useful effects on the circulation and respiration above enumerated, and the stimulant effects upon the functions generally which must then result.

When hepatization is extensive, the patient craves for oxygen. He may even do so when hepatization is less ex-

* Read before the York County Medical Society, August 4, 1887.

tensive if accompanied by acute bronchitis with profuse secretion.

I have observed this association in a number of cases during an epidemic of influenza. The patient then receiving an insufficient supply of oxygen from ordinary atmospheric air, suffers the effects of un aerated blood. It is only by understanding thoroughly the physiological effects of an insufficient supply of oxygen that we can comprehend intelligently the usefulness of the same, and it is upon this basis that I advocate a further trial of this agent wherever it may be deficient.

Allow me, then, to call your attention briefly to the physiological effects of a deficient supply of oxygen. This condition gives rise to the phenomena of asphyxia. Asphyxia may be slow or rapid. It may occur in disease or in health, when for some reason a normal supply of oxygen is not obtained. Diminution of oxygen causes the respiratory movements to become deeper and more frequent. Both the inspiratory and expiratory movements become exaggerated, more muscles are called into action, and, as the blood becomes more venous, all the muscles which can assist respiration are called into activity. The expiratory movements now become more marked than the inspiratory, and soon all the muscles of the body are thrown into a convulsive struggle of variable duration; the expiratory movement becoming more and more marked, this stage of asphyxia finally terminating in an expiratory convulsion.

Physiologists teach us that these characteristic convulsions of asphyxia are caused by the stimulating action of the venous blood upon the respiratory center in the medulla oblongata. Because these convulsions fail to occur when the cord is divided below the medulla, and because they do occur when all the other portions of the brain above the medulla are removed, it is said to be evident that the medulla is the agency through which they are produced. Some physiologists speak of a convulsive center, but admit that if such exists it must be closely connected with the normal expiratory division of the respiratory center. By suddenly obstructing the flow of arterial blood to the medulla, similar convulsions may be produced. In such an experiment we may observe the stage of dyspnoea followed rapidly by the convulsions of asphyxia, all as the consequence of the respiratory center becoming exhausted for the want of oxygen.

Anæmic convulsions from sudden large hæmorrhages may sometimes be observed, again produced by stimulation of the respiratory center or the convulsive center, if such exists. During the spasmodic stage of asphyxia the nervous system rapidly becomes exhausted, from the violent convulsions and the continued stimulation of the nerve-centers from a lack of oxygen. Following this period of convulsions is one of calm, denoting exhaustion. This period of exhaustion may sometimes be plainly observed in slow asphyxia, such as results commonly from disease, and this must not be mistaken for an amelioration of the distressing phenomena of asphyxia. This condition should, however, never be mistaken. In it the pupils are greatly dilated, unaffected by light; no reflex movements of the lids are produced by touching the cornea—in fact, no reflex movements anywhere can be produced by stimulation of the sur-

face of the body. The muscles are relaxed and quiet. The respiratory pause becomes longer. The respiratory movements which follow now resemble those of normal quiet breathing, and, as far as muscular action is concerned, chiefly inspiratory. For this reason an observer may be mistaken as to the existing condition of a patient by careless examination.

Let us study the physiological effects of a deficient supply of oxygen on the circulation again, with a view of learning the importance of administering it when deficient. As the blood becomes more venous, it stimulates the general vaso-motor center, causing a constriction of all the small arteries of the body, with increased arterial tension, and, as a consequence, the filling of the systemic veins. The peripheral resistance becomes increased. This indirectly stimulates the contractions of the heart, but, on the other hand, is a direct obstacle to the heart in propelling its contents. The heart at the same time beats less frequently, and becomes weaker from the stimulation of the venous blood upon the cardio-inhibitory center in the medulla, and from the inhibitory action of the venous blood upon the heart itself. The stimulating effect of the venous blood upon the respiratory center causes increased respiratory movements. These favor the flow of venous blood to the heart, which, in consequence, becomes more and more distended. As the blood flowing through the coronary arteries becomes more venous, the contractions of the heart become more and more feeble; at first the energy may perhaps be increased, but soon the heart beats less frequently and with much less force. This I have observed more than once. These phenomena result from an insufficient supply of oxygen in disease or in health. From the infrequency and feebleness of the heart's action the blood accumulates in the heart, lungs, and great veins. The heart is in danger of paralysis from overdistension, all as the result of a lack of oxygen.

Observe, then, the conditions which favor the accumulation of blood in the heart. When the supply of oxygen is abnormally diminished, the peripheral resistance is increased. The heart-beats are more infrequent, and at the same time weaker than normal. The respiratory movements are greatly increased, favoring a larger flow of venous blood to the heart in its feeble condition. Under these circumstances the heart, while beating with diminished frequency and vigor, should beat with increased frequency and vigor for a threefold reason—namely, to overcome the increased resistance in front, to expel the blood as fast as it enters the heart, and to overcome the slight obstruction to the passage of the venous blood through the lungs.

This disturbance all results simply from an insufficient supply of oxygen. The excitability of both nervous and muscular tissue depends on a constant and large supply of oxygen. In pneumonia there are other reasons why the heart should be strong in addition to those enumerated. During the stage of hepatization the blood is compelled to circulate through a smaller system of pulmonary vessels, necessitating strong contractions of the right ventricle. Fatty degeneration and absorption of the inflammatory products are favored by a free pulmonary circulation.

Hyperinosis is a condition of the blood marked in pneumonia, favoring ante-mortem thrombosis, which is more likely to result the weaker the contractions of the heart. The heart is also weakened from acute parenchymatous degeneration in a severe case of pneumonia. The weakness of the heart, then, in this stage of pneumonia is, to a certain degree, the physiological result of an insufficient supply of oxygen. I do not mean to speak of oxygen as a curative agent, but it will ameliorate some of the most distressing phenomena in a serious case of pneumonia when cyanosis is marked. It will, in this stage and form of the disease, be as conducive to relief as bread in time of hunger and water in time of thirst, and upon an equally rational basis. The system in either case craves for elements or compounds that it imperatively demands before relief can be obtained. We can assist nature considerably in relieving these distressing phenomena. When hæmotosis is very imperfect, we can administer oxygen just as well as expectorants to favor expectoration.

Oxygen, just like nutritives and stimulants, if administered too late, is equally without effect. I do not mean to speak of the necessity of oxygen in all cases of pneumonia; only in those where there is cyanosis. If any one element is more important than another in the maintenance of the functions of the body, it is oxygen. In pneumonia we try to secure relief for our patient. We assist nature so that the patient may endure the effects of the disease till nature no more needs our assistance. We try by internal remedies and external applications to reduce the temperature as near to the normal as possible. We administer nutritives and stimulants to maintain strength. We watch the functions of the different organs, and when they are deranged attempt to rectify them. But, when hæmotosis is very imperfect, we do not think of administering oxygen, and yet it alone can give relief; how inconsistent!

Oxygen is not indicated to relieve exhaustion unless it is the result of imperfect hæmotosis. Stimulants are not indicated for the relief of cyanosis unless associated with exhaustion. Each has its place and its office to perform. Great restlessness and anxiety may, perhaps, sometimes be observed which can not be attributed to exhaustion or cyanosis, but probably due to a virulent specific cause, such as the pneumonia-coccus, and in such a condition neither oxygen, stimulants, nor sedatives would give relief.

Pure oxygen is not irritating to the air-passages. If the blood or hæmoglobin becomes saturated with oxygen, the condition called apnœa will be produced. Could this be produced, I do not think it would be at all desirable. The respiratory movements facilitate the exhalation of carbonic acid. Were the respiratory movements to cease, the tension of carbonic acid in the air-cells would be more likely to approach that of the venous blood, and, as a consequence, favor carbonic-acid poisoning.

In the beginning of the winter of 1885 I was called to attend a severe case of lobar pneumonia. The patient suffered greatly from cyanosis, and died suddenly on the morning of the sixth day of sickness.

No oxygen was here administered. The next severe case that I was called to attend was on March 6, 1885.

The patient was a young man, aged about sixteen, robust, temperature about 104° F., pulse frequent in proportion, severe pain in the side, dyspnœa, and rusty sputa at my first visit. Hepatization rapidly developed, dyspnœa became very marked, and cyanosis likewise on the sixth day of sickness. Being disgusted with the treatment recommended and applied in the case above mentioned, my patient begging me to relieve him from his labored respiration, as he was breathing then from 75 to 80 times a minute, I resolved to administer the very element he craved. In a few minutes after administering oxygen, cyanosis became less, the patient expressed himself as somewhat relieved, and in twenty minutes his respirations were reduced from 75 to 60 in a minute. The effects on the respiration and his color were distinctly appreciated by the parents and those around the bedside of the young man. I repeated the administration a number of times during that day until it was no longer needed. The patient recovered rapidly.

The next very severe case was that of a young lady, aged about fifteen, also robust; cerebral symptoms were very marked; the diagnosis was not decided for about two days. Solidification of the greater part of both lower lobes then became distinct, with a co-existing acute catarrhal condition of the whole mucous membrane lining the respiratory passages. Bronchial secretion was profuse. The pulse was frequent and the temperature was high from the beginning of the attack. The respirations became more and more frequent until the seventh day of sickness, when they numbered 80 and above to the minute.

On the seventh day of sickness cyanosis became alarming, and my patient was sinking fast. She begged for breath. I administered oxygen. It diminished the cyanosis remarkably. The respirations became much less labored and less frequent. This treatment I began on the seventh day of sickness. I continued the administration every three or four hours, with favorable effects, until noon of the ninth day of sickness. After this time it was without effect, and so was everything else that was administered. The patient died toward evening of the ninth day. Absorption evidently had in no way commenced.

I conscientiously believe that the patient in this case would have died forty-eight hours sooner had oxygen not been administered. I am confident that life and vitality were prolonged, thus allowing so much more time for absorption to take place. These are the only cases in which I have administered it with care.

To say that you are not prepared to administer it is no excuse when death is imminent, for every physician is as well prepared as I was, or soon can be at little expense.

I generated oxygen from chlorate of potassium and black oxide of manganese, in large test-tubes heated over a spirit-lamp, and with rubber tubing I conducted the gas to the bottom of a deep bucket filled with water, which I had placed to the side of the patient's head. Then with a fan the gas bubbling out of the water was wafted to the patient's face. This plan of generating and administering oxygen you may consider crude, and so do I; but I simply mention it to show what may be done in an emergency. It is the principle of a certain mode of treatment that I mean to advocate in my paper, and not the details. When I administered it about two years and a half ago I was not aware that oxygen had ever been administered in any form of pneumonia, only in diseases of the upper air-passages producing obstruction to the entrance of air into the lungs. During the last year a few cases of lobular pneumonia have

been reported in which it was administered with good effects. I administered it in lobar pneumonia.

The use of oxygen in pneumonia is, however, nothing new to many members of the profession. Professor E. G. Janeway reported on the good effects of oxygen in pneumonia at the meeting of the New York State Medical Association in 1885. It is also much used in Bellevue and other hospitals. I am inclined to think, however, that the average country practitioner has very little medical literature that refers to the use of oxygen in pneumonia, which was one reason for writing this article. I advocate the use of oxygen not only in pneumonia, but wherever it is deficient unless for special reasons contra-indicated.

Whooping-cough, even if not complicated by pneumonia, might theoretically be benefited in relieving the venous stagnation. In many of those diseases which terminate fatally by apnoea according to some writers, or slow asphyxia, it might be administered, at least upon theoretical grounds.

Nux vomica I have administered in a number of cases where it was physiologically indicated. The effects were favorable when the dose was sufficient. This remedy is applicable not only in pneumonia, but often when from other causes the heart becomes feeble and irregular, the arterial pressure very much diminished, and at the same time the respiratory movements feeble and irregular. This condition often results from the effects of high temperature and severe acute constitutional disturbance. This remedy has to be handled with care, and the initiatory dose should be small, then increased till the physiological effects desired are produced.

PECULIAR PHENOMENA

FOLLOWING AN INJECTION OF MORPHINE.

By HENRY C. COE, M. D.

FEW of the trying experiences of the practitioner are so unpleasant as the sudden appearance of alarming symptoms in a patient after the administration of a minimum dose of a drug, especially if the same patient has before taken the drug with impunity. The situation is rendered peculiarly disagreeable from the fact that, no matter how great the anxiety of the physician may be, he must carefully conceal it. Doubtless most men as they grow in years and experience imitate the celebrated French physician who said that he found himself using the hypodermic syringe only when it was absolutely necessary. It is the younger men who are most apt to meet with cases such as the following:

A. B., a young married lady, consulted me on account of an attack of acute gastro-enteritis. As she was suffering severely with colicky pains, I injected five minims of Magendie's solution, having previously inquired carefully concerning her former history. I ascertained that she had been accustomed to take opium by the mouth during an attack of peritonitis. All other narcotics, as well as chloroform and ether, invariably produced unpleasant symptoms, bordering on collapse. The lady's general health was good, and I could discover no hysterical tendency. She possessed a strongly marked character, and endured pain quite stoically. The hypodermatic injection was administered

between 7 and 8 P. M., and acted happily, relieving the pain and vomiting, so that the patient slept at intervals until 4 A. M., when the pains returned and were so severe that I was asked to repeat the injection, which I did, after satisfying myself that the effects of the former dose had apparently worn off. Six or seven minims, containing $\frac{1}{120}$ gr. of atropine, were injected, and the result was such as I do not wish to see again. The patient complained that she felt weak and faint, which did not seem strange, considering the fact that she had taken no nourishment for nearly twenty-four hours. Suddenly she had what appeared to be an ordinary attack of syncope, from which she was aroused only to faint again. Her respiration during the second attack became slow, and her pulse feeble, and an examination of the pupils showed that they were strongly contracted—In short, she presented all the symptoms of opium narcosis. From the second fainting fit she could not be roused. Fearing her peculiar susceptibility to drugs, I did not dare to administer atropine, or in fact to employ any active treatment. Sinapisms over the præcordium, inhalations of ammonia, and other simple remedies produced no effect. After half an hour spent in vain, I resorted to the faradaic current, contrary to the urgent solicitation of the lady's husband, who insisted that the application of electricity always induced an attack of angina pectoris, to which the patient had formerly been subject. The serious nature of the symptoms led me to disregard this caution. I first applied a current of moderate strength to the right arm in order to test the effect. It seemed to rouse her a little. The electrodes were then applied to the left forearm, when almost immediately the patient's face contracted as if with a spasm of agonizing pain and she groaned aloud, while she clapped both hands over her heart. During the attack the pulse became weak, and the heart-beat faint and irregular. The pain seemed to act as a stimulus, for the patient was roused, and answered when spoken to, but relapsed into her former condition, to be roused by another spasm of cardiac pain more severe than the first. There were three or four separate attacks, and no doubt could be entertained concerning the genuine character of the pain. The use of the battery was of course suspended on the first appearance of the symptoms predicted by the husband. As the result of these attacks the patient awakened from her semi-comatose condition and took a little champagne. She remained drowsy all day, and afterward declared that she had no knowledge of what had occurred during that period. The after-history of the case presents nothing of interest. On a subsequent occasion I ventured to give her a grain of opium in two suppositories, and no bad effects followed. On further acquaintance the lady failed to show any hysterical tendency. She herself accounted for the peculiar effects of the drug by her weak condition induced by diarrhoea and abstinence from food.

As regards the explanation of the phenomena described, it will naturally occur to every one that the symptoms were purely hysterical. But in every doubtful case of hysteria a careful review of the history, even if the patient is seen for the first time, will furnish confirmatory facts. In the present instance there was no evidence of such a tendency, and there were no symptoms pointing to pelvic trouble. The patient, though a nervous, was a sensible woman, and rather rejected than sought for sympathy.

It was suggested to me by an eminent practitioner that the phenomena following the injection might have resulted from the introduction of the solution directly into a vein. This seems to me improbable, considering the region selected for the injection (over the deltoid), and the fact that no escape of blood or subcutaneous extravasation fol-

lowed the withdrawal of the needle, a result which I have always noted after the accidental puncture of superficial veins.

The only explanation which appears to be satisfactory is this: Aside from the fact that the patient had a peculiar susceptibility to morphine, she undoubtedly experienced the cumulative effect of the drug, not having recovered from the first dose before she received the second. In addition to this, her general condition was such that she was more profoundly affected than she would have been under other circumstances. There is no reason to doubt that the attacks of cardiac pain were so severe as to counteract, to some extent, the effects of the poison. I doubt if the patient had ever taken morphine before. Careful questioning developed the fact that her physician was quite familiar with her peculiar susceptibility, and rarely resorted to medication except of the simplest kind. The case is interesting merely as furnishing another of those frequent warnings which we receive regarding the necessity of dealing cautiously with strange patients. I am acquainted with a lady who can bear absolutely no narcotic or analgesic. A drop of cocaine solution applied to a small ulcer on her lip caused distressing faintness and vertigo, lasting for over an hour. A small injection of morphine would mean death to her, and yet a strange physician can not be expected to know these peculiarities by intuition. Annoying as it may be to spend an hour or more with a patient for the purpose of administering two or three small doses of morphine instead of a single full dose, and to bear with the impatience of a sufferer who wishes instant and entire relief, doubtless it is better in the end, for sooner or later we shall have occasion to repent our too free use of the seductive syringe.

LONG BRANCH, August 22d.

Correspondence.

LETTER FROM VIENNA.

Docent Riehl on Acute Circumscribed Œdema of the Skin.—Dr.

Gruss on Acute Retrobulbar Œdema.—Docent Wagner on the Circulation of the Blood in the Brain.—Professor Albert on the Intra-cranial Circulation after Concussion of the Brain.—Professor Drasche on the Influence of Strophanthus Hispidus on the Heart.—The Vienna International Congress of Hygiene and Demography.—The Vienna General Hospital.

VIENNA, August 11, 1887.

During the summer session of the Imperial-Royal Society of Physicians of Vienna, Dr. Riehl has shown two rare cases of acute circumscribed œdema of the skin, and made some interesting remarks in connection with them. One of the patients, thirty-three years old, had suffered for three years with œdema of the right or left cheek, which appeared and disappeared at various times. The patient attributed the trouble to exposure to draughts and heat. It had not given rise to any general disturbance, and there was no evidence of any changes in the internal organs. The other patient, fifty-one years old, stated that in 1874 his left upper eyelid suddenly became swollen to the size of a man's fist, as the consequence of intense emotional excitement. The swelling disappeared after

twenty-four hours, and appeared again at the end of fourteen days. In 1878 the right upper eyelid also became affected for the first time, in the same manner as the left one, and since that time the patient had observed that both the eyelids, the cheeks, and the lips swelled alternately at intervals of from ten to twelve days. Owing to the repeated attacks of œdema, the skin of the upper lids had become so stretched as to hang down over the palpebral fissures like curtains. The characteristic features of acute circumscribed œdema, said the speaker, were its sudden appearance and disappearance. The œdematous part was neither warm nor reddened, and there were no subjective sensations of heat. The skin was solid to the touch, but pitted on pressure. According to Quincke, in some cases the patients were broken down in health and suffered from vomiting before the appearance of the œdema. Such cases had also been reported by Strübling. In some of the cases in question, an hereditary predisposition had been shown to exist. The speaker added some details as to the differential diagnosis of acute circumscribed œdema of the skin and the œdema of whooping-cough, myxœdema, generalized urticaria, etc., and remarked that the acute œdemata of the mucous membranes, especially those of the mucous membrane of the larynx, might be classed with the affection under consideration. The ætiology of the morbid process was not very well known. Traumatic lesions and psychical disturbances probably played the chief part in it, and it was highly probable that its origin should be sought for in the central nervous system.

Dr. Adolf Gruss reported, in connection with Dr. Riehl's communication, a very interesting case of acute retrobulbar œdema, with an acute right exophthalmia of high degree. Besides a neuralgia of the fifth nerve, which was due to traction on the first branch of the fifth, the case presented another interesting assemblage of cerebral symptoms—namely, continued cerebral vomiting, diminution of the frequency of the pulse (which progressed very quickly, so that 60, 55, and 40 were noted as the general symptoms reached their acme), and an attack of giddiness; and the diagnosis of a severe cerebral affection was made. Taking the whole set of symptoms into account, a sinus thrombosis was thought to be exceedingly probable; but, on the other hand, there was no indication of nerve irritation or paralysis, except the irritation of the vagus, and an examination of the eyes showed the following conditions: Exophthalmia of a high degree, œdema of the eyelids and of the conjunctivæ, considerable enlargement of the nerves of the retina, which was pale throughout its whole extent, protrusion of the papilla of the eye, impairment of the power of sight, and limitation of the mobility of the eyeball. Hence, there were symptoms which did not admit of a certain diagnosis, to say nothing of the fact that no occasion for the development of a thrombosis of the sinuses could be detected, as the heart was quite normal and a bronchial catarrh with which the patient happened to be suffering was so inconsiderable as in no wise to justify the suggestion of a thrombosis of the sinuses. The cerebral symptoms first gradually disappeared, then the exophthalmia and the neuralgia, and, after the lapse of twenty-four hours, nothing was to be seen of all the severe symptoms, except a slight œdema of the eyelids. After fourteen days the patient had another attack of the same kind, owing to emotional excitement, but the cerebral symptoms were not so severe as before. Professor von Bamberger, who was consulted, diagnosticated acute retrobulbar œdema, declared the condition not to be dangerous, and, taking into consideration the patient's obesity, ordered Marienbad water and regulation of the diet. These measures were followed by complete success, and in the following six weeks the patient had only three attacks; the first was attended with slight slowing of the pulse and an inclination to vomit, and the two others

were accompanied with exophthalmia and neuralgia. All the attacks were due to emotional excitement or intellectual fatigue. The patient had now had no such attack for two years.

Dr. Wagner, in conjunction with Dr. Gärtner, has performed experiments on the dog for the purpose of ascertaining the conditions of the cerebral circulation, having been particularly led to do so by the paucity of communications on that subject and the disputed or contradictory nature of the statements made in them. They laid open the chief efferent vessel, a branch of the posterior facial vein, and a direct continuation of the transverse sinus. They could not gather all the blood which flowed out from the brain, as the veins were very numerous, and many of them inaccessible to section. They measured the quantities of blood that came out of the cannula which they had introduced into the vein, and first investigated the influence of the arterial pressure on the rapidity of the current. They found that the latter was in direct proportion to the pressure. Compression of the aorta produced a great and sudden increase in the rate, whereas compression of the ascending vena cava was attended with a decrease in the rapidity. The experiments which they carried on with narcotics were of peculiar interest. Two of the most important narcotics—chloroform and morphine—were tried. As to morphine, its use appears not to have been followed by any considerable change in the rapidity of the blood-current, which remained quite in proportion to the amount of pressure present. Chloroform, however, paralyzed the blood-vessels, and, although the blood-pressure was considerably diminished in the late stage of the narcosis, an enormous increase was observed in the quantity of the blood that flowed out—five times as much as at the beginning of the experiment. In proportion as the narcosis subsided and the pressure increased, the rapidity of the flow diminished again. The influence of amyl nitrite was similar to that of chloroform. The experiments with electrical stimulation of the cerebral cortex, which they performed on curarized dogs, led them to conclusions quite opposed to those recorded in literature. Contrary to the statements of others, that such irritations were attended with anæmia of the brain, and that the epileptic attacks which followed them should be referred to the anæmia, they never observed a decrease of the blood-current; on the contrary, they found that, in from fifteen to twenty minutes after the irritation, the current increased considerably, and reached its acme at the moment when the animal experienced the slight muscular contractions preceding the epileptic attacks. Neither was irritation of the peripheral sensory nerves followed, as had been stated by other investigators, by anæmia, but always resulted in a hyperæmia, which went hand in hand with the blood-pressure observed under such conditions. The results of these experiments were of great importance in physiology and pathology, and for that reason Dr. Wagner announced that he would continue them and report further on a subsequent occasion.

Professor Albert, prompted by Dr. Gärtner's communication on the rapidity of the blood circulation in the kidney and other organs, and by Dr. Wagner's on the circulation in the brain, has resumed certain experiments which he had begun, bearing on the subject of the circulation within the skull after concussion of the brain. Following the method of Koch and Filehne, he produced artificial concussion of the brain in curarized dogs by hammering on the skull. For the purpose of observing the outflowing blood, the vein which forms the direct continuation of the transverse sinus was laid open exactly after the method of Gärtner and Wagner, and the drops of blood which came out within given periods of time were counted while the crural artery was in connection with a kymograph. The following results were noted: The very first blows with the hammer produced an increase in the rapidity of the flow of

blood. This procedure, however, caused also a considerable coincident increase of the blood-pressure and a slowing of the pulsations. But in a short time the blood-pressure fell, although the increased rapidity of the current still persisted: this was likewise the case when the pressure curve fell below the starting-point. The experiment lasted in one case for more than twenty-five minutes, the increased rapidity of the circulation persisting for that whole period. The conclusion from these experiments was that the concussions of the skull by hammering, besides the irritation of the vagus characteristic of cerebral concussion, were attended with a considerable dilatation of the blood-vessels of the brain (in a way analogous to that produced by Wagner and Gärtner by electrical irritation of the cortex).

After having experimented with *Strophanthus hispidus* for three months at his clinic, Professor Drasche communicated to the Imperial-Royal Society of Physicians the results which he had observed with this drug. He used an alcoholic tincture mixed with an equal quantity of cherry-laurel water, and gave half of Fraser's maximum daily amount, namely, twenty drops in two doses. A constant decrease in the frequency of the pulse was observed, sometimes to the extent of eight, ten, or twelve beats in the minute, after the lapse of some minutes. At other times, however, such a retardation was not observed until half an hour after the drug was administered. The effect was found to last for some hours. In a case of nervous palpitation, in a woman whose pulse was from 140 to 150, from ten to twenty drops of the tincture were given daily for three weeks, without any observable cumulative effect. The frequency of the pulse did not diminish, however, until twenty drops were given twice a day, when it was lessened by twenty beats to the minute and the action of the heart became more quiet. No disturbance of digestion occurred, even after six weeks' continuance of the use of the drug in this form. In a case of Basedow's disease, in which there was a very turbulent action of the heart, he succeeded by giving twenty drops of the tincture in lowering the pulse-rate and producing some improvement in the rhythm. He tried the drug in thirty cases of heart failure with grave disturbances of compensation, and observed in these cases also a somewhat favorable effect. The palpitation and the anxiety disappeared very quickly, and the accelerated action of the heart diminished much more decidedly than after the use of adonis or digitalis. The drug was tried, moreover, in various febrile diseases, such as pneumonia, acute phthisis, typhoid fever, etc.; and here, too, it produced retardation of the pulse as well as a slight depression of the temperature, which, however, rapidly rose again. It may be stated that Professor Drasche was the first to introduce the drug into Austria, after it had been recommended by British observers, especially by Fraser, of Edinburgh, as well as by American investigators. The results which other Vienna physicians have observed with *strophanthus* are also very favorable.

The Sixth International Congress of Hygiene, to be held in Vienna in September, promises to be crowned with much success. Fifty-seven of the reports that are to be read are already in print, and will be transmitted to the members of the congress toward the end of August. Foreign governments are giving great aid by sending distinguished persons to represent the respective countries.

Hofrath Dr. Hoffmann, the director of the Vienna General Hospital, has been placed on the retired list by the Minister of the Interior, at his own request, as his advanced age and weakened health did not permit him to carry on the onerous duties of the position any longer. Professor Charles Böhm, the former director of the Rudolph Hospital, has been elected in his place as manager of the General Hospital.

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THE NINTH INTERNATIONAL MEDICAL CONGRESS.

THE ninth meeting of the International Medical Congress, which is to be held in Washington next week, is undoubtedly to be looked upon as an event of the highest importance in its relation to the medical profession of this country. In that respect its effect may confidently be expected to be beneficial. How the profession throughout the world will rate it, as compared with previous meetings of the same body, is somewhat uncertain. Two years ago, the successful character of the meeting was well-nigh despaired of by what may properly be designated the conservative element of the American profession. This element could not shut its eyes to the conviction that the nation, although a stalwart stripling, had not yet come to maturity, and, in any international arena, would be handicapped by that fact. Our career in medicine is one of which we need not be ashamed, indeed it is one of which, all things considered, we may justly be proud; but we have not yet produced any great number of men whose attainments are such as to lead the medical profession of the rest of the world to regard them as particularly qualified to shed light upon the subjects that naturally come up for discussion on such an occasion as that of a gathering of medical men from all countries. When to this it had to be added that a considerable number of the few such men that we had were estranged from the organization—by whose fault it mattered not—the outlook was still further clouded. Then, too, it was feared that a degree of pique had arisen among our Berlin *confrères*, owing to the choice of Washington instead of Berlin as the place of meeting, that would seriously intensify the natural disinclination of European physicians to undertake the Transatlantic journey—a familiar matter with us, but rather uncommon for them. Finally, everybody recognized the fact that we had not the social and festal resources in Washington, in the month of September, that European capitals afforded.

The second and the third of these sources of embarrassment were felt to be to a great extent insurmountable. So long as there was any apparent possibility of overcoming the first, thus enabling the American profession to appear to as good advantage as might be, each of the two parties to the unhappy controversy that had arisen was quite justified in the efforts it put forth to cause its own ideas to prevail. So soon as it appeared evident that an agreement was impossible, those whose views had been overruled took a position which can not be called unnatural when they decided to take no part in the meeting. Even if we concede that it would have been sweeter and more decorous in them to conquer their disappointment and their doubts and still do what in them might lie for the success

of the occasion, there is not such a scarcity of glass houses as to warn them to prepare against a shower of stones. The statement has been made, however, that some of those gentlemen, not content with standing aloof, have sought to thwart the success of the meeting in various ways, such as by working for a reduction of the Congressional appropriation and by actively inspiring Europeans of their acquaintance with the idea that the meeting would not be worth attending. We are unwilling to believe that this allegation is true, at least of men of any standing in the profession, although it is well known that motives which are in themselves honorable sometimes lead to acts that are apt to be looked upon as questionable, if not reprehensible.

But, after all, the success of the Washington meeting is not to be measured wholly by the number or the eminence of the foreigners in attendance, or by the impression which the American profession makes upon them. We should, of course, be glad to see both of these features of the meeting at their best, but we should bear in mind that so great an assemblage of our own men alone, even if no eminent Europeans were to be present—and it is by no means sure that a goodly number of the latter will not be in attendance—can have only a beneficial effect. Beyond all doubt, the meeting will be a very large one, and will be made up, so far as the home contingent is concerned, of physicians from all parts of the country. One of our French contemporaries complains that the government of France has not thought proper to send an adequate representation, but we understand that the European governments in general have made due provision in this respect. The number of foreign gentlemen who have signified their intention of contributing papers is large, and we are informed that many of those papers, either in full or in abstract, have already been received. The programme includes, according to our latest information, about six hundred papers. As these papers are to be read and discussed in nineteen different sections sitting for six days, it will be seen that, assuming that they are distributed among the various sections with any near approach to uniformity, they all stand a good chance of meeting with sufficient consideration.

In view of the slender pecuniary resources available, the arrangements made for the diversion and entertainment of the members are such as can hardly fail to prove acceptable, and such as reflect great credit upon the gentlemen who have had them in charge. The efficiency of the Secretary-General of the congress, Dr. John B. Hamilton, is among the more important of the advantages that are calculated to offset the embarrassing circumstances which we mentioned in the opening portion of this article. Ever since his accession to the office, the prospects of the meeting have continually brightened, and our knowledge of his exceptional executive abilities warrants the declaration that no other single incident has helped so powerfully to dispel the doubt and anxiety that were general but a few months ago. Taking everything into account, then, the meeting may reasonably be looked forward to as certain to accomplish great good for medicine in general and for the medi-

cal profession of the United States in particular. Some heart-burnings are almost unavoidable on such an occasion, but we feel sure that any that have been engendered or that may yet arise in this instance will disappear like the shadow of a passing cloud. Such, at all events, is our sincere hope.

PACHYDERMIA LARYNGIS.

In a characteristically able article by Professor Virchow, published in the "Berliner klinische Wochenschrift" for August 8th, much light is thrown upon the condition heretofore described as "papilloma" of the larynx, in a description of the microscopical appearances which the author believes to be present in the disease. The subject was suggested by the much-discussed case of the Crown Prince of Germany, the progress of which, under the care of Dr. Morell Mackenzie, seems thus far to have confirmed Virchow's favorable prognosis.

Virchow objects to the name papilloma as being applicable to several forms of new growths, and therefore inaccurate. The description of pachydermia he thus sums up: In a certain restricted area of the larynx, under irritation, two kinds of proliferation may occur, resembling chronic inflammation. By one of them a warty growth, which he calls pachydermia verrucosa, is produced; by the other a diffuse swelling, which attacks the whole superficies. They resemble the warts and diffuse hypertrophies often caused by irritation of the external integument. The distinction between a simple papillary wart and a malignant papillary growth lies in the absence of epithelial elements in the former and their presence in the latter. Every trace of epithelium in the connective tissue is suspicious, while growths in which the normal demarkation exists at the base of the epithelial layer Virchow considers benign. The disease is cancerous when spaces filled with epithelial masses are found beneath the boundary-line of epithelium. In order to make a diagnosis, the base of the tumor must be examined. When this is found to be normal, the growth is, and will continue to be, benign; when, however, spaces filled with epithelium are found beneath the normal demarkation at the base, the growth is malignant.

Although recurrences of the benign form of papillary growth are not uncommon, the prognosis as to ultimate recovery after removal is good, and it is not impossible that spontaneous disappearance may sometimes occur. The present writer has known of several instances in which this result has seemed to take place, one of which is not unworthy of mention. A boy, observed by a number of laryngologists for several years at a prominent throat clinic in New York, was originally presented by his mother as affording to the students a remarkably good illustration of the so-called papilloma of the larynx. Although the growth was of such size as almost to fill the larynx, and the mother was forewarned as to its danger, she persistently refused to allow of its removal; its presence was a source of revenue to her so long as she could extort a fee for its demonstration to the class. Contrary to all expectation, the boy continued to live, and finally returned on one of his annual visits

with the tumor reduced to such a vestige of its former dimensions as to make it useless for exhibition. Both mother and son stoutly denied that any treatment had meanwhile been received.

The value of Professor Virchow's observations will readily be appreciated, especially as bearing upon cases of laryngeal disease in which the question of laryngectomy may arise. In such cases an early diagnosis is of vital importance, for determining both the necessity of the operation and its extent, partial removal of the larynx being far less undesirable than its total removal. As to the correctness of his views, it need only be remembered that he has advanced more new ideas in pathological anatomy, with a smaller proportion of errors, than any man living. Such being the case, the outlook for the Crown Prince is, to say the least, hopeful.

MINOR PARAGRAPHS.

OUR FOREIGN VISITORS.

As is mentioned elsewhere in this issue, a number of well-known foreign physicians have registered with the committee sitting at the Hoffman House, and several European passenger steamships are due at this port between the time of our going to press and the opening of the congress in Washington. It is impossible to say how many of our foreign *confrères* have arrived, but have omitted to call upon the Hoffman House committee. A notable instance is that of Professor Mariano Semmola, of Naples, a man of such eminence as to need no introduction to the American profession. Dr. Semmola comes as a representative of the Italian government, and Italy has done us an unmistakable honor by making such a selection. Dr. Semmola is to deliver one of the general addresses. He manifests great respect for American medicine, and we trust that that feeling will be heightened by what he sees and hears in Washington next week.

THE DISEASES OF WINE-TASTERS.

In the "Annales médico-psychologiques," M. Domat states, as we learn by an abstract published in the "Revue générale de clinique et de thérapeutique," that wine-tasters are subject to cerebral and gastric disorders comparable to those of hard drinkers, even if they do not swallow the wine which they take into the mouth. According to M. Morandon, however, such results are rare among the wine-tasters of Burgundy, provided they do not swallow the wine. Etiologically, the disorders of wine-tasters and those of tea-tasters are considered to be analogous.

ANOTHER NOD.

"Lyon médical" lately exposed a blunder into which one of its German contemporaries had fallen in allowing the author of an abstract to treat the heading of an article as if it were the name of the original writer. We can now call its attention to an analogous slip of which its own pages have furnished the occasion. The Lyons journal for March 20th contained an article by Dr. Louis Hugouenq, entitled "Sur la présence dans le sang et dans l'urine de certains diabétiques d'une nouvelle substance lévogyre" (i. e., "On the Presence of a New Levogyrous Substance in the Blood and Urine of certain Diabetics"). In the "Deutsche Medizinische Zeitung" for August 15th there is to be found an abstract of this article in which the adjective

Lévygyre is treated persistently as if it were a noun, and the name which the French writer had given to the new substance, as shown by such expressions as these: "Diese Linksdrehung kann nur von Lévygyre herrühren," and "Um auch das Blut dieser Kranken auf Lévygyre zu prüfen."

A DIVERSION OF CHARITY FUNDS.

We are informed of a state of things that shows that in Italy there is room for some such tribunal as our city Board of Apportionment. It seems that the diet of some of the hospital patients was lately found to be lacking in a due amount of meat. The deficiency having been brought to the attention of the proper official, that functionary replied that a portion of the meat formerly furnished for the patients now had to be used to make bouillon for the cultivation of micro-organisms.

THE PROTECTIVE INOCULATION OF ANTHRAX.

THE "Deutsche Medizinal-Zeitung" gives an abstract of an article that appeared in the "Semaine médicale," a short time ago, by Professor Koch, of Berlin, in which the author repeats his declaration that M. Pasteur's method of preventing anthrax by inoculation is not of the slightest practical use. His present argument rests on the alleged untrustworthiness of the French statistics and on negative instances cited from German experience. Whatever may be thought of such a foundation, it must be admitted that it can not be said without reserve, as was lately stated by M. Pasteur, that the Berlin men have overcome their doubts about the efficiency of the system.

ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Fourth Division of the Health Department for the following statement of cases and deaths reported during the two weeks ending August 30, 1887:

DISEASES	Week ending Aug. 23		Week ending Aug. 30.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever.....	48	14	31	4
Scarlet fever.....	28	3	31	9
Cerebro-spinal meningitis.....	2	2	2	1
Measles.....	9	0	11	1
Diphtheria.....	72	21	60	20
Small-pox.....	0	0	5	0

The International Medical Congress.—At the time of our going to press, about sixty physicians had registered at the Hoffman House Registration Bureau. Of this number, forty-three were from abroad, and the list includes the names of Dr. E. Landolt, Dr. Kuhn, Dr. P. Dubois, and Dr. T. A. Doléris, of Paris; Professor W. Wundt, of Berlin; Dr. G. Fielding Blandford, Dr. William Murrell, Dr. F. T. Mattox, Dr. I. Elliford, Dr. A. S. Gubb, Dr. John Anderson, Dr. R. M. Bowen, and Dr. J. A. Marston, of London; Dr. C. Enebuske, of Lund, Sweden; Dr. E. Olfa, of Munich; Dr. J. J. Murphy, of Dublin; Professor N. Manobren, of Bucharest; Dr. D. Dupuy, of Pau; Dr. E. Dienen and Dr. L. v. Farkas, of Budapest; and Dr. A. J. Villa, of Buenos Aires. All physicians who purpose attending the Congress can obtain at the Registration Bureau a certificate which entitles them to a reduction of eighty-eight cents from the regular excursion-ticket rate of \$10.00 over the Pennsylvania Railroad, the ticket, which is usually limited to ten days, being made good until September 25th. The additional cost of a Pullman car seat on express trains is \$1.25, and on limited express trains, which leave New York at 10 A. M. and 3.40 P. M., it is \$2.35.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from August 21 to August 27, 1887:*

TREMAINE, W. S., Major and Surgeon. Found incapacitated for active service by an army retiring board, and extension of leave of absence on account of sickness still further extended until further orders. Par. 9, S. O. 192, A. G. O., August 19, 1887.

BARTHOLOMEW, JOHN H., Major and Surgeon. Leave of absence extended one month. Par. 7, S. O. 196, A. G. O., August 24, 1887.

PATZKI, JULIUS H., Captain and Assistant Surgeon. Granted leave of absence for one month. Par. 15, S. O. 195, A. G. O., August 23, 1887.

MATTHEWS, WASHINGTON, Captain and Assistant Surgeon. Ordered to proceed to Phoenix, Arizona Territory, on public business, and on completion thereof to return to his proper station, S. G. O. Par. 21, S. O. 195, A. G. O., August 23, 1887.

TAYLOR, BLAIR D., Captain and Assistant Surgeon. Granted leave of absence for twenty days, to take effect on or about August 31, 1887. Par. 7, S. O. 193, A. G. O., August 20, 1887.

SWIFT, E. L., First Lieutenant and Assistant Surgeon. Ordered to report in person to commanding general, Division of the Pacific, for duty with troops at Round Valley, Indian Reservation. Par. 20, S. O. 195, A. G. O., August 23, 1887.

Marine-Hospital Service.—*Official List of Changes of Stations and Duties of Medical Officers of the United States Marine-Hospital Service for the week ending August 27, 1887:*

BAILHACHE, P. H., Surgeon. Granted leave of absence for thirty days. August 26, 1887.

CARTER, H. R., Passed Assistant Surgeon. Granted leave of absence for twenty-seven days. August 25, 1887.

YEMANS, H. W., Passed Assistant Surgeon. Resignation accepted, to take effect September 30, 1887, and leave of absence extended to that date. August 24, 1887.

NORMAN, SEATON. Granted leave of absence for six days on account of sickness. August 27, 1887.

Society Meetings for the Coming Week:

MONDAY, September 5th: Ninth International Medical Congress (first day, Washington); Medico-chirurgical Society of German Physicians; Morrisania Medical Society (private); Brooklyn Anatomical and Surgical Society (private); Utica, N. Y., Medical Library Association; St. Albans, Vt., Medical Association; Providence, R. I., Medical Association; Hartford, Conn., City Medical Association; Chicago Medical Society.

TUESDAY, September 6th: Ninth International Medical Congress (second day); Elmira, N. Y., Academy of Medicine; Buffalo, N. Y., Medical and Surgical Association; Ogdensburg, N. Y., Medical Association; Medical Societies of the Counties of Franklin (quarterly) and Niagara (quarterly, Lockport), N. Y.; Hudson, N. J., County Medical Society (Jersey City); Androscoggin, Me., County Medical Association.

WEDNESDAY, September 7th: Ninth International Medical Congress (third day); Harlem Medical Association of the City of New York; Medical Society of the County of Richmond (Stapleton), N. Y.; Bridgeport, Conn., Medical Association.

THURSDAY, September 8th: Ninth International Medical Congress (fourth day); Society of Medical Jurisprudence and State Medicine; Medical Society of the County of Cayuga, N. Y.; Brooklyn Pathological Society; South Boston, Mass., Medical Club (private); Pathological Society of Philadelphia.

FRIDAY, September 9th: Ninth International Medical Congress (fifth day); New York Academy of Medicine (Section in Neurology); Yorkville Medical Association; Medical Society of the Town of Saugerties, N. Y.

SATURDAY, September 10th: Ninth International Medical Congress (last day).

Proceedings of Societies.

AMERICAN LARYNGOLOGICAL ASSOCIATION.

(Continued from page 190.)

The Nasal Reflexes and Hay Fever.—Papers on these subjects were read by Dr. J. N. MACKENZIE, of Baltimore (see page 199), and Dr. J. O. ROE, of Rochester (see page 255).

Dr. C. E. SAJOUS, of Philadelphia: I am especially interested in Dr. Roe's paper, and particularly because it gives me an opportunity to report my experience with hay fever during the past year. You will remember that my friend Dr. Morgan, of Washington, asked us at the last meeting of the association to give our experience regarding this subject. I did so frankly, having had a limited number of cases in which the treatment had been satisfactory the preceding year. In the light of my present experience, superficial cauterization can only be of permanent benefit in light cases. In serious cases it can only produce temporary relief. A number of patients treated with success two years ago returned to me, and then with deep cauterization I obtained favorable results. Last year I had unvarying success with my cases. I have not had to regret the treatment in one of them, and I think it is because I have come to consider superficial organic alteration as merely palliative in complicated cases, while deep cauterization is curative. Of course, this is to be aided by previous eradication of hypertrophies, bony growths, polypi, etc., as outlined by Dr. Roe.

Dr. MACKENZIE: At the last meeting I freely expressed my views on the subject of so-called "hay fever," in a paper which has since been published in the "Transactions," and I will therefore not repeat what I said on that occasion. As you all know, I regard this disease as a neurosis. The nasal disease associated with it may be its primary cause, may be a secondary phenomenon, or may be purely accidental. The theory which attributes "hay fever" always to disease of the nasal passages is, I think, unsound and insufficient. There are cases in which there is no apparent nasal affection whatever. When I set out to investigate this subject, I was inclined to think, with Dr. Daly and Dr. Roe, that there was always some well-defined nasal affection present; while the existence of a nasal lesion in the great majority of cases must be accepted as a clinical fact, it is not always the initial lesion, but is not infrequently secondary or accidental. In the management of this class of neuroses we should carefully distinguish between two sets of cases—namely, those in which the nervous system is just beginning to suffer, and those in which it is more decidedly involved or in which it is the starting-point of the neuro-vascular disturbances. To illustrate: A patient with disease of the nose (or other respiratory lesion) suffers from paroxysms of cough, asthma, or some other affection referable to a reflex agency—some other "reflex neurosis." There are no other signs of a disordered nervous system. Perhaps this is the sole symptom for which he seeks relief. An examination of the nasal fossæ is made, disclosing a congested or catarrhal condition of the mucous membrane, a

nasal polypus, or a deflected septum; and, on the removal of the local affection, the asthmatic attacks cease, the cough is dissipated, and the patient is restored to apparent health without other remedial measures. Now, what is the explanation of this curious relationship? When we consider the fact that hundreds of this patient's neighbors suffer from the same nasal affections, but that only a comparatively small proportion are affected with similar reflex troubles, it seems impossible to escape from the assumption of an abnormally excitable nervous apparatus and its constant irritation by the pathological condition in the nose. It is manifestly unwarrantable to maintain that there is anything in a nasal polypus, an hypertrophied membrane, or a deflected septum to cause asthma and allied affections; but, in the absence of more definite knowledge, it is reasonable to infer that such an event probably occurs through the intervention of a more central cause. The explanation suggests itself that in this particular case the nasal passages may be the sole avenues through which the nerve-centers are influenced, and that, with the removal of the irritant and their consequent physiological rest, the disorder has been apparently, perhaps actually, dissipated. Let us follow this individual further in his life history. Perhaps the relation of his cough to the nasal affection has been unrecognized. In a little while, asthma is added to his disease; later on, affections of the eye, the ear, and other organs develop, with various symptoms referable to a disordered nervous system—he has no longer one troublesome reflex symptom, but a dozen. He consults his physician, and, if it is in the summer-time, is told that he has "hay fever," and that pollen is the cause of his trouble. This is no hypothetical case, but the narrative of *one* way in which the nervous system may be affected in the sympathetic affections of the respiratory tract. The first thing to determine, then, in a given case of nasal reflex neurosis, is as to whether the nervous phenomena are due primarily to respiratory irritation, to central causes, or to disease in other organs of the body—whether the symptoms referable to the respiratory tract are primary or secondary, and, if they are primary, to what extent the nervous system is involved. The class of cases in which relief or cure may be expected from local treatment alone is that in which the respiratory membrane is the primary seat of the disease, and in which the nervous system is not decidedly involved. In this set of cases—or, to look at the subject from another standpoint, at this *stage* of the disease—are included a number of the simpler forms of so-called nasal reflex neuroses. At this stage, the removal of a nasal polyp may cure a troublesome cough, cauterization of the mucous membrane may dissipate an inveterate hemicrania, and so on. Even at a later stage, when the group of symptoms commonly known as constituting "hay fever" develop, it may be possible, by securing physiological rest for the nerve-centers, to give temporary and even permanent relief. But, when the central nervous system becomes more profoundly impressed, when nearly every organ of the body seems to be included within the are of the neuro-vascular disturbance, when pronounced structural changes occur in different parts of the respiratory and other systems, it is manifestly unnatural to expect that the disease may be cured by local measures alone.

I do not desire to depreciate the value of the cautery and other local measures, but I wish to insist upon the fact that there is a class of cases in which their use is wholly unnecessary. In my last year's experience, it so happened that several cases of unusual severity came under my care in which there was no well-defined nasal disease. No local treatment was used beyond the ordinary cleansing of the passages, and the patients were treated on the principles laid down in the paper which I read before this association last year; and I think the

results were as good as in any previous year, if not better. Reference has been made in the discussion to deep destruction of the cavernous bodies. Operators seem invariably to set out with the idea of *extirpation* of these bodies. The total extirpation of the corpora cavernosa is practically an impossibility, and, even if it were practicable, would be warrantable only as a last and desperate resource. I have rarely found such procedures necessary, and I believe that I accomplish an equally good, if not better, result by operating on a somewhat different principle. Having mapped out the area of most pronounced vascular disturbance, I make a stellate incision through the mucous membrane and the cavernous body with the cauterizing-knife. The vessels in the pathway of the incision become obliterated, a star-shaped cicatrix results, and the mucous membrane and the turbinated tissue become, so to speak, bound down or depressed upon the bony wall of the nostril. In order to avoid extensive sloughing, the incisions may be made at different sittings. By means of this method a sufficient patency of the nostril is secured, the erection of the turbinated bodies is brought under control, and the patient escapes with a comparatively small loss of function. I take this occasion to correct a false impression which seems to have gone abroad concerning my views of the sensitive areas of the nose. It seems to be the belief of many that I regard the posterior end of the inferior turbinated body and the septum immediately opposite as the only points from which pathological nasal reflexes take their origin; but, if my publications on this subject are read, it will be seen that all I maintain is that, while all portions of the nasal mucous membrane may be the starting-points of the reflexes, by far the most sensitive zone is represented by the area described by me in 1883—just as in the larynx, while cough may be produced by irritating any portion of its interior, both clinical and experimental observation demonstrate the fact that the inter-arytenoid commissure is the spot concerned above all others in the production of the reflex act.

Dr. SAJOTS: I should like to ask Dr. Mackenzie how, according to his view, so large a number of patients could be cured merely by local applications.

Dr. MACKENZIE: I think I sufficiently considered that question in my communication to the association last year. I have also referred to it in the present discussion. The main principle is, briefly, this: By the removal of the local irritant, a condition of rest—physiological rest—is secured for the centers, which enables them to recover their normal tone. As long as this rest continues, the patient may be free from his trouble; but, set up the local irritation afresh, and his disease will return.

Dr. F. I. KNIGHT, of Boston: A proper question to raise in this connection might be the effect of the diversion of nerve influence upon the asthmatic attacks. A case was once reported to me in which the attacks were entirely aborted by the patient's accidentally breaking his leg. He had been a sufferer for years previously. Another patient, who had suffered from hay fever for years and had undergone all sorts of treatment prior to modern methods without obtaining relief, met me last summer, and, exposing his conjunctivæ, said: "Look at me." I said: "Oh, yes, somebody has been cauterizing your nose." "No, sir." "You have been taking some strong tonics from Dr. Mackenzie." "No, sir, I have been to a mind cure." He had taken three or four sittings with a woman who professed the mind-cure method, and had come away entirely relieved. I have no doubt that other members have seen cases in which, through the influence of mental diversion, the attacks of hay fever have been ameliorated or entirely forgotten.

Dr. W. C. GLASGOW, of St. Louis: I think Dr. Mackenzie has raised a very important question in asking whether hay

fever is ever cured by local applications. I do not believe it is. Local applications, cauterizing, scarifying, and burning, may deaden the sensibility of the terminal ends of the nerves, but hay fever, I believe, is not cured by such treatment, for it is a general nervous disturbance. In all cases of asthma, constitutional remedies have to be used. For instance, iodide of potassium tends to hold the disease in abeyance while we correct any disorder of the terminal filaments of the nerves. A certain amount of relief may be obtained by deadening the ends of those nerves. But the asthmatic attack will continue until we have used some appropriate constitutional remedy. So I do not believe in this local treatment of hay fever. If we could destroy the nose, or turn its mucous membrane into a large cicatrix, perhaps it might tend to prevent a recurrence of the attacks. But, of course, no one would think that a very wise thing to do. There is no doubt that such local applications do tend to check the disease; I have seen them do so in many cases, but I have seen the disease recur after I had thought it was cured. Hay fever varies from year to year; one year most patients have the attack, the next year many escape; they may have it again the third year, or again escape it. So that it is hard to say when a case is cured.

Dr. EDGAR HOLDEN, of Newark: I have always regarded this trouble as a neurosis, and I suppose the majority of the profession have accepted that view. When Beach Haven was established, I went there, not because of hay fever, for I never had anything of the kind, but because I thought it was a desirable place to spend the summer. For twelve consecutive years I spent the summer at Beach Haven, and saw there hundreds or thousands of cases of hay fever. My leaving the place came about in this way. On the 20th of August, about the time the patients with hay-fever began to have their attack, I took what I supposed to be an ordinary cold, and paid little attention to it. The next season I began to have the same kind of trouble as the other people, and at about the same time. It seemed to me impossible, but the third season, the twelfth year after I had first spent the summer there, I had so severe an attack that I left Beach Haven, and have not had any symptoms of hay fever since.

Dr. F. H. HOOPER, of Boston: I regard hay fever as a neurosis, and treat it according to the rules laid down by Dr. Mackenzie. Whatever its nature may be, local treatment certainly does a great deal of good, especially in children. I prefer chromic acid, which, together with tonic treatment and the application by the patient of a spray of a two-per-cent. solution of cocaine, gives great relief, if it does not actually abort the attack. I have now a patient who has suffered all his life with the severest form of hay fever, and yet, until he consulted me, his nose had never been examined. In the right nostril I found a sharp ridge on the septum, which came in contact with the inferior turbinated body. There was a similar ridge in the left nostril, but not so prominent. With the exception of these ridges, there was nothing abnormal in either nostril in the way of hypertrophied tissue that required operative treatment. The ridges were removed, the tissues in the nose were cauterized superficially, and general tonic treatment was employed, with the result that the patient has been perfectly comfortable during the month of May, which has always been most annoying to him in previous years. His severe attack comes on in the middle of August. I doubt if we can effect a permanent cure, by either local or general measures, of the severe forms of hay fever which come on late in the season, but the treatment of the mild and early manifestations of the disease is very satisfactory.

Dr. J. SOLIS-COHEN, of Philadelphia: The discussion to-day has, I think, shown a tendency for the pendulum to swing in

the other direction. The past three or four years it had swung well to the left; it is now coming around to the right. I think the views expressed by Dr. Mackenzie are very nearly the correct ones. It has been my experience that very few poor people, even in dispensary practice, are the victims of hay fever. I have always thought that, in addition to the neurotic element, high living had a great deal to do with it. A large majority of the patients whom I have seen have been persons who lived well, or persons who resorted more or less to stimulants to keep them up to their work. Take them to Beach Haven, or the Adirondacks, or any other place away from their work, where they can lead a lazier life, and they get relief from their nasal irritation. I have obtained benefit for such patients not only by giving them tonic treatment for the nervous system, but also by regulating their diet, permitting the use of little meat, seeing that they clothed themselves lightly, etc. I think the more we look upon the disease as constitutional and the less as local, the nearer we shall get to the truth. It is undoubtedly a fact that a large number of these sufferers have an obstruction in the nasal passages. This, of course, we need to relieve. But there is a large number of them who have no nasal obstruction whatever, and certainly I should then look to some other cause for the affection. I am glad, very glad indeed, to see that local surgical measures are not in such favor as they have been during previous years. Dr. Roe said that several of his patients were not neurotic; that they were phlegmatic. Were they intelligent people?

Dr. ROE: Most of them were in active business. Two of them were lawyers.

Dr. SOLIS-COHEN: There was probably a cerebral element in those cases.

Dr. ROE: As I explained in my paper, I consider the affection termed hay fever the result of an irritation produced primarily in the nasal chambers, which irritation is caused by some foreign substance brought in contact with the sensitive areas by the atmosphere. An irritation reflected to the nasal chambers from some other portion of the body is not hay fever. Dr. Mackenzie seems to include under the term hay fever all reflected irritations from any portion of the body in which the nasal passages may be involved. There may be irritation in the nose due to a disease of the nose *per se*, which is not influenced by an external irritant. This disease may give rise to a variety of manifestations, such, for instance, as supra-orbital or facial neuralgia, epileptoid convulsions, or a variety of other neurotic symptoms, but these are not to be included in what we call hay fever, because they are not produced by an external irritant brought in contact with the diseased nose through the atmosphere. It is characteristic of hay fever that, soon after the patient is removed to an atmosphere in which this external irritant is entirely absent, all the symptoms of the affection speedily disappear. Regarding asthma, which is a very frequent manifestation of this affection, I do not consider it a necessary indication of a constitutional disease, as Dr. Glasgow appears to consider it, for the reason that asthma may be excited by a variety of purely local causes. It may originate from a primary irritation in the nose, exciting an irritation in the larynx and the bronchi, and these may subsequently become centers of irritation, as I have shown in my paper. These independent centers of irritation may then be excited by other causes coming from a different source. An irritation of the gastric plexus may even be excited by an overloaded stomach, which may excite asthma in persons with a sensitive center of irritation in the larynx or the bronchi. An irritation in the ear or other remote part of the body may in some cases excite asthma, but asthma produced in this manner is not characteristic of hay fever, although, when asthma is excited by irritation

in the nares, the larynx, or the bronchi by something brought there by the inspired air, it is to be included under the head of hay fever. In regard to hay fever being a neurosis, I can find no evidence from my study of the affection to convince me that a neurotic condition of the individual is necessary to render him susceptible to it. It is true that many persons of a neurotic habit have hay fever. It is also true that many persons without the slightest indication of any neurosis have hay fever. The argument that because a person has hay fever he must necessarily have a neurosis, it seems to me, is entirely without foundation. In regard to the patients' condition in life, of which Dr. Solis-Cohen has spoken, it can not be shown from the classified list of occupations which I have that it has any special effect upon the development of this affection. It is true, however, that persons who lead an outdoor life, and whose habits are such as tend to invigorate the system, suffer less often from hay fever than those who lead an indoor or indolent life, or are poorly nourished, or whose habits of life are such as to increase the excitability of the nervous system or to lower their vitality and powers of resistance to local influence. The latter are, as a rule, the most susceptible to hay fever; and in all such cases constitutional treatment is of the utmost importance.

On Certain Measures for the Relief of Congestive Headache.—Dr. W. C. GLASGOW, of St. Louis, read a paper with this title (see page 260).

Dr. MACKENZIE: I am glad to see that Dr. Glasgow has observed the erection of the turbinated tissues during the menstrual period. Some time ago, in an article published in the "American Journal of the Medical Sciences" (April, 1884), I stated it as my belief that a number of the headaches occurring during the menstrual period were due to congestion of the turbinated tissues, and said that I had seen this congestion occur with great regularity. I have demonstrated in a number of patients great swelling and engorgement of the turbinated tissues during the menstrual epoch, and their gradual subsidence with the cessation of the menstrual flow. It was the practice of the ancient physicians to abstract blood from the nose in fevers, and I have read somewhere that in India they were accustomed in severe attacks of acute coryza to prick the nose. Some years ago, in a paper on "Naso-aural Catarrh," read before the Medico-chirurgical Society of Maryland (1883), I advised incision of the turbinated tissues with a sharp bistoury in the treatment of acute coryza. I stated that, according to my experience, this method gave most marked relief, and I am very glad to hear that Dr. Glasgow has had a similar experience.

Dr. C. C. RICE, of New York: The class of cases to which Dr. Glasgow has drawn attention is a very interesting one. My experience with regard to treatment is somewhat different from his, and I do not agree with him as to the pathology. I have seen a great many of these cases, as probably we all have, but they are not as a rule cases in which there is marked hypertrophy of either the anterior or posterior turbinated tissues. I have found that whatever hypertrophy did exist was over the middle turbinated bone, about three quarters of the distance back, and that it pressed against the septum. This condition is present so often that I have come to look for it in this class of cases. There has not been marked congestion or redness, but simply irritative contact, with consequent reflex pains and neuralgias. With regard to treatment, I have used the galvanocautery instead of the knife, and I have not considered it an essential point to draw blood. My results have been good. I will cite an interesting case. A girl twenty years of age, who had suffered from most intense supra-orbital neuralgias and a sensitive condition of the nose, came to me a short time ago. For four years she had been obliged to plug her nostrils constantly with cotton so that no air could pass through them. I

found nothing but an enlarged middle turbinate bone; there was no congestion. I made four or five punctures with the galvano-cautery needle in the turbinate bone, and the woman was cured. I think it is sufficient in the majority of these cases to make marked counter-irritation over the affected part.

Dr. HARRISON ALLEN, of Philadelphia: I can confirm Dr. Rice's opinion. While I do not at all doubt Dr. Glasgow's diagnosis, yet it is evident this is a complex subject. It seems there is abundant evidence to show that the trouble came from the turbinate tissue, but all of my cases have been of the kind Dr. Rice has described. I have found that as a rule when the septum is deflected to the left, it is at the lower part; when deflected to the right, it is at the upper part. In the place last named, contact with the middle turbinate is likely to occur. The following case illustrates several facts in this connection. The patient had a complication of disorders. She had ocular and uterine troubles, for which she had been treated by distinguished practitioners. Her headaches were of an exaggerated type. I resorted to repeated venesection of the turbinate tissues, giving temporary relief only. I then made an examination of the nostrils, introduced the finger, and separated the septum and turbinate tissues. There resulted very moderate bleeding. I found something which was very interesting. The lady was only thirty years of age, yet there was complete calcification of the triangular cartilage. The result was that her headache was completely cured. No recurrence took place. The procedure for overcoming the pressure effect may be carried out during the first stage of ether anaesthesia.

Dr. C. E. SAJOURS, of Philadelphia: I have not the least doubt that Dr. Allen's theory in question is well founded in many cases, but I am rather inclined to think that headaches originating in the nasal cavities are frequently due to hyperaesthesia of the nasal mucous membrane. I have had proof of that many times by the results obtained after cauterizing the mucous membrane and thus overcoming the hyperaesthesia. I think also that Dr. Glasgow's treatment rather demonstrates that fact. By depleting the cavity we reduce pressure upon the nerves, and thus lessen the hyperaesthesia. We have been told by Dr. Mackenzie that he makes a few small incisions in the nasal membrane in hay fever; certainly the cicatrices, by contracting, limit the amount of blood, and diminish hyperaesthesia. The effect of the cotton plug in Dr. Rice's case might be explained in the same way. I think that in the majority of cases hyperaesthesia is the main cause of the headache.

Dr. F. H. BOSWORTH, of New York: It seems to me that the correctness of the view that contact in the nose constitutes a pathological condition might be called in question. Certainly in a large proportion of cases in which I find contact between the turbinate and septal tissues I am unable to trace symptoms to that condition. There is no analogue in the human economy where mucous surfaces coming in contact with each other thereby act as centers of irritation. The mucous surfaces of the urethra, vagina, intestines, etc., come in contact with each other without constituting pathological conditions. Some of the gentlemen speak of establishing a cicatrix in the mucous membrane of the nose. I have never seen it. The mucous membrane, when cut, heals up kindly under healthy conditions, and leaves no cicatrix. As to conditions of the nose which may cause headache, I think we can certainly say, and should go no further, that it is our duty to place the nostrils in a normal condition, to restore their healthy function. But that would open up a question which it is not necessary to enter upon here. But I think we can say that we restore healthy action in the mucous membrane of the nose, and it is not a question simply of destroying tissue or of creating a cicatrix. We do not destroy tissue with caustics. We restore healthy nutri-

tion in the mucous membrane by reducing the amount of blood-supply, which is the object of the application of caustics, not the destruction of tissue.

Dr. ALLEN: I should agree with Dr. Bosworth as to restoring the normal functions of the nose, but, as I understand the normal condition, there must be no contact between the mucous surfaces, any more than there should be contact between the parts of the Eustachian tube. We all agree that contact in the Eustachian tube is abnormal. The nasal cavity is a respiratory passage as well as the seat of olfaction, and if it is a respiratory passage it must be kept open. Anything which occludes the nose destroys its function. If our conception of function is at fault, then the clinical application is wrong; but, so long as the nose is a respiratory chamber, contact is injurious to its efficiency. I should be unwilling to give this up. Argument by analogy of the behavior of the mucous surfaces in the urethra and vagina seems remote from the subject.

Book Notices.

Abdominal Surgery. By J. GREIG SMITH, M. A., F. R. S. E., Surgeon to the Bristol Royal Infirmary; Late Examiner in Surgery, University of Aberdeen, etc. Philadelphia: P. Blakiston, Son, & Co., 1887. Pp. xii-606. [Price, \$5.]

THE rapid and most gratifying progress made during the last few years in the treatment of diseases of the abdominal viscera by operation has made it evident that within a very short time the necessity would arise for a careful review of the immense mass of material accumulated during this period in medical journals and monographs, and a systematic rearrangement of the facts and descriptions of operative procedures, new and old, which are of interest in connection with this branch of surgery. Herein lies the *raison d'être* of the work under consideration, and no one can rise from its careful perusal without feeling that its author has been singularly happy in his method and manner of performing his task. As it stands, the book is a compendium of our present knowledge of the subjects of which it treats, and is a model of conciseness without the sacrifice of necessary detail, and clearness of description without verbosity.

The author has fully prepared himself for his work by the study of ancient and recent writers and authorities, and the application of selected methods in the operating-room and at the bedside, and from his experience is entitled to speak *ex cathedra*, as he sometimes does. The arrangement is a very useful one, a history of the operation under discussion, with a short study of the normal and diseased anatomy of the organ involved, accompanying each section. A careful consideration of symptoms, statistics, and different matters as affecting prognosis leads up to the discussion of treatment, which is always based upon clearly defined and well-defended principles, *not* always, however, in accord with ordinary usage. The author believes in thorough and complete asepsis, and his use of antiseptics is based upon a clear appreciation of their exact value as preventives of septic dangers. His description of the technique of an operation, and his simple but very pronounced views as to the after-treatment of some of the most serious manipulations, will make his work valuable to every surgeon, while the student will find in it much that is of value, arranged for ready reference, in the bibliography which closes the work; while both will agree with the author that "abdominal surgery is no longer a field for legitimate and versatile experiment; certain fixed and

useful laws and customs have been laid down by the dearly bought experience of great men: the abdominal surgeon ought to begin fully equipped with such knowledge as has been gathered for him."

Surgical Emergencies, together with the Emergencies attendant on Parturition and the Treatment of Poisoning. A Manual for the use of General Practitioners. By WILLIAM PAUL SWAIN, F. R. C. S., Surgeon to the South Devon and East Cornwall Hospital, etc. Fourth Edition. Philadelphia: P. Blakiston, Son, & Co., 1887. Pp. xvi-216. [Price, \$1.50.]

THIS little manual is a compilation from larger works, aiming to give directions to guide the practitioner in dealing with the emergencies he may meet with. But the author has included so many subjects which can hardly be considered as involving emergencies that the directions given are as a rule meager and insufficient. The extraction of a luxated lens, iridectomy, and the enucleation of an eyeball are too delicate operations to be performed at a moment's notice by a tyro in ophthalmic surgery. Ophthalmia, ulcer of the cornea, iritis, and glaucoma are hardly to be considered as surgical emergencies. If the space given to such subjects as these and to the major operations, such as resections, had been devoted to a more complete description of the course to be followed in real emergency cases, the work would have been much more valuable. Some of the statements sound very strange. Speaking of dislocations at the shoulder joint, the author says that anæsthesia is necessary for reduction by manipulation, and that without anæsthesia the best method is with the heel in the axilla. Every ambulance surgeon knows that this is not so. In the majority of recent dislocations at the shoulder joint, reduction by manipulation is far easier and less painful than the time-honored Cooper's method. A careful description of Kocher's method of reducing subcoracoid dislocations would have been of more value to the profession at large, as teaching the best method of reducing one of the commonest forms of dislocation, than the few general remarks the substance of which is given above, which comprise all the author has to say on the subject.

The treatment of nasal catarrh by the nasal douche—*i. e.*, by passing a stream of medicated water up one nostril and allowing it to return by the other—is now decried because of the danger of causing serious ear disease by the passage of some of the liquid up the Eustachian tube. But in this work it is recommended to remove foreign bodies from the nose by passing a stream of water up the opposite nostril, that it may return behind the foreign body and eject it. The chapter on poisoning is very good.

Massage as a Mode of Treatment. By WILLIAM MURRELL, M. D., F. R. C. P., Lecturer on Pharmacology and Therapeutics at the Westminster Hospital, etc. Third Edition. Philadelphia: P. Blakiston, Son, & Co., 1887. Pp. 138. [Price, \$1.50.]

IN nine months this valuable little work has arrived at the third edition. It has been considerably enlarged, and the chapter on "Massage in Poisoning" has been rewritten. It contains a large amount of information on a subject only too little understood in this country, and will well repay any one who carefully reads it.

BOOKS AND PAMPHLETS RECEIVED.

Pulmonary Consumption: its Etiology, Pathology, and Treatment, with an Analysis of 1,000 Cases to exemplify its Duration and Modes of Arrest. By C. J. B. Williams, M. D., LL. D., F. R. S., etc., and Charles Theodore Williams, M. A., M. D., Oxon., etc. Second Edition,

Enlarged and Rewritten. By Dr. C. Theodore Williams. With Four Colored Plates and Ten Woodcuts. Philadelphia: P. Blakiston, Son, & Co., 1887. Pp. xx-446. [Price, \$5.]

The Principles of Antiseptic Methods applied to Obstetric Practice. By Dr. Paul Bar, Accoucheur to, formerly Interne in, the Maternity Hospital, etc. Translated by Henry D. Fry, M. D. Philadelphia: P. Blakiston, Son, & Co., 1887. Pp. vii-8 to 175. [Price, \$1.75.]

Syphilis. By Jonathan Hutchinson, F. R. S., LL. D., Consulting Surgeon to the London Hospital, etc. With Eight Chromo-lithographs. Philadelphia: Lea Brothers & Co., 1887. Pp. xii-532. [Price, \$2.25.]

Surgical Emergencies, together with the Emergencies attendant on Parturition and the Treatment of Poisoning. A Manual for the Use of General Practitioners. By William Paul Swain, F. R. C. S., Surgeon to the South Devon and East Cornwall Hospitals, etc. Fourth Edition. Philadelphia: P. Blakiston, Son, & Co., 1887. Pp. xvi-229. [Price, \$1.50.]

Massage as a Mode of Treatment. By William Murrell, M. D., F. R. C. P., Lecturer on Pharmacology and Therapeutics at the Westminster Hospital, etc. Third Edition. Philadelphia: P. Blakiston, Son, & Co., 1887. Pp. 143. [Price, \$1.50.]

Experiments in regard to the Supposed "Suction-Pump" Action of the Mammalian Heart. By H. Newell Martin, D. Sc., M. D., Professor in the Johns Hopkins University, and Frank Donaldson, Jr., B. A., M. D., etc. With Plate V.

On the Existence of "Dermatitis Herpetiformis" (of Duhring) as a Distinct Disease. By L. Duncan Bulkley, A. M., M. D., etc. [Reprinted from the "Journal of Cutaneous and Venereal Diseases."]

The Systematic Training of Nursery Maids. By Samuel S. Adams, A. M., M. D., Professor of the Theory and Practice of Medicine in the National University, Washington, D. C. [Reprinted from the "Journal of the American Medical Association."]

The Necessity of Quarantine. By S. T. Armstrong, M. D., Ph. D., Passed Assistant Surgeon, U. S. Marine-Hospital Service, etc. [Read by request before the Tennessee State Medical Society.]

Dermatitis Venenata: an Account of the Action of External Irritants upon the Skin. By James C. White, M. D., Professor of Dermatology, Harvard University; Physician to Out-Patient Department for Skin Diseases, Massachusetts General Hospital. Boston: Cupples & Hurd, 1887. Pp. 9 to 216.

Lectures on the Surgical Disorders of the Urinary Organs. By Reginald Harrison, F. R. C. S., Surgeon to the Liverpool Royal Infirmary, etc. Third Edition, Rewritten and Enlarged. London: J. & A. Churchill, 1887. Pp. xi-583.

The Treatment of Hæmorrhoids by Injections of Carbolic Acid and other Substances. By Silas T. Yount, M. D., Physician to St. Elizabeth's Hospital, etc. The Echo Music Co.: Lafayette, Ind., 1887. Pp. 9 to 63.

Gastritis gravis acuta in frühen Kindesalter. Von Dr. A. Seibert, Kinderarzt am deutschen Dispensary in New York. (Hierzu eine Curven-Tafel.) [Separatabdruck a. d. "Jahrbuch für Kinderheilkunde."]

Reports on the Progress of Medicine.

CUTANEOUS AND VENEREAL DISEASES.

By GEORGE THOMAS JACKSON, M. D.

Verbascum in Diseases of the Skin.—Laschekewitch, of Charkow, says ("Vierteljahrsschr. f. Derm. u. Syph.") that in the southern part of Russia this plant is much used in the treatment of itching diseases of the skin. His assistant cured a case of *eczema marginatum* with it in four days, the case previously having proved very obstinate to treatment. It is used in the form of a rather strong infusion of the flowers, and is applied three or four times a day to the diseased part. It shows its healing qualities on the second day.

Cocaine in Zoster and Pruritus Ani.—Bianchi recommends ("Lo sperimentale") repeated pencilings of the affected part in zoster, and in

pruritus of the anus and genitals, with a three-per-cent. solution of cocaine.

Zoster and Phthisis Pulmonalis.—Dr. Barie draws attention to the frequency of neuralgic pains in chronic tuberculosis, and says ("Gaz. hebdom. de méd. et de chir.") that zoster should be regarded as one of the less frequent of these neurotic affections. He reports three cases of zoster in phthisical subjects, occurring in the region of the perineum and external genitals. Zoster may occur on any other part of the body, but, whatever may be its seat, it has one of two origins: either it arises from a tubercular meningo-myelitis, or more frequently it is the consequence of a peripheric parenchymatous neuritis.

Dermatoses from Moral Shock.—By this term Leloir ("Ann. de derm. et de syph.") means various diseases of the skin caused by moral shock, which, in subjects not predisposed to diseases of the skin, may be only passing, but in those having such predisposition may become very intense. He instances the following dermatoses as at times belonging to this class: Anæmia and hyperæmia of the skin, urticaria, purpura, eczema, psoriasis, herpes, pemphigus and allied bullous diseases, vitiligo, and alopecia areata. The clinical characteristics of these dermatoses are the following: Their sudden onset after the nervous shock, either preceded or not by diverse nervous troubles—such as pruritus, neuralgia, etc.—their superficial seat, excessive itching or neuralgic pains, their relatively short duration, and their more frequent occurrence in women. As preventive treatment, he advises the avoidance of fatigue and excesses of all sorts, attention to hygiene and proper exercise, a tonic but not exciting diet, early hours for retiring and rising, abstinence from tea and coffee, and the use of arsenic, bromides, and the douche. In the treatment of the eruption, nervous sedatives should hold a prominent place.

A New Treatment for obstinately recurring Eczema.—Crocker ("Brit. Med. Jour.") has found counter-irritation by means of mustard or stronger applications of great service in treating recurrent eczemas, and reports several brilliant cures. He varies the location for the counter-irritants according to the part affected by the eczema. Thus, for the face alone, it is behind the ears; for the face and forearms, on the nape of the neck; about the genitals and legs, over the lumbar region; and if only one leg is affected, on the hip over the great sciatic nerve. The proper treatment for the eczematous patch is to be continued at the same time.

The Etiology and Treatment of Impetigo, Furunculosis, and Syccosis.—These three diseases are regarded by Bockhart ("Monatshft. f. prakt. Dermat.") as caused by the same parasite, and, therefore, as different forms of the same disease, the varying appearances presented by them being due to the varying locations of the parasite in the skin. The impetigo of our author is that of Wilson—a pustule from the start, and not developed from papules or vesicles. These pustules are small and discrete; the areola about them is small or wanting, and they are seated by preference upon the extremities and nates. Furuncles not infrequently complicate the eruption. Besides this form, Bockhart recognizes an accidental form arising in the course of pruriginous diseases. Neither impetigo contagiosa nor impetigo herpetiformis is included in the paper. After repeated microscopical examinations of the pus from the pustules of impetigo, furuncles, and syccosis, and by making pure cultivations of the organisms found in the same, our author has determined that the *Staphylococcus pyogenes aureus* and *albus* are always present, and he believes them to be the cause of the eruption of one and all the forms. He has also experimented upon himself with cultivations of these bacteria, and produced impetigo, furuncles, and an abscess, and has made sections of portions of skin from his own arm affected with the pustules of inoculation. In this way he has found that the staphylococcus gains entrance to the tissues of the skin through the mouths of the sweat-ducts, sebaceous glands, and hair-follicles, and through any part of the skin deprived of its epithelium. Having gained entrance into the skin, the micrococci increase and grow in the walls of the sweat-ducts, in the sheaths of the sebaceous glands and hair-follicles, and in the adjacent cells of the stratum Malpighii. By their presence and growth they set up inflammation, accompanied by the production of pus-cells, which finally destroys the cocci, and the disease is recovered from.

Furuncles develop from impetigo pustules which have formed over

hair-follicles and sweat-ducts. They may also develop without an impetigo pustule, and from impetigo pustules not in connection with a gland-duct or hair-follicle. If the cocci go deep into the cutis, an abscess form will form. In syccosis the pustule formation is preceded by a papule. The different course of this affection is due to the modifications of the skin on account of the coarse hairs.

As to the manner in which the cocci cause these eruptions, we must recollect that the staphylococcus is widely distributed; it has been found in dish-water, in the superficial layers of decayed vegetable matter, in the swaddling clothes of healthy infants, in the dirt collected from under the finger-nails, upon the skin of healthy men, in the discharge from the nose of a nasal catarrh, etc. From these sources it may readily reach the skin, and in predisposed individuals give rise to impetigo or furuncles. The occurrence of the staphylococcus in the discharge from the nose readily explains the frequency with which syccosis of the upper lip is met with in these cases.

In the treatment we are advised as much as possible to aid Nature in getting rid of the cocci. Her method is to produce pus, and discharge the contents of the pustules upon the skin. We should open all pustules and disinfect them with a one- to two-per-cent. solution of the bichloride of mercury. Pastes, ointments, and powders are all bad, as they interfere with the free discharge of the pus. In syccosis, epilating and bathing with the sublimate solution is regarded as the best treatment, and frequent application of the same solution to the upper lip acts as a prophylactic. Furuncles we are advised to treat upon the old plan, as injections of antiseptics are painful, and their external application is useless. Neither in impetigo nor in furuncle is prophylaxis practicable.

The Pathology of Lichen Ruber.—Köbner, from a study of fifty-two cases, endeavors ("Berl. klin. Woch.") to throw some light upon the dark subject of the pathology of lichen ruber. His statistics show that two thirds of the cases occur in men, and that the majority of the patients are between twenty and forty years of age. Most of his cases were of the lichen ruber planus variety, only two being lichen ruber acuminatus of the whole body. He believes that the disease is of neuropathic origin. The majority of his lichen patients complained of intense itching, and were nervous individuals with a great variety of nervous symptoms. A number of patients had urticaria either preceding or following the outbreak of the disease. In some cases the eruption plainly followed the course of certain cutaneous nerves; in some there was a marked increase of irritability of the vaso-motor nerves of the skin; in others the outbreak of the eruption was preceded by a diffused redness of the skin and a feeling of heat in it.

The Treatment of Keloid.—Guifard (Thèse de Paris; "Monatshft. f. prakt. Dermat."), from a study of the treatment of keloid, concludes that the best method is extirpation followed by compression in cases in which the tendency to keloidal formations is not strongly marked. Multiple scarifications render good service, and at once lessen the pain attendant upon these growths. They must be made regularly and at certain intervals, and must be continued until the induration has completely disappeared.

The Relations of Tuberculosis to Onychia Maligna.—True onychia maligna is, according to E. v. Meyer ("Archiv. f. path. Anat. u. Physiol. u. f. klin. Med."), that condition in which a single nail is affected, and the inflammation refuses to yield to well-directed treatment. It is dependent for its malignancy upon tubercular infection following some injury, which may be very slight. For two or three weeks the patient experiences pain in the affected part; then the inflammation begins under the free edge of the nail: the pain increases so that sleep is disturbed; the part is red and the nail-bed swollen; an ulcer develops that creeps along the side of the nail till it reaches its lunula or root, and at last the nail falls off. The ulcer is usually covered with bloody pus, and resembles a diphtheritic ulcer without its phagedenic character. The ulcer remains stationary for an indefinite time in spite of internal and external treatment—it may be for three or more years—without attacking the periosteum and bone, or spreading beyond the ungual phalanx. The treatment should consist in obtaining a clean, nicely granulating wound surface by using, locally, corrosive sublimate, carbolic acid, and iodoform, and giving remedies internally to build up the constitution of the patient.

The Treatment of Leprosy.—Lutz, at the end of a long paper upon leprosy that has appeared in the "Monatshefte für prakt. Dermatologie," cautions against drawing too favorable conclusions as to the efficacy of strychnine, electricity, and some other remedies in the treatment of this disease, since slight cases of the nervous and macular forms often spontaneously become better, if not entirely well. Lutz regards the systematic use of pyrogallol and chrysarobin, according to Unna's method, as the most useful therapeutical means at our command. These drugs may be used together or separately, on the same part of the body or on different parts at the same time. They have mostly a local effect, and cause the disappearance of old nodules in two or three months, and after the continuance of their application there is little tendency for relapse in the same place. The long-continued use of these drugs is often followed by loss of flesh and symptoms of anæmia. Lancinating pains in the extremities are slowly lessened by the use of these drugs; the anæsthesia is reduced, the œdema is discussed, and the palpable nodules on the nerves disappear. Cure results in some cases. Acute macular forms are more rapidly cured than those of the tubercular variety. The efficacy of the treatment is enhanced by the internal use of salicylate of sodium, giving two drachms in four doses at four hours' interval. This is better borne if given in combination with bicarbonate of sodium. Thymol, from forty-five to sixty grains a day, also is a useful adjunct.

Parasites in Variola.—In the "Monatshefte für prakt. Dermat." appear two papers dealing with parasites recently demonstrated by the respective authors as found in variola pustules. Neither of these investigators asserts that the micro-organisms discovered by him are the cause of variola. Dr. Pfeiffer places his parasite among the *Sporozoa* of Leuckart, though it is not identical with any species described by the latter. Its development is similar to that of the cocci and the free gregarines up to the moment of the separation of the spores. It is a single-cell parasite of round or oval form. When fully developed it is brownish-yellow in color, and may be thirty-three μ long and twenty-four μ wide or less. At different stages of its development it presents different appearances, all of which are noted in the article before us, and fully illustrated in the accompanying plates. In the early stage of its development it is endowed with amœboid movement, and in the very earliest period of its existence it makes lively dancing movements. It propagates by the formation of spores. This parasite has been found in the pustules of variola, of cow-pox, and of vaccinia, as well as in those of herpes and varicella. The other parasite is described by Dr. van der Loeff as found by him in two cases of confluent small-pox. It is relegated by him to the *Amœbæ*. His illustrations show the parasite so well that he does not describe it.

The Biology of Favus.—Boer, of Berlin, contributes to the "Vierteljahr. f. Derm. und Syph.," an interesting study of the development of the *Achorion Schoenleinii*, as derived from favus affecting mice. From a favus-cup pure cultivations were made, from which at different stages other mice were inoculated, with the constant result of producing a high grade of favus. His procedure was as follows: A minute piece of favus crust was mixed with fluid meat peptone-gelatin, poured out on plates and treated in the usual manner. After three or four days there was an evident drawing in of the gelatin about the crust. By a lens of low power, mycelia could be seen spreading out like rays from the center of the crust into the gelatin. Some of these mycelial threads were further cultivated in gelatin or agar-agar. The parasite developed rapidly on the agar-agar; more slowly on the gelatin. After about four weeks the gelatin became fluid, and the parasitic colony swam like a cap upon the gelatin. From this a new cultivation was made, and from time to time microscopically examined. After six to twelve days, according to the temperature, he saw on the extremities of a few mycelial threads the development of fructification organs of two varieties. In one variety a round bud developed on the end, and to one side, of a mycelial thread; this latter became clearer and more transparent, till, apparently by a chemical process, it melted away and the spores lay free. In the other variety, club-shaped swellings appeared on the ends of the main mycelial trunk and lateral branches, which shortly were marked by partitions. Round spores were seen to issue out of two compartments of one of these partitioned cells.

Resorcin in Acute Gonorrhœa.—Lychowski ("Vrtlschr. f. Derm. und Syph.") reports six cases of acute gonorrhœa cured within six days by injections of a two- to three-per-cent. solution of resorcin. The injected fluid must be worked by the fingers into the deeper parts of the urethra.

The Pathology of Chronic Urethritis.—In the same journal, Oberländer and Neelsen enthusiastically advocate the use of the endoscope with the electric light, as made by Leiter, of Vienna, after the suggestions of Nitze, in the study of diseases of the urethra. A lengthy description of the apparatus and manner of using it is given. It is by the help of this apparatus that the authors of this paper made their study; they also made numerous examinations of the urethra of dead bodies. In chronic urethritis the inflammation affects sometimes the glands of Tyson, sometimes the tissues surrounding them, and sometimes both glands and tissues. Besides these glands, those of Cowper are also diseased, as well as the lacunæ of Morgagni. In the normal condition of the urethra neither the lacunæ nor the glands of Tyson are visible to the naked eye, but in chronic urethritis their mouths may be readily seen as points of various size and color upon the mucous membrane, arranged in groups of five to twenty or more. The contiguous parts of the mucous membrane may be of a bright inflammatory red; they may appear cicatricial or hæmorrhagic; or the gland openings may lie in a red, swollen, soft, mucous membrane which covers them, with an easily bleeding or granulating surface; or they may be surrounded with a rigid infiltration so that they appear crater-like in the mucous membrane. On the other hand, at times the mucous membrane presents hardly any alteration, which indicates either that the inflammatory process is of slight intensity, or that the stage of complete cicatrization is near at hand. The grouping of the glands follows no particular rule. In some very mild, though chronic, catarrhs of the urethra the mucous membrane only is affected, and will appear with the endoscope as a zone of altered color.

Oberländer's division of urethritides is as follows: 1. Mucous catarrhs, of which he makes two varieties—urethritis mucosæ hypertrophica, and catarrhalis. 2. Glandular, infiltrative, inflammatory forms, the varieties being *u. granulosa falciformis*, *u. glandularis*—(a) *u. glandularis circumscripta*, (b) *u. glandularis proliferans*, (c) *u. glandularis hypertrophica*, (d) *u. glandularis stringens*—and *u. follicularis sicca* and *stringens*. These are all treated of at too great length for us to do more than indicate them here. His *u. mucosæ hypertrophica* presents a mucous membrane which is reddened, deeply inflamed, swollen, dull-looking, and without blood-vessels upon its surface. The inflammation is readily set up on slight provocation. His *u. m. catarrhalis* is drier; the mucous membrane is less swollen, and the natural folds are often visible. This form often passes over into the glandular, infiltrative, inflammatory form. *Urethritis granulosa falciformis* is that form of chronic urethritis in which the inflammation which causes the formation of stricture is located in the upper layers of the mucous membrane and to a certain extent about the glands. The mucous membrane is colored deep-red, is dull, bleeds easily, preserves indications of its natural folds, and is dotted over with hypertrophic and sometimes hæmorrhagically colored glands. In the field of vision is seen a sharply defined wall of dull bluish-red granulations, from 2 to 5 mm. long and generally occupying only half the circumference of the urethra. Its summit is yellowish or yellowish-red and evidently cicatricial. This form of stricture formation is very rare, and requires more than two years for its development. *U. glandularis* is that variety of chronic urethritis in which the inflammation affects particularly the glands, the mucous membrane being also implicated. It has four forms: (a) *u. g. circumscripta*, in which from eight to ten glands of Tyson lie in a somewhat raised, smooth mucous membrane. If the surrounding membrane is pale, the affected places seem red; if it is redder than normal and swollen, the places have a paler, more glassy look; if cicatrization is near, they appear as small, irregularly formed cicatricial spots lying beneath the epithelium, with the mouths of the glands forming small, blackish points scattered about between them. (b) *U. g. proliferans* has the same infiltrative character as the variety just preceding, only the infiltration is more even and spread out, in some cases half or more of the pendulous urethra being affected by the inflammation. The affected part is almost always bounded by a smaller zone resembling what is found in *u. g. circumscripta*. The mucous membrane is pale-red, slight-

ly granular, and somewhat swollen, with hypertrophic glands scattered about. The swelling is often at and behind the meatus, which makes the lips hard to the touch and causes them to gape. The middle of the affected region is uneven and of a grayish-yellow color on account of an epithelial proliferation and desquamation. Here and there are bare places from the size of a pin-point to that of a lentil, which are quite near together, through which the corium appears as blood-red spots. The rest of this middle zone is made up of smooth cicatricial tissue of a yellow or gray-red color. In course of time fine blood-vessels develop upon this zone, and the normal luster returns. Relapses of inflammation occur at times. This variety of urethritis may develop within three to six months after infection. (c) *U. g. hypertrophica* may follow the preceding form. It is characterized by a deep parenchymatous infiltration of the entire mucous membrane with its glands, causing a marked tumefaction of the part, and a narrowing of the lumen of the urethra. In the less pronounced cases the mucous membrane is of a pale rose-color, and deficient in luster. In some places there are fine granulations and glassy swellings, also disseminated eroded places where the epithelium is lost, with some bleeding points, or only the red spots of the corium below. The mucous membrane is irregularly uneven, with groups of glands showing in the raised parts, around which the parts are red and swollen. In some cases we see evidences of cicatrization, not infrequently in the form of well-marked circular cicatrices about single glands. Relapses are very frequent. This condition may appear six months after infection, and many years may elapse before the process ends in spontaneous cicatrization. The more pronounced form of this variety of urethritis is accompanied by a deep and thick infiltration of the mucosa, and not only that, but it also involves the adjacent parts of the corpus cavernosum. In the endoscopic examination of this variety the simple form is usually first encountered; then the lumen of the urethra becomes narrower, the mucous membrane appears thicker, and its longitudinal folds have disappeared. The urethra is changed into a stiff tube. Blood-vessels are no longer visible, and the surface of the mucous membrane is covered with fine granulations. This zone of granulating membrane is pale reddish-yellow to mother-of-pearl in color; it has lost its luster, no glands can be found in it, and it has lost its elasticity so much that it tears on the passage of the endoscopic tube, and bleeds more or less freely. It begins and ends gradually, shading off into the adjacent parts. Such a zone can be felt from without as a hard string in the urethra. The thickness of the cicatrix which follows it is in proportion to the depth of the infiltration, and it is in the form of a net. Relapses of inflammation are common. (d) *U. glandularis stringens* is the most intense stage of this form of inflammation, and leads inevitably to stricture. *U. follicularis sicca* is accompanied by closure of the mouths of the glands, and the formation of follicles. At first, when only a few glands are affected, they may be felt from without as pin-head- and millet-sized masses; with the endoscope they appear as pale, raised, lusterless spots, with a minute central depression. A more pronounced form shows more of these spots in groups, and subsequently a small areola of infiltration develops about the gland follicle, and the whole group has a surrounding zone of infiltration. This form usually affects the whole circumference of the urethra, and causes a decided narrowing of its lumen. The affected part is pale-rose, brown, or grayish-rose in color, covered with a dirty grayish-brown, greasy substance; the mucous membrane is deficient in luster, though smooth, and generally without erosions; and there are no gland openings to be seen. *U. follicularis stringens* is marked by the formation of elevations and depressions of cicatricial tissue, with red spots and dilated anastomoses of blood-vessels between them, and one half or the whole of the circumference of the urethra is affected. This area is markedly dry, and offers a hindrance to the passage of the endoscope, though it does not bleed. Sometimes the stricture formed by this variety of urethritis is so tight that the endoscope can not be made to enter it. It probably takes years to form.

Clinically, all these forms, excepting the first two, present the same features in regard to the secretion. The discharge of the mucous forms is gray, thin, creamy, becoming yellow and green on irritation. The other forms have a purulent secretion, at times becoming more profuse. The disappearance of the discharge indicates cicatrization of the part. Pain is usually absent. Interference with the stream of urine is in

proportion to the strength of the muscles of the bladder and the narrowing of the urethra.

The Chancre-like Syphiloma of the Genitals.—By this term Leloir would indicate lesions which simulate the primary lesion of syphilis. Declercq (Thèse de Lille; "Monatshft. f. prakt. Dermat.") says that this syphilide may appear before or after the secondary lesions; it may become absorbed, or it may ulcerate. Its causes are mechanical or diathetic. It appears upon the cicatrix of the initial lesion; it may assume the characteristics of a gumma; it may become phagedenic. It is diagnosed from the initial lesion by the induration preceding the ulceration. It may appear alone as a new deposit of the virus upon the site of the initial lesion; it may precede a new outbreak of syphilis. It is contagious in the early period of the diathesis, and becomes less so with the age of the same. It has probably been mistaken for an initial lesion of reinfection, and some cases of so-called malignant precocious syphilis are, doubtless, those in which late lesions have followed a chancre-like syphiloma.

Miscellany.

Stooping Forward.—Under this caption, the "Lancet" says: "Every one knows that stooping forward, particularly after rising quickly from bed in the morning, when the stomach is empty and the heart has less than ordinary support from the viscera below the diaphragm, is very apt to occasion a form of faintness with vertigo not unlike that which occurs in sea-sickness. We do not at the moment speak of the faintness and giddiness from cerebral anæmia, which are directly consequent upon suddenly assuming the erect, after long continuing in the recumbent, posture, but of the more alarming sensation of being in the center of objects which are rapidly passing away, usually from left to right, with loss of power to stand or even sit, and an almost 'nightmare' feeling of inability to call for help or do anything to avert a catastrophe, while throughout the experience the sufferer retains painfully acute consciousness. This, we say, is familiar as one at least of the effects not uncommonly produced by stooping forward under the special conditions indicated. With many other varieties of the vertigo consequent upon heart weakness or cerebral anæmia, observation or experience has made us all acquainted. We can not, however, help thinking that the consequences of even partial compression of the veins of the neck, offering an obstacle to the return of blood from the head, with its important organs, are not so well recognized. The peculiar form—or, more accurately, the several forms—of headache distinctly caused in this way when the head is long bowed forward on the chest, bending the neck on itself, can not fail to occur to every one; nor will the high tension of the eyeball, the turgid and heavy eyelids, the snuffling nose, the deafness, with buzzing or throbbing in the ears, the heavy breathing, and the puffed and perhaps flushed or darkened color of the face, resulting from the obstructed venous circulation through the bended neck, be forgotten. There are other and more perilous—though secondary, effects of leaning forward when the heart is weak, or the blood-vessels are not so strong as they ought to be, which should not be overlooked. Beyond question the extra strain thrown upon the apparatus of the circulation by anything that impedes the free passage of blood through almost any part of the venous system is more severe and dangerous than a *physically* equal strain thrown on the arteries. At least, this is so in adult life, and, without going further into details in connection with the *modus operandi* of the mischief to which we point, it may be permissible to urge that the subject is one to which attention may be usefully directed. The weakly, and those who are not unlikely to have hearts readily overburdened, and blood-vessels easily stretched beyond recovery, or even ruptured, should be warned quite as earnestly against suddenly assuming, or too long retaining, postures which do—however slightly and partially—impede the return of blood through the veins. We know how prolonged sitting may cause the veins of the legs to become distended, and either give way or permit the extravasation of their contents. When this sort of thing

happens, even though in comparatively trifling degree, in the case of vessels directly connected with such delicate organs as the eye, the ear, and the brain, it is easy to see that the results may be very serious in their character; and, probably, few postures commonly taken up by persons who lead somewhat sedentary lives are so prone to do mischief unnoticed as that of 'leaning forward,' as at work at a table which is not sufficiently high to insure the head being so raised that the veins of the neck may not be in any way compressed or the return of blood from the head embarrassed or delayed. We see reason to believe that if this apparently small matter were more generally understood, there would be fewer head and heart troubles, and we will go so far as to say that some lives now lost would be saved."

The Health of Boston.—During the week ending Saturday, August 27th, the following numbers of cases and deaths from infectious diseases were reported to the Board of Health: Diphtheria, 8 cases and 7 deaths; scarlet fever, 13 cases and 2 deaths; typhoid fever, 32 cases and 5 deaths; measles, 3 cases and 2 deaths. There were also 28 deaths from consumption, 1 from pneumonia, 5 from whooping-cough, 9 from heart disease, 8 from bronchitis, and 7 from marasmus. The total number of deaths was 207, which was an increase of 28 over those in the corresponding week last year. There were 80 deaths of children under five years of age.

Government Health Reports.—By direction of the Secretary of the Treasury, Dr. John B. Hamilton, Surgeon-General of the Marine-Hospital Service, has issued the following abstract of sanitary reports received during the week ending August 25th:

England and Wales.—The deaths registered in twenty-eight great towns of England and Wales during the week ending August 6th corresponded to an annual rate of 22.9 in a thousand of the aggregate population, which is estimated at 9,245,099. The lowest rate was recorded in Brighton, viz., 13.2, and the highest in Preston, viz., 39.3 in a thousand. Small-pox caused 1 death in Sheffield.

London.—One thousand seven hundred and fifty-nine deaths were registered during the week ending August 6th, including 34 from measles, 25 from scarlet fever, 7 from diphtheria, 81 from whooping-cough, 10 from enteric fever, 1 from typhus, 436 from diarrhoea and dysentery, and 9 from cholera and choleraic diarrhoea. There were 158 deaths from diseases of the respiratory organs. Different forms of violence caused 51 deaths, and 6 suicides were registered. The deaths from all causes corresponded to an annual rate of 21.8 in a thousand. In greater London 2,222 deaths were registered, corresponding to an annual rate of 21.4 in a thousand of the population. In the "outer ring" 138 deaths from diarrhoea, 11 from measles, and 9 from whooping-cough were registered.

Ireland.—The average annual death-rate represented by the deaths registered during the week ending August 6th in the sixteen principal town districts of Ireland was 24 in a thousand of the population. The lowest rate was recorded in Armagh and Sligo, viz., 0, and the highest in Waterford, viz., 32.4 in a thousand.

Twenty-three thousand three hundred and ten deaths were registered in Ireland during the quarter ending June 30th, including 294 from measles, 211 from scarlet fever, 142 from typhus, 345 from whooping-cough, 68 from diphtheria, 156 from enteric fever, 102 from simple continued and ill-defined fever, 230 from diarrhoea, 2 from simple cholera, and 1 from hydrophobia. The average annual death-rate for the quarter named was 19.3 in a thousand.

Dublin.—Two hundred deaths were registered during the week ending August 6th, including 16 from measles, 3 from whooping-cough, 4 from scarlet fever, 1 from diphtheria, 2 from enteric fever, 28 from diarrhoea, and 1 from dysentery. Diseases of the respiratory organs caused 17 deaths. Two accidental deaths were registered, and in twenty-eight instances the causes of death were uncertified. The deaths from all causes corresponded to an annual rate of 29.5 in a thousand.

Scotland.—The deaths registered in eight principal towns during the week ending August 6th corresponded to an annual rate of 17.1 in a thousand of the population, which is estimated at 1,299,000. The lowest mortality was recorded in Aberdeen, viz., 10.6, and the highest in Paisley, viz., 28.2 in a thousand. The aggregate number of deaths

registered from all causes was 428, including 7 from scarlet fever, 1 from small-pox, 9 from fever, 6 from diphtheria, 22 from whooping-cough, and 28 from diarrhoea.

Germany.—The deaths registered in fifty-two cities of Germany, having an aggregate population of 6,821,222, during the week ending July 30th, corresponded to an annual rate of 28.4 in a thousand. The lowest rate was recorded in Münster, viz., 11.5, and the highest in Görlitz, viz., 45.3.

Netherlands.—The deaths registered in the principal cities of the Netherlands, having an aggregate population of 1,102,200, corresponded to an annual rate of 21.8 in a thousand. The lowest rate was recorded in Groningen, viz., 16.7, and the highest in Maastricht, viz., 37.4.

Marseilles.—One thousand and fifty-four deaths were registered during the month of July, 1887, including 2 from cholera (sporadic), 4 from small-pox, 59 from enteric fever, 3 from scarlet fever, 39 from diphtheria, and 46 from measles.

Valletta.—The lieutenant-governor, in a communication to the United States consul, under date of August 2d, stated that "two fatal cases of the disease declared by the board of health to be cholera have taken place here within the last thirty-six hours. All precautions have been taken to prevent the spread of the disease."

Gibraltar.—The colonial secretary informed the United States consul, under date of August 3d, that "consequent upon the appearance of cholera at Malta, a quarantine of ten days has been imposed at this port on all arrivals from that place."

Havana.—The sanitary inspector reports 13 deaths from yellow fever and 42 from small-pox during the week ending August 11, 1887.

MORTALITY TABLE, FOREIGN CITIES.

CITIES.	Week ending—	Estimated population.	Total deaths from all causes.	DEATHS FROM—						
				Cholera.	Yellow fever.	Small-pox.	Typhus fever.	Enteric fever.	Scarlet fever.	Diphtheria.
Paris	August 6.	2,260,045	868	.....	3	.....	12	7	23	.....
Glasgow	August 6.	524,039	165	.....	.....	.....	6	1	1	.....
Warsaw	July 30.	439,174	214	.....	20	.....	.....	.....	.....	.....
Amsterdam	August 10.	378,686	149	.....	.....	.....	.....	.....	.....	.....
Rome	June 25.	369,214	151	.....	1	.....	5	.....	3	.....
Sheffield	August 6.	316,288	162	.....	1	.....	.....	3	.....	.....
Munich	July 30.	269,000	212	.....	.....	.....	.....	.....	.....	.....
Edinburgh	August 6.	258,629	87	.....	.....	.....	2	1	1	.....
Palermo	August 7.	250,000	127	22	.....	.....	4	10	1	.....
Belfast	August 6.	224,422	103	.....	.....	3	1	.....	.....	.....
Bristol	August 6.	223,695	75	.....	.....	.....	.....	4	.....	.....
Genoa	August 6.	179,349	93	.....	1	3	.....	.....	1	.....
Leipsic	August 6.	170,000	68	.....	.....	.....	1	.....	2	.....
Trieste	July 30.	150,157	100	.....	2	.....	.....	1	1	.....
Toronto	August 13.	120,000	13	.....	.....	.....	.....	.....	3	.....
Bremen	July 30.	119,000	57	.....	.....	.....	.....	.....	2	.....
Havre	August 6.	112,074	102	.....	3	.....	20	.....	.....	.....
Gibraltar	July 31.	23,631	14	.....	.....	.....	2	.....	1	.....

UNITED STATES.

Key West, Fla.—Yellow Fever.—Two hundred and fifty-seven cases and 53 deaths have been reported up to August 25d, making an increase of 5 cases and 1 death since last report.

Edmont Key, Florida (refuge station).—All the refugees have been allowed to go to the mainland. The sick have recovered, and the island is now free from disease.

The Union Medical Association, which includes physicians in Brooklyn; New York; Hartford and Cecil counties, Maryland; and Philadelphia, Dauphin, Lebanon, Lancaster, Adams, and Cumberland counties, Pennsylvania, held its annual reunion at Mount Gettysburg Park, Pa., on Thursday, August 25th. Dr. S. J. Rouse, of York, Pa., was chosen president; Dr. W. T. Bishop, of Harrisburg, secretary; and Dr. Alexander Craig, of Columbia, Pa., chairman of the executive committee.

The American Dental Society of Europe, as we learn by the "Journal für Zahnheilkunde," was to hold its annual meeting at Coblenz, on the 1st, 2d, and 3d inst. Among the names mentioned as those of officers of the society or chairmen of sections are E. P. George, C. T. Terry, E. A. Galbreath, W. Sachs, W. D. Miller, E. Forster, L. C. Bryan, B. Cohen, N. S. Jenkins, Charles Kingsley, W. S. Elliot, W. M. Patton, and George Cunningham.

The late Dr. Rudolph Mautner.—A special meeting of the Medical Society of the County of Richmond, N. Y., was held at the S. R. Smith Infirmary, on Wednesday, August 24, 1887, to take action in regard to the death of the late Dr. Mautner. The committee, Dr. Van Rensselaer, Dr. William C. Walser, and Dr. O'Dea, offered the following:

Whereas it has pleased the Almighty, in his infinite wisdom, to remove our co-laborer, Dr. Rudolph Mautner, from his worldly sphere of usefulness; therefore,

Resolved, That we hereby record our deep appreciation of the high personal character and professional attainments of our deceased friend.

Resolved, That we tender our heartfelt sympathy to his bereaved widow and family in their grievous loss and affliction.

Resolved, That a copy of the foregoing preamble and resolutions be sent to the family of the deceased.

[Signed.]

J. WALTER WOOD, M. D., *Secretary*.

THERAPEUTICAL NOTES.

Amylene Hydrate as a Hypnotic.—Von Mering, of Strassburg (*"Therap. Monatsh."*; *"Internat. klin. Rundschau"*), after a number of experiments on animals with this tertiary alcohol, has used it as a hypnotic in the cases of sixty persons, giving, in all, three hundred and fifty doses ranging from three quarters of a drachm to a drachm and a quarter. He regards it as preferable to chloral hydrate in cases that do not call for a very energetic drug, for he thinks it less dangerous; he remarks also that it has several advantages over paraldehyde. In potency, half a drachm of amylene hydrate is equal to fifteen grains of chloral hydrate or three quarters of a drachm of paraldehyde. Like chloral, amylene hydrate is of uncertain action in cases of sleeplessness due to pain. It is a very mobile liquid, of a peculiar ethereal taste somewhat suggestive of camphor, with a refrigerant after-taste like that of peppermint. It dissolves in eight parts of water, and mixes with alcohol in all proportions. The following formulæ are given:

Amylene hydrate.....	105 grains;
Extract of licorice.....	150 "
Distilled water.....	2 ounces.

Half this quantity to be taken at bedtime.

Amylene hydrate.....	75 grains;
Mucilage of gum arabic.....	5 drachms;
Distilled water.....	1½ ounce.

For an enema,

Amylene hydrate.....	90 to 105 grains;
Morphine hydrochloride.....	½ to 1 grain;
Extract of licorice.....	150 grains;
Distilled water.....	2 ounces.

Half to be taken at bedtime, in painful affections, especially peripheral neuralgias.

Amylene hydrate.....	1 drachm;
Morphine hydrochloride.....	½ grain;
Mucilage of gum arabic.....	5 drachms;
Distilled water.....	1½ ounce.

For an enema, to be used for the same purpose as the preceding prescription.

Cannabis Indica in the Treatment of Diarrhœa.—F. F. Bond and B. E. Edwards (*"Practitioner"*) cite testimony from several sources as to the efficiency of Indian hemp in the treatment of diarrhœa, and state that they have used it in nearly all forms of diarrhœa with marked benefit, especially in summer diarrhœa, in conjunction with morphine. They think it increases the astringent and anodyne action of morphine and stimulates the nervous system. For an ordinary adult, they generally use the following mixture:

Tincture of cannabis.....	10 minims;
Solution of morphine (Br. Ph.).....	5 or 10 minims;
Aromatic spirit of ammonia, { each....	20 minims;
Spirit of chloroform,	
Water, to.....	1 ounce.

This quantity is to be given every one, two, or three hours, according to circumstances. No food should be taken for several hours, but a little brandy and water.

Acetphenetidine as an Antipyretic.—Kobler, of von Bamberger's clinic (*"Wien. med. Woch."*; *"Ctbl. f. d. ges. Therap."*), describes this substance as the ethyl ether of paramidophenol, analogous in composition to acetanilide, occurring as a slightly reddish powder, odorless and tasteless, soluble with difficulty in water, rather more soluble in glycerin, and readily soluble in alcohol, especially hot alcohol, but insoluble in acid or alkaline liquids. The author considers it an efficient antipyretic destitute of any disagreeable effects. It is better to give it in single doses of seven, nine, or ten grains than in small and frequently repeated doses.

ANSWERS TO CORRESPONDENTS.

No. 33.—The device is not new. It was resorted to in the military hospitals, both north and south, during our civil war, and at the same time in one of the civil hospitals of New York. Thanks to Listerism, it is now rarely necessary.

No. 34.—Properly presented, the matter would probably be taken up by your State board of health.

No. 35.—Address him "in care of the Surgeon-General of the Army Washington, D. C."

To Contributors and Correspondents.—*The attention of all who purpose favoring us with communications is respectfully called to the following:*

Authors of articles intended for publication under the head of "original contributions" are respectfully informed that, in accepting such articles, we always do so with the understanding that the following conditions are to be observed: (1) when a manuscript is sent to this journal, a similar manuscript or any abstract thereof must not be or have been sent to any other periodical, unless we are specially notified of the fact at the time the article is sent to us; (2) accepted articles are subject to the customary rules of editorial revision, and will be published as promptly as our other engagements will admit of—we can not engage to publish an article in any specified issue; (3) any conditions which an author wishes complied with must be distinctly stated in a communication accompanying the manuscript, and no new conditions can be considered after the manuscript has been put into the type-setters' hands. We are often constrained to decline articles which, although they may be creditable to their authors, are not suitable for publication in this journal, either because they are too long, or are loaded with tabular matter or prolix histories of cases, or deal with subjects of little interest to the medical profession at large. We can not enter into any correspondence concerning our reasons for declining an article.

All letters, whether intended for publication or not, must contain the writer's name and address, not necessarily for publication. No attention will be paid to anonymous communications. Hereafter, correspondents asking for information that we are capable of giving, and that can properly be given in this journal, will be answered by number, a private communication being previously sent to each correspondent informing him under what number the answer to his note is to be looked for. All communications not intended for publication under the author's name are treated as strictly confidential. We can not give advice to laymen as to particular cases or recommend individual practitioners.

Secretaries of medical societies will confer a favor by keeping us informed of the dates of their societies' regular meetings. Brief notifications of matters that are expected to come up at particular meetings will be inserted when they are received in time.

Newspapers and other publications containing matter which the person sending them desires to bring to our notice should be marked. Members of the profession who send us information of matters of interest to our readers will be considered as doing them and us a favor, and, if the space at our command admits of it, we shall take pleasure in inserting the substance of such communications.

All communications intended for the editor should be addressed to him in care of the publishers.

All communications relating to the business of the journal should be addressed to the publishers.

Lectures and Addresses.

THE INAUGURAL ADDRESS

OF THE PRESIDENT OF THE

NINTH INTERNATIONAL MEDICAL CONGRESS,

NATHAN SMITH DAVIS, M. D., LL. D.,

OF CHICAGO.

Delivered on Monday, September 5, 1887, at the Opening Session of the Congress, in Washington.

[After having alluded with much feeling to the loss which the Congress had sustained by the death of the late Professor Austin Flint, who had been chosen its president, Dr. Davis proceeded as follows:]

With a full consciousness of my own deficiencies, and still with a heart overflowing with gratitude, I thank you for the honor you have bestowed in selecting me to preside over the deliberations of this great and learned assembly. It is an honor that I appreciate as second to no other of a temporal nature, because it has been bestowed neither by conquest nor hereditary influence, nor yet by partisan strife, but by the free expression of your own choice.

Addressing myself now more directly to those here assembled, who have left homes and loved ones in other lands, and encountered the fatigue and danger of traveling by sea and by land, in the name of the medical profession of this country I welcome you, not only to this beautiful city and the hospitality of its citizens, as has been so admirably done already by the honorable representative of the Government, who has just taken his seat, but I cordially welcome you to the open arms and warm hearts of the medical men of this *whole country*, in whose name you were invited here three years since, and whose representatives are now here, side by side with you, gathered from the East, the West, the North, the South, as well as from the rugged mountains and fertile valleys of the Center, to make good what was implied in that promise.

If they do not cause you to feel at home and happy, not only in the social circles and halls devoted to the advancement of science, literature, and art in this city of our nation's pride, but wherever you may choose to roam, from the rocky coast of New England on the Atlantic to the Golden Gate of the Pacific, it will be from no want of earnest disposition to do so.

And now I not only thus welcome you from other lands, but I take great pleasure in greeting you one and all as leading representatives of a profession whose paramount object is the lessening of human suffering, by preventing, alleviating, or curing diseases wherever found, and in whatever class or grade of the human family. Nay, more, with profound reverence I greet you as a noble brotherhood, who, in the practical pursuit of that one grand object, recognize no distinction of country, race, or creed, but bind up the wounds and assuage the pains of the rich and poor, ruler and ruled, Christian and pagan, friend and foe alike.

Not that every medical man does not love and defend his own country and fireside with as fervid a patriotism as the members of any other class of men. But as disease

and pain are limited to no class or country, so is the application of his beneficent art limited only by the number of those suffering within his reach.

With a common object so beneficent in its nature, and opportunities for its practical pursuit so universal, it is but natural that you should be found searching for the most effectual means for the accomplishment of the one object of lessening human suffering in every field of nature, and in every department of human knowledge.

The living human body—the chief object of your solicitude—not only combines in itself the greatest number of elementary substances and the most numerous organs and varied functions, so attuned to harmonious action as to illustrate the operation of every law of physics, every known force in nature, and every step in the development of living matter, from the simple aggregation of protoplasm constituting the germinal cell to the full-grown man, but it is placed in appreciable and important relations with the material objects and immaterial forces existing in the world in which he lives.

Hence a complete study of the living man, in health and disease, involves a thorough study, not only of his structure and functions, but more or less of every element and force entering into the earth, the air, and the water, with which he stands in constant relation.

The medical science of to-day, therefore, embraces not only a knowledge of the living man, but also of such facts, principles, and materials gathered from every other department of human knowledge as may increase your resources for preventing or alleviating his suffering and prolonging his life.

The time has been when medical studies embraced little else than the fanciful theories and arbitrary dogmas of a few leading minds, each of which became for the time the founder of a sect or so-called school of medicine, with its disciples more or less numerous. But with the development of general and analytical chemistry, of the several departments of natural science, of a more practical knowledge of physics, and the adoption of inductive processes of reasoning, the age of theoretical dogmas and of medical sects blindly following some more plausible leader passed away, leaving but an *infinitesimal* shadow yet visible on the medical horizon.

So true is this that in casting our mental vision to-day over the broad domain of medicine we see its votaries engaged, some searching for new facts and new materials; some studying new applications and better uses of facts and materials already known; some of them are in the dead-house with scalpel and microscope, not only studying the position and relations of every part from the obvious bones and muscles to the smallest leucocyte in health, but also every deviation caused by morbid action or disease. Some are searching the fields, the forests, the earth, and the air, both for more knowledge concerning the causes of disease and for additional remedial agents; some are in laboratories with crucible, test-glass, and microscope, analyzing every morbid product and every remedial agent, separating the active principles from the crude materials and demonstrat-

ing their action on living animals, while far the greater number are at the bedside of the sick and wounded, applying the knowledge gained by all other workers to the relief of human suffering. A more active, earnest, ceaseless, and beneficent field of labor is not open to your vision in any other direction or occupied by any other profession or class of men. And thus has the science of medicine become a vast aggregation of observed facts, many of them so related to each other as to permit of practical deductions of permanent value, while many others remain isolated through incompleteness of investigations, and therefore liable to prompt, hasty, or even erroneous conclusions.

Indeed, the most defective and embarrassing feature in the science and art of medicine at this time is the rapid accumulation of facts furnished by the vast number of individual workers, each pushing investigations in some special direction without concert with his fellows, and without any adequate conception of the coincident lines of observation necessary to enable him to see the true bearing of the facts he evolves. Hence he is constantly mistaking mere coincidences for the relation of cause and effect, and the pages of our medical literature are being filled with hastily formed conclusions and rules of practice from inadequate data.

This results, in part at least, from the extent and variety of the fields of inquiry and the complexity of the problems presented for solution. For nowhere else within the realms of human thought does the mind encounter problems requiring for their correct solution the consideration of a greater number of data than in the study of ætiology and pathology. To determine the appreciable conditions of the earth, air, and water of any country before, during, and after the invasion of an epidemic disease long enough to include several consecutive visits of the same, is not possible for a single individual, nor for any number of observers acting separately or without concert.

Yet just this complete knowledge is necessary to enable us to separate the conditions that are merely coincident or accidental from those that are such constant accompaniments of the disease as to prove a necessary relation between them. And it is only by such persistent, coincident systematic observations of many individuals, each having a definite part, and the results carefully compared analytically and synthetically at proper intervals, that the real conditions and laws controlling the prevalence and severity of epidemics and endemics can be clearly demonstrated. It is not enough to discover the primary infection, or the *contagium vivum*, whether it be the bacillus of cholera, yellow fever, or tuberculosis, for abundant experience has shown that not one of these will extend its ravages in any community or country unless it finds there a soil or pabulum congenial for its support and propagation.

It is on the development and diffusion of knowledge concerning the local conditions necessary for receiving and propagating the specific infections of disease that nearly all the important sanitary measures of modern times have been based. And it is on a further development of knowledge in the same direction, gained by more systematic, continuous, and coincident investigation, that we shall most suc-

cessfully protect our race from the pestilences that have hitherto "walked in darkness and wasted at noonday."

It was the extensive and ever-extending field of medical science, the complexity of the problems pressing for solution, and still more the individual responsibility of applying the resources at command to the direct treatment of disease, that early disposed medical men to seek each other's counsel, to form groups or clubs for comparison of views and mutual improvement. The manifest advantages of these soon prompted more extended social gatherings, until at the present time a large proportion of the more active members of the profession in every civilized country are participating in municipal, district, national, and international medical organizations.

The aggregate benefit derived from all this active intercourse is beyond easy expression in words. In the more frequent and familiar comparison of cases and views on all professional subjects in the local societies, closer habits of observation and a wider range of thought are induced, while narrow prejudices and bigotry give place to generous rivalry and personal friendships. In the larger gatherings, the formal preparation of papers and reports on a great variety of subjects impels their authors to a wider range of study and greater mental discipline, while the collision with other minds in discussion brings all aspects of the subject to view, enlarging the scope of mental vision, starting new trains of thought, and begetting a broader and stronger mental grasp with purer and nobler aims in life.

I think I am justified in saying that no other one influence operative in human society during the present century has done so much to develop and diffuse medical knowledge, to stimulate its practical and successful application, both in sanitary measures for preventing disease and in the direct alleviation of suffering at the bedside, and in unifying and ennobling the profession itself, as has been accomplished by the aggregate medical society organizations of the world. Yet their capacity for conferring other and perhaps still greater benefits, under proper management, will have become manifest in the near future. And that I may accomplish the chief object of this address, I must ask your indulgence while I indicate some of the more important additional benefits in advancing medical science and saving human life through the instrumentality of our medical society organizations, and the methods by which they may be accomplished.

Every experienced and intelligent practitioner of the healing art is familiar with the fact that all acute general diseases are influenced in their prevalence and severity by seasons of the year, topographical and other conditions of the earth, meteorological conditions of the atmosphere, and the social condition and habits of the people themselves. The most familiar endemics vary annually in the same localities, while the great epidemics that have for ages broken over the comparatively limited boundaries of their habitats only at intervals of years, and extended their ravages from country to country and receded again to the source from which they apparently originated, differ widely in the different periods of their prevalence. But in studying the essential causes of any one of these general diseases and

the laws and conditions under which such causes operate, he soon finds certain factors essential for the solution of his problems wanting.

For instance, if he wishes to identify the date of the first attack of epidemic cholera in a given locality, and the character of bowel affections immediately preceding, the ordinary statistics of mortality will give him only the date of death, which may have been from one to seven days later, or it may have been preceded by one or more cases that ended in recovery. If he is anxious to determine the reason why the disease, on entering one community, develops with such rapidity that in a few days its victims are found in every grade of the population and in almost every street, while in another it develops slowly, adhering persistently to particular classes or localities, he may find in the ordinary meteorological records the thermometric, barometric, and hygrometric conditions of the atmosphere, with the direction and the velocity of the winds, but he finds nothing regarding those important though variable elements known as ozone and hydrogen peroxide, active oxidizers; or those nitrogenous products called free and albuminoid ammonia. Neither do the sanitary records give the desired information concerning the composition and impregnations of the soil, or of the organic and inorganic emanations that may arise therefrom.

An adequate knowledge of these absent factors relating to the condition of the earth, air, and water over districts large enough to embrace localities subject to invasions of the epidemics and others known to be exempt through a sufficient length of time to cover several periods of prevalence and periods of absence alike, is essential for enabling us to comprehend the causes that make one district amenable to the prevalence of a disease and another not, as well as the marked differences in the severity and mode of progress of the same disease at different periods in the same localities and same classes of the people. The same additional knowledge would also furnish the basis for further sanitary measures of the greatest practical value.

And yet it must be obvious that the co-operation of numbers of medical men directly engaged in the field of general practice with others possessed of more practical facilities for chemical and microscopical research is necessary for successfully prosecuting such coincident and continuous investigations as would be likely to secure the desired results. Only well-trained general practitioners in every locality chosen for observation could observe and record the date of the initial symptoms of acute general diseases coming under their notice, and at stated intervals collate and report them to a central committee. The daily observations concerning the presence and relative proportion of active oxidizers and of nitrogenous organic elements in the atmosphere and the water would require the selection of one or two experts in chemical and microscopical research for each locality, all making their observations coincidentally in time and by uniform methods.

There are included in the organized medical associations of each country the men and materials necessary for prosecuting every well-defined line of inquiry; and these associations, by their stated meetings and their facilities for

inter-communication and concert of action, present the entire machinery needed, and are only waiting for well-planned and systematic use.

The tendency to make the permanent medical organizations available for prosecuting work in the directions I have indicated has already been manifested to a limited extent, as may be seen in the formation of the Collective Investigation Committee of the British Medical Association and of the International Collective Investigation Committee, organized during the sitting of the Eighth International Congress at Copenhagen.

An earlier movement more fully of the character I have been endeavoring to explain was made by the American Medical Association in 1875, when a standing committee was appointed to establish in a sufficient number of localities regular coincident daily observations and records concerning all appreciable meteorological conditions, including organic and inorganic elements found in the atmosphere, and the date of beginning of acute general diseases, and report the results at each annual meeting of the Association. The Committee made reports embodying facts of interest and permanent value in 1877, in 1879, in 1881, in 1882, and in 1883.* The latter report contains among other items a complete tabulated statement of the free and albuminoid ammonia in the atmosphere for every day in the year ending August 31, 1883, as determined for the committee by Professor J. H. Long in connection with the laboratory of the Chicago Medical College. The Committee is still prosecuting its work with material in hand for a still more important report at an early day. The greatest difficulty encountered has been to enlist a sufficient number of active practitioners in each locality who would faithfully record the desired clinical facts and report the results to the Committee. But this and all other obstacles can be overcome by persevering and well-directed work.

I trust no apology is needed for having embraced this occasion to attract your attention to the very important question how to make all our medical associations more useful in promoting the science of medicine by more complete methods of investigation, especially in directions where the coincident action of several persons in different places is essential for success.

I fully appreciate the great benefit resulting from the simple mingling of large numbers of medical men in social contact, where each is made to hear constantly, whether on the street, in the hotel, or in the assembly-room, new suggestions, new modes of expression, and to observe the physical and mental effects of the various habits and customs of the different peoples, until each one leaves the general gathering with largely increased mental activity and resources, as was so happily expressed by Sir James Paget in his address to the Congress of 1881, in London. And I appreciate in a still higher degree the benefits derived from the preparation and reading of papers by individuals and the discussion of important questions in all our assemblies.

* "Trans. of the Am. Med. Assoc.," xxvi, p. 125; xxviii, p. 153; xxx, pp. 38, 147; xxxii, p. 481; xxxiii, p. 43; "Jour. of the Am. Med. Assoc.," ii, pp. 85, 169.

But, for reasons I have already briefly stated, I hope to see added in every permanent general medical society two standing committees; to one should be referred for critical examination every communication claiming to embody a new discovery in either the science or art of medicine, and the other should be charged with the work of devising such lines of investigation for developing additional knowledge as require the co-operation of different individuals, and perhaps societies, and of superintending their efficient execution until crowned with success.

If ten or twenty per cent. of the money paid for initiation and membership dues by the members of each society were appropriated and judiciously expended in the prosecution of such systematic and continuous investigations from year to year, it would accomplish more in advancing medical science directly, and indirectly in benefiting the human race, than ten times that amount would accomplish if expended in any other direction.

For it must be remembered that when money is expended for material objects, even for food, clothing, or medicine, such materials feed, clothe, or relieve but one set of needy individuals and are themselves consumed; but the expenditure of money and time in such a way as to develop a new fact capable of practical application either in preventing, alleviating, or curing disease, that *fact* does not, like the food or medicine, perish with the using, but it becomes literally imperishable. Neither are its benefits limited to one set of individuals, but it is transmitted with the speed of the lightning over the land and under the sea to every civilized people; and whatever benefits it is capable of conferring are as capable of being applied to a million as to one, and of being repeated with increasing efficiency from generation to generation.

It has been tersely and correctly stated that associated action constitutes the characteristic and predominating power of the age in which we live. It is by associated action that education in its broadest sense, religion, and civilization have been more rapidly diffused among the masses of mankind during the present century than during any other period of the world's history. It is by the association of capital, wielded by the associated intellects of the nineteenth century, that highways of commerce have been opened over the valleys, through the mountains, across the deserts, and on the oceans, over some of which the material productions of the nations are borne by the resistless power of steam, and along others the products of mental action are moved with the speed of electric currents, until both time and space are so far nullified that the most distant nations have become neighbors, and the inhabitants hold daily converse with each other from opposite sides of the globe. Indeed, it is only by means of such of these highways as have been constructed within the memory of him who addresses you, that you have been gathered in this hall from the four quarters of the earth, and through which an account of your doings may be daily transmitted to your most distant homes.

I congratulate you on the fact that the profession you represent has taken the lead of all other professions or classes of men in rendering available these grand material achievements of the age for cultivating fraternal relations, develop-

ing and interchanging knowledge, and planning concerted action for rendering human life everywhere healthier, happier, and of longer duration.

This is the ninth grand International Congress in regular series within little more than two decades, and let us hope that all its work will not only be done in harmony and good order, but with such results as will add much to the aggregate of human happiness through all the coming generations.

Without trespassing further on your patience, I must ask your forbearance with my own imperfect qualifications, and your generous assistance in the discharge of the responsible duties you have devolved upon me.

SCIENTIFIC MEDICINE AND BACTERIOLOGY IN THEIR RELATIONS TO THE EXPERIMENTAL METHOD.

*An Address delivered before the Ninth International Medical Congress
at Washington, September 7, 1887.*

By MARIANO SEMMOLA, M. D.,

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"Nec ab antiquis sum nec a novis; utrosque ubi veritatem colunt sequor."—BAGLIVI.

"En science, de même qu'en politique, il faut se défendre également et des préjugés conservateurs et des préjugés novateurs. Nos contemporains prennent souvent la nouveauté d'une idée pour un gâge de sa vérité. La règle de nos pensées ne doit être ni le vieux ni le neuf, mais le vrai."—BERNARD.

GENTLEMEN: Invited by the Executive Committee to the high honor of giving before you an address on the subject of general medicine, I feel it, on the one hand, my duty to express to you my thanks for this high distinction, far above my modest merits, and, on the other hand, I feel the need of appealing to your indulgence, which I hope will come to my aid in this difficult arena that I have entered, animated by the desire to bring you the greetings which the Italian Government has confided to me to convey as a tribute to this medical festival, with faith in me that I may worthily respond to the call.

In the name of Italian medicine I greet you, most illustrious colleagues of the United States, and representatives of medical progress in the New World. I feel it my duty to thank you before all else for the exquisite courtesy with which I have been received in this land, which includes all the greatness of all future free nations. A humble son of Italy, but a passionate admirer of the grand titles of nobility that this alma mater has acquired by right in the history of thought and wisdom, it has ever been the dream of my life to see her honored as she deserves; therefore, invited by your benevolence, I have thought that the best way for me, of all the sons who so revere their country (as you do yours), to merit it, and to fulfill toward my Italy the duty of a son, was to talk to you of the value of one of her most glorious discoveries in relation to the progress of modern medicine, I mean the experimental method, which was born in Italy with Galileo, and which has always been the only guiding compass of scientific progress, without which the

most daring and expert pilot would most surely be shipwrecked.

On the flag of medicine—as old, or about as old, as human suffering—there has always been written this device: “*Preserve health and cure all ills.*” This flag was, and will always be, that which must guide us to the effective end of every study, and which must be for the physician, even the one most passionately fond of his science, a true amulet against those temptations that medical studies can inspire in him in the way of mere scientific curiosity. It is self-evident that if there had never been any sick there would never have been any doctors, and it is for this reason that the Platonic philosophy in the progress of medicine seems ridiculous to society, and the old saying, “*Medice cura te ipsum,*” very well expresses the irony and sarcasm which the world flings at the physician who is impotent to overcome his own ills. I can easily conceive of a physicist or a chemist who is not a mechanic or a merchant, or of a botanist who is not an agriculturist, and so on, but I can not conceive that there can be a physician who does not occupy himself with observing and taking care of the sick, because it is his study, and it is unquestionably at the same time the only means and only intent of his real mission.

Thus, for me, as in the case of great physicians, the measure of real progress in medicine must not, and should not, be estimated in any other way than the greater or lesser number of patients which the physician can conscientiously say he has seized out of the jaws of death. This estimate may appear to some to be too prosaic, but, unfortunately, it is the stern reality, and it is this reality that renders the evolution of medicine one of the most important social functions connected with civilization, for, wherever man is associated with man in a mutual cause, medicine corresponds to a collective and social interest. “*Mens sana in corpore sano,*” says the poet, is the apogee of human happiness.

No matter in what position in life a man may be, his greatest object should be to preserve health and life, because illness and death represent disorder, affliction, and the desolation of his domestic home. The solidarity that unites the members of a family among themselves extends to society in general, and sometimes the death of a single man may be such a public calamity as to compromise and change the destiny of a nation, and this is the very reason why there is nowhere in the whole range of human investigation a more ardent desire to solve the problems encountered than in medicine. Still, it is very natural that the hope of arriving at the whole truth, constantly misled and constantly being born again, has upheld through so many hundreds of years, upholds, and will uphold for ever, all the generations in their passionate ardor of study to discover the mysteries of the phenomena of life in health and in disease.

Beginning with the great Greek epoch, that of Phidias and of Plato, of which the immortal Hippocratic pages constituted the first scientific expressions, up to Koch and Pasteur—that is to say, beginning with the time when man, allowing himself to be guided solely by sentiment, thought that he was in possession of absolute knowledge, up to the modern epoch, in which reason and experience would com-

pletely suffocate these aspirations—medicine, except during the long silence of the middle ages, has developed by observation alone, and made precious acquisitions, although often agitated in the most opposite directions, but still living every day upon the discoveries of the day before, and never disowning its past, in which even its bitterest adversaries have ever found an indispensable support, and an inseparable counselor for the new directions of the work.

Thus, more than two thousand years have gone by during which period, first by the force of instinct purified even to sentiment, and afterward with the abuse of reason prostituted more or less by the scholastic, the intimate study remained a dead letter for the progress of medicine, except here and there, where all those rare geniuses who have built up the true medical tradition have in all times found themselves forced to conduct medicine back again to the knowledge of human nature acquired by observation and experience. But these true naturalistic geniuses were wanting in a solid base, and could find their indispensable foundation only at the beginning of the seventeenth century, which epoch made such admirable conquests in the dominion of science. And it was then only that the incessant progress of the sciences of physics and chemistry allowed, if it did not really compel, biology to take its place among the experimental sciences, thus promising to save medicine from subsequent shipwreck. So, after having traversed so many centuries of superstition and errors, medicine at last saw rise in the heavens the true cynosure which was to direct the steps of its most daring ministers. This star, gentlemen, was experiment—that is to say, the study of the objective reality of natural phenomena—and lastly the evolution of the human mind, which had to teach man that the truth of the external world was not to be found formulated either by sentiment or by reason; or, in other words, according to the happy expression of Berthelot, that the world was not made by guessing at it, but by observing. And, in fact, man with this guide has done wonders in all branches of human knowledge, and arrived at an infinite superiority over his most perfect forefathers of the best Greek and Alexandrian epochs; and the story of experimental science is a sublime and infinite poem, of which the substance is always humanity at war with nature to subjugate and conquer. It is easy to imagine with what an impulse physicians with this prospect in view will go on with the noble hope of conquering the most terrible enemies of mankind—that is, his ills. But the revelation of truth, which is the natural fruit of science, has need, like fruits of the cultivation of the soil, of the sowing of the seed, of the development of the plant, of the flowers to assure the harvest; but woe to the farmer who sows in sand even good seed, trusting that its goodness is enough to insure him a harvest—he would destroy it for ever. And the physician who should imitate him, even under cover of the experimental method, would not be less to be pitied than his predecessors, who, armed with the finest logic, always arrived at error. I understand that the incessant curiosity of the scientist, and, above all, of the physician, is impatient, and that curiosity, as the saying has been during many centuries, is the mother of science, for nature in truth only reveals her mysteries to

the inquisitive. I understand that the love of novelty is a most natural thing in turbulent times, and that great commotions in any order of ideas awaken the impatient activity of revolutionary spirits. I also understand that when evolution languishes it is by revolution that progress takes place, and that at such times it is even allowable to tolerate the excesses of these profound commotions even if they take place in social or scientific order. But the moment will always come in which the inquisitive spirit will stop to remember that nature does not proceed by jumps, and that, therefore, it is the duty of the true scientist, although recognizing that revolutions are an historical necessity of humanity, to keep them within the limits which the law of evolution confirms.

This harmony between evolution and revolution in the march of a science is commensurate with the benefits that its development brings to society; and this may be said of the physical as well as of the moral, because the effective balance of the ills and advantages of life represents unquestionably the only true measure of the progress of humanity. When this balance shows gaps and delusions, and, above all, when the road that has been taken to gain it is undoubtedly proclaimed the only and indisputable one, we must come to the conclusion that there are some broken teeth in the wheel, and that therefore the interlocking is deranged. The result then is far worse than if the wrong road had been taken in the beginning. I beg you, gentlemen, to follow me.

Medicine presumes to-day more than ever to regenerate itself, and it is its right, if not its duty, as was the case with the other sciences that preceded it in this noble aspiration. Medicine has arrived at that period of evolution in which to-day it invades every other science. It feels the need to penetrate into the inmost of nature's phenomena, which for it are only the facts of a healthy or diseased life. Medicine would, with the experimental method as its guide, aspire to achieve a mathematical precision and impose itself more and more on all the other sciences, and thus it is to be hoped that at last it will have its definite code, which should be the breviary of its ministers for curing diseases. What a new and glorious age of light will this be for humanity! Perhaps we may then be able to say that the final aim of our studies is not only the "*ars medendi*," but the "*ars semper sanandi*."

This point does not call for the least discussion. Therapeutics has always been the aim of the greatest physicians. Even clinical medicine, without therapeutics, would be the meditation of death. If, dazzled by the wonderful progress made by science, it had been forced to forget this fundamental truth, it would feel the ground falling under its feet, and would walk in the darkness of emptiness.

This is what history teaches. At present, when we think that in all this chaos of errors tradition has transmitted to us curative treasures that even skeptics are obliged to respect, and which still form the greatest, the clearest, and perhaps the only demonstrations of therapeutics—mercury, quinine, iodine, etc. On the other hand, all the splendid scientific successes have not been able as yet to furnish anything that can truly rival these poor little foundlings of

empiricism. In a very serious disease a doubt must always arise in the mind of a really learned honest physician, but, rather than yield to the illusion of new remedies that are proclaimed to-day on the altars, only to be buried in the dust to-morrow, he would shut himself up and meditate on the phantasmagory of the present day, which certainly can not constitute the real balance of scientific progress.

Not otherwise, gentlemen, would the most daring and confident traveler do, who, tired and footsore from his journey, unable to near his haven, and often discovering new horizons, which make him see it farther away, feels the need of rest for a little, so as to regain his strength, and make sure that he has not lost the right road. Please be so kind as to follow me, gentlemen.

The experimental method has for its aim to search for the determining or proximate causes of the phenomena of nature. The principle on which this rests is the certainty that determining causes exist; its way of proceeding in the search is the philosophic doubt, its criterion and judge is experience. In other words, the scientist firmly believes in the existence of the determining causes that he is searching for, but always doubts having discovered them until experience peremptorily demonstrates that he is in the right.

The experimental method is in fact nothing else than the expression of the natural march of the human mind in the investigation of scientific truth, of reason and experience surrounded with the aid of well-balanced judgment. It does not admit dogmatic personal authority, and in the most absolute way it thrusts from it hypothetical systems and doctrines, nor does it do this out of pride or for bravado; on the contrary, the true scientist is always humble, denying individual authority, doubtful even of himself, and submitting his opinions to the authority of experience and the laws of nature. Goethe said that the only mediator that could exist between the scientist and the phenomena by which he was surrounded must be experience. The rigorous observation of truth is the first study; next comes the co-ordination of the truth, which is an entirely different thing from the fact itself, and is the formulated law which is the exponent of the fact. Lastly, the need is felt of searching for the causes of the fact, and here begins the most arduous work of the experimental method. The search for these causes means the ascertaining of the conditions under the influence of which the fact or phenomenon manifests itself, and it is only when that has been done that the scientist can formulate the laws that regulate the appearance or disappearance of the phenomenon. Without such knowledge, simple causal notions can not logically be fecundated; and why? because the causes of phenomena are not laws, and the laws are not causes, notwithstanding what some absent-minded philosophers have said.

It is evident that this last research is the most complicated and difficult, because after the simple observation of the fact, and in the order in which it is unfolded, there is always a need of an hypothesis that prepares for the discovery of the truth; this hypothesis, as was said by Newton, is a kind of daybreak that just begins to disclose the truth in a vague way, which must therefore be illuminated little by little by experience until it shines with brilliancy. Then

only can the hypothesis be upheld as true, and the honest and eager searcher must be ready to forget his hypothesis for ever, if it is not confirmed by the interrogations which he has made of nature. The honest scientist must always forget himself, never be satisfied by his intuitions, even if they are those of a genius, and proceed in all ways to verify hypothesis by experience before proclaiming it as a truth. The experimental method, therefore, is composed of three elements—observation, supposition, and verification. These three elements are distinct, but inseparable. The hypothesis occurs in the observation and in the verification. The observation occurs also in the hypothesis, of which it is the starting-point; and in the verification, of which it is the final substance. Finally, the verification is inseparable from the observation, which is its instrument, and from the hypothesis which it is to destroy or confirm. The experimenter who, after having made a new and splendid observation, and conceived a daring hypothesis to explain it, instead of wholly giving himself up to completing the experiment so as to establish an everlasting truth, prefers to exalt himself for his hypothesis without trying to verify it, and communicate it to all mankind, affirming it to be the definite truth, torturing nature to justify his enthusiasm, is in reality a traitor to science, and loves himself better than he does the discovery of truth, because, trusting to the credulity and servility of the ignorant masses, he sacrifices *real* progress to the vain paternity of a new system. In fact, he allows himself to be carried away by a weak though dominating spirit; perhaps, though a learned man, he does not deserve the name of a scientist, because he does not possess the sentiment which Pascal expressed paradoxically when he said: "*We never search for things, but we investigate things.*" The experimenter who loves true progress does not suppress anything in his researches, nor is he disturbed by results contrary to his expectations; the immortal Bernard used to repeat, "Redouble your ardor to arrive at the temple of truth," because he well knew that to shut one's eyes to unfavorable results was not equivalent to suppressing them. He who does this simply deludes himself, like the ostrich, which, when it has hidden its head in the sand, thinks it has escaped the danger.

This, therefore, is the road upon which medicine must travel if it wishes to regenerate itself. We can imagine a science in its infancy, but we can not admit the construction of a science that denies at every step the only code of its origin. The problem of scientific medicine appears most simple, to determine the conditions of the existence of the vital phenomena in their healthy or morbid state. The first step was in physiology, and I certainly need not remind you of how much the experimental method in physiology has taught physicians, or that it is exactly the fact of their having applied it so well in the discovery of many secret mechanical functions that has made it light up clinical medicine like a bright sun. To arrive at this degree of certainty it needed more than half a century of study, without taking into consideration the precious foundations which biology had prepared since the beginning of the last century; and the "*errata corrigenda*" which had to be made at

so many points of the science, after long periods in which it was thought that certain definite truths were already on the throne; without counting, finally, that, while the patient and honest physiologist was hunting with an undaunted ardor that the search of truth alone can cause, the object of his quest never escaped him, and the failure of to-day was softened by the certainty that on each to-morrow he would be able again to interrogate nature, because humanity continued to live quietly on without occupying itself as to how the stomach digested, or what were the functions of the liver, etc. And it is thus that unconsciously it presented to the scientist each day, each hour, each minute the same problems, without ever dreaming that around it there were so many honest spies that were presuming to lift each day another corner of the mysteries of its enjoyment, because good health is enjoyment. Still, after so long a time, and with such favorable conditions of study, who would dare to assert to-day that what we know in human physiology is more or less than that which remains for us to learn? It is enough to remember that of the biological chemistry of the blood we know little or nothing, and that hæmatological notions which were the most accredited are threatened by a revolution since the late researches of an illustrious scientist, Angelo Mosso, an honor to Italy, but who will most likely be obliged to stop and begin over again.

Logically, the physician who proclaimed the experimental method should have been disheartened by the colossal difficulties of this prologue, and of those infinitely greater ones that were easy to foresee when entering upon a field so much more complicated—the field of pathology and therapeutics. But it was not only the difficulty of conquering; it had also to be considered that the imperfect conclusions at which one might arrive were not a matter of indifference to humanity, and that the correction of the error of to-day would always be too late to remedy the unfortunate consequences that had already taken place, because the sick man does not wait; moreover, he can not and *must* not wait.

These difficulties and these reflections, which did not escape some immortal physiologists, among others Bernard, escaped many physicians, and Bernard, after thirty years of hard research, came to the conclusion that scientific medicine was not yet ready to be constituted. The sign of the shop was enough for these physicians, who had no clear idea of the vastness of the problems that they would have to solve in the experimental method. This innocence constituted in itself an unfavorable sign for the result, because in nature all is harmony. The force must be in proportion to the resistance that is to be overcome, and it is only in this way that we must prepare to observe and study nature. Otherwise we must supply the deficiency of force from fancy, and then we return to the perfectly scholastic without knowing it. This mode of procedure is certainly damaging to the effective progress of pathology and of clinical medicine, but becomes downright ruin in therapeutics. A bold hypothesis more or less true or more or less false, which is limited simply to satisfying the physician's curiosity to explain obscure morbid facts plausi-

bly, is an innocent illusion which may change every day according to the taste, without any one having the right to complain; but when this hypothesis is not yet judged true—for, according to the laws of the experimental method, it must conduct straight to the cure of the patient—then it becomes another matter. The physician then commits a crime and can not be excused, not even by pleading the feverish desire to cure his patient, because it is not allowable for an honest man to conceive even praiseworthy ideas when conscience makes him feel that he can not do so without harming another man, and the fact of this impossibility is sure to be felt with the knowledge that this or that rational remedy was not the result of the true experimental method. If we were to proceed in this way in physics and chemistry, all the manufacturers who have opened factories founded on the rigid laws obtained from these sciences would lose their capital, and would necessarily become bankrupts. The poor sick must bear everything. I do not really know why such a cry is raised against the empirical medicine of former times, while the application of the new remedies based on a bad experimental method is nothing more nor less than another kind of empiricism, not less to be deplored than the empiricism of the past. In traditional empiricism medicine cured or killed the patient without knowing *why*—that is to say, despising the exact idea of the remedy—and scientific medicine does the same when, instead of religiously discovering the truth, it abandons itself to be judged by *how*; they both belong to blind medicine most assuredly—one is blind with the appearance of ignorance, and the other is blind under the mask of science. Unfortunately, this is the naked reality of the facts.

But very different are the exigencies of the experimental method when it wants to proceed to the laying of the corner-stone of true scientific therapeutics. What has physiology done and what is it doing? Physics and chemistry study the conditions of the existence of phenomena to formulate laws so as to direct the appearance or disappearance of said phenomena. Pathology and therapeutics must do the same, as a healthy organism is not a passive field of action in which disease and the remedy which is to be applied as a cure come to do battle. The method of search must, therefore, be alike, in the same way that there are not two workmen, one to build a house and one for the house which is falling.

In the mechanical phenomena of the organism nothing can be seen to distinguish them from the phenomena of general mechanics. Likewise in the infinite series of physico-chemical phenomena there is nothing that distinguishes from the physico-chemical phenomena of a living being from those of dead matter, except the law of matter, different from that which regulates the manifestations of the first.

Thus there are not two different sorts of mechanics, nor of physics, nor of chemistry, but there are surely in living beings certain special characteristic conditions of matter, which are regulated without doubt by the laws of physical chemistry, but different from the *ordinary* laws which physics and chemistry have formulated in relation to conditions of matter entirely opposite. Under this relation life

is only a modality of the general phenomena of nature—that is to say, while there is a specialty of substance and form, which characterizes the manifestations, and which in its origin is inaccessible to our researches, because life signifies *creation*, in reality it has a communion of laws which confounds it with all the other cosmical phenomena.

Scientific and experimental medicine proposes to discover the conditions of the phenomena proper to life, or perhaps to decide their determining causes, and these are, or rather should be, its pillars of Hercules. It, like all the rest of the sciences, does not delude itself by hunting for the Why, well knowing that the first legislative and directive causes of creation are inaccessible; and that it is enough for each scientist to know under what physico-chemical conditions such or such a phenomenon manifests itself, that he may be able to control and modify its occurrence.

What are the phenomena that the physician studies? The functional disturbances, or the symptoms of the disease. What are the physico-chemical conditions of these phenomena? The internal causes of the diseases. This is the simple formula of the pathological problem: to arrive logically at the third part of the solution, which is the most serious. How is it possible to artificially modify these diseased physico-chemical conditions so as to restore them to their normal physico-chemical condition—that is to say, to make the morbid phenomena disappear and the normal functions return?

It is enough, gentlemen, to announce this series of problems to frighten and amaze, not *one*, but many and many generations of explorers. This honest confession would appear to me to be the best preface of future scientific medicine. There is no remedy. If scientific medicine is to be constituted, this is the logical progression of its steps. Outside of this orbit all is empiricism and ignorance, because there do not exist half-sciences or conjectural sciences. Following this road, the physician (like the physico-chemist, who first properly knew the conditions of the existence of natural phenomena, and then modified them so as to turn them to his profit)—the physician, I say, will learn how stupid is the phrase which to-day is so often repeated, and in the use of which he often abuses the name of a misunderstood progress—that *man commands nature*. No, gentlemen, in reality the scientist, as also the physician, if he wishes to be and not appear such, instead of commanding, obeys, and *must* obey nature, a truth as old as Hippocrates: because, if he wishes to profit by them, he must completely study the laws that preside over phenomena, and, while interrogating nature, must jealously respect these laws. Otherwise, nature without exception will rebel, and the result which he desires will certainly not take place.

Ask the modern prodigies of industry, who are the legitimate sons of scientific progress; interrogate Franklin, Stephenson, Daguerre, Edison, and many other benefactors of humanity, if it is true that they have bridled the thunderbolt. They have allowed man to nearly suppress distances; they have given to us the honor of having for our painter the light-house of the world, and placed most fearful lightning in our parks and houses as a rival to the sun. But

they were always true and faithful ministers of science; they were quiet, and never made pompous promises until they had discovered all the secrets of the phenomena which they had undertaken to study. If but one link of the long chain of their researches had not been properly forged and welded, none of us can doubt that the chain would most certainly have been broken at the trial, and that the miracles prematurely announced would have been lost for ever. This, then, is what unquestionably distinguishes real scientific or experimental progress. In the biological sciences, and above all in the progress of pathology and of therapeutics, this fundamental principle has too often been forgotten, and this forgetfulness appears to me the real cause which has paralyzed up to the present the useful results in proportion to the immense mass of researches made in the field of medical sciences. It is repeated on all sides that there have been discovered thousands and thousands of facts. You continually hear of these facts, and of a thousand new experiences to excuse the forgetfulness of the experimental method. But, as De Candolle, Chevreul, Bernard, and many others kept continually saying, in real science it is digested facts, and not crude ones, which nourish thought, and that nutrition may be perfect, it is indispensable that a just proportion between the quantity of nourishment and the power of the digestive organs be established (see "*Histoire des sciences et des savants depuis deux siècles*"). This boast, which many modern scientists make, of not wishing to discover any but new facts, really is nothing more than a reaction of the natural philosophy that ruled about the beginning of this century, especially in Germany, and which gave to the mind an exaggerated preponderance in the interpretation of the phenomena of the external world. But if the excesses of reasoning in the progress of experimental science opened the doors to the present apparition of scientists and of experimenters purely empirical and skeptical, the contrary excess, that is the complete absence of all reasoning on the facts which are observed, leads to the complete loss of the great benefits of the experimental method. In the experimental sciences isolated facts are a luxury, vain and perilous, when they are not discovered under a common directing principle, or at least from time to time co-ordinated, put in connection, and lighted by a connected logic, that is afterward proved true by later experiences. And thus, also, in medicine, riches isolated and divided can not by themselves produce useful progress to clinical medicine, because the physician at the bedside, after a minute analysis, has need of a great synthesis to formulate wise advice, and without synthesis even an encyclopædic physician is ruin for the patient. I beg you, illustrious colleagues, to fix your kind attention on these ideas, as it appears to me that the future will not be different if the true lovers of progress do not counsel the rising generation to proceed with the same rigor, so that the experimental method may conduct to prodigious results of the physico-chemical sciences, and of physiology, because there can not exist two different experimental methods; the experimental method is one, and is that which was born with Galileo, and its code is always the same. Undoubtedly, with few exceptions, the feverish desire to *do fast* has interfered with doing well, and on this account

it is that, while for over half a century the absolute reign of the experimental method in medicine has been proclaimed as a principle (or dogma) of progress, in reality we are spectators and actors of real barbaric onslaughts, which are the systematic invasions that are the negation of the experimental method. It matters little if a system be constructed in the name of an hypothesis, and another in the name of a new and true fact, and it matters little whether these systems are called vitalism or controstimulism instead of cellular pathology or bacteriology. These differences in names only imply that, instead of having a strong passion for the fantastic hypothesis of the old school of medicine, we first stop on the discovery of a new fact, and then think we see beyond the fact, constructing instead hypotheses; but this is exactly what constitutes the system, *an edge of truth which it is sought to proclaim and impose as the total and absolute truth with the effect of dethroning the rest.*

This progress is anti-scientific, and at a given moment must from necessity come to a stop. To-day, unfortunately, medicine continues to be the victim of systems, and the system of the day is bacteriology. For those who sincerely love the progress of medicine it appears to me that hiding from us this dangerous reality is little scientific charity. It would undoubtedly be childish, if not dishonest, to ridicule the great teachings which are included in the discovery of a real microcosm incessantly at war with mankind. It is true that it is written in the pages of the chosen masters (Brieger, Hayem, Klebs, Sternberg, *et al.*) that the limit which we must dream of for the present in this new era of pathology and therapeutics is clearly given; but the current of mediocrity suffocates all, conquers the masses, carries with it the less reserved, and fills with enthusiasm those who have no scientific faith and who are ready to cry Hosanna to-day to Christ, and to-morrow to Mahomet. The only fact that has allowed of this systematic invasion, a hundred times more powerful and incomparable in its dominion than that of cellular pathology, is the complete forgetfulness of the laws of the experimental method in the progress of medicine.

Without pretending to search for the prophets of bacteriology in Lucretius's poem, "*De natura rerum*," and in the *contagium animatum* of the middle ages, I prefer to tell you that the idea that living microscopic germs, penetrating insidiously into us by our lungs, stomach, and skin, are capable of developing certain determined diseases, is not new, and has in other periods presented itself to the minds of physicians under another name, and it would be enough to mention the universal panacea of camphor that checkmated less than half a century ago the greater part of the medical faculty. But these attempts did not contribute to start microbiology, of which the first light is undoubtedly due to Cagniard Latour, who had formally announced that if yeast made from beer caused sugar to ferment, it was on account of *some effect of its generation and of its life*. No one could then have believed (in 1825) that in these words were included the germ of one of the most fruitful naturalistic discoveries of the nineteenth century. Nor do I pretend here to trace to you by what rigorous and

scientific ways this great discovery has made its way, and what obstacles it has had to overcome. But I must recall the memorable researches of Rayer and Davaine in 1851 on the bacteria of carbuncle, and those of Pasteur on the transformation of lactic acid into butyric acid (1861), and on the diseases of silk-worms; these were the starting-points of the present scientific researches, so much the more remarkable inasmuch as they show that when science has followed the bed of experience without overflowing, it has always come to indestructible and lasting results. Things continued to go on in the right way for many years, and everything seemed as if it would proceed with the greatest experimental rigor.

Sufficient would be the works of Raulin, who was the first to present to us the vast horizons that were opening before the scientific physician regarding the physico-chemical conditions necessary for the development of bacilli, studying in a given space the conditions favorable and necessary for the development of the mold commonly known under the name of *Aspergillus niger*; he demonstrated that the smallest trace of nitrate of silver in a liquid specially prepared was enough to stop the development of this mold. This should have infused into the physician great reserve and great prudence, but for more than ten years microbiology, instead of proceeding by measured and sure steps, assumed to have become all pathology. It was a real whirlwind that enveloped everything in it; and alongside of precious discoveries, such, for example, as that of the bacilli of carbuncle and of tuberculous and some other diseases, which were really an honor to science, sprang up on all sides microscopic researches on the existence of new microbes in all diseases, and it appeared as if each disease had found its real cause. For the malarial infection alone, after the *palmella* of Salisbury, six or seven microbes were discovered, up to the new *Plasmodium malariae*, destined perhaps to die before it is registered, because authoritative researches (Tommasi Crudeli) have demonstrated that its presence in the corpuscles of the blood was illusory, the alteration of which is due instead to a retrograde metamorphosis of the red corpuscles (Mosso). For the last five or six years it has been impossible to open a newspaper without finding registered the discovery of one or more new pathogenetic microbes, and it must be said that, while attention was turned away from so many unsolved problems of pathology, the easiest way to enter upon the road to celebrity was, and is still, to announce the discovery of some new micrococcus or bacillus in such or such a disease. It has been a general blindness; pathology has almost been proclaimed by some to be a mere corollary of bacteriology. Every fashionable clinic in vogue found it indispensable to have next to the sick-ward a cabinet for microbe cultivation, and so far no harm has been done, for such researches may prepare for the future, but should always remain in their places. But what may appear to some of this auditory incredible is that, as some of the clinics were not rich enough to maintain the laboratories of bacteriology, they opened a laboratory for the cultivation of bacteria and closed a sick-ward, and it happened that in some of the great charity hospitals, during the same day and same hour, the director, on the one hand,

begged the medical corps to moderate the prescribing of meat for the sick, threatening otherwise to diminish the number of patients, and, on the other hand, proposed spending a new sum for meat necessary for the cultivation of bacteria in a special institute. If these accounts were not capable of proof, they might be believed to be tales of the middle ages, and, in fact, in some of the present dissertations on this subject, we find romantic descriptions of the lives of the microbes, of the battles and slaughter in the phalanxes of the different microbes which exist in our organism, enough to make us believe that we have returned with scientific form—that is, with a new *mise en scène*—to the battles of the acids, of vital spirits, and of the archery which rendered Sylvius and Van Helmont celebrated. The innocent public, only desirous of knowing that a sure remedy would be found for every disease, and that even epidemics would be checked, and above all that of cholera (as the great clamor which surrounded the discovery of the comma bacillus was the furnace of this hope), enthusiastically applauded this discovery, which was proclaimed on all sides the true philosopher's stone of pathology, and the physicians, on the other hand, not willing to lose these praises, although so premature, hastened with unheard-of zeal to proclaim that the only intent in the cure of disease must be that of killing the microbes, or at least of making a sharp war against them, so that they might not devour the organism, while this latter unfortunately most of the time succumbed to the action of the antiparasitics. It is impossible to say, and, moreover, it would be a superfluous work to state it here, with what criminal audacity and with what ridiculous childishness, at the same time, the brains of those physicians found it easier not to follow the thorny way of the experimental method, but grasped thirstily at every new idea, and magnified and exaggerated it, believing that this was enough to stamp them as progressive men. A learned and honest cultivator of medicine who would like to amuse himself need only observe the most absurd cures which have been proposed for the most serious diseases during the last ten years; and for the honor of progress it must be said that it could not believe its eyes.

And all these curative propositions were made, and are still repeated, in the name of scientific medicine and of rational therapeutics. It is enough to remember the unfortunate attempts at many different clinics with the most poisonous parasites to kill the bacillus of tuberculosis in consumptives, but which contributed instead to aggravate their miserable destiny. Sufficient, also, is it to remember that carbolic acid and salicylic acid were proclaimed as remedies sure to abort typhoid fever and cholera. But, on the other hand, we must not be unjust to the honesty of the progressive men, for a certain remorse made itself felt in these physicians, who kept putting the organism between the door and the wall, playing lightly with terrible poisons. So some concluded to come to a shrewd compromise, using certain dangerous medicines in such doses as to render them harmless, but at the same time ineffective, according to the teachings of the laboratory. Undoubtedly in this way the life of the patient was guaranteed against the dangers of the cure, but undoubtedly none the less was the physician

who pretended to be a scientist a charlatan. But the honor of progress at least was saved before the public, which in reality, ignorant of how much carbolic acid was necessary to kill this or that bacillus, and seeing the patient cured, cried out *Eureka*, and blessed in every way this new kind of medicine. Nor did they hesitate to refer to Darwinism applied to therapeutics in some diseases. "Struggle for life," gentlemen—this is the formula, the fight for existence; and they thought to kill the bacilli of tuberculosis by introducing into the respiratory organs other bacilli believed to be innocuous, but in reality only making the efforts of the former worse, which fact has since been demonstrated in important trials in laboratories and clinics.

(To be concluded.)

Original Communications.

REPORT OF THIRTY-SIX CASES OF SIMPLE EXTRACTION OF CATARACT WITHOUT IRIDECTOMY.*

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FOR convenience of reference, the detailed report of these thirty-six cases is presented in tabular form, and is prefaced by a brief statement of the nature of the case; the complications, if any existed; the technique of the operation and after-treatment, with some remarks upon the process of healing and the resulting vision; together with a consideration of the advantages and disadvantages of the operation.

Sex of the Patients.—Of the thirty-six cases in which Daviel's operation was performed, twenty were in males and sixteen in females.

Age of the Patients.—The youngest patient was thirteen years of age, and the oldest was seventy-nine.

In twenty-four cases the cataract was of the hard, senile character. In eleven cases it was traumatic in origin, and soft or semi-soft in consistence. In one case it was of secondary or inflammatory origin.

Complications.—There were corneal maculae in three cases. Tremulous iris and fluid vitreous were present in seven cases. There was old chorioiditis in five cases, and irido-chorioiditis in one case.

Antisepsis.—Careful antiseptic precautions were taken in every case before, during, and after the operation. The patient's head and face were carefully washed with a solution of mercuric bichloride (1 to 1,000) before the operation, and the conjunctival *cul-de-sac* was thoroughly cleansed several times on the day of operation with a sublimate solution of 1 to 5,000. This was done carefully just before the operation, and then a 5-per-cent. solution of cocaine hydrochloride was instilled several times until the desired

anæsthesia was produced. A final washing of the conjunctiva, cornea, and eyelids was then done with a solution of mercuric bichloride (1 to 5,000). The hands of the operator and assistants were carefully washed with soap and water, and then thoroughly cleansed with a sublimate solution (1 to 1,000). The instruments were sterilized with a carbolic-acid solution, and lay in a bath of absolute alcohol till ready for use.

Operation.—The operation was always done while the patient was lying in bed in the room where he was to remain, so as to avoid all unnecessary movements. A speculum was used in every case to hold the lids open. The knife used was a long, narrow knife, somewhat narrower than the Graefe instrument, and, on being introduced through the cornea on the temporal side, was passed rapidly across the anterior chamber to its point of exit, and the corneal flap, measuring about two fifths of the circumference of the cornea, was rapidly completed. Usually there is no prolapse of the iris on the withdrawal of the knife, but, if it should occur at this stage of the operation, it is allowed to remain until after the extrusion of the lens. The sterilized capsulotome is then introduced, and the anterior capsule opened by a quadrilateral incision. The speculum was then removed, and by pressure and counter-pressure through the lids with the index fingers, or with one finger and a broad spatula, the lens was readily caused to present at, and pass out through, the corneal wound. The *cul-de-sac* and edges of the lids were then carefully irrigated with the bichloride solution (1 to 5,000), and, if the reduction of the prolapsed iris had not occurred spontaneously, it was carefully replaced by delicate manipulation with the spatula. All soft lens matter was then gently washed away with the antiseptic solution, and if any lens substance or blood-clots remained in the anterior chamber, they were removed by gentle irrigation of the chamber with a solution of mercuric bichloride (1 to 10,000). One drop of a solution of eserine sulphate (a grain to the ounce of a saturated solution of boric acid) was then instilled into the anterior chamber, and the lips of the corneal wound were brought into close coaptation. A final washing of the *cul-de-sac* was then done, and in some cases a little eserine was spread along the ciliary margin of the lids. Then a pad of sterilized linen gauze was placed over the lids, and over this a thin wad of absorbent cotton soaked in a solution of bichloride (1 to 2,000); over this a wad of dry absorbent cotton, and then a bandage over both eyes. Unless indicated, this bandage was not removed for two days, but the eserine solution was instilled underneath the bandage twice daily. At the end of forty-eight hours the bandage was removed, and the lids and adjacent portions of the face were carefully washed with the bichloride solution (1 to 2,000), but, unless there were signs of irritation or inflammatory action, the lids were not opened till the fourth day. They were then carefully cleansed and opened, the eyeball and *cul-de-sac* were gently irrigated with the bichloride solution (1 to 5,000), and the eye was then examined. If the appearance of the eye was favorable, the eserine solution was again instilled, and the bandage reapplied to the eye operated on for another day, and then was removed altogether.

* Read before the American Ophthalmological Society, New London, Conn., July 20, 1887.

The *reduction* or *return* of the *prolapsed iris* to the anterior chamber occurred spontaneously in sixteen cases, while in the twenty remaining cases it was replaced by the spatula.

The *healing process* was in most cases favorable, though occasionally somewhat protracted. There was no case of suppuration. There was one case of so-called "striped keratitis" extending from the wound over the entire cornea, but this soon subsided under the influence of hot water and a bandage, and the cornea subsequently became entirely clear. There were six cases of plastic iritis of a mild type, which yielded readily to treatment, and two cases of moderate irido-cyclitis with formation of a membrane in the pupil.

In one case the wound healed on the third day, and the healing process progressed favorably till the ninth day, when the epithelium from the lower half of the cornea was cast off. This was, however, regenerated in three days under the reapplied bandage, and there was no further complication in the case. In another case the corneal epithelium on the third day was raised up in four or five spots by a clear exudation, just as in "keratitis bullosa," but the fluid was absorbed and the small blisters subsided, leaving the cornea clear.

In twenty-four cases the healing process was perfectly normal in every respect, though in some rather slow.

Prolapse of the Iris.—This did not occur in any case.

Incarceration of the Iris.—In the first thirty cases there was neither secondary prolapse nor incarceration of the iris in the wound, and this was attributed to the great care exercised in the operation, which was done with the patient lying in bed, from which he was not permitted to be removed until the wound had healed. But in the last six cases, in which the same care was taken, incarceration of the periphery of the iris occurred in every case. There was no prolapse and no incarceration of the sphincter iridis, but the iris became adherent to the inner lips of the wound more or less extensively near its periphery, causing considerable irritation and a somewhat prolonged circumcorneal injection, with distortion and displacement of the pupil. This latter symptom was noticed in some cases where there was no incarceration of the iris tissue, and this displacement, with or without incarceration, occurred in sixteen cases. There were posterior synechiae or adhesions of the iris to the remains of the lens-capsule in thirteen cases.

The average duration of in-door or hospital treatment was somewhat more than twenty days (20.75), the shortest period being twelve days and the longest forty-seven days.

A secondary operation, usually a needling or laceration of the posterior capsule, was required in twelve cases; and excision of a piece of very thick membrane and capsule combined in one case.

Accidents during the Operation.—Prolapse of the vitreous occurred in four cases. Dislocation of the lens downward occurred in two cases. Collapse of the cornea occurred in two cases.

As regards the after-treatment of these cases, but little

need be said. Rest in bed is of the utmost importance until the wound is healed.

Atropine was not instilled in any of the cases except where iritis occurred, and even here a one-grain solution was deemed sufficiently strong. In the two cases of irido-cyclitis a four-grain solution of atropine sulphate was instilled as often as was thought necessary. No eserine was employed after the external lips of the wound had healed. The incarceration of the iris which occurred in six cases may possibly have been due to this fact; but as there was no incarceration in the first thirty cases, in which the eserine had also been discontinued after the healing of the external lips of the wound, it is extremely doubtful whether this explanation will suffice.

The degree of acuteness of vision obtained in these thirty-six cases by the simple method of extraction was as follows:

$V = \frac{2}{3} 0$ in two cases.

$V = \frac{3}{4} 0$ in eight cases.

$V = \frac{2}{5} 0$ in eight cases.

$V = \frac{2}{6} 0$ in ten cases.

$V = \frac{1}{10} 0$ in five cases.

$V = \frac{2}{20} 0$ in two cases.

$V = 0$ in one case; eye previously blind.

Thus it will be seen that $V = \frac{2}{3} 0$ was not obtained in any case, while a visual acuity of $\frac{2}{20} 0$ or better was obtained in thirty-five cases, or *all but one*.

The number of cases here tabulated is as yet far too small to admit of the formation of any opinion as to the advantages or disadvantages of this method of operating. It should not be forgotten that it is essentially an old operation to which some surgeons are returning, and not a new one which is still on trial. Wecker and Panas, who have done more than all others to revive it, are most enthusiastic in their praise, but they have not as yet furnished us with any detailed or reliable statistics. Simple extraction without iridectomy certainly preserves the natural appearance of the iris, especially if there is no incarceration of the iris tissue, and a round and movable pupil is more serviceable than a truncated or key-hole pupil. I have no doubt in my own mind that eccentric vision is better in these cases than after extraction with iridectomy, for a number of these patients stated that they had very little difficulty in crossing crowded streets. Central vision, as exemplified in the cases tabulated, can not be regarded as any better than that found in cases of extraction with iridectomy, though I think it may be considered fully as good. One advantage the simple method of extraction certainly possesses, and that is, there is much less probability of incarceration of bits of capsule or portions of vitreous in the corneal wound than in the peripheral linear incision with iridectomy. On the other hand, the technique of the operation is more difficult of performance. The knife must be passed very rapidly across the anterior chamber, in order to prevent the iris from falling on its edge and being divided. The extrusion of the lens through the corneal wound is more difficult in the simple operation because of the presence of the prolapsed iris, which partially fills the wound. For the same reason the danger of prolapse of the vitreous is more imminent, the

TABULAR REPORT OF THIRTY-SIX CASES OF SIMPLE EXTRACTION OF CATARACT WITHOUT IRIDECTOMY.

No.	Name.	Age.	Nature of cataract.	Complica- tions.	Operation.	Reduction of iris.	Healing process.	Secondary prolapse or incurva- tion of iris.	Posterior synechia.	Duration of treatment in days.	Primary resulting vision.	Secondary operation.	Ultimate vision.
1	Mrs. W.	68	Senile, hard, L. E.	Broad arcus senilis.	Prolapse of vitreous at moment of capsuloto- my; lens removed by hook; collapse of cor- nea; hæmorrhage in- to ant. chamber.	By spatula	"Striped" kerati- tis; slow healing of lips of wound.	None.	One.	23	20/200	Dissection of post. capsule 4 weeks later.	20/50
2	F. M.	13	Traumatic from blow 8 mos. ago, R. E.	Tremulous iris, dilated pupil.	Normal, except slight loss of vitreous after extrusion of lens.	Sponta- neous.	Normal.	None.	Two.	15	20/50	.....	20/40
3	Mrs. S.	26	Traumatic; blow from cork 3 yrs. ago, R. E.	None.	Normal.	Sponta- neous.	Normal.	None.	None.	18	20/100	.....	20/70+
4	W. B.	21	Traumatic; 4 yrs. ago, L. E.	None.	Normal.	Sponta- neous.	Normal.	None.	None.	20	10/200	Dissection of thickened capsule 3 wks. later.	20/50
5	Mrs. H.	70	Senile, hard, R. E.	Corneal macula.	Normal.	By spatula	Normal.	None.	None.	21	20/200	.....	20/50
6	Mrs. F.	22	Traumatic; R. E.	None.	Normal.	By spatula	Normal.	None.	None.	24	20/100	.....	20/100
7	Mrs. K.	55	Hard, nu- clear, R. E.	.....	Considerable soft lens matter carefully evac- uated by pressure. Ir- regular coaptation of lips of wound.	Sponta- neous.	Slow.	None.	Two.	26	20/200	Dissection 4 weeks later.	20/100
8	M. L.	60	Senile and traumatic; R. E.	None.	Normal.	By spatula	Slow.	None.	None.	22	15/200	Dissection 3 weeks later.	20/50
9	A. K.	42	Traumatic, R. E.	Incipient cataract in L. E.	Normal.	Sponta- neous.	Normal.	None.	None.	16	20/100	Dissection 2 weeks later.	20/50+
10	J. K.	62	Traumatic; R. E.	Ant. polar cataract in L. E.	Normal.	By spat- ula.	Slow.	None.	None.	22	10/200	Dissection 4 weeks later.	20/100+
11	J. G.	65	Hard.	Aphakia in L. E., with old chori- oiditis.	Prolapse of vitreous at once; lens dislocated downward and in- ward, and removed in its capsule by blunt hook.	By spat- ula.	Slow; iritis.	None.	Sev- eral.	28	5/200	Laceration of dense membrane 6 weeks later.	20/50+
12	D. G.	38	Traumatic; nuclear L. E.	None.	Normal.	Sponta- neous.	Slow; iritis.	None.	Sev- eral.	26	20/200	.....	20/50-
13	P. S.	70	Hard, R. E.	Broad arcus senilis.	Prolapse of vitreous; re- traction of iris; lens dislocated downward and removed in cap- sule with spoon; loss of considerable vitre- ous.	By spat- ula.	Very slow; opaci- ties and mem- brane in vitre- ous.	None.	One.	38	10/200	Dissection 5 weeks later.	20/100
14	Mrs. L.	78	Hard, R. E.	None.	Normal.	By spatula	Normal.	None.	Two.	23	20/50	.....	20/100
15	Mrs. C.	40	Traumatic, R. E.	Incip. catar- act in L. E.	Normal.	Sponta- neous.	Normal.	None.	One.	15	20/50	Dissection 4 wks. later.	20/50+
16	J. M.	47	Traumatic, R. E.	None.	Normal; much soft lens matter; free irrigation of ant. chamber.	By spatula	Irido-cyclitis; dense membrane in pu- pil.	None.	Sev- eral.	47	5/200	Removal of triangular piece of mem- brane 3 w. later.	20/50+
17	Mrs. S.	68	Hard, L. E.	None.	Normal.	By spatula	Normal.	None.	None.	16	20/50	.....	20/50+
18	Mrs. G.	79	Hard, L. E.	None.	Normal.	By spatula	Slow.	None.	None.	21	20/50	.....	20/50
19	M. C.	45	Hard, R. E.	None.	Normal.	By spatula	Normal.	None.	None.	22	20/50	.....	20/50
20	F. H.	64	Hard, L. E.	R. E.-phthi- sis bulbi fol- lowing ex- traction of cataract 5 mos. before.	Normal.	By spatula	Wound heal'd on 3d day; on 9th day loss of epitheli'm from lower half of cornea; this was regenerated in 3 d. under bandage	None.	One.	19	20/50	.....	20/50+
21	Mrs. W.	66	Hard, R. E.	None.	Normal.	By spatula	Slow.	None.	Two.	19	20/50	.....	20/50
22	Mrs. G. M.	70	Hard, R. E.	None.	Normal.	By spatula	Slow.	None.	None.	22	20/50	Dissection 5 wks. later.	20/50
23	H. K.	65	Hard, R. E.	Old chori- oiditis.	Normal.	By spatula	Corneal epithelium raised by clear fluid in spots like those in "kera- titis bullosa."	None.	Two.	14	20/200	.....	20/200+
24	G. B.	46	Hard, L. E.	Macula cor- neæ.	Normal.	Sponta- neous.	Normal.	None.	None.	16	20/50	.....	20/50

TABULAR REPORT OF THIRTY-SIX CASES OF SIMPLE EXTRACTION OF CATARACT—(Continued).

No.	Name	Age	Nature of cataract	Complications.	Operation.	Reduction of iris.	Healing process.	Secondary prolapse or incarceration of iris.	Posterior synechiae.	Duration of treatment in days.	Primary resulting vision.	Secondary operation.	Ultimate vision.
25	F. K.	17	Traumatic, R. E.	None.	Normal; post. capsule torn by capsulotome.	Spontaneous.	Normal.	None.	Two.	12	$2^0/50+$	.....	$2^0/30-$
26	P. B.	60	Hard, L. E.	None.	Normal.	By spatula	Slow.	None.	None.	20	$2^0/100+$	.....	$2^0/30+$
27	Mrs. K. H.	54	Hard, L. E.	Old chorioiditis.	Normal.	By spatula	Slow; iritis.	None.	One.	16	$2^0/200$	.....	$2^0/100+$
28	Marg. D.	55	Hard, R. E.	Corneal macula.	Normal.	By spatula	Normal.	None.	None.	22	$2^0/100+$	.....	$2^0/70+$
29	J. S.	27	Semi-hard.	Irido-chorioiditis, blind eye, great pain.	Normal; iris separated from its adhesions to capsule throughout entire circumference of pupil.	By spatula	Normal.	None.	Sever.	14	0		
30	J. R.	58	Hard, L. E.	None.	Normal.	Spontaneous.	Normal.	None.	None.	16	$2^0/100$	Discis'n 3 wks. later.	$2^0/40-$
31	Mary W.	60	Hard, R. E.	Chronic conjunctivitis, but little secretion.	Normal.	Spontaneous.	Normal.	Iris in-carcer.	None.	13	$2^0/70+$	.....	$2^0/50+$
32	Thos. K.	61	Hard, L. E.	None.	Normal.	Spontaneous.	Normal.	Iris in-carcer.	None.	14	$2^0/50$	.....	$2^0/40+$
33	Wm. B.	64	Hard, L. E.	Chronic Bright's disease.	Profuse hæmorrhage into ant. chamb., rendering operation very protracted.	Spontaneous.	Very slow; outer lips of wound long patulous.	Iris in-carcer.	None.	32	$2^0/200$	.....	$2^0/70$
34	Ellen McL.	56	Hard, R. E.	None.	Normal.	Spontaneous.	Normal.	Iris in-carcer.	None.	12	$2^0/100$	.....	$2^0/40+$
35	Jas. C.	63	Hard, R. E.	Chronic Bright's disease.	Complete collapse of cornea.	Spontaneous.	Very slow; outer lips of wound long patulous.	Iris in-carcer.	None.	30	$1^5/200$	Discis'n 2 wks. later.	$2^0/100$
36	P'trick C.	62	Hard, L. E.	Broad arcus senilis.	Normal.	Spontaneous.	Normal.	Iris in-carcer.	None.	13	$2^0/70$	.....	$2^0/40-$

pressure required to effect displacement and extrusion of the lens being greater. The removal of fragments of lens, cortex, or capsule, or blood-clots from the anterior chamber and field of the pupil is much more difficult in this operation, and irrigation of the chamber seems almost a necessity. Though I have had no personal experience of secondary prolapse of the iris, yet it would seem much more likely to occur in the simple operation than in the extraction combined with iridectomy.

From my limited experience it is not possible to lay down rules for a proper choice of cases in which this operation may be done. A narrow anterior chamber would, I think, contra-indicate its performance. It will probably be found practicable in the majority of cases, though in many an iridectomy will be indicated and even found to be necessary after the corneal section has been completed.

When there is reason for supposing in a given case that the vitreous is fluid or that the zonule is ruptured, either wholly or in part, an iridectomy renders the operation safer. If, after completing the corneal section, the iris is found rigid and inelastic, any attempt to force the lens past such an unyielding iris would probably cause loss of vitreous, or dislocation of the lens, or both, besides bruising the iris, and in such cases an iridectomy should always be done. The same reasoning would apply to a case in which the corneal incision was too short, though an attempt might be made here to increase the length of the incision in the cornea with the scissors. If the iris prolapses on the knife and is injured, the injured portion should of course be excised. Further experience will no doubt lead to a modification of some of these views.

A CASE OF SUPPOSED ANEURYSM OF THE ARCH OF THE AORTA.

By ALEXANDER B. POPE, M. D.

On August 2, 1887, the following case was presented for examination at the dispensary of Bellevue Hospital:

J. C., aged forty-five, married, a native of Ireland, but a resident of New York during the past forty-three years, a long-shoreman by occupation. Family history good. No history of syphilis, but a well-marked alcoholic habit. The patient presented himself for the relief of neuralgic pain having its seat in the left side of the neck, left shoulder, and upper extremity as far as the elbow. This condition had lasted for months, and had been gradually growing worse. It was constant, and not affected by change of position. He complained further of hoarseness, which came on quite suddenly two weeks ago. Under pressure of a large number of patients he was examined hurriedly with the following result: Some fullness just to the left of the sternum, and corresponding to the first, second, and third intercostal spaces, was observed; also a well-marked pulsation, heaving or lifting in character. Palpation revealed nothing after repeated efforts to find a thrill. Percussion elicited dullness, corresponding to the pulsating area, over a space rather oval than circular, about three by four inches. Auscultation revealed absolutely nothing, although the lungs were not examined. Behind, to the left of the spinal column, nothing abnormal could be appreciated. Perhaps I should add that on examination of the heart it was noticed that both heart sounds were intensified. The pulsations were synchronous and of equal volume in the two radial arteries.

Some disappointment was felt that the diagnosis could not be clearly established, although strongly suspected, and the patient was dismissed with a prescription for the relief of his pain

and the request that he should return two days later. One week later he returned, and a more careful and deliberate examination revealed the following facts: The pupils were equal, rather dilated, and responded to light. The radial pulsations corresponded precisely in time and volume. A comparison of the radial, however, with the femoral showed that pulsation in the latter artery was delayed, and that the volume of blood in the radial was abnormally great, whereas in the femoral it was unnaturally small. Unfortunately, no observations of a scientific character were taken to measure and compare these differences, and therefore I can only state that the pulse in the femoral was distinctly felt to occur later than in the radial, and the volume of blood in the latter was much greater than in the former. It was now noticed that the radials showed well-marked atheroma. An examination of the heart showed that it was not enlarged. On palpating over the area of pulsation, a thrill was at times felt distinctly, and a minute later could not be detected, although changes of posture, respiration, etc., were tried. Perhaps five minutes later it was distinctly felt. It was extremely faint when present, and entirely different from the pulsation, which was powerful at all times. In other respects the examination of the heart presented the same features as before. An examination along the posterior aspect of the spinal column was negative. The lungs showed on the left side in front some dullness, also at the apex behind. There was diminution of the respiratory murmur all over the left side in front and behind. No râles were heard. The right side of the chest was normal. The liver and spleen were not enlarged. There was no history of rheumatism. On close questioning, the patient acknowledged some shortness of breath on going up-stairs or on over-exertion.

The following day he was presented to the class at the New York Polyclinic as having aneurysm of the descending portion of the arch of the aorta.

The third examination, with the assistance of the physicians there present, revealed several interesting points. It was found that the radial arteries, while synchronous in pulsation, were not of equal volume. The left was distinctly smaller than the right. The thrill was transient as before, yet at one time or another every one present felt it. For the first time a murmur, indeed two murmurs, for I believe that they were not identical, were discovered. One was very faint and located at the left edge of the sternum, therefore corresponding nearly with the point of greatest prominence and impulse, between the second and third ribs. It was distinctly confined to a spot smaller than a silver dollar, single and systolic. The other, also single and systolic, was heard in the first interspace of the right side and transmitted faintly into the carotid. The latter murmur was supposed to be due to atheroma between the aneurysm and the heart; the former to the aneurysm. In passing directly between the right first interspace and the second left interspace a point was found where neither murmur could be heard. The patient was dismissed with precautionary directions as to diet and active exercise and the following prescription:

R Potas. iodid. ʒ ss.;
Tr. digitalis. ʒ ij;
Syr. sarsaparil. co. ʒ ij;
Aq. ad ʒ iv.

M. Sig.: A teaspoonful in water three times daily.

The following day I was approached and asked to sign his death certificate. A visit to his wife, for the purpose of seeking a post-mortem, was made. In this I was unsuccessful, but learned the following interesting facts: The morning after last seeing me he went out early as usual to his work, but what he did no one knew, returning about 10 A. M. Almost immediately after entering his room, on the fourth floor of a tenement-

house, he had a slight, short paroxysm of coughing, followed by hæmorrhage which was fatal in a few minutes. From his sister I learned for the first time that he had had a hæmorrhage about one week before seeing me, "during which he lost about one pint of blood."

There are several instructive features connected with the case: The faint character and transient nature of the thrill; the two murmurs, both transient and distinctly different; the aneurysmal murmur localized and weaker than the systolic aortic; paralysis of the left vocal cord from pressure on the recurrent laryngeal nerve; dullness and feebleness of the respiratory murmur on the left side. The last may have been caused by pressure on the left bronchial tube, or, what would seem more reasonable, from the position of the tumor upon the trachea, but in such a way as to direct the current of air largely into the right bronchus. Perhaps it compressed both the left bronchus and the trachea.

Lastly, the abnormal fullness of the right radial and carotids; the small volume of blood in the left radial upon one examination, and this together with delayed pulse which were constant in the femorals.

I am under obligation to Dr. Kempner, of Bellevue Hospital, who transferred the patient from the surgical class, into which he had wandered by mistake, to my care, with the suggestion that the case was one of aneurysm.

Correspondence.

LETTER FROM WASHINGTON.

The General Features of the Congress.—The Entertainments and Social Incidents.—The Trade Exhibits.

WASHINGTON, September 7, 1887.

SOME time before the hour appointed for the opening of the congress, every seat, as well as most of the standing room, in Albany's New Opera-House was filled. The parquet was occupied by members, and the balcony and gallery were filled to overflowing by ladies and gentlemen and members who could not find seats in the parquet. The stage was occupied by President Cleveland, Secretary Bayard, Speaker Carlisle, Dr. N. S. Davis, president of the congress, Dr. John B. Hamilton, secretary general, Dr. A. Y. P. Garnett, Dr. H. H. Smith, Dr. L. A. Sayre, and other officers of the organization. At 11 A. M., the vast assemblage having been called to order by Dr. H. H. Smith, chairman of the executive committee, President Cleveland was introduced and in a few well-chosen words formally opened the Ninth International Medical Congress. After the report of the secretary general had been read, Dr. Garnett, chairman of the local committee of arrangements, announced the entertainments that had been provided for the members of the congress, viz., a *conversazione* at the United States Pension Hall; an informal reception at the White House by President Cleveland; a visit to the Corcoran Art Gallery; receptions by the citizens of Washington, expressing his regret that the month of September should have been chosen for the meeting of the congress, because many of the citizens were out of the city; a general reception and buffet banquet at the Pension Hall, and a visit to Mount Vernon. He also announced that a special excursion to Niagara Falls had been planned for

the benefit of foreign members, to whom it would be free of cost. The Hon. Thomas F. Bayard, Secretary of State, was then introduced and delivered a formal address of welcome. He was followed by Dr. W. H. Lloyd, of the English Navy, Dr. Léon Le Fort, of Paris, Professor Semmola, of Naples, Professor Unna, of Hamburg, and Dr. Charles Rehrer, of St. Petersburg, each of whom in his own way expressed his gratification for the reception given, etc. Professor Semmola and Dr. Le Fort spoke in French and Professor Unna in German, the audience applauding when they thought applause would properly come in. Professor Semmola's animated manner attracted the attention of all, and his highly complimentary remarks in regard to *la grandeur* of this country won the warm applause of those who understood him, the entire audience, of course, joining.

The first of the entertainments, the *conversazione*, was one of the class which it is very difficult to describe, and I know of no way other than to call it an assemblage of men, women, and youths of both sexes, promenading to the music of a moderately fair band, in an immense hall lighted by the electric light and decorated with American flags and shields bearing the coats of arms of the several States of the Union. Everybody seemed to enjoy it, however, if smiling faces and movements in rhythm with the strains of music constituted enjoyment. The dignified Englishman, yielding to the influence of the occasion, unbent; the stolid German became more animated, the vivacious Frenchman more vivacious, and the impressionable Italian and Spaniard joined with the gallant American in admiration of the fair sex, of which there was a large, and I may add a quite fine-looking, representation. I can not state whether the punch dispensed was a factor, in conjunction with the other surroundings of the occasion, in producing the changes referred to, or not. An idea of the size of the hall can be formed from the dimensions as given in some of the daily papers, viz.: Length, from wall to wall, 316 feet; width, 116 feet; a surface area of 36,656 square feet. The height of the peak of the central gable from the floor is 150 feet. Further mention of the other entertainments that I have named would be only to repeat what is already known of such affairs in general—the usual crowding and jostling at the receptions, the rush for first place at table, etc. An estimate of the number of names recorded at the Registration Bureau gives a grand total of 2,500, of which number about 400 are those of members from abroad. In his report, the secretary general, Dr. John B. Hamilton, very modestly stated that the success of the Congress was “due entirely to the zeal and energy” of Dr. H. H. Smith, chairman of the executive committee. That much of its success is due to Dr. Smith's efforts I have no doubt, but my personal knowledge of the almost Herculean labors that have been performed by Dr. Hamilton warrants me in quoting and verifying the statement in your editorial in the Journal for September 3d, that “ever since his accession to the office, the prospects of the meeting have continually brightened,” and I do not hesitate to assert that to Dr. Hamilton, as much as to any officer of the organization, belongs the credit of bringing order out of the chaos which followed the New Orleans meeting of the American Medical Association.

The exhibition of drugs, preparations, medical books, and surgical instruments and appliances has become an almost essential feature of medical conventions, and the display made at the present meeting far outshines anything of the sort I have ever seen. There are, in fact, two exhibitions in connection with this meeting: one at the Rifles' Armory, and the other, the principal one, at the Light Infantry Armory, under Albaugh's Opera-House, in which the general meetings are held. The preparations made in these displays of goods are quite elaborate and the general effect very pleasing to the eye.

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THE NINTH INTERNATIONAL MEDICAL CONGRESS.

THE registration reported up to the time of our going to press shows that, as was anticipated, the Washington meeting of the International Medical Congress is to be ranked among the largest gatherings of that body that have taken place. It is too early yet to make a final estimate of the success of the meeting from a scientific point of view; it can not even be said, prior to the closing days of the sessions, precisely who are to be present, as was aptly remarked by the president when the question was raised, on Monday, as to the expediency of electing absentees to office. It is probable, however, that almost all the foreigners who had made up their minds to attend were present at the opening of the proceedings.

The general addresses—those of them that have been delivered up to the time of this writing—have been of a character to command very general attention, especially in the printed form in which they will go before the profession at large. The president's inaugural address, which we publish in this number of the Journal, seems to us one of the most meritorious and praiseworthy literary achievements of a long life largely devoted to the interests of the medical profession as a body. It would have been pardonable for Dr. Davis to deal wholly with glittering generalities, but, as was to be expected of so straightforward a man, he chose to plunge early into the thick of a subject of high importance to medical science. In this, we think, he showed his characteristic wisdom. Dr. Flint's address, as was easy to be foreseen, was a thoughtful and suggestive essay, in every way worthy of presentation before the assembly over which the author's lamented father had been chosen to preside. Dr. Semmola's address, the first part of which will be found in this issue of the Journal, must be looked upon from more than one point of view; the one that will strike most of our readers is that of its earnest patriotism combined with a catholicity of feeling exemplified in very pleasing terms applied to Americans as a people. Of the other aspects of the Italian senator's address we leave our readers to judge on our completion of its publication.

A great deal of work has had to be gone through with in the sections, and much still remains to be done. The mere labor of the reading and disposal of papers is doubtless facilitated by the fact—it seems to be the fact thus far—that the attendance at the meetings of the sections is for the most part very moderate. On the other hand, it is to be feared that much time is snatched from the sessions and spent by many of the strangers in looking at the sights of Washington and, in the case of the foreign members, gazing at the superficial manifestations of a state of political and social existence that is to a

great extent novel to the observers. So far as it goes, this indicates that any anxiety that was felt at the outset lest the entertainment provided would be insufficient was unnecessary.

The proceedings of the congress are too extensive to be given with any approach to completeness in a journal. We shall content ourselves with those of the general sessions, the first portion of which will be found in this issue, and with selections from the more important proceedings of the sections.

PERIPHERAL NEURITIS AND CHRONIC RHEUMATISM.

ON several occasions we have referred to Pitres and Vailard's observations on the condition of the peripheral nerves in certain affections, such as tabes, typhoid fever, and phthisis. Those observers have been extending their investigations in this direction in connection with various other affections, and in a recent number of the "*Revue de médecine*" they publish an account of what they have observed in chronic articular rheumatism. On examining the peripheral nerves in two cases of chronic rheumatism, last year, they were struck with the profound changes that they found in them, but, being unwilling to form conclusions on such slender a foundation, they resolved to make a thorough examination in the first case that presented itself. The opportunity soon occurred. A most searching examination was made of all the nerve trunks supplying the extremities, as well as of the peripheral branches going to the muscles, the joints, and the skin. The patient was forty-nine years of age, and had suffered with chronic rheumatic polyarthritis since his thirty-sixth year, when his left shoulder first became affected, and then all the other joints in succession. He had the characteristic deformity of the fingers and dystrophia of the toe-nails. His cutaneous sensibility was normal. The skin of the legs and feet was covered with an ichthyotic desquamation. There was no atrophy of the muscles. No changes worthy of mention were found in any part of the nervous system (the whole of which was carefully examined), except the peripheral nerves. A great number of these showed parenchymatous degeneration such as is seen in neuritis of non-traumatic origin. The authors specify the nerves they found healthy and those they found diseased. Those supplying the upper limbs were found normal, but those going to the knees, the legs, and the feet contained, along with healthy fibers, others that had undergone the change above mentioned.

Hence, neuritis can not be considered as the primary factor in the production of the articular affection, inasmuch as the peripheral branches going to the shoulder joints, which had undergone the most profound changes, were found quite healthy. It is impossible to say at present what *role* the neuritis plays in the causation of the pains in chronic articular rheumatism, but the authors feel convinced that to it are to be attributed the trophic changes not infrequently met with in the skin and the muscles. But, on the other hand, it does not follow that this lesion always brings about disturbances of the nutritive processes, for a latent neuritis without any symptoms may occur in rheumatism, as it often does in tabes, typhoid fever, and tuberculosis.

MINOR PARAGRAPHS.

AN INTERESTING REMINISCENCE.

DR. FESSENDEN N. OTIS, who was selected as acting secretary of the expedition which, in 1856, in pursuance of an Act of Congress, conveyed the British Arctic exploring ship "*Resolute*" across the Atlantic and formally restored her to the British government, contributes an interesting account of the affair, and of the circumstances which led to it, to the August number of the "*Magazine of American History*." The story has been reprinted, and forms a handsome and interesting pamphlet, illustrated with reproductions of several pictures made at the time, one of which—entitled the presentation of the "*Resolute*" to the Queen—includes a portrait of Dr. Otis.

"CHICHIPATE" AND CASCARA AMARGA.

"PLANT Analysis as an Applied Science" is the title of a lecture delivered before the Franklin Institute, of Philadelphia, last winter, by Helen C. De S. Abbott, for a copy of which in its published form we are indebted to the author. Among the personal observations mentioned—and it was to them that the lecture owed its value—is one of a Honduras plant called "*chichipate*," from which the author had extracted a yellow dye, *chichipatin*. Specimens of *Cascara amarga* having been sent to her from Messrs. Parke, Davis, & Co.'s laboratory, where it had been found to contain an alkaloid resembling berberine, she came to the conclusion that the two plants were identical. "This incident is significant," she remarks, "as deciding by means of chemical analysis the identity of plants under distinct names from different regions."

A DEFECTIVE RAILWAY MEDICAL SERVICE.

IN sharp contrast with the admirable medical service provided by many of the great railway lines of the West and by some of those in the East is that of the Ontario and Western road, if we may judge by an article lately inserted in the "*Advance*," a newspaper published in Middletown, N. Y. In fact, there seems to be no system at all worthy of the name. The company simply appoints medical men at various points, giving them no remuneration except free passage on its trains, but tacitly undertaking to collect their bills for them from its employees. The consequence is that proper men are disinclined to accept the appointments, and, where there is no appointee, the medical practitioners of the locality are not eager to respond to calls from the employees. Of course, the brunt of the results of this lack of common fairness falls on the company's men, but the physicians suffer by their attempts to remedy it.

THE WARD'S ISLAND LUNATIC ASYLUM.

A COMMITTEE of the State Board of Charities, appointed to investigate the affairs of the New York City Asylum for the Insane, on Ward's Island, has presented its report. The deservedly high esteem in which the board has always been held will give great weight to its committee's report and the measures which it advises or suggests. The committee finds that overcrowding and parsimony, and especially the plan of treating the acutely insane and the chronically insane in such large numbers in a single institution, are largely chargeable with the unsatisfactory state of the asylum. In the matter of abuses and indignities alleged to have been practiced upon patients, the committee properly excluded from its consideration two cases in which legal inquiries are now pending, but it included a case in which a coroner's investigation had been held. It is gratifying

to find that the committee was not convinced of the truth of the charges in that instance. To remedy matters, the committee recommends that the control of such institutions be confided to a commission, or, preferably, a single commissioner, appointed by the mayor, and directly responsible to him. The wisdom of this recommendation seems to us unquestionable.

THE CASE OF THE CROWN PRINCE OF GERMANY.

THE "New York Times" complains that the Prince's condition is treated of in a gingerly way in the medical bulletins, and makes this remarkable statement: "A man who has a 'swelling' in his throat which has been removed by cautery, and the seat of which still shows a 'tendency toward congestion,' may reasonably be supposed to be suffering from cancer." The "Times" desires an authoritative statement that such is not the case with the Prince. It seems to us that that point has been abundantly covered by Professor Virchow, the substance of whose opinion of the case was made public a week or more ago.

THE AMERICAN GYNÆCOLOGICAL SOCIETY.

THE society's twelfth annual meeting, which is to be held in New York next week, is expected to be noteworthy among the meetings of that organization. The programme, which we publish elsewhere, is rather more extensive than usual, and the different sections of the country are pretty evenly represented by the members who are announced to furnish papers. The special feature of the occasion, however, will probably be the attendance of a number of European obstetricians and gynecologists who have been invited to take part in the proceedings. This will undoubtedly add piquancy to the discussions and zest to the social incidents of the meeting. We trust that another noteworthy feature will be a larger attendance of general practitioners than was witnessed when the society last met in New York. As usual, the profession at large is invited to attend, and we think its members will find it worth their while to do so.

THE ASSOCIATION OF AMERICAN MEDICAL EDITORS.

THE dinner given by this body last Monday evening in Washington, in honor of distinguished medical editors from abroad, seems to have been of a character to please the gentlemen who compose the association. It is to be regretted that an Irish gentleman in attendance at the congress should have taken it as one of the entertainments provided by the managers of the congress, and for a time have felt so aggrieved at not having been invited as to withdraw from the congress. But all's well that ends well, and the gentleman in question is to be credited with doing the handsome thing in acknowledging his error and resuming his part in the meetings.

THE DURANTE-SEMMOLA AFFAIR.

It was hardly to be expected that so great an undertaking as that of managing a huge assembly like the congress now in progress in Washington, made up to a very considerable extent of foreigners, could be carried through without some chafing. It is none the less to be deplored, however, that the emulation of two distinguished representatives of a foreign government should have led to a contention resulting in the temporary humiliation of one of them. Had the ingenious priest who, as the song assures us, established the seventeenth of March as St. Patrick's birthday had a hand in adjusting the matter, two responses in the name of Italy might have been arranged for,

but the next most graceful thing was done when the president called upon Dr. Durante to occupy the chair during the delivery of Dr. Semmola's formal address, on Wednesday. The distinguished Roman professor deserves great credit for finally getting the better of his sense of injury, and we can assure him that he is not at all humiliated in the eyes of the American profession. So far as any lesson is to be drawn from the incident, it seems to us to be this: that it is unwise for any of the participants in a scientific gathering to go to it clothed in any other dignity than that which appertains to their professional status. In our opinion, government representatives are unnecessary.

ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Fourth Division of the Health Department for the following statement of cases and deaths reported during the two weeks ending September 6, 1887:

DISEASES	Week ending Aug. 30.		Week ending Sept. 6.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever.....	31	4	45	12
Scarlet fever.....	31	9	33	3
Cerebro-spinal meningitis...	2	1	5	5
Measles.....	11	1	7	1
Diphtheria.....	60	20	65	22
Small-pox.....	5	0	3	1

The Tenth International Medical Congress, to be held in Berlin in 1890, will undoubtedly prove of greater interest to Americans than those that preceded this week's meeting, owing to the fact that there has now been a meeting on our own soil.

Dr. Landolt, of Paris, the well-known ophthalmologist, met a number of New York physicians recently, by invitation of Dr. David Webster, at the Murray Hill Hotel. Among the gentlemen present were Dr. E. Gruening, Dr. J. Leonard Corning, Dr. Milton Josiah Roberts, and Dr. Ring.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from August 28, 1887, to September 3, 1887:*

SMITH, JOSEPH R., Lieutenant-Colonel and Surgeon. Ordered to report in person to the Surgeon-General of the Army, on September 2, 1887, on business connected with the public service, and on completion thereof to return to his proper station. Par. 9, S. O. 198, A. G. O., August 26, 1887.

Naval Intelligence.—*Official List of Changes in the Medical Corps of the United States Navy for the week ending September 3, 1887:*

DEAN, RICHARD C., Medical Director. Detached from duty as member of Examining and Retiring Boards and ordered to Hospital at Chelsea, Massachusetts.

PECK, GEORGE, Medical Director. Orders as Delegate to International Medical Congress revoked.

SIMONS, M. H., Surgeon. Detached from Constellation and ordered to the Naval Academy.

ROGERS, B. F., Surgeon. Detached from Marine Rendezvous, New York, and ordered to the Alliance.

FIELD, JAMES G., Assistant Surgeon. Detached from the Vermont and ordered to Marine Rendezvous, New York.

HENRY, C. P., Assistant Surgeon. Ordered to the Ossipee.

LUMSDEN, G. P., Passed Assistant Surgeon. Ordered to the Boston.

ATLEE, LOUIS W., Assistant Surgeon. Restored to duty.

Society Meetings for the Coming Week:

MONDAY, September 12th: New York Academy of Medicine (Section in Surgery); New York Ophthalmological Society (private); New York Medico-historical Society (private); Boston Society for Medical Improvement; Gynecological Society of Boston; Burlington, Vt., Medical and Surgical Club; Norwalk, Conn., Medical Society (private).

TUESDAY, September 13th: American Gynecological Society (New York—first day); New York Medical Union (private); Medical Societies of the Counties of Chemung (quarterly, Elmira), Rensselaer, and Ulster (quarterly), N. Y.; Newark, N. J., and Trenton, N. J., Medical Associations.

WEDNESDAY, September 14th: American Gynecological Society (second day); New York Pathological Society; American Microscopical Society of the City of New York; Medico-legal Society; Medical Societies of the Counties of Albany and Montgomery (quarterly), N. Y.; Worcester, Mass., District Medical Society (Worcester).

THURSDAY, September 15th: American Gynecological Society (third day); New York Academy of Medicine; New Bedford, Mass., Society for Medical Improvement.

FRIDAY, September 16th: Chicago Gynecological Society.

SATURDAY, September 17th: Clinical Society of the New York Post-graduate Medical School and Hospital.

OBITUARY NOTES.

Nathan L. Hatfield, M. D., of Philadelphia, died on Monday, August 29th, at the age of eighty-three. The deceased was a native of Montgomery County, Pa., was educated in the University of Pennsylvania, and was graduated from the Jefferson Medical College in 1826, being a member of the first class graduated from that college. He was a Fellow of the College of Physicians, a member of the Philadelphia County Medical Society, of which he was at one time president; of the Pennsylvania State Medical Society, of which he was president in 1865; of the American Medical Association; of the Alumni Society of Jefferson Medical College, of which he was president in 1874, and an honorary member of the California State Medical Association. For many years he was manager and consulting physician of the Northern Dispensary.

Professor Adolf Pansch, of Kiel, as we learn from the "Lancet," was drowned in Kiel Bay on the 14th of August by the upsetting of his sail-boat. His son, who was with him in the boat, was rescued, though in a very exhausted state, by a passing steamer. As Professor Pansch was an expert swimmer, it is supposed that he died of shock at once, for he had suffered with organic heart disease for years. His career as a teacher of anatomy in the University of Kiel added notably to the attractiveness of that institution, and his anatomical writings have long been prominent in our literature.

Proceedings of Societies.**THE NINTH INTERNATIONAL MEDICAL CONGRESS.**

Held in Washington, Monday, Tuesday, Wednesday, Thursday, Friday, and Saturday, September 5, 6, 7, 8, 9, and 10, 1887.

The General Sessions.

The opening meeting was called to order at 11 A. M., in Albaugh's Opera-House, by the chairman of the Executive Committee, Dr. HENRY H. SMITH, of Philadelphia.

The President of the United States was introduced by the chairman and spoke as follows: "I feel that the country should be congratulated to day upon the presence at our capital of so many of our own citizens and those representing foreign countries, who have distinguished themselves in the science of medicine, and are devoted to its further progress. My duty on this occasion is a very pleasing and a very brief one. It is simply to declare that the Ninth International Medical Congress is now open for organization and for the transaction of business."

The Election of Officers was then proceeded with, and resulted in the prompt confirmation of the nominations made by the Committee on Organization. Dr. NATHAN SMITH DAVIS, of Chicago, having been elected president, and Dr. JOHN B. HAMILTON, of the Marine-Hospital Service, secretary general, the latter took the chair and put the other nominations, which included those of the following-named gentlemen as vice-presidents:

United States.—Surgeon-General Moore, of the army, and Surgeon-General Gunnell, of the navy (ex-officio); Dr. William Brodie, Detroit; Dr. W. H. Dawson, Cincinnati; Dr. A. Y. P. Garnett, Washington; Dr. Edward M. Moore, Rochester; Dr. Tobias Richardson, New Orleans; Dr. Lewis A. Sayre, New York; Dr. Joseph R. Smith, New York; Dr. J. M. Toner, Washington.

England.—Dr. Cuthbert H. G. Bird, Dr. A. Pearce Gould, Mr. Ernest Hart, Dr. Jonathan Hutchinson, Sir James A. Hambury, Sir William Jenner, Dr. Fred B. Jessett, Dr. William H. Lloyd, Dr. William Murrell, Dr. Jeffrey A. Marston, Mr. Thomas J. MacLagan, Dr. John Marshall, Dr. Morell Mackenzie, Dr. William A. MacKinnon, Dr. Charles D. F. Phillips, Dr. Richard Quain, Sir John W. Reed, K. C. B.; Mr. William H. Savory, Sir Edward H. Sieveking, Dr. John Tweedy, Sir Henry Thompson, Sir William W. Gull, London; Dr. J. Ewart, Brighton; Sir E. Walter Foster, Birmingham; Sir Thomas Longmore, Netley; Dr. John D. McDonald, Surrey; Dr. John Withers, Brighton; Sir William Roberts, Manchester; Dr. John B. Sanderson, Oxford; Mr. Lawson Tait, F. R. C. S., Birmingham; Sir John Tomes, Surrey; Dr. George M. Humphrey, Cambridge; Dr. T. M. Dolan, Halifax.

Scotland.—Dr. McCall Anderson, Glasgow; Mr. Thomas Annandale, Edinburgh; Dr. John Chiene, Edinburgh; Dr. T. R. Frazer, Edinburgh; Sir Douglass MacLagan, Edinburgh; Dr. George H. B. Macleod, Glasgow; Sir William Turner, Edinburgh.

Germany.—Dr. William Kohler, Berlin; Dr. Frederick Eschmarch, Kiel; Dr. A. L. Gussow, Berlin; Dr. W. D. Muller, Berlin; Dr. Carl von Mosengill, Bonn; Dr. P. G. Unna, Hamburg; Dr. Waldeyer, Berlin; Professor E. Winckel, Munich.

France.—Dr. Dejardin-Beaumetz, Paris; Professor A. Charpentier, Paris; Dr. A. Chervin, Paris; Dr. Valin, Paris; Professor Trélat, Paris; Dr. Léon Le Fort, Paris.

Austria.—Professor Carl Braun, Vienna; Dr. Wenderfer, Vienna; Dr. Hans R. von Hebra, Vienna.

Switzerland.—Dr. F. Dumont, Berne; Dr. Theo. Kocher, Berne.

Italy.—Dr. Francesco Durante, Rome; Dr. O. Morisani, Naples; Dr. Mariano Semmola, Naples.

Egypt.—Dr. J. A. S. Grant, Bey, Cairo.

Ottawa.—Dr. Q. A. Grant.

Havana.—Dr. Nicholas José Gutierrez.

Copenhagen.—Dr. Wilhelm Meyer.

Honolulu.—Dr. John S. McGrew.

Belgium.—Dr. Leopold Servais, Antwerp.

Dublin.—Sir William Stokes.

East Indies.—Dr. George J. H. Ewart.

The Hague.—Dr. J. E. de Virgij.

Dr. W. B. ATKINSON, of Philadelphia, and Dr. G. B. HARRISON, of Washington, were elected associate secretaries, and Dr. E. S. F. ARNOLD, of New York, was elected treasurer. Dr. R. J. DUNGLISON, of Philadelphia, was made chairman of the finance committee, and Dr. HENRY H. SMITH, of Philadelphia, chairman of the executive committee.

The Report of the Secretary General was then read by Dr. HAMILTON. He said it was now a matter of history that in May, 1884, the American Medical Association had passed a resolution inviting the congress to hold its next session in the United States. At the meeting in Copenhagen, when the question came up for disposition, Washington was selected. The committee, having borne the invitation and secured its acceptance, returned home, and immediately began the work of organization. Shortly before the meeting of the American Medical Association in New Orleans, in May, 1885, the preliminary organization was completed. But it transpired that this committee was unable to form an organization satisfactory to the majority of the members of the association, and after some discussion a resolution was adopted which authorized the appointment of additional members of the committee so as to include, in accordance with our American system of representation, one member from each State and Territory, and to these were added one representative from each of the three public medical services. The enlarged committee met in Chicago, and a majority of the first committee was present and acted harmoniously with the new committee. In a short time, however, the members of the original committee withdrew, and the management had thus been deprived of their valued services. The committee had, therefore, had to contend against more than the ordinary difficulties attending so great an undertaking.

The Committee of Arrangements, through the chairman, Dr. A. Y. P. GARNETT, of Washington, announced the programme of entertainments, including an excursion to Mount Vernon, an excursion to Niagara Falls, various receptions, etc. Dr. Garnett added that it had been a source of profound regret and embarrassment to the committee that the month of September should have been selected for the meeting, and that they felt it due to themselves and to the citizens of Washington to explain why there had not been a more general and spontaneous manifestation of that bountiful hospitality for which the city had at all times been so justly distinguished. It was hoped that the guests would not fail to understand and appreciate the unfortunate fact that they had come to a city absolutely and entirely deserted for the time by the larger portion of its inhabitants, and that those whose official and social positions entitled them to the privilege of extending a cordial welcome to their homes were necessarily deprived of that pleasure by absence. He would add that the labors of the committee had been truly Herculean, and embrace the occasion to return his thanks to the chairmen of the various sub-committees for the fidelity, zeal, and patience displayed in the execution of their respective duties.

The Address of Welcome was then given by the Secretary of State, the Hon. Thomas F. Bayard, as follows: The pleasing duty has been assigned to me of giving expression, in the name of my fellow-countrymen, to the gratification felt by us all that you should have selected this capital to be the scene of your ninth congress, and cordially to bid you welcome. The world is becoming better acquainted; social assimilation has progressed; small provinces and minor kingdoms are federalizing into great empires; international intimacy suffers less obstruction; the broad and powerful current of literature is silently wearing away the banks of geographical prejudice, and a spirit of a common brotherhood, of mutuality, and of interdependence is expanding itself irresistibly over the barriers of mountain and

sea; and these new and beneficent conditions give promise that the word "stranger" shall soon be obliterated from the vocabulary of civilization. You, gentlemen, will not, I hope, feel—and I am sure you will not be considered by us—as strangers in the United States; for not only has the fame of many of your number—whom to name might seem invidious—long since surpassed the limits of your own lands and been recorded in the world's annals of scientific attainment, but I take leave to say that here especially will your claims for public respect and grateful acknowledgment, due to your enlightened services, find prompt and hearty allowance by the populations who dwell amid the blessings of civil and religious liberty beneath the broad banner of the United States. If letters be a republic, science is surely a democracy, whose domain is penetrated and traversed by no royal road, but is open to all sides and equally to all who with humility and intelligence shall watch and wait for light as it is gradually disclosed by Divine Providence for the amelioration of mankind. In this democratic republic the brotherhood of science can best realize its universality; for here you will find institutions for the promotion of science in every department, and in none more conspicuously than in that of medicine and surgery, the most important of which are the voluntary gifts of private citizens—men who, in the great majority of cases, were painfully limited in their associations with science and letters, who began life at the lowest round of Fortune's ladder, but, thanks to the noble equities of our political system, rose without "invidious bar" to the highest level of material success and public usefulness. To the public spirit and benevolence of such individuals is due the endowment, on a scale that princes may envy but have never surpassed, of schools of science, colleges, and universities, open for the intellectual training and advancement of all who desire to share and are competent to receive such benefits. Your congress is held, gentlemen, in the closing year of the first century of our national existence, and what has been here accomplished in the line of scientific edification and equipment owes comparatively little to official or governmental assistance. To no system of prescriptive privilege, but to individual energy, enterprise, and generosity, we owe what under God we now possess of such things, and non-interference by the government has proved a promotion and not a hindrance in our advancement. Busy in every department of industrial pursuit, engrossed with diversified occupations, and hurrying with a breathless energy that has left its traces upon the physiognomy of our people, yet, believe me, we are not deaf to the calls of humanity nor lacking in appreciation and grateful respect for the votaries of science. We welcome this congress as guardians of the sanitation of the nations. In your profession we recognize the noblest school of human usefulness, and in the progress of the development of the laws of cure, the mitigation of suffering, the prolongation of human existence, and the efforts to discover the true principles and conditions by which life can be made "worth living," we have learned to appreciate our debt to those whose highest reward is the "still small voice of gratitude" and consciousness of benefaction to the human race. Gentlemen, I confidently promise your convention a worthy audience—not alone the members of your profession here assembled, nor the limited number whom this building can contain, but that vaster audience to whom, upon the wings of electrical force, your message will be daily borne far and wide to the listening ear of more than sixty millions of American citizens. Sure am I that your message will be worthy, and equally that your thoughtful deliverances will be welcomed by a continent. The closer relations of mankind which modern invention has induced has been necessarily accompanied by an increased dissemination of disease, and the need is obvious of frequent international confer-

ence that, in the grand sweep of scientific observation, new discoveries in the healing art may be promptly tested and applied in counteraction. Forgive me if, as one of the great army of patients, I humbly petition the profession that in your deliberations Nature may be allowed a hearing when remedies are proposed; that her *vis medicatrix* may not be omitted in computing the forces of cure, and that science may be restricted as often as possible to sound the alarm for Nature to hasten, as she surely will, if permitted, to the defense of the point assailed. My duty is very simple, and I fear I have already overstepped its limit, for there was indeed little more for me to say than to repeat the words of an ancient dame whose cottage was close by the battle-field of Waterloo, and, being somewhat deaf and hearing the sound of the artillery when the famous "pounding" was hardest, thought she heard some one knocking at her door, and simply said, "Come in!" This may seem an unscientific illustration of auscultation and percussion, but you need not make half the noise of Wellington or Bonaparte, and I can assure you the American people will hear you and heartily say to you, as I do for them, "Come in!"

Brief Responses from representatives of foreign countries were called for by the president, and given as follows:

Dr. WILLIAM H. LLOYD, of the British Navy, said: MR. PRESIDENT: I rise to perform the agreeable task which has been allotted to me of returning thanks on the part of the medical profession of Great Britain and Ireland, as represented by my professional brethren and myself now present at this congress, for the warm and eloquent welcome we have just heard from the Honorable Secretary of State of the United States. It is with great diffidence I rise to perform this task in the presence of the eminent men of world-wide reputation in medical science who are now present among the English members of the congress, and I could not have felt justified in undertaking it did I not know that my selection for the task was due to my official position as representing one of the public services of Great Britain. I have now to express our warm thanks and appreciation of the kind and cordial welcome we have received from the congress, and the honor conferred by the presence and approval of the high officers of state of this truly great country.

Dr. LÉON LE FORT, of Paris, spoke in French, substantially as follows: MR. PRESIDENT AND MR. SECRETARY OF STATE: I appear in the name of my countrymen to thank you for your welcoming words. We have crossed the Atlantic to bring to our American colleagues the testimony of our sympathy. The reception which was accorded us in Philadelphia has already proved to us that we can count upon theirs. In designating Washington for the session of the International Congress the physicians of Europe desired to affirm their high esteem for the American medical profession. This is not the time to recall the progress for which we are their debtors, but we may recall that it is to America that we owe one of the greatest of modern scientific discoveries—anæsthesia. With it, not only is pain suppressed, but operations have been rendered possible which, without it, would be impracticable. The congress of Washington will be worthy of those who have thus contributed to the progress of science. Be pleased, Mr. President and Mr. Secretary, to accept the respect and the thanks of the French physicians present at the congress.

Dr. MARIANO SEMMOLA, of Naples, also spoke in French. He said he was happy to have the honor of replying in the name of Italy and of bringing the salutations of that nation, which regarded with profound interest the marvelous growth of this edifice of independence—the United States. He felt it a duty to thank those present for the welcome accorded his *confrères* and himself. Such a welcome, indeed, they could

not have failed to receive from a people not only noted for intelligence and industry, but with whom hospitality went hand in hand with nobility and generosity of heart. He believed international congresses incontestably one of the best means of binding peoples together in liberty, equality, and fraternity. But of all the international congresses in which he had had the honor of representing Italy, he believed that of Washington would exert the greatest influence.

The President's Inaugural Address was then delivered (see page 283).

On motion of Dr. C. D. F. PHILLIPS, of London, a vote of thanks to the president was passed.

Tuesday's session was called to order by the president, at 10.15 A. M.

Fever; its Cause, Mechanism, and Rational Treatment.

—Dr. AUSTIN FLINT, of New York, read an address on this subject. If, he said, important organs were protected in fever, and the nutrition of the body was supported, the fever would run its course and leave the patient in a condition for rapid convalescence. In acute fever there was an inherent tendency to recovery. The principal object of the paper was to show how the metamorphosis involved in the production of animal heat was accomplished; how abnormal production of heat in fever, involving, as it did, abnormal activity in metamorphosis of tissue, might be restricted, and how abnormal destruction of tissue might be limited and the tissue repaired. The speaker reviewed the evidence in favor of the production of water within the system, in addition to the water taken in with the food and drink, and the development of heat thereby. His evidence included experiments by Senator and others, and also experiments upon himself. The following is a summary of the address: Fevers, especially those belonging to the class of acute diseases, were self-limited in duration, and were each due to a special cause, a micro-organism; and their duration ceased after the lapse of a certain time. We were unable as yet to directly destroy the morbid organisms, and we must be content for the present to moderate their action and to sustain the patient's powers of resistance. The production of animal heat involved the oxidation of parts of the organism or articles of food, represented in the formation and discharge of nitrogenous excrementitious matters, carbonic acid, and water.

In regard to its relations to general nutrition in the production of animal heat, water formed in the body by the process of oxidation was to be accounted an excrementitious principle. Fever, as observed in the so-called essential fevers, might be defined as a condition of excessive production of heat involving defective nutrition or inanition, and excessive production and discharge of nitrogenous excrementitious matters and carbonic acid, with waste and degeneration of tissues and partial or complete suppression of the production and discharge of water. Aside from the influence of complications and accidents, the ataxic symptoms in fevers, the intensity and persistency of which endangered life, were secondary to the fever, and were usually proportionate to the elevation of the temperature. These symptoms were ameliorated by treatment directed to reduction of the temperature. In health, during a period of inanition, the consumption of the tissues in the production of heat was in a measure saved by an increased production and excretion of water. In fever the effects of inanition were intensified by a deficient formation and excretion of water. Alimentation in fever was difficult mainly on account of derangement of the digestive organs. This difficulty was to be met by the administration of articles of food easily digested, or articles partly digested when eaten. Alcohol presented a form of hydrocarbon which was promptly oxidized and became

absorbed without previous digestion. Precisely in so far as it was oxidized in the body, alcohol furnished matter which was consumed in the excessive production of heat in fever, and saved destruction of tissue. The introduction of matters consumed in the production of heat in fever diminished rather than increased the intensity of the pyrexia. As the oxidation of alcohol necessarily involved the formation of water, and limited destruction of tissue, its action in fever tended to restore normal processes and the normal heat production, in which the formation of water constituted a great part.

Wednesday's session was called to order by the president.

Practical Medicine, Bacteriology, and the Experimental Method.—Dr. DURANTE, of Rome, having been asked to take the chair, Dr. MARIANO SEMMOLA, of Naples, delivered his address on this subject (see page 286). Dr. Semmola spoke in French, apparently without referring to his notes.

On motion of Dr. L. A. SAYRE, of New York, a vote of thanks to Dr. Semmola was passed.

Dr. ALBERT L. GIBON, of the navy, offered the following, which was carried:

Resolved. That the president of the congress be authorized to appoint a committee consisting of an equal number of members from each nationality represented in the congress, for the purpose of selecting the place of meeting of the Tenth International Medical Congress, to be held in 1890, to report Friday morning.

(To be continued.)

Book Notices.

Die allgemeine Pathologie oder die Lehre von den Ursachen und dem Wesen der Krankheitsprocesse. Von Dr. EDWIN KLEBS, Professor der allgemeinen Pathologie und der path. Anatomie an der Universität Zürich. Erster Theil. Die Krankheitsursachen. Allgemeine pathologische Aetiologie. Mit 66 theilweise farbigen Abbildungen im Texte und 8 Farbentafeln. Jena: Gustav Fischer, 1887. Pp. xiv-6 to 514.

This volume forms the first part of a very comprehensive work, and is devoted to the consideration of the causes of diseased processes, or general pathological ætiology. The complete work is to consist of three parts, the two which are to follow being intended to cover the extensive ground of general pathological morphology and physiology.

Specific description and detailed criticism would hardly be appropriate until the entire work is before us. Although each part will be complete in itself, still it is evident that the consideration, even of ætiology, can not be confined to the first part. Tumors and degenerative processes, for example, have not been included in it. By far the largest part of it is occupied, as might have been expected, with bacteriology, this being preceded by the subjects of hereditary and acquired predispositions to disease.

The spread of bacteria through air, water, and earth is fully considered, as well as the morphology of vegetable and animal parasites. Methods of cultivation, of examination for purposes of diagnosis, and of the staining and mounting of microscopic preparations, are all given in full and with abundant illustrations. After this the author takes up the general and local diseases of bacteritic origin, and considers each of them in great detail.

Anthrax, malarial diseases, yellow fever, typhoid fever, diphtheria, dysentery, gastritis, enteritis, tuberculosis, leprosy, glanders, syphilis, all receive careful consideration, with special reference to the micro-organisms which are at present brought into causative relations with them.

After these diseases have been thus treated at great length, the author passes to specific and detailed accounts of the various micro-organisms which have not been treated of in the earlier chapters of the work. The special cocci of septicæmia, erysipelas, gonorrhœa, pneumonia, variola, measles, scarlet fever, and cattle plague, are included in this list. The next chapter is devoted to cholera and relapsing fever. Animal parasites are not forgotten.

To obtain even a superficial idea of the immense amount of ground covered by this work one must study it carefully; no review within the limits which are necessarily prescribed in these columns can convey an adequate impression of its comprehensiveness. It contains an enormous amount of material that will well repay one for a careful perusal. All the latest observations in the realm of bacteriology are given with great completeness; the bacteriological and microscopical techniques are treated of with the greatest care and attention to minute details.

The press-work is excellent, and the illustrations, many of which are colored, are carefully drawn and clear. The exact bibliography at the end of each chapter, as well as the subject and author indices at the end of the volume, contributes in no small way to its usefulness.

Clinical Studies of Disease in Children. By EUSTACE SMITH, M. D., Fellow of the Royal College of Physicians, Physician to his Majesty the King of the Belgians, etc. Second edition. Philadelphia: P. Blakiston, Son, & Co., 1887. Pp. xv-318. [Price, \$2.50.]

This little book, out of print now for nearly five years, has been revised and considerable new matter has been added, especially in the chapters upon croupous pneumonia, pleurisy, and tubercular peritonitis. Twenty pages are devoted to a general consideration of the peculiarities of symptoms and therapeutics in early life. Stress is laid upon the dangerous character of many functional diseases in infancy, depending upon the impressible nervous system. For this reason autopsies are very frequently unsatisfactory, no discernible organic changes being found, even when very positive symptoms existed during life. The temperature is much more easily disturbed in children than in adult. The author has frequently seen it rise to 104° or 105° F. just before the eruption of a tooth when no other cause existed.

In some remarks upon dosage, arsenic is mentioned as being particularly well borne by children those over five years old taking the same doses as adults. Irregularity of the pulse is of itself of no diagnostic importance; a very rapid pulse is quite apt to be irregular. When it is slow and irregular, it suggests meningitis. This is a point of diagnosis between pneumonia with cerebral symptoms and meningitis.

The second part of the book is devoted to the narration of forty cases illustrative of the variations of pneumonia, pleurisy, general tuberculosis, and tubercular meningitis and peritonitis. The cases are related in the author's well-known graphic style, first typical ones and then the common and uncommon varieties, followed by a discussion upon the cases separately, and some general remarks upon the disease, especially with reference to differential diagnosis and treatment. The selection of cases has been carefully made, and the clinical reports are supplemented in many instances by full autopsy records. A graphic picture

of the disease is thus put before the reader's mind which is second in value only to a personal observation of the patients.

The author is a firm believer in pulmonary collapse as a prominent pathological feature of pulmonary disease in infants. He accepts the inflation test as distinguishing this condition from pneumonia. We are glad to see that he combats the idea, made so much of in many text-books, that it is with apex pneumonia that cerebral symptoms are generally associated. He has found them quite as often when the base of the lung was affected. Cool baths, at 70° F., are highly spoken of in the hyperpyrexia of this disease, care being taken to stimulate the patient freely before and after the bath. When the chest contains fluid, continued pyrexia is no evidence that the fluid is purulent; the temperature is more likely to depend upon the natural irritability of the patient, or upon complications, particularly pericarditis. Flattening of the chest laterally, and bulging anteriorly, are the only changes in shape that are reliable as signs of effusion.

Enough has been cited to give an idea of the plan and scope of the book. It is full of practical suggestions, and, like all the author's writings, it is readable—a quality which is lamentably wanting in so much of our medical literature. More books of this class, distinctly clinical, would be a real boon to the physician, who is now obliged to wade through so much that is repeated in many text-books to get at the author's real experience. In binding, type, and style the book leaves nothing to be desired.

Lehrbuch der Physiologie für akademische Vorlesungen und zum Selbststudium. Begründet von RUD. WAGNER, fortgeführt von OTTO FUNKE, neu herausgegeben von Dr. A. GRUENHAGEN, Professor der medicin. Physik an der Universität zu Königsberg im Pr. Siebente, neu bearbeitete Auflage. Mit zweihundertundfünfundachtzig in den Text eingedruckten Holzschnitten. Dreizehnte Lieferung. Hamburg und Leipzig: Leopold Voss, 1887. Pp. 561 to 758.

This is the concluding number of a work of which we have frequently given favorable notices in this journal. It deals with the physiology of reproduction, the last chapter (pages 612 to 696) being devoted to embryology. The general index covers upward of sixty pages, and is unusually full. In dismissing a work of such dimensions we can only repeat that its high character has been sustained throughout, and that the reader of German will find it a useful advanced text-book, especially valuable by reason of the exhaustive bibliography.

On the Pathology and Treatment of Gonorrhœa and Spermatorrhœa. By J. L. MILTON, Senior Surgeon to St. John's Hospital for Diseases of the Skin, London. New York: William Wood & Company, 1887. Pp. x-474. [Price, \$4.]

In our issue for April 30th we published a notice of Mr. Milton's work on "Spermatorrhœa," which seems to constitute the second part of this volume. The first part, on "Gonorrhœa," has long been before the profession, and well deserves the position it has won. It shows an intelligent study of the disease and its complications. We think the publishers have done well to combine the two works in one volume.

Transactions of the Academy of Medicine in Ireland. Vol. IV. Edited by WILLIAM THOMPSON, M. A., F. R. C. S., General Secretary. Dublin: Fannin & Company, 1886. Pp. 463.

This volume contains sixty-one contributions on subjects pertaining to medicine, surgery, obstetrics, pathology, state medicine, and anatomy and physiology. They represent two years' work by the Academy, and are of great practical and

technical interest. Some of them were written by men who are well known to the profession of our own country. A few of the titles will show the scope of the volume: "True Relapse in Typhoid Fever," "The Cardiac Murmurs of the Mitral Area," "The Therapeutic Uses of the Digestive Ferments," "Bone Drainage in the Treatment of the Early Stages of Hip Disease," "Axis-traction in Instrumental Delivery," "The Use of the Curette," "The so-called Laparotomy Epidemic," and "The Sanitary Condition of Dublin Dairy Yards."

GENERAL LITERARY NOTES.

AMONG recent foreign publications we note the following:

F. ALCAN, Paris.—C. Richet, "Essai de psychologie générale." (2fr.)

ASSELIN & HOUZEAT, Paris.—C. Paul, "Diagnostic et traitement des maladies du cœur." 2d ed. (16fr.)

J. B. BAILLIÈRE & FILS, Paris.—J. Cyr, "Traité pratique des maladies du foie." (12fr.) — H. Bachelet, "Conseils aux mères de famille sur la manière de nourrir leurs enfants et de se nourrir elles-mêmes." 2d ed. (2fr.)

A. DELAHAYE & E. LECROSNIER, Paris.—Ferrand, "De l'exercice et des troubles de la parole et du langage." (1fr. 50.)

O. DOIN, Paris.—P. Rodet, "Guide de l'étudiant en médecine et du médecin praticien." (3fr. 50.) — J. Fontan and C. Ségard, "Éléments de médecine suggestive." (4fr.) — A. Baréty, "Le magnétisme animal." (14fr.) — A. Filleau and L. Petit, "Bulletin du laboratoire de recherches expérimentales et cliniques sur le traitement aseptique de la phthisie pulmonaire." 1st part (2fr.), 2d part (3fr.) — F. Franck, "Leçons sur les fonctions motrices du cerveau . . . et sur l'épilepsie cérébrale." Preface by Charcot. (12fr.)

G. MASSON, Paris.—J. Arnould, "L'eau et les bactéries, spécialement les bactéries typhogènes."

Bureaux du "PROGRÈS MÉDICAL," Paris.—Bourneville, "L'année médicale," 1886. (4fr.) — Bourneville, "Manuel pratique de la garde-malade et de l'infirmière." 3 vols. (5fr.) — R. Blanchard, "De l'anesthésie par le protoxyde d'azote, par la méthode du professeur P. Bert." (3fr.)

F. VALLARDI, Rome.—"Collezione italiana di lettura sulla medicina." 1st and 2d series. (Each, 10L.) [These series of lectures seem to be arranged on the plan of Volkmann's "Sammlung klinischer Vorträge." The first and second series contain lectures by Bozzolo, Bottini, Marchiafava, Chiara, Manfredi, Forlanini, De Giovanni, Caselli, Buresi, Perroncito, Concato, Pagliani, Morselli, Silvestrini, Sanquirico, De Renzi, and Maragliano—twelve lectures in each series.]

F. C. W. VOGEL, Leipzig.—F. Löffler, "Vorlesung ab. die geschichtliche Entwicklung d. Lehre von den Bacterien." 1st part. (10M.)

WREDE, Brunswick.—A. Seeligmüller, "Lehrbuch d. Krankheiten des Rückenmarks u. Gehirns, sowie d. allgemeinen Neurosen." 2d part.

BOOKS AND PAMPHLETS RECEIVED.

Druitt's Surgeon's Vade-mecum. A Manual of Modern Surgery. Edited by Stanley Boyd, M. D., B. S., Lond., F. R. C. S., Eng., Assistant Surgeon and Pathologist to the Charing Cross Hospital, and Surgeon to the Paddington Green Hospital for Children, etc. Twelfth Edition. With Three Hundred and Seventy-three Wood Engravings. Philadelphia: Lea Brothers & Co., 1887. Pp. xvi-33 to 985. [Price, cloth, \$4.]

The Student's Guide to Diseases of the Eye. By Edward Nettleship, F. R. C. S., Ophthalmic Surgeon to St. Thomas's Hospital, Assistant Surgeon to the Royal London (Moorfields) Ophthalmic Hospital, etc. Third American from the Fourth English Edition. With a chapter on Examination for Color Perception. By William Thomson, M. D., Professor of Ophthalmology in the Jefferson Medical College of Philadelphia. Philadelphia: Lea Brothers & Co., 1887. Pp. xv-13 to 475. [Price, \$2.]

State of New York. State Board of Charities. In the Matter of the Investigation of the New York City Asylum for the Insane Report, August 12, 1887.

Colonial and International Congress of Inebriety, London, England, July 6 and 7, 1887. Papers and Addresses by Delegates from the United States of America. Also a Report of a Reception given to T. D. Crothers, M. D., by the President and Council of the Society for the Study of Inebriety in Great Britain. Extracted from the Minutes of the Congress.

Reports on the Progress of Medicine.

MATERIA MEDICA AND THERAPEUTICS.

By H. N. VINEBERG, M. D.

Phosphorus in Rickets.—Soltmann ("Ctrbl. f. die ges. Ther.") has had good results with phosphorus in seventy cases of rickets. He observed an improvement in the general condition, in appearance, in appetite, and also an increase of bodily weight. The functions of the bowels became regular, and the digestive disturbances caused by phosphorus were not noticed in a single instance. The nervous phenomena, the sleeplessness, the restlessness, but more particularly the spasms of the glottis, rapidly disappeared in the majority of the cases in about ten days. On following up the cases, he observed a disappearance of all the usual bone affections.

W. Meyer ("Inaug. Dissert.," Kiel, 1885) met with similar good results in forty-two cases of rickets in which phosphorus was administered after the usual treatment with lime salts and the like had failed. The drug had especially a good influence upon digestion; hence phosphorus can not be considered as contra-indicated in the various gastric disturbances witnessed in rickets; on the contrary, these frequently disappear under its administration. He would look upon phosphorus as a specific in rickets, which, when properly administered, always leads to positive results.

Petersen ("Ctrbl. für Chir.") has given phosphorus in two hundred cases of rickets, and has never met with a bad result. He considers it a specific in that disease.

Sigel ("Würtemb. mediz. Corresp.") concludes, on the basis of forty cases in private practice, that general treatment is of the greatest importance in the therapeutics of rickets, but that, instead of giving, as heretofore, iron and lime preparations, phosphorus should be administered.

Unruh made extensive observations during 1885 and 1886 in the Dresden Hospital for Children, and he is of the same opinion as Kasowitz, that, in the majority of cases, rickets is a congenital disease. He expresses himself as follows in reference to phosphorus: It is a valuable remedy in rickets, and is more efficacious than all other remedies heretofore recommended. By an early administration of the drug he was able to prevent the usual bone deformities of that disease, and this he was able to do in children coming to the Poliklinik, with the most unfavorable hygienic surroundings, as well as in those in private practice.

Toeplitz ("Breslauer ärztl. Zeit.") treated five hundred and eighteen cases of rickets with phosphorus in combination with cod-liver oil. He did not observe any ill effects, although this combination was given even in summer. In all the cases he observed in a short time an improvement in the general condition of the children; the nervous symptoms and pains in the limbs disappeared, and motion became more active. Of two hundred and eight cases of craniotabes, one hundred and seventy-six were cured in eight weeks; of fifty-eight cases of laryngismus stridulus, the attacks ceased in from eight to fourteen days, after having continued for months in spite of other forms of treatment. The influence upon dentition was beyond a doubt. The bodily weight increased, the lungs expanded, the circumference of the thorax increased, and the catarrhal conditions disappeared. It is mentioned as a particular advantage of this method of treatment that the good effects are independent of the surroundings, which, in the majority of cases, can not be altered.

[Any one who has followed German medical literature for the past two years will have a vivid impression of the polemical discussions

on the subject of the treatment of rickets with phosphorus. The disputants contested their points with the vigor and bitterness of the religious fanatics of a by-gone age. Not a small portion of the discussion was devoted to the question of priority in recommending phosphorus in rickets. In this connection it will be of some interest to American readers to turn to a pamphlet on the anæmia of children, written by Professor A. Jacobi several years ago. In it the author threw out the suggestion that, on the basis of our knowledge of the chemical processes going on in the body, phosphorus should be beneficial in the affections of children characterized by bone lesions.]

Cundurango in Carcinoma of the Stomach.—L. Riess ("Ctrbl. f. d. ges. Ther.," "Berl. klin. Woch.") begins an extensive article by giving the negative results he has obtained with cundurango bark in affections of the stomach other than carcinomatous. In about fifty cases of dyspepsia due to acute and chronic gastric catarrh which he had treated with this drug, the results were no better than would be obtained by other well-known bitter barks. On the contrary, in a number of these it was not so well borne. The results were equally negative in carcinomas which were not limited to the stomach. In secondary carcinoma of the stomach the administration of the remedy was followed by improvement of the appetite, but left the course of the disease uninfluenced. But in primary cancer of the stomach—which, in addition to anorexia, vomiting, cardialgia, was manifested by progressive cachexia and eventually by a palpable gastric tumor—the results were positive. Of such cases the author had observed one hundred and twenty treated with cundurango during the years from 1878 to 1886 in the Berlin General Hospital. Of these, however, full histories exist only of eighty cases. As a result of his experience, the author states that he did not witness a single case in which the remedy was of no avail. Even in the last stages of the affection, during the last week of life, an improvement of the appetite and general condition was always noted. The effects were much more striking when the remedy could be given for a time (three to four weeks). In this connection the author met with the pleasant experience that patients who could not tolerate any other internal medication took the bark willingly, and continued it for a length of time without any remonstrance. Riess employed the drug in much larger doses than those given by Friedreich and other clinicians. He gave it in a decoction to the amount of ten grammes (3 ijss.) per diem. The majority of those patients who were treated for a sufficient length of time by the cundurango showed, in a few days, an improvement of the appetite and a disappearance of the nausea, and also of the vomiting when this was not due to a marked stenosis of the pylorus or extreme dilatation of the stomach. In eight to fourteen days a marked influence upon the gastric pain was noticed, which entirely disappeared after a time. Simultaneously with the increase of the appetite the powers of assimilation were improved, manifested by the general condition of the patient and by his increased strength. In not a few cases there was an increase of the bodily weight. In a large series of cases the impression was gained that life was decidedly prolonged with the cundurango. The author follows with tables comparing the longer duration of life in cases treated with the drug in those not so treated. Of sixty-four cases in which a tumor was palpable, seventeen showed a decided diminution in the size of the mass, and in eight cases it entirely disappeared. The author makes allowances for errors in diagnosis, but is quite positive that undoubted cases of carcinoma of the stomach can be cured with cundurango. Of course, in addition to the use of the drug, the symptoms must be treated as they arise in the usual manner. The author always administered it in the form of a macerated decoction (3 vj), 180 grammes of which, containing 10 grammes (3 ijss.) of the bark, were given daily with 20 grammes (5 v) of the syrup of orange-peel. He never observed any ill results from its employment—not even furuncles, which large doses are said to produce.

Salol in Acute Articular Rheumatism.—Dr. Bielschowsky (*ibid.*) has employed salol in twenty-seven cases of acute rheumatism. The remedy was given in capsules in five-gramme (3 j, gr. xv) doses daily. Smaller doses—two to three grammes (gr. xxx–xlv)—were given in the after-treatment to remove any slight pains that might remain. Of the twenty-seven cases, nineteen were promptly and completely cured; in two cases salol had only a slight influence, and salicylate of sodium had to be resorted

to. The other six cases passed into the chronic form in spite of the administration of both remedies. Of the nineteen cured cases, fourteen could be considered as severe, partly on account of the high fever and partly on account of the number of joints that were affected. In eight cases relapses occurred, which always yielded readily to salol given in smaller doses than in the first attack. On an average, it took from four to eight days before all the morbid phenomena disappeared. In one case the disease resisted the remedy for ten days, but in the majority of cases every trace of the affection vanished in three days. In four patients slight cardiac disturbances occurred, which, however, on the discharge of the patients, were no longer to be detected. Three patients had mitral affections, the result of prior attacks; these were not rendered worse by the fresh attack. It is beyond a doubt that salol is a specific in acute rheumatism in the same sense as salicylic acid, antipyrine, and antifebrine. But it has the advantage over these in that its employment is entirely free from untoward effects. One patient had slight noises in the ears, and another had eructations for a time. Beyond these not a single unpleasant symptom was observed. Exanthems and perspiration were never noticed. It was particularly to be remarked that gastric and intestinal disturbances were not noted in a single instance; the patients ate and enjoyed the usual hospital fare.

Dr. Siegfried Rosenberg (*ibid.*) has employed salol as an antirheumatic in the Berlin Jewish Hospital. On the whole, the drug was prompt in its effects, so that in from twenty-four to forty-eight hours the fever abated and the pains in the joints were decidedly less. The longest period it took for these symptoms to disappear entirely was five days, and only in one very severe case were no effects observed after ten days. In this case salicylate of sodium gave prompt relief within twelve hours. The doses given corresponded with those stated above. The author gained the impression that relapses were more common than after the use of salicylate of sodium. He thinks that it has no power to prevent complications. In all the cases carbolic-acid discoloration of the urine was observed. Noises in the ears, perspirations, nausea, and vomiting were noted, but continued disturbances of digestion were never seen, as after the employment of salicylate of sodium. In two cases an aversion to the drug was experienced after a short period, so that it had to be discarded. One advantage salol always has over the salicylates is the absence of any irritation to the gastric mucous membrane, inasmuch as salol is insoluble in the gastric juice, and only becomes soluble when it passes into the intestines, where it meets with the pancreatic juice, which splits it up into salicylic acid and phenol.

Dr. Otto Seifert (*ibid.*), on the recommendation of Georgi, has used a mouth gargle of salol in various ulcerative processes in the mouth, with very good results. He employed an alcoholic solution—6 to 100 grammes (℥ jss.—℥ iijs.)—of which he ordered a teaspoonful in a glassful of warm water to be used freely as a gargle. He did not obtain so good results with the drug in the form of powder.

[For further information upon salol, we would refer our readers to our report upon therapeutics for September 11, 1886.]

Hyoscine Hydrochloride.—Dr. Kohert ("*trihl. f. die ges. Ther.*") writes that hyoscine forms the principal constituent of the so-called amorphous hyoscyamine, and is obtained from the latter by partial precipitation with chloride of gold. So far it has not been obtained in the crystalline form, and it is isomeric with atropine and hyoscyamine. For the purposes of the following experiments it was combined with hydrochloric acid, the resulting compound crystallizing readily. Hyoscine passes out unchanged with the urine. It acts on the heart of the frog, as also on that of warm-blooded animals, in the same way as atropine, in removing the inhibiting power of the vagus. In frogs, as well as in the isolated kidneys of warm-blooded animals, it produces dilatation of the blood-vessels. The vaso-motor center is not influenced by it; neither is the pulse. The saliva and perspiration are diminished in man. It paralyzes the motor nerves of the intestines when these are stimulated with muscarine. It acts on the pupil more quickly and more powerfully than atropine, but the action does not continue. On the brains of healthy individuals it acts as a mild narcotic. As a result of experiments upon insane patients, it may be stated that in periods of excitement its administration is promptly followed by sleep in ten to fifteen minutes. It was given only when the usual hypnotics had

failed. It has no sedative action on animals. It is of no use, and may even be injurious, in insomnia dependent upon somatic diseases. Hyoscine does not appear to be at all fatal in animals, and even in man Sohrt has never seen any symptoms of poisoning beyond inco-ordination, dilatation of the pupils, and dryness in the throat.

Fuchsin in Albuminuria.—Dr. L. Riess (*ibid.*) employed fuchsin in twenty cases of nephritis of various forms, which differed both in the stage of the disease and in the quantity of albumin excreted. The doses given were large—much larger than those recommended by Bouchut. As much as 0.5 gramme (gr. vijs.) was commonly given daily, and in not a few cases as much as 1 gramme (gr. xv). In twelve cases the daily quantity of albumin was estimated. Of these twelve cases, only two showed a decided decrease of the albuminuria. In one of the cases, after fourteen days' administration of the drug, the quantity of albumin became *nil*. In the other cases the average quantity of the albumin before treatment was 6.84, during treatment it was 2.98, and after treatment it was 1.98. Three weeks after the cessation of the use of the drug the albumin disappeared. The remedy was well borne, even in large doses and for a lengthened period. The duration of the treatment extended, for the most time, from ten to fifteen days, occasionally for three weeks, and in one case forty-four days. The author has never seen, as a consequence of the treatment, a red discoloration of the urine and nails, nor digestive disturbances, headache, and other nervous phenomena.

Solution of Cocaine in Liquid Vaseline.—Bigna-Lima ("Bull. gén. de thérap.") has found that cocaine is soluble in liquid vaseline in the proportion of 2 in 100. This solution, in his hands, possessed powerful anæsthetic qualities, and kept exceedingly well. In his eye clinic he found that one drop would produce complete anæsthesia of the ocular conjunctiva. This was followed in about thirty-five to forty minutes by dilatation of the pupil, which disappeared in from five to six hours. Two drops of this solution did not interfere with accommodation. He was enabled to inject with impunity four Pravaz syringe-fuls (3 j) in surgical operations. He thinks that this method of employing cocaine supersedes the salts of that drug, which are difficult of preservation.

Arsenic in Cystic Goitre.—Dr. Snow ("Brit. Med. Jour.") speaks highly of arsenic in cystic affections of the thyroid gland. In one case in which he employed the drug the thyroid enlargement entirely disappeared. In two other cases the improvement was very marked in a short time, but the patients ceased attending very soon after the treatment was beginning to show its influence.

Poisoning by Pennyroyal.—J. Girling (*ibid.*) relates a case of this kind. He saw the patient (a woman aged forty) an hour after she had taken the drug. She was then in a collapsed condition. The face was pale, cold, and bedewed with beaded sweat, and the hands and feet were cold and clammy. She lay apparently unconscious, but could at first be roused by shaking and shouting to her, rapidly sinking, however, into a state of profound coma. The pupils were normal in size, and responded to light. The action of the heart was exceedingly weak, irregular, and fluttering, the pulse at the wrist being scarcely perceptible. There were jactitation and feeble retching, with much salivation, but no vomiting nor purging; temperature was 97° F. The breath smelt very like peppermint. Free emesis was produced by hypodermic injections of apomorphine and copious libations of warm water. After the vomiting the patient seemed about to die, and brandy, in the absence of ether, was administered hypodermically with the very best results. The writer thinks that pennyroyal should be classed among the narcotic heart poisons. It transpired afterward that the woman had taken ℥ j of the essence of pennyroyal (which she had obtained from an apothecary), composed of ℥ j of the oil and ℥ viij of spirit.

Miscellany.

The American Gynecological Society will hold its twelfth annual meeting at the Academy of Medicine, in New York, on Tuesday, Wednesday, and Thursday, September 13th, 14th, and 15th. Members

of the profession are cordially invited to be present. The programme includes an Address of Welcome, by Dr. Fordyce Barker, of New York; "A New Method of Closing the Peritoneal Sac after Tait's Operation," by Dr. R. Stansbury Sutton, of Pittsburgh, Pa.; "A Study of the Causes and Treatment of Uterine Displacements," by Dr. Thomas Addis Emmet, of New York; "Cystocolpocele complicating Labor and Pregnancy," by Dr. Samuel C. Busey, of Washington; "Is Salpingitis to be treated by Extirpation of the Tubes and Ovaries in all Cases?" by Dr. William M. Polk, of New York; "Drainage after Laparotomy," by Dr. Paul F. Mundé, of New York; "The Therapeutic Value of some Medicines in the Treatment of Hæmorrhagic Conditions of the Uterus," by Dr. C. D. Palmer, of Cincinnati; "Case of Laparotomy: Death from a Rare Cause," by Dr. James B. Hunter, of New York; "On the Differential Diagnosis between Fibroid Polypus and Inversion of the Uterus," by Dr. William T. Lusk, of New York; the President's Address, by Dr. Alexander J. C. Skene, of Brooklyn; "On the Treatment of the Pedicle after Supravaginal Hysterectomy," by Dr. George Gräville Bantock, of London; "The Intra-uterine Stem in the Treatment of Flexures," by Dr. A. Reeves Jackson, of Chicago; "Galvanic and Faradaic Measurement," by Dr. George J. Engelmann, of St. Louis; "The Operation for Ventral Hernia after Laparotomy," by Dr. James R. Chadwick, of Boston; "Battley's Operation: its Matured Results," by Dr. Robert Battley, of Rome, Ga.; "The Infantile Uterus," by Dr. A. W. Johnstone, of Danville, Ky.; a paper (subject not announced), by Dr. Theophilus Parvin, of Philadelphia; "Extra-uterine Pregnancy and its Treatment by Electricity," by Dr. Ely Van de Warker, of Syracuse; "Vaginal Injections in Sims's Posture," by Dr. Frank P. Foster, of New York; "A Note on the Treatment of Puerperal Eclampsia," by Dr. Charles Jewett, of Brooklyn; "The Hystero-neuroses," by Dr. George J. Engelmann, of St. Louis; and "A New Forceps for the Removal of Intra-uterine Growths," by Dr. R. Stansbury Sutton, of Pittsburgh, Pa.

The New York State Medical Association will hold its fourth annual meeting at the Hotel Brunswick, New York, on Tuesday, Wednesday, and Thursday, September 27th, 28th, and 29th. The programme includes the following items: "The Use of Hot Water in Surgery," by Dr. Theodore R. Varick, of Jersey City; "Bichloride of Mercury, its Uses and Abuses," by Dr. Charles S. Wood, of New York; "Gallstones," by Dr. Robert H. Sabin, of Albany Co.; "A Contribution to the Study of Hip-joint Disease," by Dr. Nathan Jacobson, of Onondaga Co.; "Report of a Case of Pancreatic Cyst successfully Removed," by Dr. William S. Tremaine, of Erie Co.; a discussion on "The Management of Compound Dislocation of the Ankle Joint," to be opened with a paper by Dr. Edward M. Moore, of Monroe Co., propounding the following questions: "When should amputation be practiced, and when should other methods be employed?" (to be discussed by Dr. Uri C. Lynde, of Erie Co.)—"If amputation is to be performed, at what point should it be done to render the stump most useful, the risks to be encountered being equal?" (to be discussed by Dr. Joseph D. Bryant, of New York)—"Should the luxation be merely reduced, or should some bony tissue be removed, and how much?" (to be discussed by Dr. Frederick Hyde, of Cortlandt Co., and Dr. Charles W. Brown, of Chemung Co.)—"What dressing and after-treatment will conduce to the best result with least risk to the patient?" (to be discussed by Dr. Frederic S. Dennis, of New York); "Exudative Conjunctivitis," by Dr. Alvin A. Hubbell, of Erie Co.; "Methods of Applying Cold," by Dr. Henry D. Didama, of Onondaga Co.; "Irritable Stumps—Causation," by Dr. Joseph D. Bryant, of New York; "Intrarectal Treatment of Hæmorrhoids," by Dr. Leroy J. Brooks, of Chenango Co.; "Feigned Diseases, and their Connection with Medical Jurisprudence," by Dr. Simeon T. Clark, of Niagara Co.; "A Case of Double Vagina with Hymen," by the same; a discussion on "Typhoid Fever," to be opened with a paper by Dr. Alfred L. Carroll, of Richmond Co., propounding the following questions: "Does the term typhoid fever properly include all the varieties described by observers, or are there other, still undifferentiated, continued fevers commonly grouped under this head?"—"Is typhoid fever always the product of a specific contagium from a pre-existing case, or may it arise *de novo* from filth-fermentation?" (both questions to be discussed by Dr. Edward G.

Janeway, of New York, and Dr. Frank W. Ross, of Chemung Co.)—"What part is played by micro-organic ferments in the causation of enteric fever?" (to be discussed by Dr. Hermann M. Biggs, of New York)—"Is there a disease of the lower animals transmissible to man as typhoid fever?" (to be discussed by Dr. D. E. Salmon, of Washington, D. C., Dr. R. S. Huidekoper, of Philadelphia, Pa., and Dr. James Law, of Tompkins Co.)—"What media of causation or transmission of typhoid fever are to be guarded against in public or private sanitation?" (to be discussed by Dr. Charles A. Leale, of New York, and Dr. Everard D. Ferguson, of Rensselaer Co.)—"What are the complications and sequelæ properly associated with typhoid fever?"—"What are the indications for treatment, and are relapses or untoward complications favored by some antipyretic measures?" (both questions to be discussed by Dr. Charles G. Stockton, of Erie Co.); an Address in Medicine, by Dr. John Cronyn, of Erie Co.; "Hay Fever and its Cure," by Dr. John H. Price, of Chemung Co.; "Malaria and some of its Peculiar Manifestations," by Dr. Richard C. Van Wyck, of Dutchess Co.; "Cold as a Therapeutic Agent," by Dr. B. L. Hovey, of Monroe Co.; "The Small-pox in Brooklyn: Defective Isolation and Defective Vaccination," by Dr. Nelson L. North, of Kings Co.; "Specialists," by Dr. Henry C. Van Zandt, of Schenectady Co.; a discussion on "Placenta Prævia," to be opened with a paper by Dr. George T. Harrison, of New York, propounding the following questions: "In cases in which the placenta is prævia, what anatomical and physiological facts explain the hæmorrhage occurring during pregnancy, and why is hæmorrhage unavoidable during miscarriage or labor?" (to be discussed by Dr. Charles C. Frederick, of Erie Co., and Dr. Isaac E. Taylor, of New York)—"In this anomaly, what is the source of the hæmorrhage, and what is the mechanism of its arrest?" (to be discussed by Dr. Darwin Colvin, of Wayne Co., and Dr. S. B. W. McLeod, of New York)—"If placenta prævia is diagnosed during pregnancy, is the induction of premature labor indicated?" (to be discussed by Dr. T. Gaillard Thomas and Dr. William T. Lusk, of New York)—"During labor, when the placenta is prævia, what mode of treatment best subserves the interests of the mother and the child respectively? Is that plan of treatment which best conduces to the preservation of the mother's life incompatible to a certain degree with the child's interest?" (to be discussed by Dr. Rollin L. Banta, of Erie Co., and Dr. William H. Robb, of Montgomery Co.)—"After childbirth, what therapeutical measures will most certainly guard against the dangers of hæmorrhage and septic infection?" (to be discussed by Dr. John G.orton, of Broome Co., and Dr. John Shradly, of New York); "Acute Mania," by Dr. James C. Hannan, of Rensselaer Co.; "A Case of Epilepsy," by Dr. John P. Sharer, of Herkimer Co.; and "A Case of Intrarectal Larvæ, with Gastritis, in an Infant," by Dr. Charles S. Allen, of Rensselaer Co.

Proprietary Medicines.—The "St. Louis Medical and Surgical Journal" says: "Should the physician use in his daily practice a 'proprietary' medicine? Can he, as a reputable practitioner, recommend these preparations in his correspondence with medical journals without lowering the dignity of his profession, or making himself amenable to discipline for a violation of time-honored principles of medical ethics?" These questions have been put to this journal, and perhaps to others, with the request that they be answered editorially; and while, as put, they are very broad, admitting of much latitude in replying, we think we but voice the general opinion of those who have given the subject any thought, in answering both of them, in a general way, in the affirmative. The gist of the whole matter depends upon what is meant by the term 'proprietary medicine.' In its limited and best sense we understand by the term a remedy of which the ingredients and their proportions are made known to the profession, and the trade or proprietary name of which is alone protected by law. When such preparations are made exclusively for the use of the medical profession, and are advertised exclusively in medical journals, we can not see any possible lowering of professional dignity, or deviation from 'time-honored principles of medical ethics' on the part of the physician who uses them in his daily practice, or who recommends them in his communications to medical journals. The name, in this class of proprietary medicines, is to be regarded simply as the guinea's stamp—a guarantee of the purity and genuineness of the product; and the regis-

tration of it—patenting it, if you please—is as much for the protection of the physicians who use it as for the parties who manufacture the remedy. It in no sense makes the drug a 'patent medicine' any more than does the writing of 'Fairchild' before pepsin, 'Merck' before or after an alkaloid, or 'Schering' or 'Squibb' before chloroform, transfer these chemicals into that category. These men—Merck, Schering, Fairchild, Squibb, and a few others—have devoted their lives, and spent enormous sums of money, in making their products the purest and best that can be attained by human honesty and human ingenuity; and, as a reward, their names attached in *copyrighted labels* to their chemicals stand as a perpetual guarantee to the physician and patient against the fraud and greed of less honest manufacturers, and it would be a great injustice to them, as well as to the profession and public, to deprive them of this guarantee.

"The question may be, and frequently is, asked by the purists, usually by the very old, or by very young members of the medical or pharmaceutical profession, aspiring to be considered very scientific, 'Why should a physician resort to these ready-made prescriptions at all? Why does he not draw upon his own knowledge of applied therapeutics and write out his own formulæ in every case? Why does he prescribe this one's sugar-coated pills or that one's gelatin-covered granules?' Why, indeed? Simply because he knows that these articles, being made in vast quantities, by improved apparatus and appliances, manipulated by highly trained and educated employees, and directed by skilled chemists, can be made better, more accurately, and far cheaper than they could be compounded by the most skillful prescriptionist. He does it for the same reason that he buys a watch ready made from the jeweler, or a buggy ready made from the carriage-maker.

"The most serious charge that is brought against the makers of some of the best known, most valuable, and most frequently used proprietary medicines, is that the formulæ given by the manufacturers are not the true ones, or, as Dr. Craighill, of Lynchburg, Va., in a paper read before the Virginia Pharmaceutical Association, at its last May meeting (published in the 'Virginia Medical Monthly' for June, 1887), puts it, 'a patented proprietary remedy which professes to publish its formulæ but does not.' If this charge were true, it would indeed be a grave one and a just cause for the banishment of such medicines from the list of those which the physician may use 'without lowering the standard of professional dignity,' etc. But when we examine into the matter, we find the sole ground for the charge to be that when the ingredients as named are put together by the physician himself, or by the prescriptionist, offhand, though it may be *secundum artem*, the result frequently differs very widely from the preparation which it is intended to imitate. This fact would go far to prove the charge did we not remember that in all chemical processes *manipulation* has a great deal to do with results, and that the *element of time* has a value that nothing else can supply. A mixture in which no amount of shaking will produce combination or solution offhand, or no amount of filtration will clarify, will frequently become perfectly limpid when given the requisite length of time. We are informed by Mr. Lambert that listerine requires eleven days in its preparation, and Messrs. Battle & Co. tell us that bromidia, for instance, requires six days for the thorough combination of its ingredients. We have no doubt that many other such remedies require even more time for their perfection, and no amount of skill on the part of the pharmacist can possibly make up for this element in their preparation. These facts are fully recognized in France and Germany, and we find the highest class of the medical journals of these countries full of advertisements and notices of preparations exactly analogous to our proprietary remedies."

The City Board of Health.—At a meeting of the Board of Health of the Health Department of the City of New York, held August 3d, it was resolved "that Dr. E. G. Janeway, Dr. A. Jacobi, Dr. C. R. Agnew, Dr. Stephen Smith, Dr. Daniel M. Stimson, and Dr. Joseph O'Dwyer be and are hereby requested by the board to act as a consulting medical and surgical board of the Willard Parker Hospital and of other hospitals of the Department in East Sixteenth Street."

At a meeting held August 11th, the following resolutions were passed:

"That provision be made by this board to refund quarterly, during

the coming year, to the physicians of this city who may be engaged in private practice the amounts that may be expended by them for postage in reporting births and contagious diseases to this Department."

"That the recommendations of the Sanitary Superintendent, for securing a full registration of births, be approved, and that he be directed to take the necessary measures to enforce a proper reporting of the same to this Department."

It is estimated that at least twenty per cent. of the births are not now reported.

The Health of the State of New York.—According to the State Board of Health's "Monthly Bulletin," for July, the whole number of deaths reported during the month was 11,463, being the largest ever recorded in that publication for any one month. In each thousand deaths there were 320 from diarrhoeal diseases, 8.88 from typhoid fever, and 32.68 from diphtheria. There was "but a limited number of deaths" from all other zymotic diseases.

Government Health Reports.—By direction of the Secretary of the Treasury, Dr. John B. Hamilton, Surgeon-General of the Marine-Hospital Service, has issued the following abstract of sanitary reports received during the week ending September 1st:

England and Wales.—The deaths registered in twenty-eight great towns of England and Wales during the week ending August 13th corresponded to an annual rate of 23.7 in a thousand of the aggregate population, which is estimated at 9,245,099. The lowest rate was recorded in Halifax, viz., 13.2, and the highest in Newcastle-on-Tyne, viz., 30.2 in a thousand. Small-pox caused 1 death in Sheffield and 1 in Cardiff.

London.—One thousand eight hundred and eighty-five deaths were registered during the week ending August 13th, including 34 from measles, 21 from scarlet fever, 21 from diphtheria, 61 from whooping-cough, 19 from enteric fever, 412 from diarrhoea and dysentery, and 14 from cholera and choleraic diarrhoea. There were 175 deaths from diseases of the respiratory organs. Different forms of violence caused 59 deaths, and 9 suicides were registered. The deaths from all causes corresponded to an annual rate of 23.3 in a thousand. In greater London 2,390 deaths were registered, corresponding to an annual rate of 23 in a thousand of the population. In the "outer ring" 150 deaths from diarrhoea, 9 from measles, and 6 from diphtheria were registered.

Ireland.—The average annual death-rate represented by the deaths registered during the week ending August 13th in the sixteen principal town districts of Ireland was 24.1 in a thousand of the population. The lowest rate was recorded in Sligo, viz., 9.6, and the highest in Dublin, viz., 30.7 in a thousand.

Dublin.—Two hundred and thirteen deaths were registered during the week ending August 13th, including 27 from measles, 6 from whooping-cough, 2 from enteric fever, 22 from diarrhoea, and 1 from dysentery. Diseases of the respiratory organs caused 26 deaths. Three accidental deaths were registered, and in thirty-three instances the causes of death were uncertified. The deaths from all causes corresponded to an annual rate of 31.5 in a thousand.

Scotland.—The deaths registered in eight principal towns during the week ending August 13th corresponded to an annual rate of 19.3 in a thousand of the population, which is estimated at 1,299,000. The lowest mortality was recorded in Perth, viz., 13, and the highest in Greenock, viz., 26.7 in a thousand. The aggregate number of deaths registered from all causes was 482, including 9 from scarlet fever, 1 from measles, 5 from diphtheria, 28 from whooping-cough, 1 from fever, and 27 from diarrhoea.

Eighteen thousand six hundred and eighty-five deaths were registered in Scotland during the quarter ending June 30, 1887, including 235 from measles, 103 from scarlet fever, 484 from whooping-cough, 53 from diphtheria, and 60 from fevers. The mortality was equal to an annual rate of 18.8 in a thousand of the estimated population.

Germany.—The deaths registered in fifty-two cities of Germany, having an aggregate population of 6,821,222, during the week ending July 30th, corresponded to an annual rate of 30.6 in a thousand. The lowest rate was recorded in Kassel, viz., 15, and the highest in Charlottenburg, viz., 63.1.

Naples.—The United States consul, in his dispatch under date of

August 10, 1887, with reference to cholera, states that "no official bulletin is published, and the authorities appear to withhold all information in regard to the disease; but I am credibly informed that up to the present time there have been about 35 cases of Asiatic cholera at Naples, 25 of which have proved fatal. In Resina, a short distance from Naples, there are from five to seven cases per day. The mortality is about two thirds. The disease has so far appeared in a sporadic form."

Rome.—The vice-consul-general telegraphed August 25, 1887, as follows: "Have been five deaths from cholera at Rome since 16th instant."

Havana.—Eighteen deaths from yellow fever and 47 from small-pox are reported for the week ending August 18, 1887.

MORTALITY TABLE, FOREIGN CITIES.

CITIES.	Week ending	Estimated population.	DEATHS FROM—							
			Total deaths from all causes.	Cholera.	Yellow fever.	Small-pox.	Typhoid fever.	Epidemic fever.	Scarlet fever.	Diphtheria.
Paris.....	August 13.	2,260,045	973	.....	9	.....	21	6	20	.....
Glasgow.....	August 13.	545,678	186	.....	.....	.....	1	1	1	.....
Warsaw.....	August 6.	439,174	269	.....	.....	21	.....	.....	.....	.....
Calcutta.....	July 9.	433,219	163	16	.....	.....	.....	.....	.....	.....
Amsterdam.....	August 13.	378,686	148	.....	.....	1	.....	1	.....	.....
Munich.....	August 6.	269,000	231	.....	.....	.....	.....	.....	.....	1
Palermo.....	August 14.	250,000	148	55	.....	.....	.....	2	10	1
Belfast.....	August 13.	224,422	85	.....	.....	.....	1	.....	.....	1
Genoa.....	August 13.	179,377	73	.....	.....	.....	1	.....	.....	1
Trieste.....	August 6.	159,157	76	.....	.....	6	.....	.....	2	2
Stuttgart.....	August 13.	125,510	40	.....	.....	.....	.....	.....	1	.....
Toronto.....	August 20.	120,000	19	.....	.....	.....	.....	.....	.....	2
Havre.....	August 13.	112,074	107	.....	.....	3	.....	17	.....	1
Reims.....	August 13.	97,903	42	.....	.....	.....	.....	.....	1	1
Guayaquil.....	August 4.	30,000	57	.....	.....	7	.....	.....	.....	.....
Gibraltar.....	August 7.	23,631	17	.....	.....	.....	.....	1	.....	1

UNITED STATES.

Key West, Fla.—*Yellow Fever*.—Two hundred and seventy-four cases and 62 deaths have been reported up to date, making an increase of 17 cases and 9 deaths during the past nine days.

THERAPEUTICAL NOTES.

Ethereal Injections in the Treatment of Cystitis.—(Chandelux ("Lyon méd."; "Ann. des mal. des organes génito-urinaires") has made use of vesical injections of a thirteen-per-cent. ethereal solution of iodoform in a number of cases of obstinate cystitis, and reports satisfactory results. He regards the iodoform as playing only a subordinate part, and attributes almost all the efficiency of the treatment to the ether, which, he thinks, acts by becoming vaporized and thus distending the contracted bladder. The fact of its vaporization is shown by a tympanic percussion sound in the hypogastrium. Distension of the bladder by the forcible injection of a liquid, he remarks, is often not well borne; the bladder is intolerant, and contracts spasmodically when such a distending force is made use of. But distension by means of a vapor is so gentle and manageable—the expansive force of the gas and the contractile power of the bladder being very nearly balanced—that spasm does not result. The iodoform is expelled with the urine, and is not deposited on the interior of the bladder.

Aconitine in the Treatment of Syphilitic Headache.—Leroy ("Ann. de dermat. et de syph."; "Rev. hebdom. de therap."; "Gaz. hebdom. des sci. méd.") reports good results from the use of aconitine in headaches of syphilitic origin, especially those of the secondary period. He thinks it ought always to be tried when an idiosyncrasy interferences with the employment of potassium iodide and quinine. But it does harm rather than good in cases where the pain depends on a serious cerebral lesion; hence it may be used for diagnostic purposes. The amount administered in twenty-four hours by the author never exceeded $\frac{1}{100}$ of a grain. He does not state what kind of aconitine he made use of, but probably it was Duquesnel's.

Fluid Extract of Quebracho as an Application to Wounds.—Bourdeaux ("Arch. méd. belges"; "Rev. gén. de clinique et de therap.") says that fluid extract of quebracho, applied to a wound, a burn, an ulcer, or a frost-bite, is more healing even than iodoform. Spread over

such a surface, it dries in the course of half an hour, forming a tough and very adhesive brownish crust, which can be removed only with the aid of warm water; and cicatrization advances rapidly.

ANSWERS TO CORRESPONDENTS.

No. 36.—A long and very interesting article on the subject, by Dr. George J. Engelmann, of St. Louis, is to be found in the fifth volume of the "Transactions of the American Gynecological Society." Dr. Engelmann afterward wrote a small book on the same subject, entitled "Labor among Primitive Peoples." Such studies are not only curious, but valuable.

No. 37.—Any member of the profession is at liberty to attend the meetings, but no one who is not a member can take part in the discussions, except by invitation.

No. 38.—The peculiar dating is in the original. The purpose is to indicate the date of publication according to both the old style and the new style, the latter being still observed in Russia.

No. 39.—Fold each individual strip over the end of a large spatula, and push it gently under the limb from one side far enough to enable you to seize the loop on the other side; then pull one end through.

To Contributors and Correspondents.—The attention of all who purpose favoring us with communications is respectfully called to the following:

Authors of articles intended for publication under the head of "original contributions" are respectfully informed that, in accepting such articles, we always do so with the understanding that the following conditions are to be observed: (1) when a manuscript is sent to this journal, a similar manuscript or any abstract thereof must not be or have been sent to any other periodical, unless we are specially notified of the fact at the time the article is sent to us; (2) accepted articles are subject to the customary rules of editorial revision, and will be published as promptly as our other engagements will admit of—we can not engage to publish an article in any specified issue; (3) any conditions which an author wishes complied with must be distinctly stated in a communication accompanying the manuscript, and no new conditions can be considered after the manuscript has been put into the type-setters' hands. We are often constrained to decline articles which, although they may be creditable to their authors, are not suitable for publication in this journal, either because they are too long, or are loaded with tabular matter or prolix histories of cases, or deal with subjects of little interest to the medical profession at large. We can not enter into any correspondence concerning our reasons for declining an article.

All letters, whether intended for publication or not, must contain the writer's name and address, not necessarily for publication. No attention will be paid to anonymous communications. Hereafter, correspondents asking for information that we are capable of giving, and that can properly be given in this journal, will be answered by number, a private communication being previously sent to each correspondent informing him under what number the answer to his note is to be looked for. All communications not intended for publication under the author's name are treated as strictly confidential. We can not give advice to laymen as to particular cases or recommend individual practitioners.

Secretaries of medical societies will confer a favor by keeping us informed of the dates of their societies' regular meetings. Brief notifications of matters that are expected to come up at particular meetings will be inserted when they are received in time.

Newspapers and other publications containing matter which the person sending them desires to bring to our notice should be marked. Members of the profession who send us information of matters of interest to our readers will be considered as doing them and us a favor, and, if the space at our command admits of it, we shall take pleasure in inserting the substance of such communications.

All communications intended for the editor should be addressed to him in care of the publishers.

All communications relating to the business of the journal should be addressed to the publishers.

Lectures and Addresses.

SCIENTIFIC MEDICINE AND BACTERIOLOGY

IN THEIR RELATIONS TO

THE EXPERIMENTAL METHOD.

An Address delivered before the Ninth International Medical Congress at Washington, September 7, 1887.

By MARIANO SEMMOLA, M. D.,

DIRECTOR OF THE THERAPEUTICAL CLINIC OF THE UNIVERSITY OF NAPLES :
DELEGATE OF THE ITALIAN GOVERNMENT TO THE CONGRESS.

(Concluded from page 293.)

I MIGHT still continue the enumeration of the new methods of cure proposed for all the diseases which were believed to originate from parasites, but it would be time lost. That which I am anxious to impress upon you is the systematic blindness of similar currents of ideas not able to reduce themselves even before the most overwhelming death statistics. The physician, when he is blinded by a system, always finds a good reason to console himself for his non-success, and continues in this headstrong way to travel along the road into which a preconceived idea has made him enter. Still, for the calm observer—really the friend of progress—who has arrived by the experimental method, it would have been so easy and so natural to foresee those curative failures, since that immense mass of microscopic studies, applied first to pathology and then to therapeutics, with few exceptions, were built on sand, completely trampling under foot the laws of the experimental method. It is true that man lives continually besieged by myriads of microscopic beings that are always ready to invade his organism, and to contend with him for the materials of which he has need in order to live; and it is not less true that sometimes in this combat for existence some of these infinitely small beings, that have the same right to live as he, are capable of causing in our body revolution and death. Behold, one of the greatest conceptions, an indisputable conquest of modern biology, and perhaps one of the most eloquent teachings for man, who, superior in physical force to the greater number of animals by which he is surrounded, accustomed to pitch his tent from one pole to the other, to substitute for the immense virgin forests the luxurious fields, and destroy all with iron and fire, preserving only what he sees fit, and who had proclaimed himself King of Nature, whose motto for his own use was *væ parvis*, it did not seem possible that he in his greatness should humbly submit to the inexorable laws of circulation of the matter and force—and instead the microscope has placed under our eyes a new world, and he has been obliged to remain stupefied by the untold activity which therein takes place.

There are, without doubt, pathological microbes; this point of the science was proved by the researches of Davaine and of other illustrious microscopists. After these ideas the problem which naturally arose was that of discovering with what mechanism these enemies of man, so infinitely small, dared to attack and sometimes destroy a fortress so far superior to their invisible power. This grand problem

which modern biology has placed before us was worthy of occurring in this great century, but on account of its immense difficulty it was necessary to impose the most scrupulous experimental rigor, and to profit with success by this revolution of the science there was need of the measured step of many and many generations, and to hurry things would only lead to those illusory exaggerations which we to-day must deplore. This is in reality the only reason by which the bacteriology of to-day, instead of constituting a gradual progress, constitutes a real systematic invasion, which is greatly favored by the inborn tendency of man to wish to explain everything at once. It is this disposition of man which has led experimenters to generalize beyond what they have seen, and decoyed them too far off from their starting-point. Instead of this, they should, before all else, have been able with great rigor to distinguish the true from the false enemies. If it is unfortunately true that some of these microbes are capable at times of killing a human being in a few hours, it is none the less true that ordinarily we can take in with impunity thousands of them in the water which we drink and the air which we inhale, and many millions during every twenty-four hours we live (Miguel's analysis of the air of the rue de Rivoli), still preserving the best of health. Naturally from this sprung the doubt whether that small fraction, so terrible, confronted by the immense majority of innocuous cases, did not have some connection with exceptional and invisible diseased conditions of those organisms which were attacked and overcome.

If, therefore, there was need of minute study of so many microbes, it was absolutely indispensable to investigate the special qualities of the soil in which they flourished, one of the most fundamental researches, beyond doubt, but at the same time nearly impracticable when we reflect upon the intra-organic sphere of the microbes. This research was completely suppressed. No one has dared to face it, and let this be said in honor of biological chemistry. But then, how was it possible to undertake the experimental solution of a problem of which one of the factors was unknown? Is it enough to observe in the blood of a patient a microbe to say that it has been the real cause of his disease? What is the limit between the microbes that are perhaps indispensable to normal life and those which produce some specific disease? Is it indeed enough to determine that such a microbe belonging to a pathogenetic type is really capable of causing a disease when it penetrates into the organism? It is allowable to doubt, according to the researches of Klebs, who affirms that in the same manner that there exist vegetable species that are poisonous, there are other species belonging to the same group and same family, and closely allied to the preceding ones, which have not this poisonous quality and can in no way acquire it—just as there are pathogenetic micro-organisms existing that can not be distinguished from others perfectly inoffensive, the latter preserving their inoffensiveness in any condition and during the whole of their existence. And I will further state that in the same way many plants, poisonous in their wild state, become harmless and even edible upon being cultivated, still preserving, intact and

unchanged, all their morphology. Does this occur in the same way with the microbes, and does their morphology become inoffensive? The experiments made by their cultivation in other spheres authorizes us to conclude nothing, if we wish to obey the laws of the experimental method. Which, after rigorous researches (up to the present day) of the two, three, or four pretended microbes that have been discovered in the same disease is the true pathogenetic microbe? The authors of these observations have not been able to decide for themselves, and the colossal studies which are multiplying on every side with the cultivation of these microbes, we must honestly confess, have given results which are very questionable, if not altogether negative.

In general, the experimenters have shown themselves easily contented, and have always hastened to declare that from their inoculated cultivations such and such an *identical* disease was produced. But I appeal to the good faith of all these famous colleagues, who, if they are lovers of the discovery of truth, will tell me which are the artificial diseases produced by the inoculation of this cultivation, and if the natural primitive disease from which the germs were taken has really been reproduced; truly, I only know from human pathology of the existence of the bacillus of carbuncle, and it might be also said that of tuberculosis, but who can say he has seen reproduced a true paroxysm of malarial fever, or real diphtheria, or other diseases attributed to microbes? The infinite numbers of microbes to which successively have been attributed many of these diseases testify against the presumed results announced by different experimenters. But they will confute me by saying that the reason of this want of success was the difference of the field, because the pathogenetic bacteria, like all parasites, prefer a certain kind of animal—for example, the bacilli of carbuncle live prosperously on graminivorous animals (especially ruminants), whereas they prosper very little in the organism of the carnivorous kind, and have no effect whatever on dogs, therefore, the same predilection must be admitted for the bacilli of the diseases of mankind. Likewise the objection can be made that the virulence of some bacteria is considerably modified during the time which has passed since they were cultivated outside of the body of the animal, and that no less influence has been exercised by the aliment that served for the cultivation, and that to many other microbes the same thing occurs as happens to that of Davaine's septicæmia of rabbits, that can not be inoculated in guinea-pigs, and to that of Koch's *virus*, that, likewise, can not be inoculated in guinea-pigs. But, then, of what use are the pure cultivations? What serious demonstration can they furnish of the affinity between such a microbe and such a disease if the physico-chemical conditions of the soil are an indispensable element for the success, and if up to the present moment we absolutely know nothing, scientifically speaking, of the physico-chemical conditions which the blood of such or such an animal presents as a favorable field of cultivation for this or that microbe? This, as has already been said in the beginning, is the real scientific notion that explains the inoculation or the non-inoculation of pathogenetic microbes. And on this proposition I believe that there is not to-day a real scientist who has any illusions.

These physico-chemical peculiarities of the blood, on account of its biological chemical conditions, will not be discovered for a long time to come. Inform yourselves of the nature of this problem (Raulin's liquid), and the culture of the *Aspergillus niger*, as likewise the present conditions of chemical hæmatology. What, then, is to be said of the receptive and non-receptive condition for the same pathogenetic inoculation in the same species of animals? The problem always becomes more inaccessible to our researches, and he that sustains the contrary can not speak in good faith without showing that he is no scientist. I do not see in all this the least shadow of the true experimental method. Sometimes we obtain by the inoculation of the supposed pathogenetic microbe a morbid effect, but it does not reproduce the disease. Another one produces no effect whatever, and then the reason which is invoked is the badness of the subject. And then, again, the same pathogenetic microbe is shown to be capable of producing two different diseases, as, for example, the *Diplococcus pneumonicus* and the *meningococcus* (*P. Foa* and *G. Bordoni-Uffreduzzi*), which last result would completely destroy the pathogenetic electivity of the microbes, which ought to be one of the principal attributes of parasitical ætiology. But what, then, do they wish to demonstrate in this way? Experimental logic shows us that we can not always demonstrate that which we desire. This, in fact, is the reality of the thing for one who wishes to understand it. And all this without even mentioning that, in certain very serious diseases, it has been as yet impossible to discover a microbe (hydrophobia), and that there are many and many others in which the ætiological influence is so primitively chemical that it would be impossible to abdicate to the most ordinary good sense. We should have to suppress physiology! Let us take as an example a being who, in a perspiration, goes into a grotto, and who after a few hours is seized with a violent attack of rheumatism that continues two months or more. In this case, would you want me to search for the pathogenetic microbe without seeing at once that this profound functional cutaneous perturbation, which produced fever, was caused by a chemical mechanism to me unknown? Even when it is demonstrated that in the blood of this patient there existed microbes, I should still be of the opinion that they were developed from pre-existing germs, and were one of the effects, and not the cause of the disease. This example can easily be multiplied in many serious diseases, due without doubt to grave functional disorders caused by errors of hygiene. The same is said of the pathogenetic influence which is attributed to some microbes, while in reality they alone are not capable of producing the disease attributed to them, for example, osteo-myelitis purulenta and acute endocarditis—invoking a demonstration that is the negation of the experimental method. It is known that when a pure cultivation of the *Staphylococcus aureus* is injected into the blood-vessels of an animal (for example, a rabbit), probably it will die, but it does not die from osteo-myelitis, mark you, but from the so-called general infection, and none of the localizations in the bony marrow are observed (Weichselbaum, "Klinische Zeit- und Streitfragen," Vienna, 1887). But if, before or

soon after the injection, a bone of that animal is bruised or broken, then an osteo-myelitis purulenta is produced. I would frankly ask of any honest scientist if, with the experimental logic at hand, it is allowable to conclude or give to the world as a demonstrated fact that the *Staphylococcus aureus* is really the cause of this terrible disease in man, and also in the poor rabbit? But how can we admit the electivity of this pathogenetic microbe for the marrow of a normal bone if there is need of the intervening of another cause for illness, and how can we, then, logically infer that this microbe is the true cause of the osteo-myelitis that the physician observes in nature?

The same is said of ulcerative endocarditis, that is never produced when we inject into the circulating torrent of an animal those bacteria that are to-day considered as the cause of this disease, while on the contrary, if after the injection a valvular injury is produced, for example, offending mechanically by the use of a sterilized sound introduced into the carotids, the bacteria circulating in the blood fasten themselves on the valve and produce an endocarditis with all its consequences (see former citation). The character of this experiment is complicated; there are so many different casual elements which take part in it that I, for the honor of the experimental method, am chagrined to think that they can seriously be taken as a contribution to scientific pathology. In all these lightning studies and conclusions there is always a criminal infraction of the laws of the experimental method, because, as has been said above, it is impossible to follow the experimental method while ignoring one of the data of experience. Up to the present time it has been acknowledged that the experimental method was that which proceeded from the known to the unknown; instead of which in all the experiments of bacteriology up to this time there is always an x in the data of the experiments, and then the conclusion which is presumed to be accepted as a scientific truth is the daughter of a known factor more an x . This x , which is the secret of the whole position, consists in the diseased physico-chemical conditions of the blood or tissues of this or that animal. I understand that, in comparison to its immense difficulty, it is easier to suppress this idea or to support it; but then this in reality would be a most excellent experimental method *ad usum Delphini*, and will certainly never be the experimental method that was taught us by the grand masters or be the experimental method that was invoked as the Palladium of salvation that was to regenerate medicine. Where are you, glorious memories of Galileo, of Torricelli, of Newton, of Volta, of Spallanzani, who taught the world the sacred code of naturalistic philosophy? Rise, for pity's sake, from your tombs to illumine once again with a ray of genius the daring pioneers of the progress of medicine; echo at least once more among us the magic voice of Magendie, of Liebig, of Claude Bernard, of Whewell, of Chevreul, and of so many others that up to within a few years had by their example preserved the real traditions of the true experimental method uncontaminated by any other passion, even though the excusable one of leading to a quick discovery of a truth not yet ripe, and then only can true scientific medicine be inaugurated. Bacteriology made its entrance into pathology as a hasty

means of indicating new ways for the cure of diseases, as I have before hinted. But the attempts made or proposed (more than absurd) would merit ridicule, if, unfortunately, their consequences were not so tragic. Good God, I can not conceive how in a general disease already developed it is possible to kill the microbes, admitting them to be the real cause, without killing the patient. Thus, to lessen this simple want of logic, the authors of these new methods have declared that they propose to kill the microbes in their primitive state, in the intestinal tube in cholera and in typhus, in the respiratory tree in tuberculosis, etc. In fact, they would do the same as is done in malignant pustule when at the right time the hot iron is applied. But the case is entirely different, as malignant pustule is seen as soon as it begins to manifest itself, and the expert surgeon recognizes it in time—that is to say, when the organism has not yet begun to participate in the infection; the patient is saved because, the point of departure being destroyed, all the cause of the disease is destroyed also. But in cholera, typhus, etc., this point of departure foreign to the organism is impossible to be seen in the required time, as in the former example, but the disease has already become general, and the destruction of the pathogenetic microbes at their point of entrance is no longer of any value. Let us not speak of tuberculosis, because, besides these most serious and peremptory objections, there is still another, and it is that the poor consumptive is doomed long before the bacillus can be observed in the expectoration, and the terrible condition of his general nutrition is certainly the most important part of the disease (notwithstanding what the pure parasitologists pretend), and precludes any hope of curing him, even if all the bacilli were to disappear as by enchantment from the respiratory tree. Nor no less absurd is the example which these anti-parasitical therapeutists invoke in their favor, citing the real miracles which Listerian surgery has wrought. It would seem to me almost childish to mention the difference which is apparent between an antiseptic preventive method and an antiseptic curative method. Without doubt it was due to the germ theory that Lister was inspired with the directing principle of that surgical revolution which will ever form a glorious halo to the English surgeon and one of the most precious conquests of the second half of the nineteenth century. But Lister—surrounding himself with those immense precautions of cleanliness, even scrupulousness, which constitute at least a good half of the importance of his method, and then purifying the medium in which are to be laid bare parts of the organism more or less profound—in reality did not propose any other idea than that of impeding the parasitic germs which beset us, so that they could not profit (as is their law of existence) by the open door that the surgeon of other times unconsciously presented to them, without ever dreaming that, like invisible vultures, they had thrown themselves on their prey, producing the terrible and deadly effects that are known to all. In reality, therefore, in all this the organism remains perfectly foreign, and it is absurd to invoke the successes of Lister's antiseptic method to justify the internal medication that is directed against those germs which have already taken possession of the organism. The same is to

be said of the appeal that is made to the splendid micro-biotic application which has been consummated to fight and limit the development of epidemic diseases, because the good effects of the destruction of the microbes as long as they are out of the organism have nothing to do with the cure of general diseases already developed. But I do not wish to lose the occasion of observing that in reality the useful effects of the strongest disinfections still leave much to be desired, and that practically we are anything but near to possessing complete ideas about all the ways in which epidemic and contagious diseases are diffused. Therefore I do not hesitate, after a long clinical experience, to assert that even from this point of view bacteriology has exaggerated its presumptions.

Here, then, gentlemen, you have sketched out a guide to an experimental criticism of the true present state of bacteriology, and you see that its too hurried march does not merit the name of experimental progress. But up to the present I have not spoken to you of another colossal step which science to-day has made, and which demonstrates always more peremptorily that so many, many researches purely bacteriological, and so many improvised conclusions have done harm to the real scientific progress of pathology. To-day it is well known that it is not enough to explain the morbid symptoms of the different diseases, the purely mechanical action of the bacteria, nor the modification which they produce on the interorganic sphere only by the alimentation of which they have need. At present the more important and terrible influence of the microbes consists in the complicated chemical actions which they determine in the materials of the blood, with the production of eminently poisonous substances of different nature; and on the production of a greater or smaller number, and by their more or less rapid elimination, depends the loss or the victory of the organism. This experimental discovery without any doubt will one day be fruitful of happy curative applications, much more than any direct cure against the microbes, because the absolutely chemical search is the only one that can make us conceive serious hopes regarding the discovery of the intimate mechanism of diseases—that is, of their nature. In fact, it is undoubted that the living animal organism is a vast and most complicated laboratory of chemistry, still dark in the greater parts of its intimate mechanisms in its healthy state, and much more mysterious in a state of disease; and it is likewise true that the general effect of drugs is a chemical action that modifies in various ways the interorganic sphere deteriorated by disease. The intimate history of the most serious diseases, like that of the great remedies, was there to demonstrate even before these last experimental theories.

While we must presume that this new direction of medical studies, inaugurated so brilliantly by those pleiades of scientists, Nencki, Husemann, Gussenbauer, Gröbner, Kober, Brieger, and others, will be more than fertile for the future of pathology and therapeutics, on the other hand it alone would be enough to bring up again a discussion about the conclusions of parasitical ætiology pure and simple, even if they were not prejudiced by the effect of the bad experimental method followed at present. With the idea of

an innumerable series of poisonous alkaloids (of which up to the present we only know a few), it is easily understood that an exact notion of the physico-chemical conditions of the interorganic sphere in each disease is the indispensable condition for constructing on the one side pathogeny, and on the other side therapeutics. The morphology of the microbes is relegated in the background of the picture. That which principally interests us to know is the method of rendering these inseparable companions of our existence inoffensive, inasmuch as they can not disappear from creation; on the contrary, it is to be believed that they make a part of its harmony. Now, this preservation is purely physico-chemical. Or we must be contented to repeat with the hygienist of all times, *Keep yourselves strong and robust*, preserve the health of the functions, etc., because the stronger and more resisting will be your organism, and the more difficult will be the contracting of disease; or, if we wish to invoke the lights of science to be mathematically sure of what we should do, science must tell us plainly and openly what are precisely the physico-chemical conditions of the organism in which such and such a microbe will be able to grow and thrive, and produce its grave effects. Take, for example, pulmonary troubles. All ancients and moderns agree on the hereditary predisposition. Now, there is not a good clinician who has not observed that general characteristic decay of health which takes place in individuals as a prologue to tuberculosis. This is a decay of the so-called organic mixture, or, if you wish, of the change of material that is the prologue of pulmonary phthisis, and is precisely that which would allow the bacillus to reign in the lungs, and it is exactly for this that one hundred individuals can confront bronchitis over and over again, and mingle with consumptives, without ever becoming consumptive, while another poor unfortunate, who to all appearances is ruddy and strong, becomes consumptive after the first cold, because he has the misfortune to have phthisis in the blazon of his family. Now, frankly and in good faith, as honest scientists, what is the difference between these two types of organism—the difference of the interorganic sphere or field of cultivation, as they mean to say? Why does the bacillus of tuberculosis not thrive in one, whereas in the other it lives and prospers? This is the Gordian knot. Science says that the second organism offers a good field for the bacillus and the first does not. But this idea is an *ignotum* for an *ignotum*. That it is called organic predisposition or field of cultivation matters little to me; on the contrary, the word predisposition is to be preferred, as it indicates the pure and simple fact without prejudicing the explanation with a phrase that, while it adds nothing to the concrete and useful, scientifically speaking, insinuates into the mind an hypothesis not demonstrated. I desire to know from science in what consists precisely this field of cultivation; that is to say, what are its physical and chemical conditions? And only when I know this with precision can I propose to myself to modify the field; that is to say, to make a rational preventive cure for tuberculosis. Up to the present I know of no other cure than the good hygienic conditions of high country air, good alimentation, etc.; in fact, whatever betters the physiological powers and

augments the vitality of the cells is the only means that can increase the resistance of the organism and give hope in the beginning of a cure. But, unfortunately, in the greater number of cases we do not succeed, nor can we invoke the experience of the laboratory, which demonstrates that animals who have been inoculated with the bacillus of tuberculosis can sometimes fight against the power of the deadly germ when the nutritive processes are excited to the apogee of their power. But I should like to ask in good faith of any pathologist or clinician what similarity can exist between the diminished capacity of resistance (an indispensable condition) of an animal that pines away by degrees in a laboratory, on account of the bad conditions of the air and light, etc., and the long and unknown preparation that spontaneously takes place in the organism that has an hereditary predisposition to tuberculosis, *even when it is put into the most favorable medium?* Physiologically and clinically speaking, between these two conditions there is an abyss; science sees it and measures it, and is silent to my question; because real science does not venture beyond its depth. Real science, unfortunately, knows that the phenomena of the same order seen in the laboratory obliges us to defer certain aspirations to an undetermined time. Science knows that the smallest traces of nitrate of silver in Raulin's liquid—traces that the same chemical analysis can with difficulty discover—are enough to impede the growth of the *Aspergillus niger*; and from this it is deducible that for the present, and perhaps for ever, the investigation of the physico-chemical conditions which make an organism a good field for the bacillus of tuberculosis, as opposed to a refractory organism, is interdicted to us. What I have said about the bacillus of tuberculosis can be repeated about all other diseases to which to-day is attributed a parasitic origin. What can rationally be said about the receptivity or non-receptivity of individuals toward cholera, small-pox, diphtheria, scarlet fever, etc.? It is easy to say that it is a question of a good or bad field of cultivation, but these words signify nothing and do not certainly constitute a scientific progress that bacteriology presumes to have realized. Nor is this all that peremptorily demonstrates the unfathomable abyss that surrounds the scientific knowledge of the predisposition of the different organisms, or fields of cultivation as they wish to call them. What is to be said of the immunity that a first attack of parasitic infection confers for a time more or less long, and sometimes for ever, against a second attack of the same disease? Going always from hypothesis to hypothesis, we have invoked the excitement of the field of cultivation, no matter how powerful are the conditions of the budding of these germs in an inter-organic sphere; incomprehensible as it may seem, these conditions can not reproduce themselves a second or a third time when a long period has elapsed after the cure of the first attack, and consequently the organism is completely restored and has absolutely returned to its normal state. What is the difference between a young man who, in his infancy, suffered from scarlet fever which has rendered him exempt, and another perfectly healthy man who, not having the disease, is likely to take it later in life? Absolute mystery! Please be kind enough to follow me

still for a little longer. Take ten organisms all in a receptive condition for contracting scarlet fever, and which are taken with the infection as soon as an epidemic of scarlet fever begins. In one you will have the typical case that ends in recovery in eight days; in another the scarlet fever becomes ataxic at the third or fourth day, and the patient dies, as dies also another who has the fever in which the angina became diphtheritic; and finally a fourth, in whom, after the fever had run its course, develops into autopathic and adenopathic suppuration.

In this case we do not deal only with knowing in what consists the field of the healthy organism, favorable more or less to the cultivation of the microbe of scarlet fever; in this case the question is to determine the individual physico-chemical conditions by which the same infecting agent has radically modified the chemical productions of its fabrication, and from which, therefore, have been derived those fatal consequences that were unforeseeable on the first or second day of the disease. Let this be said only to humiliate those who pretend to proclaim bacteriology to be the philosopher's stone that is to enlighten the clinician, because so far as regards the pure pathologists of the laboratory I admire their innocence, and I excuse them, because they have never seen a patient taken with fulminant diphtheria or with hæmorrhagical small-pox, and for this it is permissible for them to believe in good faith that pathology can be regenerated by the cultivation of the bacilli obtained in the different broths, or on pieces of potato and other things.

If, then, you suppress the scientific idea—that is, the precise determination of the quality of this field of cultivation, an idea that, in fact, corresponds to the famous organic predisposition which the ancients and even the moderns admit—then good-by scientific medicine. We shall have to finish by resigning ourselves, as is allowable, to doubting pure and simple clinical observations. Nor need they come and tell me that we have made progress in this branch. Yes, it is true that we have acquired precious ideas, but they are very far from sufficient to construct the edifice, or to even serve as a useful foundation to therapeutics; thus they would have to construct with phantasy. Now, it is my opinion that a structure can not exist half real and half false, half experimental and half hypothetical, because then we should have to repeat with Victor Hugo, "*Je cherche un édifice et je trouve une ruine.*" I could have cited simpler examples referable only to external parasites of the organism. Take, for example, the experiments of Delafond and Bourguignon on the itch of domestic animals. Itch, as we know, is produced by an acarus nearly visible to the naked eye, that lives in the superficial stratum of the skin, and therefore it is not necessary to examine the morbid chemical changes of the inter-organic sphere, because the combat takes place on the surface of the body. Well, Delafond and Bourguignon have demonstrated that the acarus put on the skin of a well-fed and healthy sheep does not live, nor can it form colonies, but if, on the contrary, these sheep are first submitted to a bad alimentation and poorly stabled, the acarus easily finds a hold, and if the bad treatment is continued to these animals, the itch will extend considerably. If, at a given moment, the alimentation is bettered, together

with the stabling and ventilation, then these simple hygienic agents, without any special cure against the acarus, are enough to make the itch disappear, and the animal recovers its primitive good health. Also the human subject presents examples of this kind of physiological therapeutics, due to the greater resistance. In what consists the physico-chemical change which has taken place in the organism of these animals, and in what way has this change been able to have such an effect on the skin that it would receive or refuse the parasite? To me it would appear that all, honestly, must recognize that to-day science can not even propose the solution of these problems. Think, then, what is to be said of the physico-chemical conditions of the inter-organic sphere, and tell me if it is allowable to speak of therapeutics based on bacteriology. In fact, all the most learned and conservative cultivators recognize the fact, and all hope in a better future, limiting themselves for the present to consoling us for the therapeutic sterility of their studies with giving the clearest explanations of the mechanism with which powerful remedies—such as mercury, quinine, etc.—work the curative miracles that all the world knows. It can be said that these systematic progressionists envy the past, and that to demonstrate to humanity that they also are doing something to enrich or perfect the cure of disease, imitate the fly who settles on the back of the ox and cries out, fully satisfied, *aramus*. Naturally their therapeutic explanation comes from their parasitical ideas, and therefore they teach youth that mercury cures syphilis, and that the salts of quinine cure malarial infection by killing the microbes which are the respective causes of these two pathological conditions.

Not wishing to further tax your patience, a few words will suffice me to demonstrate how the systematic domination of an idea can blind one, even to the point of presuming to turn to its profit assured empirical facts about which there can be no discussion. The parasitical experiences which they are always invoking are those which come from the laboratory, and which have always the fault of not taking into account the fact that in a living organism the factors which are encountered are very different from those which are found *in vitro*. Thus, for example, it is known that corrosive sublimate is one of the strongest parasite-killers, and it is used with great success to destroy the germs of infection under the form of washes, injections, etc., in the proportion of $\frac{1}{4000}$ to $\frac{1}{1000}$. This is a well-established fact, but it can not be invoked to explain the mechanism of the antisiphilitic virtues of mercurials, for two most simple and peremptory reasons, allowing as demonstrated (which it is not) that constitutional syphilis is a general disease determined by a special microbe (and I pray you to note that this first hypothesis, which is not yet demonstrated, would be enough to paralyze all future reasoning). But the hypothesis *crescit eundo*. If the salt of mercury were to circulate in an organism under the form of the bichloride, it would still be easy to delude one's self. But it is the most elementary idea of experimental pharmacy that the salts of mercury are absorbed under the form of an albuminate, and that in contact with the excess of albumin, or perhaps with the chloride of sodium of the blood and of the tissues, the

compound albumin-mercurial is dissolved, and does its work. Now the solution of albuminate of mercury has not the antiseptic virtues of the sublimate, and this for a very simple reason; bichloride of mercury exercises its powerful antiseptic action because it seeks to combine with the albuminous materials of the pathogenetic germs; it (Hayem) could not have the same action after having already combined with great excesses of albumin. The microbes of syphilis might continue to live on quietly. Still there are some who, not willing to give up, prefer to say that, after all, we do not know what composition or decomposition the salts of mercury are subjected to in the blood; denying, moreover, that which is proved in experimental pharmacy, and this only for the purpose of being able to start from the experience of a laboratory to arrive at an *x* for the pleasure of sustaining an hypothesis. But there are other, and not less peremptory, reasons demonstrating the error. It is admitted, for example, that corrosive sublimate, notwithstanding its transformations, kills the microbes of syphilis used even at minimum dilution of $\frac{1}{5000}$; one can not go farther. It is likewise admitted, which is erroneous, that the microbes of constitutional syphilis only circulate in the blood, and this makes one of the most simple calculations necessary of the proportions of sublimate necessary to sterilize them all. The quantity of blood which circulates in a medium organism is calculated at five kilogrammes. According to the parasiticals, the results *in vitro*, there would therefore be need that not less than one gramme of corrosive sublimate should be present and circulating at the same moment in the blood-torrent. Renouncing the serious consideration that a gramme of corrosive sublimate present and circulating in the blood would cause fatal acute mercurialism, I will limit myself to observing that practice demonstrates every day that from sixty to eighty hypodermic injections are enough at the most to cure the most serious form of syphilis, using half a centigramme of bichloride of mercury for each injection, which amounts to thirty or forty centigrammes of corrosive sublimate in all—that is to say, the fifth or sixth part of that proportion, even the minimum, that, according to the laboratory, would be necessary! And if to this you will add that after the third or fourth hypodermic injection it can be demonstrated with certainty that the elimination of the mercury has already begun by means of the urine, it is an indisputable fact that the combined dose of albumin-mercurial circulating at the same moment is by far inferior to the entire dose of corrosive sublimate used in the whole cure. Nor can I help asking of these blinded followers of this singular experimental logic, why they have never—they who are so sure that corrosive sublimate and all the other mercurials cure syphilis by killing its microbes—proclaimed that they have at last found the remedy for all chronic diseases that, according to their wisdom, are due exclusively to the existence of some kind of a bacillus or microbe? Why should not the use of sublimate, according to the same doctrine, cure pulmonary tuberculosis? There is no need that I recall here the deplorable effects of these unheard-of and audacious curatives. The same reasoning can be repeated for the mechanism by which the salts of quinine cure malarial infection, etc.

The final conclusion is, therefore, this, gentlemen, that, going on with the everlasting guide of the experimental method, the present progress of pathology and of therapeutics founded on microscopic studies, we must, unfortunately, convince ourselves that, under the most seducing appearance of rational and experimental progress, they are nothing else than hypotheses and systematic tendencies. It is, therefore, urgently to be hoped that experimental biology may once again recover that scientific rigor that is found consecrated in the immortal codes which our forefathers transmitted to us and by which only it is possible to prepare, little by little, the solid materials for the colossal edifice of scientific medicine. We shall be all the more largely recompensed for this immense work, inasmuch as it will be disinterested, because the edifice is so grand that, none of us being able to delude ourselves with the hope of seeing it finished, no one can be accused of ardently proclaiming progress for his own ends. We will work for the triumphs of future generations.

But do not let it be thought from this, gentlemen, that medicine is to continue in the way of traditional empiricism. This would be an easy accusation for those to make who in bad faith pretend not to understand the real sense of my discourse, and who, not wishing to conform to the rigor of the experimental method, prefer to have only progress on the lips and *ex cathedra*, while in practice they do not hesitate to become more empirical than their forefathers, with a humiliating polypharmacy for science and with a continual up and down of new remedies, first glorified as a miracle, and then forgotten without pity. No, gentlemen, empiricism is dead for ever in every order of things. Modern civilization, conquering by its true scientific methods inorganic nature and organic nature, finds itself in conditions entirely new and unknown to old civilizations. The history of ancient peoples can not always be logically invoked to calculate the destinies of modern people. Humanity understands to-day that its aim is no longer passive contemplation, but progress and action, and it is for this that the experimental method, passing from the physico-chemical sciences and physiology, is extending its influence over the historical sciences and over moral sciences. Humanity understands that it is not enough to remain an inactive spectator of good and bad, enjoying the one and cursing against the other; no, it searches for the cause it wishes to explain, and wishes to act on them, thus forcing itself to dominate good and evil; to develop the one and to battle with the other—to eradicate and destroy it. And it is you yourselves, Americans—great people of the United States—that are entitled to be admired by the whole universe as having applied these great principles of the experimental method to your political and social constitution. Those who, preferring unbridled license to healthy liberty, call you retrogrades, can not be anything but rascals, that for their personal advantages sacrifice the limits of the just and honest, and aim at the triumph of disorder. Therefore, he who confounds empiricism with the just measure of the evolution of progress either lies or does not know what he says. The experimental method teaches us that its first step is the rigorous observation of facts,

that is, the rigorous determination of this or that phenomenon. When this is well established, comes the research of the *Why?* which is the second step of the experimental method. Empiricism represents blind and confused observation, and, if the scientific physician begins by investigating the *why* of a phenomenon that is badly determined in his simple observation, then in reality the experimental method is wanting a base. This is the sense in which I say that the first duty of modern scientific or experimental medicine is that of transforming the empirical notion of facts into a scientific idea. The great treasures of clinical observations transmitted to us by tradition represent indisputably the everlasting basis of medicine. To-day the duty of the physician who wishes to be the real pioneer of scientific medicine is that of applying all the great truths of the past to the bright lamp of physics, of chemistry, of physiology, and of pathological anatomy. This illumination has already begun, and here is the first transformation of the empirical period into the scientific period. At the same time, and accordingly as each clinical fact has been subjected to exact and rigorous tests, with so many new means of investigation comes the second period of research—that is, the research of the *why*, or the study of the conditions of existence of different pathological and therapeutical phenomena; and it is thus that this slow evolution of experimental progress begins that can, only in time unknown, conduct to the definitive construction of scientific medicine. But, if in this long journey the right path of experimental medicine is lost, the same thing will take place that has occurred for the last half century—that is, while the auxiliary science of medicine is throwing bright light on the many mysterious problems of pathology, physicians are allowing themselves to be conquered by impatience, and prefer to build the progress of therapeutics on hypotheses rather than on rigorous experience, and thus are always going farther away from the definite scientific solution.

This, my oldest, my dearest, and most ardent vow for the future of medicine in general, and, above all, for *Italian* medicine, I am more than happy to repeat here among you all, worthy sons of the freest land, because, gentlemen, liberty and patriotism are the natural and indispensable allies of the progress of science, and one of the fundamental conditions for attaining the experimental method is the nationality of thought, or the abolition of all kinds of intellectual slavery, which is a hundred times more humiliating and damaging than the slavery of chains. It is true that science has no fatherland and much less confined boundaries, but it becomes universal only when it is already constituted; but while it finds itself in the state of evolution—that is, in a state of truth not yet demonstrated—each people has special dispositions and special ways of being and hearing, and for this each people or nation gives a special characteristic to its studies. To those people or nations that, having glorious traditions and therefore undeniable duties, prefer to imitate rather than to create, I would recall the words of Virchow, in the congress of German naturalists at Hannover in 1866, which were that “science is unproductive when it has not a national character.”

And that Germany herself, with Oken at its head, cries to those who make their scientific progress consist in imitating, "Imitate no one if you wish your sciences to revive and regain their ancient greatness." In no corner of the world can this voice be so powerfully echoed for the experimental method as on these shores of great modern liberty. Long live the alliance in medicine of the experimental method and scientific independence, an alliance which to conquer does not need bayonets, cannon, nor victims.

Original Communications.

ON THE ADVANTAGES OF A COMPOUND SALICYLATED PLASTER IN DERMATOLOGICAL AND SURGICAL PRACTICE.

By HERMANN G. KLOTZ, M.D.

THE value of salicylic acid in the treatment of skin diseases, particularly of eczema in its different forms, has been so generally recognized by dermatologists that it does not seem necessary to add any further testimony bearing on this question. Among the different means of applying the same, the plaster-mulls of Unna and similar preparations have been acknowledged to possess many advantages peculiar to themselves; the high price, however, has prevented their general introduction, particularly into dispensary practice, where they probably would be the most welcome. Comparatively little has been said or written about the application of salicylic acid in the form of the salicylated soap-plaster, which, I believe, was first recommended by Professor Joseph Pick, of Prague, in a paper, "Ueber den Arzneigelatinverband und die locale Behandlung des Eczems," published in 1883 in the "Prager med. Wochenschrift," viii, pp. 53-55. After making extensive use of such a plaster during the last four years in private practice, as well as in my dispensary and hospital service, and having met with very satisfactory results, I take leave to call the attention of the profession to its advantages.

Professor Pick (*l. c.*) but briefly mentions that he employed, instead of the plaster-mulls, a five-per-cent., ten-per-cent., or twenty-per-cent. salicylated soap-plaster, which could easily be prepared by any apothecary. I have not been able to ascertain whether the soap-plaster of the Austrian Pharmacopœia differs in its composition from that of other pharmacopœias. Usually it is composed of twelve parts of the simple lead or diachylon plaster, two parts of wax, and one part of Castile soap. If you prescribe this plaster, with even five per cent. of salicylic acid, the patient will receive a mass of such hardness that he will not be able to spread it at all, or, if he really succeeds, it will be so dry and brittle that it will not stick, nor accommodate itself to the surface of the part of the body to which it is to be applied. The addition of some substance was, therefore, required to render the mass softer and more pliable; vaseline, on account of its resistance to decomposition, seemed the most appropriate. A further change

was considered advisable regarding the soap contained in the plaster. Although a pure soda soap, without any free alkali, acts but mildly on the healthy skin, and although the quantity contained in the soap-plaster is not very great, its macerating and softening influence on parts where the skin is more or less devoid of its epidermal covering might prove harmful during continuous application. I therefore preferred to reduce the quantity of soap by using equal parts of soap-plaster and of the simple diachylon plaster, to which Hebra's diachylon ointment owes its efficacy. After these theoretical considerations, I sought the practical advice of the experienced apothecary of the German Dispensary, Mr. A. Rutenik, in regard to the proportion of vaseline needed to furnish a useful plaster. After several experiments, Mr. Rutenik found the following formula to give the best mass:

R Emplastri diachyli simplic.,	} ..ää 40 parts.
Emplastri saponati,	
Petrolati	15 "
Acid. salicylic.	5 "

Several years' experience has proved the value of this formula, which, about two years ago, was added to the list of remedies regularly prescribed in the German Hospital and Dispensary of New York. For use in certain cases, a ten-per-cent. plaster of the same composition has been prepared. This plaster, to which I propose to give the name of the compound salicylic plaster—*emplastrum salicylicum compositum*—is of a yellowish-gray color, has no particular smell, and, while fully retaining the qualities of a plaster, is soft enough to be spread readily on linen or muslin by any one not entirely inexperienced in this work. In spreading plasters, patients often commit the error of trying to prepare a small piece of cloth, just large enough to cover the diseased part, instead of taking a large piece at once, which allows the application of greater force and of wider excursions of the hand, and cutting it up into smaller pieces afterward to suit the shape and size of the parts to be covered. It therefore often happens that they complain at first of the difficulties of spreading; as a rule, however, they soon gain in practice, and exhibit well-prepared plasters. The adhesive qualities of the compound salicylic plaster are not very great, and this is indeed its most serious drawback. On some portions of the body, particularly on those covered by the stockings, or other closely fitting garments, it will not require any further means to hold it in its place, but generally some cover, such as a glove or mitten, a roller bandage of muslin, a piece of cloth, a pair of swimming tights, or a strip of adhesive plaster, will be required to secure it in its position. Hereby its applicability is restricted to certain regions of the body—a disadvantage which it has in common with Unna's plaster-mulls and similar preparations, with the exception of collodium, traumaticin, and, perhaps, the gelatins; but in my experience the latter do not furnish so absolutely dry a surface as has been stated, certainly in hot weather. One great advantage of the plaster is its low price—a point of particular importance in public institutions. Mr. Rutenik has been kind enough to carefully compute the cost of the five-per-cent. salicylic plaster, as follows: If prepared from the ready-

made plasters, one pound costs about 42 cents; if he originally mixes the plasters himself, the cost amounts to only 20 cents a pound. As one ounce will spread over about one square foot, it certainly furnishes a cheap remedy. In private practice my experience was at first not so satisfactory, as on the identical prescriptions different patients received widely different substances, sometimes too hard, sometimes too soft, at other times extremely irritating. I can not account for the difference, unless the preparation of smaller quantities is attended by particular difficulties. For several years Messrs. Eimer & Amend, of Eighteenth Street and Third Avenue, have prepared the plaster in large quantities, and have kept it ready for sale in excellent quality.

The very same reflections that led Professor Pick to the adoption of medicated gelatins in general, and particularly of the salicylated gelatin, induced me to take up the salicylated soap-plaster rejected by him. As the paper in question was published in a periodical of not very wide circulation, and as it seems to me to be of great importance on account of the therapeutic principles proclaimed therein, I feel justified in citing part of it:

"The point in question," Professor Pick says, "was to find a substitute for the very efficient but very disagreeable and unpleasant tar treatment. For this purpose efforts have been made to isolate the active principle of tar and to use it separated from the other components. As soon as the different products of the distillation of tar were obtained, they were applied to take the place of tar; but neither resinon, nor resinein, nor carbolic acid, nor others were able to produce identical effects with tar. Even β -naphthol, which Kaposi but recently believed to possess all the advantages of tar without its disadvantages, can not be considered a successful rival of tar. Upon inquiry to which peculiarities tar and its preparations owe their excellent effects on the diseased skin, particularly in eczema, it became apparent that, first, they were excellent antiseptics; and, secondly, that by the drying of their resinous components they formed a protecting cover, under which the regeneration of the epidermis could go on without molestation.

"A careful study of the development and progress of eczema will show that the very indications for its treatment are the prevention of septic infection and the protection of the diseased surface from mechanical and chemical injuries until a sufficiently strong epidermis has been formed. Considering the single stages in the development of eczema, we find that really the progressive character of the eczematous process, defined by the smaller or greater exudation on the surface, is limited to the conditions of eczema papulatum and vesiculosum, as well as to eczema madidans, which differs only in the removal of the covering of the vesicles; but that suppuration, the so-called stage of eczema impetiginosum, makes its appearance only when local septic influences complicate the moist stage. Wherever such an event does not take place, the vesicular or moist eczema passes immediately into the squamous stage."

This means that suppuration can and ought to be prevented or stopped, when already developed, by antiseptic measures. The compound salicylic plaster represents, indeed, a very simple form of antiseptic dressing, the place of which it can take under certain circumstances, as I shall show later on. The salicylic acid, being soluble but slowly and in limited quantities, and being not evaporable, retains the antiseptic qualities of the plaster for a considerable

period. The mass of the plaster itself forms a non-irritating cover for the surface of the diseased skin, not only protecting it from injuries, but offering several other advantages. Unlike ointments, it prevents effectively the formation of crusts or scales on any moist surface by preventing the evaporation of the secretions, while on a dry or scaly skin it acts similarly to a rubber bandage or cover; it retains the evaporation of the product of the perspiratio insensibilis, and thus forms a kind of permanent bath. It is superior, however, to the rubber itself on account of the aseptic condition of this bath, while under the former, decomposition of the secretions and resorption of septic fluids can easily take place. I have twice observed the formation of a malignant phlegmon under the use of rubber gloves in cases of eczema where I firmly believe that the septic resorption had been favored, or rather forced, by the rubber cover. The salicylic plaster keeps the dry and infiltrated skin softer and more pliable, thus preventing its cracking and tearing, so often the most painful and annoying feature of some skin diseases; and I know of no other remedy under which rhagades, once formed, lose their soreness and heal in so remarkably short a time, the formation or reforming of the hard inelastic edges being entirely prevented.

The compound salicylic plaster owes a further beneficial quality to the effect of the salicylic acid itself on the removal of the thickened epidermal cover, and the replacement of the same by a new healthy epidermis. While it requires a stronger (at least a 10-per-cent.) salicylated plaster to effect such an elimination of thickened epidermis within a short time and in as conspicuous a manner, the milder 5-per-cent. plaster produces a slower and less distinct transformation.

All these advantages the compound salicylic plaster has in common with Unna's plaster-mulls and similar preparations. I have mentioned them here to show that the home-made article is inferior to the ready-made, more pretentious articles only in appearance. Some of my private patients who tried both were decidedly in favor of the plaster. As to dispensary patients, I have been gratified to observe that they apply hardly any other external application so faithfully as the plaster, and quite often ask voluntarily for the renewal of the same in preference to other remedies. I do not know whether—the greater number of our patients being of German birth or extraction—this fondness for plasters of any kind is peculiar to our race; I believe, however, that this preference, wherever it exists, is founded on the experience that the plasters do not require frequent renewals, and, being applied mornings and evenings at the utmost, allow the patients to attend to their day's work without interruption.

From what has been stated heretofore, it has become evident already that the compound salicylic plaster finds its widest application in eczema. To avoid any misunderstanding, I want to state distinctly that, while quite a number of cases of eczema heal under external treatment alone, I do not believe that the plaster renders general and internal treatment unnecessary in other instances. Except the most acute stages of eczema, which probably always require the application of lotions or dusting pow-

ders, there is hardly a form of that disease in which the compound salicylic plaster is not borne well, and in the greater number of cases it proves beneficial. There are individual cases where for some reason or other the objective and subjective symptoms of inflammation increase under the plaster; generally, however, the acuteness of the process is not an absolute counter-indication. Recent vesicular and pustular eruptions about the hands and feet heal readily under the plaster as well as moist eczema of some duration; it is advisable to cleanse the moist surface well with water or a solution of boric acid before making the application. The discharge of serous fluid is not diminished at first; only with the gradually progressing formation of new epidermis will the secretion decrease and finally cease. The beneficial effects of the compound salicylic plaster are not limited, however, to the moist stages; under its protection better than under other treatment the newly formed epidermal layer gains in strength and smoothness, while the formation of scales and crusts is prevented. The infiltration and thickening of the more chronic forms of eczema yield very often to the softening influences of the plaster, while in some inveterate cases it will require the stronger application of tar, either pure or as an ointment or in the shape of the alcoholic tincture. As has been mentioned already, rhagades are particularly amenable to the healing influences of the plaster; often one night's application will be sufficient to cure cracks on the fingers, the pain and discomfort from which had for weeks been harassing their unfortunate victims. Naturally the usefulness of the plaster greatly depends on the localization of the eczematous affection. While the face, neck and shoulders, and circumscribed patches on the chest and trunk, allow of its application, while the scrotum and penis can be conveniently protected, the extremities furnish by far the most favorable field for the propitious influences of the plaster. Applied to the hand, and particularly to the fingers, in small straps and covered by a glove or mitten, it allows a moderate use of the member, sometimes sufficient to enable the patients to work; the arms can remain covered all day without change; but more evident still is the advantage of its application to the lower extremities, the most frequent seat of eczema and its consequences among the laboring classes. The plaster and a muslin bandage often enable the patients, who had before been forced into idleness for weeks or months under other applications, to be around and to attend to their business without much pain or inconvenience; and it is particularly among those affected with eczema, and very often ulcers of the leg, that the plaster has been praised and asked for when a relapse of the old evil brought them back to the dispensary after months or years.

Chronic ulcers of the leg, so closely allied to eczema, indeed present a no less meritorious object for the services of the compound salicylic plaster. If small and shallow, they allow direct application of the same after a thorough cleansing and disinfecting; the deeper and more inveterate ones, however, often require previous reduction of the inflammatory conditions by rest and lotions or stimulation of the indolent surface by caustics, or astringents, or operative procedures. But once reduced to a granulating surface and

the edges lowered to the same, I know of no better dressing for these ulcers.

Applied after cleansing and disinfecting by a solution of boric acid or the combined boric and salicylic acids, or by sublimate not over two per mille, and supplemented by one or several layers of absorbent or medicated cotton and a muslin or gauze bandage, we have a complete antiseptic dressing that may remain unchanged for five or seven days or longer, according to the copiousness of secretion. It is often astonishing to notice the rapid spreading of the epidermal edges over the granulating surface, and the fast reduction of the latter. Not less conspicuous is this effect if such a dressing is applied to skin-graftings, made according to Reverdin's method, after they have once taken root on the granulations; under its protection they rapidly increase in circumference. The final result in all such cases will be a much smoother and firmer scar than after dressing with ointments, adhesive plaster, or the rubber bandage. Naturally the compound salicylic plaster may be applied with the same good results to any granulating wound; whether the same originally resulted from an operation or from a burn, from some severe form of dermatitis, the effects of caustics, etc., particularly when under iodoform, sublimate, or other dressings, no more progress toward healing is made. Syphilitic ulcers, especially those of the more superficial type, resulting from pustular syphilides, often do much better under the salicylic than under the mercurial plaster.

The same good results will be gained in such cases where the loss of substance is limited to the epidermis, or to the horny layers of the same, leaving exposed the rete Malpighii, the condition of the skin after the formation of blebs or pustules and the removal of their cuticle in erythematous and impetiginous eruptions in their different forms, herpes and pemphigus. In a very severe case of pemphigus, now under my observation, the plaster has proved to be a particularly useful and convenient dressing for very extensive raw surfaces on the back and the extremities; it greatly relieved the suffering of the patient and favored speedy reproduction of epidermis.

I have not much experience in regard to the effects of the compound salicylic plaster in psoriasis and lichen, except as to the formation of cracks and rhagades in the former, but I have no doubt it would do good service in both diseases against infiltration of the cutis. In cases of carbuncles and furuncles I have tried it quite frequently; while I have found it useful and convenient as a dressing after the boils have been opened and the core or the diseased tissue has been removed, I have not observed in the earlier stages the same brilliant effects which L. Heitzmann has quite recently attributed to a salicylic plaster of a nearly identical composition with the plaster of the pharmacopœia of the German Dispensary.

As I expect to report more fully in another paper on my experience in cases of lupus, lupus erythematosus, and others, which closely resemble the tuberculosis verrucosa cutis as described by Riehl and Paltauf, I want to mention but briefly that I have applied the 10-per-cent. compound salicylic plaster with excellent results for the last three years; slowly indeed, but without any pain or inconven-

ience to the patients, even extensive affections have been gradually reduced to smooth and but little defacing scars.

I hope I have avoided being so enthusiastic in my report on the advantages of the compound salicylated plaster as to impair its credibility with those who, from frequent deceptions and disappointments, have become used to accept such reports with so much greater caution and suspicion the more glowing they are. My own experience, extending over several years, and the confirmation of the same by several of my associates in the German Dispensary, make me feel confident that those who will give the plaster a fair trial, particularly those engaged in dispensary work, will not entirely discard it.

222 EAST NINETEENTH STREET, NEW YORK.

GLANDULAR AND CONNECTIVE-TISSUE HYPERTROPHIES OF THE LATERAL WALLS OF THE PHARYNX.*

BY CLARENCE C. RICE, M. D.

PATHOLOGICAL conditions of this portion of the upper respiratory tract—the lateral walls of the pharynx—have not attracted much attention, and the little that is to be said here in regard to such lesions is stated as much because of its pathological interest as of its clinical importance. Clinically, we are not in the habit of separating by any characteristic symptoms inflammatory processes of the sides of the pharynx from coincident conditions occurring about the pillars of the palate and the tonsils. If it be an acute inflammation, the symptoms of painful deglutition, heat, and general discomfort about the back of the mouth, are satisfactorily accounted for by evidences of tonsillar or palatal inflammation, and the sides of the pharynx are not critically examined. If the process is a chronic one, the symptoms of a general naso-pharyngeal catarrh are explained by manifest pathological conditions in the nasal cavities and “post-nasal pharynx” (which, by the way, is a far better term for this part than the “vault of the pharynx” or the “post-nasal space”). And, again, whatever abnormal conditions may be noticed upon the sides of the pharynx, they are not considered especially significant as forming any very considerable part of the pathology of upper respiratory catarrhal inflammation.

From a therapeutic standpoint we must recognize lesions that commonly appear on the lateral walls of the pharynx, for they demand correction at the hands of the operator during the treatment of a naso-pharyngeal catarrh as much as pathological conditions higher up in the upper pharynx or nose. Luschka and Meyer, of Copenhagen, did valuable work in studying and describing the glandular structure of the vault of the pharynx, and later investigators have done much toward making clear the pathology of post-nasal catarrh by demonstrating the similarity in structure of the glandular tissue at the vault of the pharynx with that of the faucial tonsils. That this identity

is true beyond all peradventure can be easily proved by microscopical examination. I have had a number of specimens taken from the pharyngeal and from the faucial tonsils examined by expert microscopists, and it has been shown that in children the two structures are almost precisely the same. In adults the faucial tonsils, on account of their exposed position and the consequent frequent inflammatory attacks to which they are subjected, take on hyperplastic changes, and an abundant connective-tissue stroma is found here which does not show itself in the adenoid layer at the vault. It is of more than histological interest that these structures—the one in the upper and the other in the lower pharynx—have been found to be alike, for not only is it conclusive proof of the intimate anatomical relation between the parts, but it is found that they are affected frequently at the same time by the same inflammatory process, thus demonstrating the close relation between glandular inflammations of the post-nasal pharynx and of the oro-pharynx. This is a very important point clinically, because it places diseases of the middle pharynx where they properly belong—in the general class of catarrhal inflammations of the respiratory and not of the alimentary tract.

I have noticed several times a pathological condition which I dare say is familiar to you all, but one which I am surprised to find is rarely described in text-books or mentioned in general medical literature, and that is a complete tissue connection, by reason of hypertrophy, between the enlarged faucial and pharyngeal tonsils. The former have gradually extended upward and the latter downward from the vault, until they have met. I am not speaking now of those raised folds formed of combined connective tissue and glandular hypertrophy which are frequently to be seen running up and down parallel with the posterior pharyngeal pillar. I believe that the oral and the pharyngeal tonsils become continuous in this manner: first the faucial tonsil develops backward, and so grows into, and passes behind, the posterior pillar. The simple follicular glands, of which anatomists tell us there is a linear grouping at this location—that is, on the side of the pharynx—have also undergone a hypertrophic change, and have pushed themselves upward from the surface until they have met the faucial tonsil, and together they have formed a comb-like spur or excrescence, and have extended upward at the same level as the tonsil, until, in one mass, they have disappeared behind the soft palate, where they can be traced into the substance of Luschka's tonsil. If this is the manner in which the follicular structure at the sides of the pharynx takes part in general glandular enlargement above and below, it not only adds additional strong proof of the identity of the tissue of the first, second, and third tonsils, but it apparently demonstrates that these so-called tonsils are, after all, only a globular collection of the same simple follicles which have a linear arrangement up and down the lateral walls of the pharynx, and that these simple lateral follicles are merged into the hypertrophied faucial and pharyngeal tonsils without any line of demarkation to indicate change of tissue structure.

We should say, then, that chronic follicular pharyngitis of the lateral walls of the pharynx is the commencement of this pathological process, and that it may and sometimes

* Read before the American Laryngological Association at its ninth annual congress.

does progress until this follicular and hyperplastic enlargement forms the connecting link between the true upper and lower tonsils. This is the first form of the glandular hypertrophy which is referred to in the title of this paper—a pathological condition which I do not find described fully anywhere, but alluded to in “von Ziemssen” by Wendt,* who speaks of the “combs of the tonsil” extending downward from the vault; but he does not describe the filling in of the gap between the upper and lower tonsils by this glandular enlargement of the lateral walls of the pharynx.

Other writers say that adenoid hypertrophy of the vault sometimes extends almost down to the soft palate, and I mention Sajous as one.†

This process, then, seems to be nothing more than an unusual degree of that pathological condition which we usually find in children who are suffering from chronic catarrhal inflammation of the nose and pharynx, an excessive glandular development, and a hypertrophy of the mucous follicles of the side of the pharynx, together with faucial and pharyngeal tonsilar enlargement. I have not noticed this condition in very young children, but in young adults from twelve to eighteen years of age, and, I presume, for the reason that it requires this number of years for the lateral glandular tissue to reach this very unusual degree of hypertrophy. The entire line of glandular tissue, including the pharyngeal tonsils above and the faucial tonsils below, seems to be nourished by the same blood-supply, for it has been my experience that, as soon as any portion of the chain was destroyed by knife or cautery, there was a strong tendency to atrophy on the part of the remaining glandular structure, and that, too, without surgical interference. I have seen the entire mass on the lateral wall of the pharynx disappear in a month after the tonsils above and below had been removed.

We now come to a second very interesting pathological condition of the lateral walls of the pharynx—a condition which is described by Schmidt‡ under the name of “pharyngitis lateralis,” and one which he regards as a localization of “pharyngitis granulosa,” or, as it should more properly be called, “chronic follicular pharyngitis.” Schmidt quotes Störk* as the sole author (Billroth, “Handbuch d. Chirurg.,” vol. iii, pt. 1, 1880) who has appreciated the fact that this modification of pharyngitis folliculosa at times occasions much discomfort in consequence of hyperæsthesia of the corresponding part. We find that Störk describes the pathological condition of pharyngitis lateralis, but only as a modification of general chronic follicular pharyngitis, and he adds that these lateral hypertrophies are sometimes the seat of extreme hyperæsthesia, driving physician and patient to despair.

Michel|| says, in the case of patients laboring under pharyngeal difficulties, and who had been judged hypo-

chondriacs because of the apparently normal condition of the post-pharyngeal wall that he found circumscribed inflammatory thickening of the lateral walls of the pharynx.

Minute anatomical descriptions of the lateral walls of the pharynx have been given by Luschka,* and later by Zaufal,† who state that this region may be the seat of pathological conditions; but these authors do not, as does Schmidt, lay great stress upon the fact that this localization of a follicular pharyngitis oftentimes explains distressing symptoms the cause of which is not easily apparent.

The most satisfactory description of so-called “lateral pharyngitis” we find given by Schech‡ in his text-book. This latter author, with Zaufal, states that the fold called the “plica salpingo-pharyngea” is the particular portion of the lateral wall of the pharynx which is involved in “pharyngitis lateralis.” This salpingo-pharyngeal fold commences at the posterior end of the cartilaginous orifice of the Eustachian tube, and extends downward parallel to the lateral wall of the naso-pharynx and the posterior pharyngeal pillar. When hypertrophied, it can be traced downward as far as the attachment of the palato-pharyngeus muscle, or it becomes lost in normal mucous membrane at the level of the tip of the epiglottis.

The pathological change indicative of localized inflammation of the lateral pharyngeal walls we have all seen, and we are familiar with the symptomatology of this condition. There are two inflammatory processes which may occur here which perhaps it is best not to confound; the one is the acute inflammation of the simple follicles of the pharyngeal wall, just behind the posterior pillar, occurring with or following a disease of precisely the same nature—acute follicular tonsillitis, the characteristic white-mouthed follicles appearing primarily, sometimes on the tonsil and sometimes on the side of the pharynx. They also disappear together, and a narrow superficial red line of raised tissue, running up the side of the pharynx, is all that remains to mark the location of frequent attacks of acute follicular inflammation.

The second pathological process is a localized hyperplastic inflammation of the mucous and submucous structures at this point, or, according to Schmidt and Schech, a hyperplastic enlargement of the salpingo-pharyngeal fold. The pathological change usually commences in the simple follicles of this region, as a result of frequent attacks of follicular inflammation of a mild grade, aggravated, as Dr. Harrison Allen suggests, by the constant physiological activity of these parts. Chronic congestion and consequent hyperplastic infiltration soon follow, and eventually the enlarged follicles are encroached upon and their integrity destroyed by the surrounding connective tissue. The two processes can not clinically be separated, and the raised adventitious fold or ridge on the side of the pharynx is composed of both glandular and connective-tissue elements. The elevation of the mucous membrane may be unilateral or bilateral; if found on both sides, they are rarely sym-

* Wendt, “von Ziemssen,” vol. vii, p. 39.

† Sajous, “Diseases of the Nose and Throat,” p. 231.

‡ Schmidt, “Deut. Archiv für klin. Med.,” 1880, vol. xxviii, p. 421.

* Störk, “Klinik der Krankheiten des Rachens,” 1876, p. 114.

|| Michel, “Zur Behandlung der Krankheiten d. Mund-Rachenhöhle und des Kehlkopfes,” Leipsic, 1880.

* Luschka, “Der Schlundkopf des Menschen,” pp. 16 and 33.

† Zaufal, “Die Plica Salpingo-pharyngea,” “Archiv f. Ohrenheilkunde,” vol. xv, p. 97.

‡ Schech, “Diseases of the Mouth,” etc., p. 114.

metrical. They are sometimes broad and thin, and at other times as thick as a lead-pencil. Sometimes they are so large as to prevent the approximation of the soft palate with the posterior pharyngeal wall. And Schech explains the symptom of pain in many of these cases by the fact that this hypertrophied pharyngeal band, which passes over the superior constrictor muscle, is, by the contraction of this muscle, wedged between it and the posterior surface of the soft palate, thus exciting the sensitive and irritable pharyngeal nerves. These bands are easily overlooked, situated as they are behind the posterior pillars, and are only brought prominently into view by contraction of these pillars. They may be hardly distinguishable from the palato-pharyngeus muscle, or sharply separated from it. The color of this fold is generally redder than that of the surrounding mucous membrane, but it may be normal; on the whole it presents an innocent appearance, and yet it is frequently the sole lesion to be found, which may account for a train of constant and disagreeable symptoms. That it should be recognized and classified as an important pathological change in catarrhal pharyngitis is proved by the fact that with its destruction the unpleasant symptoms of the patient frequently disappear. In what cases do we find evidence of "pharyngitis lateralis"? Slight pathological changes in this direction are seen in many, perhaps the majority, of cases of post-nasal pharyngitis, but in my experience the disease is particularly peculiar to a certain class of patients—thin, pale, nervous men and women, more frequently the latter; people who are always thinking and talking of their throats, who suffer from sore throats almost every day. This soreness, they explain, is a feeling of burning and rawness rather than of pain. The discomfort is present in the morning, disappears after breakfast, and returns during the afternoon. Fatigue of the voice during speaking and singing is another prominent symptom. The sufferer is extremely apprehensive in regard to the condition of his throat, and believes that he is the victim of cancer or consumption. Examination of the pharynx and larynx shows but little. A pale mucous membrane, with but little submucous tissue, drawn tightly over the prominences of the cervical vertebræ, a few enlarged follicles scattered over the pharyngeal wall, and a number of prominent veins, are the changes which first meet the eye, but none of these adequately explain the severity of the patient's symptoms. During a paroxysm of gagging, however, the thickened lateral wall of the pharynx is brought prominently into view, and on touching it firmly with a probe, a sensitiveness is noticed which is not elicited by pressure on other parts. A coughing paroxysm, spasm of the glottis, and a husky voice are the temporary results produced by this stimulus.

That this pharyngeal band is the pathological condition which produces the rawness, pain, and fatigue of voice, it is fair to conclude, since these symptoms are usually relieved or disappear altogether when this ridge is destroyed by caustics or the cautery.

I believe that it is a mistake to consider the middle pharynx so much a part of the alimentary tract as only to be affected by and together with stomachic trouble. Glandular hypertrophies in children and connective-tissue infiltration

in adults are characteristic lesions in the oro-pharynx of a chronic catarrhal pharyngitis, similar in character to and directly dependent upon nasal and post-nasal catarrhal inflammations.

And the two lesions I have called your attention to in this paper—first, the direct connection of the upper and lower tonsils through the medium of enlarged mucous follicles of the lateral walls of the pharynx, and, second, the hypertrophied lateral pharyngeal bands composed of glandular and connective-tissue elements—these two lesions demonstrate that the upper and middle pharynx are two portions of the same tract, attacked by the same inflammatory processes by reason of the same causes, and they are not materially unlike by reason of any difference in anatomical structure or physiological function.

THE INDUCTION BALANCE AND THE TELEPHONIC PROBE.

Report of Six Cases of the Use of One or Both to determine the Location of Metallic Masses in the Human Body.

By JOHN HARVEY GIRDNER, M. D.

I wish to record the following six cases in which the induction balance or telephonic probe, or both, were used to determine the location of leaden bullets or other foreign metallic masses having a lodgment in the human body:

CASE I.—A gentleman, while serving as colonel in the Federal army during the late war, received a gunshot wound in the breast at the battle of Cedar Mountain. The bullet—a musket-ball, he thinks—entered the chest at the left sterno-clavicular articulation, throwing the clavicle upward from its articulation about two inches, from which position it was properly replaced by the surgeons at the time of the accident, and they were also of opinion that the bullet had passed directly backward and a little outward, and was lodged underneath the scapula of the same side, and no attempt was made to remove it.

After a few weeks an abscess formed, and pointed between the fifth and sixth ribs of the left side, at their junction with the sternum. The pus from this abscess was supposed to have originated at the wound of entrance, and to have found its way to this point by passing down on the inside of the chest-wall. Both this and the wound of entrance healed after a few months, and the colonel returned to duty, and, except a slight comparative muscular weakness of the left arm and occasional neuralgic pains, has remained well ever since, so far as this wound is concerned.

Last January I made a thorough examination of this patient with the induction balance, with results as follows: When the center of the *induction area* came to a point in front of the spine of the left scapula, and a little to the left of the supra-scapular notch, there was a faint, but perfectly distinct, response in the telephone, which was verified by Dr. Banks and Dr. Hitchcock, who were present at the examination, and thus the induction balance pointed out the location of the bullet about where the army surgeons had supposed it to be. Going now to the front of the chest, the exploring coils were passed over the surface without result until the *induction area* was brought directly over a point an inch above the cicatrix left by the opening of the abscess above described, when a loud, high-pitched musical sound was produced in the telephone.

showing the very close proximity to the surface of a pretty large mass of metal.

I ought to add that this patient was exhibited by me at the New York Academy of Medicine on February 3d, and so loud and distinct was the response that the president of the Academy, Dr. Jacobi, and others of the fellows present, had no difficulty in locating this "*sonorous spot*." Now, as nothing except the presence of metal can produce a response in the telephone of the induction balance, it follows that we have discovered in this patient two bullets, or, what is more likely, one split into two pieces; I am the more inclined to the latter opinion, owing to the manner in which the clavicle was shattered at the time of entrance of the bullet, all the conditions being present for the splitting off of a portion of the bullet, which was thrown directly downward, and lodged at the point indicated by the balance, and being the cause of the abscess which formed at this point; and, further, the patient informs me that on the day following the accident, and for several days, the skin showed a deeply stained ecchymotic tract, leading from the point of entrance to the point where now we discover the bullet. Inspection and palpation of this point also show an enlargement or slight bulging out over the "*sonorous spot*," and pressure here is also painful. As these bullets cause no inconvenience, the patient has not consented to their removal, nor do I advise it; yet, if he consents, I shall not hesitate to follow out the indications of the induction balance in my operative procedures for the removal of these two masses of metal.

CASE II.—The details of this case are fully given by Dr. C. W. de Lannoy in the *Journal* for August 27th, page 229.

CASE III.—A young man received a pistol-shot wound in the right arm, the ball entering about the point of insertion of the deltoid muscle. This patient was under the care of Professor William T. Bull, by whom I was invited to examine him a few days after the accident happened. Exploration of the arm and axilla with the induction balance gave negative results, but when the coils were brought over a point on the top of the shoulder in front of the origin of the deltoid and about the junction of the acromion process with the spine of the scapula, a response was had in the telephone which was distinct and heard by several medical gentlemen present besides Dr. Bull; pressure also over this spot caused pain. The patient told me that as he saw his assailant approach from the front prepared to shoot, he turned his right side to him and threw up his right forearm on a level with his eyes, and thus the bullet, which would otherwise have struck the face or head, was received in the attachment of the deltoid, and the bullet, following its horizontal course, would naturally traverse the entire length of the deltoid while the arm was held in this horizontal position. The shoulder joint not being involved and the patient's general condition being so good, it was decided not to do an operation for the removal of the bullet, and the patient recovered shortly, still carrying the bullet in his shoulder.

CASE IV.—A man, aged forty-four years, received a bullet in the right ankle at the battle of Chancellorsville. I quote from a copy of the history of the case furnished me through the kindness of Professor T. M. Markoe, whose patient he was, and by whom I was invited to examine him.

"Right ankle is much enlarged and tissues about it thickened and indurated. The lower ends of both tibia and fibula show increased size and involucral action; movements of ankle

joint limited owing to surrounding enlargement; one inch and a half above tip of external malleolus is a sinus which discharges a small amount of pus daily and admits a probe the distance of one inch and a half in the direction of the center of the limb."

When an ordinary silver probe was passed into this sinus, its walls for a greater part were found to be composed of dead bone, and the bottom of the sinus everywhere communicated to the hand the presence of dead bone or some hard substance, and no man could tell certainly if it were lead or dead bone which he was probing, or if indeed there was any lead at all in the wound, a condition of things such as, I am informed, inspired Nélaton to devise the porcelain probe. The Nélaton probe was next introduced, but no staining of the porcelain could be found, nor was this surprising, since the bullet had lain in its present position in the tissues for twenty-four years, and, as was shown on its removal, was thickly covered all over with a coating of lead salts, so that the porcelain could not be stained by the metal.

The telephonic probe was now introduced, and after probing a hard substance for a while, which was bone, without response, the bullet was struck, and a loud, distinct "click" was heard in the telephone, announcing, beyond the shadow of a doubt, the precise location of the missile.

As an audience was present which had been invited to see the induction balance used, I now began an exploration of the ankle with the coils, and soon found a sonorous spot in front of the ankle which gave a very clear sound, and was heard by Dr. Markoe, Dr. Peabody, and others. As Dr. Markoe held the telephone to his ear, listening to the unmistakable announcement by the bullet of its presence in this man's leg, he enthusiastically said to the audience: "Gentlemen, I wish every man in this room could hear what I am listening to at this moment." This sonorous spot was, of course, the point on the skin nearest to the bullet. Dr. Markoe now enlarged the sinus with the chisel and hammer, and removed from between the tibia and fibula a thickly incrustated leaden bullet weighing 200 grains, and the patient made a good recovery.

CASE V.—This patient was examined at the invitation of Dr. William T. Bull. The patient was a woman, and the history is that seven years before, while fluid was being drawn from the right chest cavity by an aspirator, she suddenly started up from her seat and broke the needle off so close to the chest-wall that it was not possible to recover it. She was not told of the accident at the time, and, having made a good recovery from the pleuritis, suffered no inconvenience until after she was told that the needle had been left in her body, which was one year before I saw her and six years from the date of the accident.

She was a professional nurse of a very nervous temperament, and soon after she knew of the breaking off of the needle began to complain of severe sciatica on the same (the right) side, that she attributed to the presence of the needle, which she believed had found its way to the sciatic nerve, where its point was constantly pricking it. A thorough examination of the whole course of the sciatic nerve with the induction balance failed to discover any sonorous spot, and at no point in the course of the nerve could any response be obtained.

This negative evidence settles the question, beyond the shadow of a doubt, that the needle is not causing the pain of which she complains, for it is impossible that a needle of the dimensions of that left in her chest-wall should lie anywhere in contact with the sciatic nerve without being instantly detected when the induction area was brought over it. Neither the chest nor any other portion of the body was explored for the needle.

CASE VI.—A man, while seated in a chair, was handling a 22-caliber revolver, and accidentally fired it. The ball entered the right thigh in the middle third, and to the inner side. His physician, Dr. U. G. Hitchcock, was called, and by him I was invited to see the patient.

Leading from the wound of entrance there was a tender tract which could be followed by the pain it caused the patient to press on it with the fingers, and which seemed to be the course followed by the bullet; this tender tract led downward and outward for the distance of about six inches, where it seemed to terminate, and the fingers, passed lightly over the part, seemed to detect a small, hard mass at this point which we thought to be the bullet. As no ordinary probe could be made to follow the long, narrow, tortuous channel left by the bullet, I now applied the telephonic probe, using a straight surgical needle of suitable length instead of a blunt probe. After making proper connections with telephone and steel plate, I plunged the needle through the skin and underlying tissues at right angles to the surface, at the spot where our sense of touch had led us to believe the bullet was; when the needle had entered the thigh to the depth of about one inch and a quarter, it touched the ball, the contact was announced by the click in the telephone, and thus our presumption as to the location of the bullet was verified; and, with the needle's course as a guide, I cut down and came at once on the bullet, which was removed without difficulty.

The induction balance was not used in this case, because the sense of touch suggested the spot on the surface opposite to the bullet, which the probe proved to be correct; but had no such evidence been obtainable by manipulation, then the balance would have been resorted to, and by its aid the location of the bullet would have been determined through the sense of hearing instead of touch.

GUNSHOT WOUND OF THE INTESTINES.

LAPAROTOMY; DEATH.

By ISAAC WARREN, M. D.,
SOMERSET, KY.

ON December 16, 1886, I was called to see W. H., aged eighteen, who had been shot in the abdomen with a 38 caliber Smith & Wesson pistol. He was taken to his home, which was over a mile distant, in a wagon. He had been drinking freely all day, and when I first saw him it was impossible to tell whether he was suffering from shock, whisky, or cold—the weather being extremely cold—or all combined, but upon a more careful examination I noticed he was suffering from considerable shock; temperature 96° F., pulse feeble, very rapid, and a tendency to vomit. The ball had entered the abdomen on the left side about midway between the umbilicus and the anterior superior spinous process of the ilium, ranging downward and toward the spine. While I was not sure the bowels were injured, I felt quite certain of it, and so expressed myself to Dr. J. L. Owens, who saw the patient with me, and he concurred in my diagnosis. The reason I had for believing the bowels were injured was the peculiar decubitus of the patient, which I have never failed to notice when the bowels are cut—that is, the legs flexed upon the thighs and the thighs upon the abdomen; no matter whether lying upon the back or side, this position is assumed, and most of the patients have vomited or had a tendency to do so. Having read the report of Dr. W. T. Bull's case and some others, I had made

up my mind that in the next case of gunshot wound of the abdomen with such symptoms I would perform laparotomy, provided I could get the consent of the patient and all concerned. This man was shot about three o'clock in the afternoon, and it was over an hour and a half before I saw him, and when I arrived at the house it was beginning to get dark. I was anxious to operate at night, but the house he lived in was a poor, miserable log-cabin with chinks on all sides, which would have had to be repaired to make it comfortable for well persons. He was placed in bed and given an opiate, and dry heat applied to the body and extremities to bring about reaction. He reacted slowly, and at twelve o'clock his temperature was 99.5° F., and the pulse quick and wiry. The morning following he showed decided symptoms of peritonitis, with distension of the abdomen, tenderness, vomiting, etc. As before stated, the room in which I had to operate was so open that it was impossible to maintain an equable temperature over the whole room, and at no time could it be raised above 65° or 70° F., when there should have been a temperature of 85° or 90° F. I should state that on the morning of the operation the thermometer stood six degrees above zero. The patient was anæsthetized by Dr. J. W. F. Parker, and I was assisted in the operation by Dr. George Perkins and Dr. J. L. Owens. The usual antiseptic precautions having been taken, an incision beginning an inch below the umbilicus was made in the median line to the symphysis, but before the operation was completed it had to be extended around the umbilicus. From the time he received the wound up to the time he was operated upon was just twenty-four hours, and upon opening the abdominal cavity a general peritonitis was observed, with here and there flakes of lymph scattered over the intestines. The intestines were carefully taken out coil by coil, and wrapped in towels wrung out in hot water, until the whole track had been examined. Five wounds of the small intestines were found, and two of the mesentery. The intestinal wounds were closed with Lembert's sutures, and those of the mesentery brought together in the usual way. The ball was not found. Carbolic silk was used for both intestines and mesentery. The abdominal cavity was washed out with a weak solution of carbolic acid. The abdominal wound was closed with silk sutures, and a rubber drainage-tube introduced. Antiseptic precautions were observed throughout the operation. The operation lasted an hour and three quarters, the patient taking the anæsthetic well, which was Squibb's ether. He recovered consciousness and conversed freely with his family, but died fourteen hours afterward from exhaustion. No post mortem was held.

I feel confident that, had his surroundings been better and the room one I could have regulated the temperature of, and the operation had been performed the evening of the day he was shot, the result would have been different. As the prognosis in such cases is always death when left to the old mode of treatment, I think it is the duty of every surgeon to offer this chance. It is in the power of every doctor who makes any pretensions to surgery to perfect himself in this operation outside of the large cities by first operating upon some of the lower animals. The indications are the same with a dog shot through the bowels as with a man. It is an easy matter for any one to make himself familiar with the details of the operation and become quite dexterous. In the language of one of Captain Marryat's characters, "I will pick my flint and try it again."

Correspondence.

LETTER FROM LONDON.

The Bradshawe Lecture.—Pneumothorax.—The Death of Two of M. Pasteur's Patients.

LONDON, September 3, 1887.

THE monotony of the summer months, from a medico-literary point of view, is only broken by the annual Bradshawe lecture delivered at the College of Physicians in the middle of August. As a general rule, lectures at this institution are not attractive. The small theatre used for the purpose is very badly ventilated, and even in winter a considerable percentage of the invariably scanty audience find it difficult, if not impossible, to keep awake. On the last occasion, a fortnight ago, the authorities wisely decided to use the library instead, a much more spacious room, and much cooler. It was well they did so, for the attendance was an unusually large one, and the little theatre would have attained an intolerable degree of stuffiness. Dr. Samuel West, the recently appointed junior assistant physician to St. Bartholomew's Hospital, was the lecturer, and pneumothorax the subject he had chosen.

So far as causation was concerned, excluding the traumatic cases, he said, practically phthisis was the cause in the rest, a very few being due to acute breaking down or gangrene of the lung, and the cases of pneumothorax in the so-called healthy must be classed with the phthisical. He had arrived at this last opinion partly upon experimental grounds, for in the dead body, with the lungs *in situ*, he had found that a pressure of at least eight or nine inches of mercury was required to rupture the lung and produce pneumothorax, and this was a far higher pressure than was ever attained in any expiratory effort in health. Moreover, it was a notorious fact that these cases of pneumothorax were exceedingly insidious in their onset, and came on without any known effort; the only inference, therefore, was that the lung was already diseased, and he instanced several cases where pneumothorax had occurred either with very limited phthisical lesions or in cases followed by recovery.

The second class of cases—viz., the traumatic—called forth some very interesting facts and observations. The lecturer first reminded his hearers that, when the lung was wounded, whether by a simple fracture of a rib or by a wound communicating with the outer air, emphysema of the skin was always produced, but only in exceptional instances pneumothorax. Accepting the normal elasticity of the lung at seven millimetres, he said that, if, when the pleura was opened, the lung did not contract, it must be kept on the stretch by some force greater than seven millimetres, but there was no place for such a force to act in except in the pleura; therefore, if such a force existed, it must be in the cohesion of the two surfaces of the pleura. This theory he had tested in the following manner: Two mahogany discs of five centimetres diameter were made, smooth on the surface, and over the two surfaces pieces of stomach with the peritoneal surfaces outward were tightly stretched; it was found that they glided smoothly over one another, but that considerable force was required to draw them apart. By careful experiment it was found that a weight of 325 grammes was required to effect the separation. The discs were next perforated, and an oval slit was cut first in one membrane and then in both, corresponding to the hole in the disc, so as to permit of access of air between the discs, but practically there was no difference in the weight required to separate them. The elasticity of the lungs, as already stated, represented a col-

umn of mercury of seven millimetres, and the weight of this column, with a base of five centimetres, was 185 grammes; the force of cohesion, therefore, was very greatly in excess of that of the elasticity of the lungs, or, putting it in terms of mercury, the force of cohesion was equivalent to a column of 12.5 millimetres of mercury. In subsequent experiments he had found that at higher pressures than this air could be introduced by gently separating the two layers of membrane, but that when the pressure was reduced to 12.5 millimetres, the two layers immediately returned into close apposition, and expelled any air that had been introduced. He found that the two surfaces must be moist, neither dry nor wet; an extremely fine film of fluid should be between them, exactly the condition which obtained in the normal pleura.

The practical outcome of these experiments was that pneumothorax was of expiratory origin, and required a considerable force for its production, and that surgical emphysema rather aided in preventing pneumothorax than otherwise, the subcutaneous tissues offering less resistance to the passage of the air than the pleural surfaces.

The anti-Pasteur faction are in great glee over the fact that two more of Pasteur's patients have died from hydrophobia. The first of these, an Irish peer, aged seventy, was bitten by a tame fox in January last. He underwent a month's treatment in Paris, but developed symptoms of hydrophobia a few days ago, and died in the course of two or three days. His groom, who was bitten at the same time, and also treated by Pasteur, remains in good health. The other case was that of a child of four, who was bitten some six weeks ago, and was treated by Pasteur. Symptoms of hydrophobia appeared the day after his return to this country. It must be admitted that in these two instances the treatment by Pasteur has failed, though it is not necessary, as some would do, to attribute the deaths to the treatment rather than to the original bite.

Hydrophobia in Russia.—Hydrophobia during the past few weeks of abnormally hot weather, says an Odessa correspondent, appears to have become epidemic. "Our Pasteurian Hospital here," he adds, "is overwhelmed with cases. The operating-room is crowded during six hours every day with continuously succeeding batches of patients from every quarter. Within the last ten days, besides local cases, there have arrived for treatment here forty-seven patients—twenty from Kieff bitten by rabid dogs, fifteen from Podolia bitten by a rabid wolf, and twelve Montenegrins also suffering from mad-wolf bites. There are seven Turkish cases under treatment, and 120 others from various neighboring districts. Each patient is inoculated twice a day for ten, and in some cases for twenty, consecutive days, so that Dr. Gamalea and his two lady assistants have just now their hands full. The authorities here seem to have taken alarm at the extraordinary increase of rabies, and are taking measures for the destruction day after day of the stray dogs in different quarters of the city." Within twenty-four hours of writing the correspondent learns that three deaths have occurred among the patients in the bacteriological station there, the victims being a man and two boys who formed part of a contingent of fourteen Caucasians bitten by a rabid she-wolf. The deceased lad is said to have been under treatment for nineteen days, and to have been inoculated thirty-eight times. Dr. Gamalea would not guarantee the efficacy of the Pasteur system in the cure of wolf-bitten patients unless they were in his hands not later than three days after being bitten. This was of course impossible in the case of the deceased Caucasians, who could not reach the Odessa station within a week.—*British Med. Jour.*

Dr. Giraud-Teulon, of Paris.—The death of this distinguished physicist and physiologist is announced in the "*Gazette hebdomadaire de médecine et de chirurgie*." He was, perhaps, best known by his ophthalmological writings.

THE

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OUR FOREIGN VISITORS.

Not only the meeting of the International Medical Congress in Washington last week, but also that of the American Dermatological Association in Baltimore a short time before and that of the American Gynæcological Society in New York this week, have been the occasion of a number of distinguished medical men from various European countries coming into personal contact with the resident members of the profession in the three cities mentioned, and not with them alone, but with many practitioners from all parts of the United States in attendance at one or more of the three meetings. The meeting of the American Gynæcological Society, as had been expected, was unusually satisfactory and profitable. The attendance of Europeans of distinction was large, and it is understood that their impressions of the proceedings were very pleasant. Among those who have been present with us in New York during the greater part of the week were Dr. George Granville Bantock and Dr. Graily Hewitt, of London, Dr. Alexander R. Simpson, of Edinburgh, Dr. George H. Kidd, of Dublin, Dr. Doléris, Dr. Terrier, and Dr. Apostoli, of Paris, Dr. Martin, of Berlin, Dr. Cordes, of Geneva, and Dr. Unna, of Hamburg.

Most of these gentlemen were here as the invited guests of the American Gynæcological Society, and social arrangements were not wanting by which the local profession were enabled to make their acquaintance. On Monday evening several of the gynæcologists mentioned were present at the Union League Club, at a dinner given by Dr. Paul F. Mundé; on Tuesday evening Dr. Robert W. Taylor gave a dinner in honor of Dr. Unna, followed by a theatre-party; on the same evening a reception was held at Dr. Fordyce Barker's; on Thursday evening the American Gynæcological Society had its annual dinner, at which most if not all of its guests were present; and on Tuesday, Wednesday, and Thursday very much the same company was gathered at Delmonico's in the middle of the day. There were also several other private dinner-parties. It is particularly worthy of note that the venerable president of the International Medical Congress, Dr. Nathan S. Davis, was present at Dr. Barker's reception.

There is every indication that our foreign visitors have enjoyed their sojourn in New York. Of far greater consequence, however, has been the opportunity afforded to many of our own number of coming into contact with them under peculiarly pleasant circumstances. The effect of having one's notions brightened by even a brief companionship with men who are the recognized leaders of medicine in communities in many respects radically different from one's own can not fail to be permanent. The sight of those who took part in the discus-

sions at the Gynæcological Society's meeting must add something to the interest, and perhaps also to the intelligibility, of whatever of their writings we may read in the future. There is indeed nothing but mutual profit to be drawn from the social commingling of men engaged in the pursuit of the same studies under very different surroundings.

MINOR PARAGRAPHS.

ANÆSTHETICS AS A CAUSE OF INSANITY.

IN the Section in Psychology of the British Medical Association, a report of which we find in the "British Medical Journal," Dr. George H. Savage, of London, lately made some interesting remarks on various exciting causes of insanity, especially of the delirious type. Among these causes, he spoke of various drugs, and particularly of alcohol and anæsthetics. Given certain predisposing conditions, the most prominent being a previous attack of insanity, anæsthetization would in some instances either give rise to delirium passing into insanity, or revive a past insanity.

THE DETECTION AND REMOVAL OF IMBEDDED NEEDLES.

MR. H. LITTLEWOOD, of Leeds, describes in the "Lancet" his method of detecting needles in the tissues and removing them. The part supposed to contain the needle is first rubbed thoroughly with an electro-magnet, so as to magnetize the needle if it is there. Then a delicately balanced magnetic needle is held over the part as a searcher. When the situation of the needle has been ascertained, the part is rendered bloodless, cocaine is injected, and an incision is made, through which an electro-magnet is inserted to feel for and extract the needle. The author states that needles are thus often found and removed quite readily, but that in some instances as much as half or three quarters of an hour is required.

FLIES AS DISSEMINATORS OF TUBERCULOSIS.

A RECENT number of the "Gazette hebdomadaire de médecine et de chirurgie" contains an abstract of an interesting communication to the French Academy of Sciences, on the dissemination of the tubercle bacillus by flies. They settle in great numbers upon the sputa of phthisical patients, become gorged with the bacillus, and then convey it to articles of food. The recommendation which the authors, Dr. Spillmann and Dr. Haushalter, found on these observations is that the sputa should be rapidly and thoroughly disinfected.

ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Fourth Division of the Health Department for the following statement of cases and deaths reported during the two weeks ending September 13, 1887:

DISEASES	Week ending Sept. 6.		Week ending Sept. 13.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever.....	45	12	47	7
Scarlet fever.....	33	3	36	9
Cerebro-spinal meningitis...	5	5	3	3
Measles.....	7	1	9	1
Diphtheria.....	65	22	81	26
Small-pox.....	3	1	4	1

The American Gynæcological Society, which held its twelfth annual meeting in New York on Tuesday, Wednesday, and Thursday of this week, elected officers for the coming year as follows: President, Dr. Robert Battey, of Rome, Ga.; vice-

presidents, Dr. A. Reeves Jackson, of Chicago, and Dr. James R. Chadwick, of Boston; secretary, Dr. Joseph Taber Johnson, of Washington; treasurer, Dr. Matthew D. Mann, of Buffalo; members of the Council, Dr. James B. Hunter, of New York, Dr. R. B. Maury, of Memphis, Tenn., Dr. C. D. Palmer, of Cincinnati, and Dr. Frank P. Foster, of New York. It was voted to hold the next meeting in Boston, beginning on the third Tuesday in September. A report recommending that the society take part in the proposed confederation of special societies failed of adoption. Dr. Cornelius Kollock, of Cheraw, S. C., Dr. Howard N. Kelley, of Philadelphia, and Dr. Bache McE. Emmet and Dr. H. T. Hanks, of New York, were elected to membership.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from September 4, 1887, to September 10, 1887:*

BYRNE, C. C., Major and Surgeon. Detailed as a member of the army retiring board in Washington city, vice Captain Washington Matthews, Assistant Surgeon, relieved. Par. 2, S. O. 208, A. G. O., September 7, 1887.

O'REILLY, R. M., Major and Surgeon. Ordered to proceed to Fort Niagara, New York, on public business, and upon completion thereof to return to his proper station, Washington, D. C. Par. 10, S. O. 205, A. G. O., September 3, 1887.

PERLEY, H. O., Captain and Assistant Surgeon. Ordered to accompany battalion of the 23d Infantry from Fort Wayne, Michigan, to Chicago, to participate in the International Military Encampment to be held in that city in October next. Par. 1, S. O. 191, Headquarters Division of the Atlantic, September 8, 1887.

BANISTER, W. B., First Lieutenant and Assistant Surgeon. Granted leave of absence for one month, with permission to apply for extension of one month, to take effect upon arrival at Fort Lowell of Assistant Surgeon J. B. Girard. Par. 4, S. O. 91, Headquarters Department of Arizona, August 29, 1887.

SUTER, WILLIAM N., First Lieutenant and Assistant Surgeon. Ordered to accompany Battery E, 3d Artillery, from Washington Barracks, District of Columbia, to Philadelphia, on the 14th inst., to participate in the military parade during the celebration of the centennial of the adoption of the Constitution, September 15, 16, and 17, 1887. Par. 3, S. O. 191, Headquarters Division of the Atlantic, September 8, 1887.

Marine-Hospital Service.—*Official List of Changes of Stations and Duties of Medical Officers of the United States Marine-Hospital Service for the two weeks ending September 10, 1887:*

SAWTELLE, H. W., Surgeon. Granted leave of absence for fifteen days. August 31, 1887.

CARMICHAEL, D. A., Passed Assistant Surgeon. Granted leave of absence for thirty days. September 5, 1887.

FATTIC, J. B., Assistant Surgeon. Ordered to Cairo, Ill., for temporary duty. September 6, 1887.

Society Meetings for the Coming Week:

MONDAY, September 19th: New York Academy of Medicine (Section in Ophthalmology and Otology); Hartford, Conn., City Medical Association; Chicago Medical Society.

TUESDAY, September 20th: New York Academy of Medicine (Section in Theory and Practice of Medicine); Medical Societies of the Counties of Kings and Westchester, N. Y.; Ogdensburg, N. Y., Medical Association.

WEDNESDAY, September 21st: Harlem Medical Association of the City of New York; Northwestern Medical and Surgical

Society of New York (private); Medical Society of the County of Alleghany (quarterly), N. Y.; New Jersey Academy of Medicine (Newark); Philadelphia County Medical Society (clinico-pathological).

THURSDAY, September 22d: New York Academy of Medicine (Section in Obstetrics and Diseases of Women and Children); New York Orthopædic Society; Brooklyn Pathological Society; Roxbury, Mass., Society for Medical Improvement (private); Pathological Society of Philadelphia.

FRIDAY, September 23d: Yorkville Medical Association (private); New York Society of German Physicians; New York Clinical Society (private); Philadelphia Clinical Society; Philadelphia Laryngological Society.

Obituaries.

Alonzo Clark, M. D., LL. D., died on Tuesday of this week, at his house in East Twenty-first Street, in the eighty-first year of his age. For a long time he had been in feeble health, and for several days preceding his death he was in a state of coma. For many years Dr. Clark was the professor of pathology and practical medicine in the College of Physicians and Surgeons, of which he was also president for several years. During the greater part of his professional life he was one of the physicians to Bellevue Hospital, and at the time of his death he was a consulting physician to that institution, as well as to the Roosevelt Hospital, St. Luke's, and St. Mary's. He was also a fellow of the Academy of Medicine and of a number of local societies.

During almost the whole of his long professional career, Dr. Clark was a teacher of medicine, and in his prime he was unexcelled, perhaps unequaled in this country, as a lecturer. He spoke with remarkable precision, with fervor, with wonderful impressiveness, and at times with a humor that was quite peculiar. As a lecturer, he was perhaps chiefly noted for his graphic but not overdrawn pictures of disease. For many years he did a large consultation practice, and also saw great numbers of patients daily at his house. The impression which he made upon the practice of his time was most notably exemplified in his introduction of the opium treatment of peritonitis.

Personally, Dr. Clark was of majestic appearance. His manner was always quiet and precise, and his kindness was proverbial. He was one of the greatest men that the New York profession has ever included. His death had long been expected, but nevertheless it will be felt as a heavy loss.

Proceedings of Societies.

AMERICAN GYNÆCOLOGICAL SOCIETY.

Twelfth Annual Meeting, held in New York, Tuesday, Wednesday, and Thursday, September 13, 14, and 15, 1887.

The President, Dr. ALEXANDER J. C. SKENE, of Brooklyn, in the Chair.

The Address of Welcome.—The first day's session having been called to order in the Hall of the Academy of Medicine, Dr. FORDYCE BARKER, of New York, read the following address:

The pleasing duty has been assigned to me by our committee of arrangements of welcoming you in behalf of the resident fel-

lows of New York and Brooklyn, in behalf of the Academy of Medicine, and in behalf of our affiliated societies having the same aims and objects. This is now our twelfth annual meeting, the third in this city. Our society is organized for mutual edification and not for mutual admiration, and I therefore resist the temptation to congratulate ourselves on the good work that we have accomplished in these twelve years. Neither shall I speak of the important additions during this period to the literature, to the science, and to the surgical art of obstetrics and gynecology which have contributed to give a lasting fame to active and honorary fellows of this society, both dead and living. It will be conceded by all the profession that in no department of medicine has there been a more rapid growth in each of these respects. In the aggregate, it may be asserted that both talent and genius have been developed and consecrated to these departments. I remember to have somewhere met with this terse distinction between talent and genius. "To do easily what others do with difficulty, that is talent. To do what talent can not do, that is genius." Owen Meredith, now Lord Lytton, gave expression some twenty-five years ago to the same thought in the following couplet:

"Talk not of genius baffled. Genius is master of the man.
Genius does what it must, and talent what it can."

Talent and genius are both original endowments, and therefore are not qualities of which to boast, but I feel warranted in referring to the success of our society in one of its aspects. It has brought its fellows into intimate relations of warm personal regard. It has not only made us acquainted with the mental caliber and acquirements of our associate fellows, but it has made us to know their winning and lovable personal qualities. Our discussions have not been wanting in sharp criticism, or freedom in pointing out supposed errors in the statement of facts, or fallacies in reasoning, or absurdities in deduction, or the futility or danger of suggested plans of practice or operations. But not in a single instance that I have known of has there appeared in our discussions anything bearing the semblance of personal rancor, of the sting of venom, of a desire to wound, or of an ignoble ambition to triumph by sharp personal repartee; but the courtesies of debate have always been maintained on a high level. Neither has the time of our meetings been wasted in listening to profitless and wearisome discussions of personal claims to priority. All of our fellows seem wisely to have decided in their own minds that their present and posthumous reputation would rest on the aggregate of good work they had accomplished, and not on the single merit of having been the first to suggest a plan of treatment or a special operation. All know that now claims to priority of whatever nature are sure to be contested and possibly to be confuted at no very remote period, although perhaps after the claimant has "joined the majority" and is no longer able to defend or explain his claim.

If, by referring to these merits, I lay myself open to the charge of assuming that the American Gynecological Society is made up of gentlemen, I confess to the justice of the charge and "shall die impenitent," appealing to the record of our discussions in the eleven volumes of its "Transactions" in proof of the validity of my assertions. As modesty is well known to be our most prominent national characteristic, I have felt justified in saying this much, in order that our distinguished foreign guests, who have honored us by accepting our invitations and have come more than three thousand miles to do so, may better know the company that they are to meet. To them I will say, many of you are well known to many of us personally. All of you are well known to all of us by the good work that you have done. We give you a warm welcome, with the anticipation that the interest of this meeting will be largely enhanced by

your participation in its work. We hope that you will find our hospitalities acceptable and agreeable, and we feel assured that you will leave behind you a warm place in our hearts which will bind us in as close affinity in our personal affections as we now are united in sympathy in our professional work. We welcome also our friends of this city and from other parts of the country, whose interest in the subjects to which we are devoted brings them here to watch our proceedings and to stimulate us to our best efforts. Your presence serves to imply a knowledge, through the medium of our published "Transactions," of the work which the society has done before, and an approval of it. We trust that your interest will be increased by this meeting.

Mr. President: In accepting the honorable duty assigned to me, I have felt it incumbent on me to bear two things in mind. First, that the duty is specific, simply to welcome the society and its guests. Second, that this welcome should be as short as possible, so that no time be lost for our scientific work. It therefore only remains for me to congratulate you that you have the honor to preside over such a body, and to congratulate the society that it has you as its presiding officer. I will only say for ourselves: *Cuncti adsint, meritaque expectent premia palmarum*.

Invited Guests.—The SECRETARY, in behalf of the Council, reported a list of those whom it had decided to recommend to the meeting to be invited to take part in the proceedings as guests. No objection having been made, the president declared the list accepted. It included the names of Dr. Graily Hewitt, Dr. George G. Bantock, Dr. A. E. Aust-Lawrence, Dr. Lloyd Roberts, Dr. T. M. Dolan, Dr. N. C. Dobson, Dr. G. Burnand, Dr. John Goule, Dr. John Sivins, Dr. Boyd Jole, Dr. J. C. Leach, Dr. F. McTeagh, Dr. Thomas Logan, Dr. Fred Murgin, Dr. R. G. Smith, Dr. Parkinson, and Dr. Wiseman, of England; Dr. A. R. Simpson, Dr. Frome, Dr. M. J. Reid, Dr. J. M. Chapman, Dr. W. L. Reid, and Dr. J. M. Chapman, of Scotland; Dr. G. H. Kidd and Dr. Walter Browne, of Ireland; Dr. Doléris, Dr. Apostoli, and Dr. Terrier, of France; Dr. A. Martin and Dr. P. G. Unna, of Germany; Dr. Cordes, of Switzerland; Dr. Balls-Headly, of Australia; Dr. Grant (Bey), of Egypt; Dr. H. V. Knaggs, Dr. M. Ogden, and Dr. N. L. McPhalter, of British America; Dr. A. O. Bernays, of Missouri; Dr. W. T. Aiken and Dr. J. N. Stowell, of Illinois; Dr. Harvey and Dr. Chambers, of Indiana; Dr. Beebe, of Minnesota; Dr. Moseley, of Maryland; Dr. Hazzard and Dr. Atchison, of Tennessee; Dr. J. H. Davenport and Dr. G. W. Porter, of Rhode Island; Dr. W. A. Atchison and Dr. B. C. Hirst, of Pennsylvania; Dr. A. Van der Veer, of Albany; Dr. H. Howitt and Dr. W. W. Potter, of Buffalo; Dr. L. Rousseau, of Troy; and Dr. A. S. Hunt, of New York.

A Study of the Causes and Treatment of Uterine Displacements.—In a paper with this title, Dr. THOMAS ADDIS EMMET, of New York, considered displacements, properly so called, as distinguished from mere changes in the attitude of the uterus. It was to alterations in the situation of the organ, he said, rather than to any of the varieties of anteversion, retroversion, or lateroversion—and particularly to its decided deviation above or below "the health line," as he had pointed out several years before—that the symptoms dependent on disturbance of the circulatory balance in the pelvis were to be referred. There were certain other symptoms, such as those due to traction on the *bas-fond* of the bladder, that might occur as accompaniments of a version, but the far more distressing and persistent manifestations caused by interference with the pelvic circulation were, as had been stated, brought about by changes in the situation of the uterus. This could be demonstrated by a very simple test: if, on examining a patient with prolapse of

the uterus in the dorsal posture, some branch of the circular artery was distinctly felt pulsating, the patient would feel a sense of relief when the uterus was lifted to the "health line," and the pulsation would gradually cease if the organ was held in that position for a few minutes. On the other hand, if we raised the uterus too much, disturbance took place again; this afforded the explanation of the relief often given by removing a pessary that was so long in its posterior curve as to raise the uterus beyond the proper height. The anatomical disposition of the blood-vessels was such that a certain degree of traction exerted upon them embarrassed the return-flow of blood through the veins while a certain other degree of traction finally interfered with the afflux of blood through the arteries. In the treatment, therefore, the important point was to do away with all traction dependent on a displacement, without regard to the attitude of the uterus, and this could sometimes be accomplished with a retroversion pessary, although the organ might be anteverted. As to the agency of extra-uterine pelvic inflammation in producing displacements, the greater was the extent of the primary cellulitis, the more likely was a decided displacement to take place; but an inflammation confined chiefly to the peritonæum might draw the uterus either up or down, according to the situation and extent of the inflammation, and every version which was not the consequence of an injury or a new growth was caused by pelvic peritonitis. The uterine attachment of the Fallopian tube was somewhat higher than the insertion of the broad ligament into the side of the pelvis, so that the contraction following an inflammation confined chiefly to the peritoneal covering of the tube would have the effect of dragging the uterus down in the pelvis; on the other hand, if the inflammation had begun below, and extended along the connective tissue between the folds of the broad ligament to the peritonæum above, the uterus would be lifted in the pelvis in proportion as the peritonæum became involved and adhesions were formed above. When, after an extensive cellulitis within the folds of the broad ligament, the connective tissue there situated had been destroyed, and the inflammation extended to the peritonæum and led to adhesion of the opposing surfaces of Douglas's *cul-de-sac*, the uterus was necessarily lifted. Then, in proportion as the layers of the broad ligament were separated or flattened and the vagina was ballooned out, would the side of the uterus be drawn upward toward the Fallopian tube of the same side. Thus it was that a lateral version took place as a permanent deformity, and not by shortening of the broad ligament, as was commonly thought. On the other hand, when the connective tissue between the folds of the broad ligament had not been involved, adhesion of the walls of Douglas's *cul-de-sac* would cause prolapse and retroversion. When the inflammation had been confined chiefly to the utero-sacral ligaments, the uterus would become anteverted and the cervix lifted in proportion to the extent of adhesion between the surfaces involved. A peritonitis limited to the lower part of the anterior fold of the broad ligament would retrovert the uterus by lifting the cervix, after the manner of a small fibroid at that situation; but where the inflammation had been more extended, and had led to broader adhesions, the uterus would finally become extremely anteverted and prolapsed.

The author then gave a brief *résumé* of his views of the importance of the pelvic fascia as a support to the contents of the pelvis, and repeated that to the loss of this support, rather than to rupture of the "perineal body," were to be attributed the uterine prolapse, proctoceles, etc., that so often took place as the consequence of injury during parturition. Returning to the subject of pessaries, he said that the whole art of their successful application lay in so regulating their size and shape as to enable them to act none too little and none too much on the

overstretched tissues within the pelvis; thus the needed support would be restored, and it was only when this had been accomplished that the pelvic circulation could be kept within its proper limits and the patient relieved. The instrument was of benefit indirectly by diminishing congestion and correcting prolapse, and not by merely overcoming a version. Where a displaced uterus was free from peritoneal adhesions, its replacement, followed by suitable support to the fascia, would result in its being retained in proper position. Atmospheric pressure in the knee-chest posture would accomplish this for the time being, and the weight of the water of a vaginal injection, properly administered, with the patient lying on her back and having her hips elevated, acted in the same manner, by uniform pressure; but the effect was only temporary. For years past, his daily practice had been to insert glycerined cotton wads in such a position that they would lift the uterus like a crutch, and thus overcome tension along some line of shortening due to inflammation; but he had never used more than was necessary to correct the prolapse. This mode of treatment had recently been advocated, but without a full recognition of the principle on which it acted. If the cotton pledgets were applied with the patient in the knee-chest posture and the vagina fully distended, and if the large quantity of cotton recommended was packed in, the practice was more likely to prove a source of irritation than of benefit. The author fully realized that his views might be misunderstood, and that it might be said hereafter that he did not approve of the use of pessaries; he therefore wished to state distinctly his belief that nothing could take the place of a pessary when properly fitted and when used in the proper class of cases, but he did think that the field of usefulness of the instrument was much more limited than was generally supposed. When it came to be recognized that a displacement of the uterus was merely a symptom, pessaries would be used more intelligently; less harm would then be done by their improper use, and those who now denounced them would become convinced of their great efficacy. No attempt should be made to correct a displacement so long as there was any evidence of recent inflammation in the neighborhood; at present, efforts in this direction—perhaps with the dangerous aid of the sound or the elevator—were too often made where sufficient means of detecting such evidence, especially by rectal examination, had been neglected.

Dr. GRAILY HEWITT, of London, would say, in the first place, that it gave him great pleasure to find himself present, and to see face to face so many gentlemen with whom he had been acquainted in spirit, he might say, for a long time. He believed that in fact Dr. Emmet and he differed in opinion less than might be apparent. It appeared to him, from all that he had been able to gather from the writings of Dr. Emmet and other American writers, that there was a difference in constitution in American and English women as regarded the frequency of pelvic inflammations or cellulitis. But his experience did not enable him to judge of the frequency of such inflammations in this country. He thought the paper gave rather a limited view of the causes of displacement of the uterus, although, to judge from his other writings, the author appreciated that other causes could be recognized. The influence of malnutrition in causing displacements, by destroying the tonicities of the parts, was mentioned. Regarding the cause of pain attending displacements, the speaker called attention to pressure upon the uterine nerves, due to the deflection and impeded circulation. Passing the sound through the internal os was attended by extreme pain, but this disappeared when the instrument got beyond the point of deflection, and did not reappear so long as the organ was retained in the straight form. He was disposed to entirely agree with Dr. Emmet in saying that pessaries

should not be used if any acute congestion was present, but he thought one might define his position a little more accurately, and say that, if there was elevation of temperature, that restriction would be still more valid. But there were cases in which there were hardenings in the pelvis associated with displacements, and the reduction of the displacement would assist in causing absorption of such exudations. He did not think any man should apply a pessary until he had studied the case well.

Dr. A. R. SIMPSON, of Edinburgh, doubted whether the presumed greater frequency of uterine displacements and pelvic inflammations in American than in English women was real. He was strongly impressed that a great deal depended upon the state of mind the observer brought to bear upon the case before him. The same woman coming into the hands of different physicians would get quite different opinions upon her case, and each man might be perfectly honest in his judgment. He valued highly the labors of Dr. Emmet in the field of gynecology. He also agreed with Dr. Hewitt in his remarks upon uterine displacements, that the author could not have intended to cover the subject fully in this paper. There was displacement in very different classes of cases, in women married several years but not having conceived, as well as in those who had borne children. It was in certain cases absolutely necessary to retain the uterus in its correct attitude in order that impregnation might take place. We should not look so much to the cause of inflammation, but right the uterus and keep it right. He made this remark because there was some tendency in certain directions to abandon the pessary. He referred to the advantages of injections of hot water.

Dr. G. G. BANTOCK, of London, could not agree with some of the remarks regarding the frequency of pelvic cellulitis and pelvic inflammation. He doubted very much indeed whether there was so much difference between the females on this side and on the other. Pelvic inflammation or cellulitis was a much rarer condition than had generally been supposed. Many so-called cases of cellulitis were cases of inflammation of the Fallopian tubes. But when we were called to treat a case of fracture of the arm we troubled ourselves little about the cause. This should be true of our dealings with cases of displacement of the uterus, especially retroversion—we should concern ourselves most with the treatment. In the majority of cases we could give relief by properly applying a pessary. Where adhesions had taken place between the uterus and the walls of the pelvis, pessaries should be set aside.

Dr. EMMET said a volume might be written on the causes of displacements, and he had stated that it was his intention to speak of the cause in only a particular class. A correct idea of this early inflammatory condition could not be obtained from a vaginal examination alone; conjoined rectal and vaginal examination was necessary. He did not condemn the use of pessaries; on the contrary, no man in the profession had used them more than he. But he was convinced that they were often improperly applied and did actual harm, and it was time to raise a warning voice against the abuse of a valuable means of treatment.

He was aware that pelvic inflammation was common among the unmarried, perhaps even more frequently than among the married. He also knew that peritonitis was recovered from often without treatment, otherwise we should see more sterile women than we now did.

Cystocolpocele complicating Labor and Pregnancy.

Dr. SAMUEL C. BUSEY, of Washington, in a paper with this title, gave the histories of reported cases of cystocolpocele complicating pregnancy and of those complicating labor; thirty-seven of the latter and six of the former. He read the full his-

tory of only one case, seen by himself the latter part of 1886; the cystocolpocele occurred about a month before term.

The patient was supposed to be in labor, although the pains were different from those of a prior confinement. An examination at first failed to reveal to him the real nature of the case, but soon the condition became clear. The finger introduced into the vagina found a blind sac and a tumor containing water, and the use of the catheter settled the diagnosis. The etiology of the displacement was uncertain. The more plausible causes were slight diminution of the conjugate at the brim and negligent midwifery. The cases reported were only in multipara. The subjective symptoms varied in different cases, and were less important in diagnosis than the objective. The bladder might be found dislocated in the median line, or to one side; the displacement might be partial or complete; the organ lying behind the pubes might appear as two sacs. The condition was to be distinguished from breech and transverse presentations, a hydrocephalic head, a vaginal cyst, and an ovarian cyst. The obstacle to delivery would be speedily overcome by emptying the bladder, which was to be done with the catheter or by skillful manipulation of the displaced organ.

Dr. WILLIAM GOODELL, of Philadelphia, had seen two cases of cystocolpocele complicating pregnancy. In one the prolapsus occurred only a few days before delivery, and at first completely deceived him, as he supposed the woman to be in labor. The body felt in the vagina was as large as a child's head, and hard. There was marked vesical tenesmus with the pains. He had no difficulty in introducing the catheter and drawing the bladder, which promptly relieved the woman of her terrific pains. Labor, too, came on a few days afterward, and was not difficult. The other case was one in which the tumor complicated labor. It was smaller than in the former case, but it was sufficient in size to offer an obstacle to the passage of the head. He used the catheter, raised the bladder, and delivered with the forceps.

(To be continued.)

THE NINTH INTERNATIONAL MEDICAL CONGRESS.

The General Sessions.

(Concluded from page 304.)

THURSDAY'S session was called to order by the president at 10.15 A. M.

The Protective Inoculation of Yellow Fever.—The following was reported from the Section in Public and International Hygiene:

Whereas inoculation against yellow fever, if it proves successful after further examination, is calculated to benefit the human race throughout the world; and

Whereas the facts presented by experiments of Dr. Domingo Freire afford a reasonable assurance of its protective influence in Rio de Janeiro; therefore

Resolved, That this section recommends the co-operative investigation of the results obtained by yellow-fever inoculations as a protective against that disease, and that adequate appropriations by the governments represented in this congress be made for that purpose.

Resolved, That this action be communicated forthwith for consideration in the general session of the congress.

The Washington Celebration in 1892.—The following preamble and resolution, introduced by Dr. GARNETT, of Washington, seconded by Dr. HAMILTON, the secretary-general of the congress, and warmly supported by Dr. SEMMOLA, of Italy, was adopted:

Whereas it is proposed to hold in the city of Washington, in

1892, an international celebration in honor of the four hundredth anniversary of the discovery of America by Christopher Columbus, and an exposition of the history, arts, and industries of all nations;

Resolved, That the International Medical Congress favors this patriotic movement, and commends it to the nations of the world.

The Relations of Dermatology to General Medicine.—

Dr. MARTIN, of Berlin, having been asked to take the chair, Dr. P. G. UNNA, of Hamburg, delivered an address on this subject, in German. He alluded to the great interest which every practitioner must have in dermatology, and regretted that that branch of medicine had not received more general attention. Scientific dermatology was still in its infancy, and the many difficulties in the way of its study had to some extent interfered with its steady development; but, under the light of advancing science, these difficulties were fast disappearing. The speaker then mentioned some of the complications of skin diseases, and explained differences in the appearance of symptoms due to natural variations of the skin in individuals, also the changes of symptoms in the course of the development of skin diseases, the variations produced by external agents, individual peculiarities, and the influence of climate, season, race, sex, and age. Among the external agents, in the light of our present knowledge, parasites occupied the most prominent place. The difficulties incident to the variations mentioned were to be overcome only by a careful analysis of the symptoms, and all progress in this direction would prove of the greatest value in general pathology and therapeutics. In fact, dermatology, studied properly, would advance all departments of medicine. In place of experiments on animals, the speaker recommended experiments on the human skin, and cited instances in which this method of study had already led to a knowledge of new facts. The endowment of chairs of dermatology and the establishment of private laboratories were not sufficient for the thorough study of skin diseases; he would advocate a central institute where noted investigators could work together, and where all the means and appliances for the study could be concentrated. Dermatology would thus be raised to the rank of one of the more important specialties, and would contribute all the more to the progress of all branches of medicine. He hoped that the United States, always so liberal in its efforts to promote science, would be the first to develop this idea.

Friday's session was called to order by the president. A committee appointed to designate the place and time of holding the next meeting reported that the Tenth International Medical Congress was to be held in Berlin, in 1890.

The Treatment of Recent Cases of Insanity in Asylums and in Private Houses.—Dr. C. D. F. PHILLIPS, of England, having been asked to take the chair, Dr. G. FIELDING BLANDFORD, of England, read an address on this subject. Happy, he said, was that psychologist who did not have to concern himself with his patients until he had received them within the walls of his asylum, and who did not have to advise removals, make out certificates, etc.; but very different was the lot of the consultant, who was summoned to see the patient at his home, perhaps to examine him in an assumed character, in order to advise a plan of treatment. Every conceivable objection would be brought against the plan of treatment proposed; he was expected to have some secret remedy that would bring reason back at once. Prognosis rather than diagnosis would be the chief subject of the speaker's remarks. Called to an acute case of mania, we had to consider whether it was likely to be of brief or of long duration, and where and how we could deal with it. The patient's friends would naturally oppose his going to an asylum, because of the stigma always attached to those who had

been inmates of an asylum for the insane. In a practice of thirty years he had seen many cases of brief acute mania end in recovery without recourse to an asylum. He would first give some points which might help to determine the prognosis and afford a hope that the malady would soon pass away. Transitory mania was a term that well expressed the class of cases under consideration. The chief feature was the suddenness of the attack. There might or might not have been premonitory symptoms; this would depend upon the cause. The cause might be a sudden mental shock, the loss of a relative, or a surgical operation. He had seen several women who had had an attack of mania after a session with spiritualists or at a revival. It might occur after protracted fatigue or undue exposure to the sun. Acute maniacal symptoms sometimes occurred on the decline of an acute disease, such as measles, typhoid fever, and the like. The majority of such patients soon recovered. Sudden acute maniacal symptoms he had observed preceding an attack of rheumatism or gout, and they suddenly disappeared on the outbreak of the disease. Hence one might well make some application to the toes to precipitate the gouty attack. Brief attacks of mania sometimes developed after epileptic seizures. Delirium tremens was a transitory mania. We should be much aided in prognosis if we could ascertain whether the patient had had a previous sudden attack which had soon passed off. What was there in the physical condition of the patient to aid in the prognosis as to the duration of the attack? Not much was to be learned from the temperature, but rather more from the pulse. The latter might be quick during the expression of excitement, and fall very considerably afterward; if it did not fall, but remained comparatively rapid, even when the patient was relatively quiet, the chances were that the attack would be a prolonged one, lasting days or weeks. In sudden but short attacks, the tongue might remain moist and clear; if it was brown and dry, we could scarcely hope that the attack would pass away in two or three days. The treatment would often aid in the prognosis. Sleeplessness was the main feature in many cases, and not infrequently after prolonged sleep produced with a narcotic the patient awoke recovered. If the attack did not subside shortly, what was to be done? The patient's friends would oppose his entering an asylum, but that would be necessary, and the question would resolve itself into one of cost. In nine cases out of ten the patient would have to be removed from home, for home surroundings and the influence of relatives were prejudicial. It would be necessary to have not only a suitable room and furniture, but also an opportunity for exercise in the open air. In the treatment of the depressed and melancholic, the non-asylum plan would usually be found to have been tried before the patients were sent to the specialist, but, the gloom having deepened, the specialist was sent for. Should we send such patients to a private asylum? Here the question of suicide would probably come in. An asylum was not necessarily a safeguard against suicide. Special watch would have to be kept, and this could be done in either a private or a public asylum. We also had to take into consideration the egotism of such patients; place one of them among many others, and it would reduce his self-importance. The best medicine for these people was judicious neglect. The speaker was not one of those who thought that all or nearly all cases of acute insanity could be treated in private dwellings. An important point in this connection related to how far the law justified us in treating patients outside of asylums. In England, the physician did not have control of such patients, but he should be allowed to say whether or not a patient ought to be permitted to remain at his home.

Saturday's session was called to order by the president at 9.30 A. M. It was devoted chiefly to congratulatory resolutions

and speeches and to votes of thanks. The president then made some closing remarks and declared the Ninth International Medical Congress adjourned.

NINTH INTERNATIONAL MEDICAL CONGRESS.

SECTION IN GENERAL SURGERY.

The President, Dr. WILLIAM T. BRIGGS, of Nashville, Tenn., in the Chair.

Gunshot Wounds of the Abdomen.—Dr. CHARLES T. PARKES, of Chicago, read a paper on this subject. In 1885, he said, the recorded operations for gunshot wounds of the intestine were only six in number; since that time thirty-eight had been recorded, with eleven recoveries. All cases should be reported, whether successful or not. Surgical interference in appropriate cases was now the course generally accepted. The condition and appearances of the external wound would give some indication as to the presence or absence of penetration. A single wound of the abdomen afforded a hope that penetration had not taken place, but it was only a hope. Even the presence of a wound of entrance and one of exit did not positively indicate injury of the viscera. If there was a continuous tract of tenderness extending some distance from the wound of entrance, it was fair to infer that there was no penetration. A large bullet-hole indicated penetration. When there was doubt, the wound of entrance should be enlarged. In this way the presence or absence of penetration could be determined, and, with the usual precautions, this did not increase the danger. In the diagnosis, not much value could be attached to the subjective sensations. The unusually rapid appearance of tympanites in a region ordinarily dull would indicate an escape of gas into the abdominal cavity. Localized dullness in the region of the wound or in the dependent portion of the abdomen would indicate hæmorrhage. The presence of blood in the urine indicated wound of the kidney, bladder, or ureter. Shock could not be relied upon, but, when it was present, the probability of such an injury was very great. The rare phenomenon of fæces in the wound was a positive sign of perforation. The presence of persistent nausea and vomiting also pointed to injury of the viscera. The absence of pulsation in one femoral vein indicated injury of the iliac vessel.

In laparotomy for gunshot injuries, the median incision was the better in the majority of cases. There were exceptional cases in which enlargement of the original wound would do. The continuous suture answered every purpose, and, as it could be inserted more rapidly than Lembert's, it was preferable. Silk was preferable to catgut for the sutures. Where resection was required, one of two methods of procedure might be adopted. Where the mesenteric border could not be saved, the section should be made through the healthy bowel and a triangular portion of the mesentery also removed. The two portions of the bowel were then to be brought together and secured with sutures, the first suture being introduced at the junction of the mesentery and the intestine. In no case had the author found it necessary to use more than one row of sutures. All raw surfaces should be covered with peritonæum. The second method was applicable where the mesenteric border was not injured. In these cases the section did not involve the mesenteric border of the intestine. The injured portion alone was removed and the edges of the healthy bowel were brought together with the continuous suture. Where the omentum was injured, the hæmorrhage was often severe, requiring the removal of a large portion of the structure. All slits and lacerations in the omentum should be closed with continued sutures. In cases of perforation of the stomach, there was no difficulty in closing the wound after it was found. Where there was no complication, wounds

of the stomach usually healed satisfactorily. In gunshot wounds of the liver, the surfaces should be brought together with deep sutures. The same procedure could be employed in the case of the spleen, but where this organ was badly lacerated its removal was indicated. Perforating wounds of the kidney called for removal of the organ. Perforation of the liver, spleen, or kidneys, with a similar injury of the small intestine, greatly increased the gravity of the injury, and such cases would usually end fatally. Wounds of the bladder called for suture. Special stress was laid on the necessity of seeking out all wounded blood-vessels, thus preventing the danger of primary or secondary hæmorrhage. There should be a careful search made for all wounds of the intestine, the bowel being examined in a systematic manner. Tight sutures should be avoided, for they would lead to sloughing and extravasation. If the peritoneal surfaces were laid in contact and kept so for a few hours, adhesions would take place.

An Experimental Contribution to Intestinal Surgery, with special reference to the Treatment of Intestinal Obstruction, was the title of a paper by Dr. N. SENN, of Milwaukee, Wis. The indications in the treatment of intestinal obstruction were, to remove or render harmless the cause of the obstruction, and the immediate restoration of the continuity of the intestinal canal. When the cause could not be removed, it was to be rendered harmless by forming an anastomosis between the portion of bowel below and that above. One hundred and fifty operations had been performed on animals. The principal forms of intestinal obstruction were produced artificially, and the attempt was made to devise some new operation whereby the obstruction might be overcome where the removal of the cause was not possible. The length of time required in the performance of most of the present operations was their great contra-indication. By simplifying the method of operation, the author had been able to lessen the time required. To prevent extravasation during the progress of the operation, he had employed a narrow rubber band tied around the intestine with sufficient force to occlude it. He had never observed any injurious effects from the use of elastic compression. The investigation was first directed to simple stenosis, which was produced by cutting out a semilunar portion of the bowel. Traumatic stenosis from this cause became a source of danger from obstruction or from perforation where the lumen of the bowel was reduced more than one half. Where excision of the bowel was required for injury, not more than one half should be taken away. If more had to be removed, circular excision should be resorted to. Longitudinal suturing of wounds on the mesenteric side of the intestine should never be practiced, for it was invariably followed by gangrene and perforation from interference with the blood-supply of the portion of bowel corresponding to the vascular defect. In circular constriction of the bowel, the immediate cause of gangrene was obstruction to the venous supply of the bowel, and it took place first at the point most remote from the cause of obstruction. Flexion was then produced by removing a portion of the bowel transversely and suturing the wound. It was found that on the convex side a defect one inch in width could be closed by transverse suturing without causing obstruction by flexion. In such cases the flexion was subsequently corrected by a compensating bulging of the mesenteric side of the bowel. Closing such a wound by transverse suture on the mesenteric side of the bowel might give rise to intestinal obstruction by flexion, and to gangrene and perforation by seriously impairing the blood supply of the portion of bowel involved. Flexion caused by inflammatory and other extrinsic causes gave rise to intestinal obstruction only when the functional capacity of the flexed portion of the bowel had been diminished or suspended by the causes

which had produced the flexion, or by subsequent causes independent of the flexion. Volvulus was simply another form of flexion. Volvulus gave rise to symptoms of obstruction when the causes of the rotation of the bowel had at the same time produced impairment or suspension of the peristalsis in the portion of bowel which constituted the volvulus, or when a diminution or suspension of peristalsis followed in consequence of the rotation.

In invagination, one of the most important factors in preventing disinvagination and in inducing gangrene was the accumulation of intestinal contents above the seat of invagination. Spontaneous reduction was not more frequent in ascending than in descending invaginations. The immediate cause of gangrene was obstruction to the return of venous blood by constriction. Ileo-cæcal invagination, when recent, could frequently be reduced by distension of the colon and rectum with water, but this must be practiced with great care and gentleness, as over-distension was productive of multiple longitudinal lacerations of the peritoneal coat, an accident which was followed by the gravest consequences. The competency of the ileo-cæcal valve could only be overcome by over-distension of the cæcum, which was effected by a mechanical separation of the margins of the valve; consequently, it was imprudent to attempt the treatment of intestinal obstruction beyond the ileo-cæcal valve by rectal injections.

In a study of the effects of enterectomy, it had been found that, in dogs, resection of more than six feet of the small intestine was uniformly fatal, the cause usually being the immediate effects of the injury. Resection of more than four feet was incompatible with normal digestion, absorption, and nutrition, and often resulted in death from marasmus. In cases of extensive intestinal resection, the remaining portion of the intestinal tract underwent compensatory hypertrophy. It had also been found that physiological exclusion of an extensive portion of the intestinal tract did not impair digestion, absorption, and nutrition so seriously as the removal of a similar portion by resection. Fæcal accumulation did not take place in the excluded portion. Objection was made to the various forms of suture used in circular enterorrhaphy for three reasons: first, the time required for their insertion; second, the danger of puncturing the bowel; and, third, the interference with nutrition which they caused. The author recommended the use of catgut in preference to silk. It was recommended that a rubber tube be introduced into the bowel, and the wound closed over it with two sutures. Ectropion was prevented during the operation by compression.

The line of suturing should be covered with a flap or graft of the omentum in all cases of circular resection, as this procedure furnished an additional safeguard against perforation. In circular enterorrhaphy, continuity of the peritoneal surface should be secured, where the mesentery was detached, by uniting the peritonæum with fine catgut before the bowel was united. This furnished better security against perforation on the mesenteric side. A strip of the omentum two inches wide was placed around the line of junction and secured with the sutures. The formation of a fistulous communication between the bowel above and below the seat of obstruction should take the place of resection and circular enterorrhaphy in all cases where it was impossible or impracticable to remove the cause of obstruction, or where the pathological conditions which had given rise to the obstruction did not constitute an intrinsic source of danger. In performing this operation, the speaker, after experimenting with plates of various materials, had adopted decalcified or partially decalcified bone. This procedure was indicated as a substitute for gastro-enterostomy. The stomach was exposed, and a longitudinal incision was

made in its anterior aspect, so that a decalcified-bone plate having a sufficiently large opening could be introduced. This was secured in proper position with sutures introduced at the margin of the fistulous wound. The upper portion of the small intestine was treated in the same way, and the two parts were then brought into apposition and secured with silk sutures. In almost every instance where this had been done the result had been favorable. While the ordinary operation required at least an hour for its performance, this one could be performed in ten minutes. The same method of treatment was applicable throughout the intestinal canal, where it was desired to form a fistulous communication between the bowel above and that below. If there were indications of sloughing of the bowel or threatened gangrene, no such procedure should be adopted. An ileo-colostomy or an ileo-proctostomy also could be done by lateral implantation, the small intestine being introduced into an opening made in the large intestine and secured with a few stitches. In this case, a piece of rubber tubing was inserted into the bowel to keep it patulous. The restoration of the continuity of the intestinal canal by perforated approximation plates or lateral implantation should be done in all cases where circular enterorrhaphy was impossible on account of the difference in size of the lumina of the two ends of the bowel. In cases of multiple gunshot wounds of the intestine involving the lateral or convex side of the bowel, the formation of intestinal anastomosis by uniting two of the openings with decalcified-bone plates should be preferred to the use of sutures, as this procedure was as safe, if not safer, and required less time. The author had also made certain experiments with reference to the time required for the formation of adhesions. Definitive healing of an intestinal wound was only completed after the formation of a network of new vessels in the product of tissue proliferation from the approximated serous surfaces. Under favorable circumstances, quite firm adhesions were formed between the peritoneal surfaces within from six to twelve hours, which effectually resisted the pressure from within outward. Scarification of the peritonæum hastened the formation of adhesions and the definitive healing of intestinal wounds. Omental grafts from one to two inches in width, and sufficiently long to encircle the bowel, retained their vitality, became firmly adherent in from twelve to eighteen hours, and were freely supplied with blood-vessels in from twenty-four to forty-eight hours. Omental transplantation, or omental grafting, should be done in every circular resection or suturing of a large intestinal wound, as this procedure favored the healing of the visceral wound and furnished an additional protection against perforation.

(To be concluded.)

NEW YORK PATHOLOGICAL SOCIETY.

Meeting of April 27, 1887.

The President, Dr. T. MITCHELL PRUDEN, in the Chair.

Pulmonary Anthracosis.—Dr. PETERSON presented the lungs of a man, aged sixty-seven, who had suddenly fallen dead in the street. A certificate of death from fatty degeneration of the heart was made out, based on the post-mortem appearances. The case was interesting because of the condition of the lungs. The man had worked for thirty-one years in the cleaning rooms of stove-works, constantly inhaling an atmosphere loaded with carbon and powdered sand. The lungs were found to be stained black throughout, and hard and nodular to the feel, like a cirrhotic liver. A finger passed over the fresh cut surface was stained black with carbonaceous matter. One large lobule of the lung was composed almost entirely of fibrous tissue and carbonaceous matter. During life the man had had a severe

cough. All the numerous men employed in the same room were sufferers from some pulmonary difficulty.

Renal Calculus.—Dr. IRA VAN GIESON presented a large white kidney containing in the sinus a cylindrical calculus, 5 cm. in length, 1 cm. in breadth, sending off two prolongations about 1 cm. in length into the calices.

Death from Phosphorus Poisoning.—Dr. VAN GIESON also presented specimens from the body of a man who had died four days after drinking phosphorus in water. There were fatty degeneration of the heart, parenchymatous nephritis, and fatty changes in the liver, with swelling and granular changes in the cells and glands of the stomach, pancreas, Brunner's glands, and the trachea. An interesting point in the case was a very restricted area of tubercles observed in one bronchial gland. There were no tubercles elsewhere in the body. Thus we were brought face to face with the earliest step in tubercular change following phosphorus poisoning. Another point of interest was the presence of minute hæmorrhages seen only in the lymph channels of some of the cervical glands.

The PRESIDENT remarked that this was one of several cases of phosphorus poisoning in which there were actually fat droplets in the liver cells. He was disposed to think that the old distinction between fatty degeneration and fatty infiltration was not borne out by experience.

Dr. CARPENTER, referring to the fact that Dr. Van Gieson had pronounced the bronchial gland tubercular without having examined for the tubercle bacillus, said that, according to the assertions of some physicians, we should never make a diagnosis of tubercle except on the evidence of the presence of the tubercle bacillus. It seemed to him that such assertions were too dogmatic; that we were yet able to say on microscopical examination that a given nodule was tubercle. Still, so far as it was practicable, we should extend the investigation and search for the bacillus, especially in cases in which the anatomical elements were not diagnostic.

Diphtheria; Death after Intubation.—Dr. BROTHERS presented a portion of the respiratory organs of a child which had died in its nineteenth month, of diphtheria. When he saw the child it had croupy respiration, and was becoming cyanotic. No false membrane was visible. There were physical evidences of pneumonia. The laryngeal tube was inserted, palliating the dyspnoea, but the child died about two days later. No false membrane was found on the tonsils or the pharynx. There was slight erosion of the tissues on which the shoulders of the tube had rested. The larynx, the trachea, and the larger bronchi were lined with a false membrane which could not be peeled off. The apex of the left lung and a part of the right lung were consolidated. The case, of course, did not speak against intubation.

Cirrhotic Liver, etc.—Dr. FRANK FERGUSON presented fresh specimens from the body of a man, forty-eight years of age, who had been a hard drinker for eighteen or twenty years. He had been well until three years ago, when he began occasionally to have swelling of the feet, dizziness, headache, and spots before the eyes. Three weeks ago his legs became very greatly swollen and his abdomen enlarged, and, on his admission into the hospital, he had not passed urine for three days, nor evacuated the bowels for five days. The scrotum was as large as an adult's head. He was semi-comatose, progressively grew worse, and died. At the autopsy there were found chronic diffuse nephritis with intense hyperæmia of the organs, and great hypertrophy of the left ventricle of the heart, the valves, however, being normal. There was intense hyperæmia of the stomach, with thickening of its mucous membrane. The liver was greatly advanced with cirrhosis, being composed almost entirely of fibrous tissue. The scrotum contained two distinct masses

on the right side, found to be lipomata. The testicles were normal. The pancreas was unusually firm. The suprarenal capsules showed an unusual amount of fatty degeneration.

Book Notices.

The Climatic Treatment of Consumption. A Contribution to Medical Climatology. By JAMES ALEX. LINDSAY, M. A., M. D., Physician to the Consumptive Hospital, Throne-mount, Belfast, etc. London and New York: Macmillan & Co., 1887. Pp. xii-228. [Price, \$1.75.]

ALL considerations of climatology are hampered by the insufficiency of positive data whereon to found therapeutic inferences. There are, in fact, but three qualities pertaining to "climate" to which in the present state of our knowledge significance can be logically ascribed; and these are indicated by barometry, thermometry, and hygrometry. Diathermancy is a corollary of atmospheric dryness and rarity. As regards ozone, the tests until very lately employed were acted upon by other oxidizing agents, and even with improved means no quantitative ozonometric method has been devised; nor, if it had been, should we be the wiser about the physiological action of ozone. Of the varying amount and effect of "atmospheric electricity" we are equally ignorant. The somewhat burdensome literature of the subject has therefore thus far consisted chiefly of a highly imaginative empiricism, obscured by an unintelligible jargon of technical terms, such as "tonic," "stimulant," "sedative," or "relaxing," without any attempt to expound the why and wherefore. While we regret to find in the present work a perpetuation of these unexplained and inexplicable terms, we congratulate the author on his emancipation from many of the superstitions which have hitherto retarded professional understanding and deluded many an unfortunate invalid; for he frankly admits that climate is indirectly, not directly, beneficial, being subordinate to other hygienic conditions; that "there is, in fact, no ideal climate for consumption"; and that "change of climate is likely to prove efficacious only when it is regarded as a preliminary step to a change in the mode of life"; cautioning consumptives against "the fatal delusion that a good climate is all that is necessary for the cure of their malady." That such a caution is needed by both the profession and the public may be demonstrated by desultory observation at the majority of the favorite resorts for phthisical patients either here or abroad.

The first chapter recites the author's views concerning the ætiology of consumption, discarding the hypotheses that heat, cold, sudden changes of temperature, and humidity of the air are causative or predisposing factors, though admitting that soil-saturation bears a relation to the incidence of the disease. Great altitude and sparsity of population are the two conditions most strikingly associated with immunity from consumption, and Dr. Lindsay lays emphasis on the influence of the former of these, even irrespective of density of population or sedentary occupation. His statistical arguments in this respect are, however, weakened by a failure to consider the necessarily different proportions of population in unwholesome vocations in lowland and mountain regions, and by his classing together all forms of "consumption," as where he compares the mortality of cutlers, file-makers, and workers at other "dusty" trades, with that of farmers, fishermen, etc. He justly describes consumption as "pre-eminently a disease of debility," due largely to foul air, unwholesome occupation, bad food, and [rather inconsistently with his earlier statements] "certain climatic conditions"; attaching, however, more importance than most modern writers

do to "the hereditary factor," and less to the element of infection, regarding it as quite uncertain whether the bacillus of Koch "is related to tubercle as cause or accidental concomitant." The general aims of climatic treatment are summarized as involving removal from conditions which predispose to bronchial and pulmonary inflammations to those which conduce to an outdoor life of healthful activity; where sunshine and a "tonic" atmosphere promote appetite, digestion, and sanguification; "where there is no aggregation of large masses of people, and consequently no pollution of the air of respiration"; where the soil is dry, and sanitary surroundings are cared for; and finally, though somewhat vaguely, where the patient may enjoy "the great boon of change—change of air, change of diet, change of scenery, change of daily routine, change involving the abandonment of many an injurious habit which has long been the secret minister of disease." To these we should be inclined to add avoidance of the colonies of consumptives often crowded together in so-called health resorts, where, even aside from the question of renewed infection, the moral influences are the reverse of exhilarating.

Dr. Lindsay's classification of climates is into the oceanic, to be found only on shipboard or on small oceanic islands; the marine, at ordinary seaside places; that of deserts and inland plains; and that of great altitudes. As affecting the digestive functions, great altitude and oceanic conditions are spoken of as "decidedly tonic," the desert and dry marine resorts as "less decidedly tonic," and moist marine localities as "relaxing," while, to the nervous system, great altitudes and dry marine and desert regions are "stimulant," and moist marine or ocean situations "sedative." Succeeding chapters give descriptions of the places and voyages oftenest recommended to patients, with their respective advantages and disadvantages, and the indications for their selection. "Chronic tubercular phthisis" is to be benefited by great altitude, the ocean, or dry inland plains; chronic pleuritic or pneumonic processes, threatening tuberculosis, are favorably affected by the same means, substituting dry marine for oceanic air; "acute pneumonic phthisis," on the other hand, calls for a moist marine resort; patients with fibroid phthisis in an early stage should go to the mountains, or, if the disease is more advanced, to a dry marine or inland climate; those with "catarrhal phthisis" should seek a warm, moist region, but laryngeal ulceration renders all climatic treatment abortive; pyrexia or anæmia contra-indicates great altitude. In hæmoptysis, or "hæmorrhagic phthisis," the author gives a decided preference to great altitudes, for the reason that the determination of blood to the surface caused by diminished atmospheric pressure "is necessarily accompanied by a corresponding and proportionate diminution of the supply of blood to the viscera, and hence to the lungs," forgetting, apparently, that reduction of pressure must be as operative throughout the bronchial tract as on the surface of the body, and that the hæmorrhages are not interstitial, but from some portions of the air-passages or the cavities in connection therewith. However otherwise may be explained the alleged amelioration of hæmoptotic cases at Davos and some other elevated resorts, what we know of the effects of mountain-climbing, balloon ascensions, and the remounting from caisson-working, forbids its imputation to lessened pressure, and we must rather ascribe it to improvement in other coincident hygienic conditions; indeed, as regards choice of climate in all cases, the author postulates "the embarrassing, but necessary, admission that much depends upon individual idiosyncrasy." His wisest utterance, and one which the general practitioner would do well to take to heart, is that the quiescent stages of phthisis are alone suitable for climatic treatment, which should be discouraged while the destructive process is in active progress.

Transactions of the New York State Medical Association, for the year 1886. Volume III. Edited for the Association by ALFRED LUDLOW CARROLL, M. D., of Richmond County. Concord, N. H.: Republican Press Association, 1887. Pp. 601.

THIS handsome volume, in appearance and in the value of the matter contained in it quite up to the level of its predecessors, shows that the association is not faltering in the work of producing and publishing essays and discussions of a very high order. Testimony to the same purport is borne by the programme of the fourth annual meeting, to be held next week, which we have already published. Summaries of many of the papers contained in this volume, and of a number of the discussions, were given in our columns on the adjournment of the meeting, so that specific reference to them now is unnecessary. The association's new editor, Dr. Carroll, has done his work well, as his known experience and taste gave every reason to expect. A pleasing phototype portrait of the late Dr. Flint forms a frontispiece to the volume. In connection with memoirs of deceased members there are other portraits. That of the late Dr. Gray, on steel, is admirable, but that of the late Dr. Hamilton seems to us somewhat defective in finish. The publication of these expensive volumes ought to be encouraged by the profession with greater liberality than seems to have been the case in the past; according to the treasurer's report, only thirteen copies of the second volume were sold during the period from November 9, 1885, to November 16, 1886.

BOOKS AND PAMPHLETS RECEIVED.

Plant Analysis as an Applied Science. By Helen C. De S. Abbott, Fellow of the American Association for the Advancement of Science, etc. A Lecture delivered before the Franklin Institute, January 17, 1887. [Reprinted from the "Journal of the Franklin Institute."] Transactions of the Medical Association of the State of Missouri at its Thirtieth Annual Session, held at Macon City, Mo., May 10, 1887.

Miscellany.

Ourselves as Others see us.—The "New York Commercial Advertiser" lately published the following editorial article: "The International Medical Congress, now in session at Washington, is composed of unusually learned and able and intelligent men. They have dived deeply into the hidden nature of things; they have studied hard; they have investigated closely substances that are too infinitesimal to be apprehended by the unassisted senses; they are fired by an insatiable ambition to know more and more. Why is it, then, that they seem to know so little? They write whole libraries on otology and gynecology and laryngology and bacteriology, and various other ologies, which the average educated man can neither define nor spell, and can hardly manage to pronounce; they have more drugs and surgical instruments, and healing appliances of all sorts, than there are hairs on a normal head; and still they can not, except in rare instances, keep a man in good health, even if the patient does exactly as he is told to do. We do not require the impossible. We must all die, and no one will blame the doctors for failing to preserve life indefinitely, or for being unable to avert fatal consequences in the case of a severe accident or disease. The question is not so much 'Why don't we get well?' as 'Why can't we keep well?' People are seldom downright ill, but they are perpetually ailing. Why can not the doctors stop this? It is fair to assume that they can not, because they certainly do not. The preservation of health is largely a matter of personal habits. It depends greatly on our way of eating, drinking, and taking care of the body generally. But there is no subject on which the doctors differ more hopelessly than on

this. Some recommend tea and coffee; others denounce them as poisons. Some permit tobacco and alcohol in moderation; others forbid them entirely. Some say that pork and ham, though hard to digest, are still useful foods; others declare that no pig meat or anything derived from the pig is fit to be eaten. Some advise fruit only before breakfast, others only after dinner. Some depreciate the vegetables, others extol them as a main reliance. Some counsel bathing in cold water, others in warm or tepid. Some say we must sleep with the windows open always, others limit this injunction to the summer season. It is scarcely an exaggeration to say that no two doctors will give you the same instruction as to the commonest physical habits of life. Now, messieurs the doctors, it is all very well for you to raise men from the dead, and to cure violent diseases, and to be letter perfect on sarcoma of the larynx and the bacteriology of aural furuncles; but what we want to know is, What shall we eat? and What shall we drink? and Wherewithal shall we be clothed? The Gentiles are seeking after all these things, and they propose to find them out, too. It surely ought to be possible for the doctors, at this late day, to tell definitely whether coffee is a food or a poison, and how a sleeping apartment ought to be ventilated. It will not do to fall back on the old excuse that what is one man's food is another man's poison. Constitutions differ, doubtless, but not to that extent. Any particular chemical substance—nicotine or alcohol, for example—has a certain fixed, unvarying effect on every normal mucous membrane, and that effect must be either beneficial or deleterious to the membrane and the system. Which is it, messieurs the doctors?"

The Practical Element in Medical Education.—"This element," says the "Lancet," in its Students' Number, "is undoubtedly a most important one in medical education. It is admitted on all hands that medical education is better now than it has ever been. The public demand is higher, the efficiency of schools is greater, and their rivalry is keener. The basis of education has been raised, and the whole superstructure with it, including all its special and professional branches. All the strictly scientific parts of medical education are now taught in many schools as they have never been taught before. In some schools a large proportion of the teachers practically devote their lifetime to their work. But in spite of all this—or, perhaps, partly because of it—it has been complained that there has been a falling off in the practical parts of medical education, and that the newly fledged diplomate, or even graduate—though more transcendently learned in minute anatomy, chemistry, physiology, and pathology than his predecessors—is less apt at recognizing and treating common diseases, upon which so much of his comfort and reputation in after-life depend. Some physicians and teachers of great authority admit and approve this. They say that it is inevitable, and that a student can not become a practitioner till he has practiced. This is of course a truism, but it is not a sufficient answer to the complaint. As medical science has improved, so has medical art. It is more neat, more direct, more precise, altogether more apt than it used to be; and medical students should be better trained in this latter, as they are in the former respect. The power of early recognizing scabies or scarlet fever, or a wrong presentation in midwifery, or a fracture in surgery, or a dangerous infantile diarrhoea, can be taught as well before the charmed diploma is given as after. So can the professional conduct proper to such discoveries. It is certainly possible to go through all the long and exacting existing curriculum of the schools and learn nothing of these things. Some of the schools have not the means of teaching them. With large museums and learned professors, they have not cases of disease and of midwifery such as constitute the bulk of medical practice.

"We advise students, for their own sake, to cultivate the practical element in their own education; to learn for themselves early the interest of common cases, common remedies, and common causes of disease; to aim at readiness in detecting what is wrong, and in seeing the nature of the correctives that can be applied. Our recommendation is not in favor of dogmatism and quackery and a specific for every symptom, but in favor of the cultivation of a medical aptitude for detecting and removing the run of diseases for which people consult medical practitioners. No worthy student should wait for the action of medical authori-

ties in demanding proof that he knows the profession on which his living and the life of his patients are to depend."

Prayer and Thermometry.—We find the following in the "China Medical Missionary Journal":

"The practice of medicine in China develops a singular medley of experiences, from the solemn and sad to the grotesque and ludicrous. In one of the wards of a medical hospital not far away, several female patients were especially devout after their own manner, spending much time in saying prayers together. They were disturbed as little as possible in their devotions, but when the hour for taking the temperature of one of them arrived, the Chinese medical attendant, with an unexpected combination of piety and business punctuality, approached one of the circle who were on their knees, and quietly inserted a thermometer in her mouth. The patient, with piety and obedience equal to the occasion, simply remained in the attitude of prayer with the thermometer sticking out of her mouth, presumably joining in spirit with the prayers her companions were still uttering aloud. A rather unusual combination of praying and working!"

A Sanitary Convention, under the auspices of the Michigan State Board of Health, is to be held in Owosso, on Tuesday and Wednesday, November 22d and 23d.

The Health of Michigan.—According to an abstract of returns to the State Board of Health, prepared by the secretary, Dr. Henry B. Baker, for the five weeks ending September 3d, diphtheria was reported from forty-nine places, scarlet fever from twenty-eight, typhoid fever from forty-nine, and measles from ten. As compared with the preceding month, there was an increased diffusion of diphtheria, scarlet fever, and typhoid fever, and a decreased area in which measles prevailed.

Government Health Reports.—By direction of the Secretary of the Treasury, Dr. John B. Hamilton, Surgeon-General of the Marine-Hospital Service, has issued the following abstract of sanitary reports received during the week ending September 8th:

England and Wales.—The deaths registered in twenty-eight great towns of England and Wales during the week ending August 20th corresponded to an annual rate of 23.3 in a thousand of the aggregate population, which is estimated at 9,245,099. The lowest rate was recorded in Derby, viz., 15, and the highest in Manchester, viz., 33.5 in a thousand. Small-pox caused 4 deaths in Sheffield.

London.—One thousand seven hundred and thirteen deaths were registered during the week ending August 20th, including 32 from measles, 23 from scarlet fever, 22 from diphtheria, 50 from whooping-cough, 14 from enteric fever, 316 from diarrhoea and dysentery, and 10 from cholera and choleraic diarrhoea. There were 178 deaths from diseases of the respiratory organs. Different forms of violence caused 58 deaths, and 6 suicides were registered. The deaths from all causes corresponded to an annual rate of 21.2 in a thousand. In greater London 2,171 deaths were registered, corresponding to an annual rate of 20.9 in a thousand of the population. In the "outer ring" 131 deaths from diarrhoea and 12 from measles were registered.

Ireland.—The average annual death-rate represented by the deaths registered during the week ending August 20th in the sixteen principal town districts of Ireland was 26.7 in a thousand of the population. The lowest rate was recorded in Lurgan, viz., 5.1, and the highest in Wexford, viz., 42.8 in a thousand.

Dublin.—Two hundred and forty deaths were registered during the week ending August 20th, including 27 from measles, 3 from scarlet fever, 5 from whooping-cough, 4 from enteric fever, 57 from diarrhoea, and 2 from dysentery. Diseases of the respiratory organs caused 20 deaths. Six accidental deaths were registered, and in forty-nine instances the causes of death were uncertified. The deaths from all causes corresponded to an annual rate of 35.4 in a thousand.

Scotland.—The deaths registered in eight principal towns during the week ending August 20th corresponded to an annual rate of 18.6 in a thousand of the population, which is estimated at 1,299,000. The lowest mortality was recorded in Aberdeen, viz., 13.3, and the highest in Paisley, viz., 34.2 in a thousand. The aggregate number of deaths registered from all causes was 464, including 12 from scarlet fever, 1 from diphtheria, 24 from whooping-cough, and 6 from fever.

Germany.—The deaths registered in fifty-two cities of Germany, having an aggregate population of 6,821,222, during the week ending August 13th, corresponded to an annual rate of 29.2 in a thousand. The lowest rate was recorded in Essen, viz., 15.4, and the highest in Chemnitz, viz., 50.7.

Palermo.—The United States consul, in his dispatch under date of August 15, 1887, states that "the cholera has appreciably increased during the week ending the 14th instant, the cases and deaths during that period amounting to 70 and 42, respectively. Still, in a population estimated from 250,000 to 300,000, the figures named are small, especially as the cholera germ has been discovered to be in great abundance in Palermo at this time. . . . Cholera thrives best in humid weather, and in hot, dry weather it becomes inert or dies. For some time past the temperature has been excessively hot and dry. . . . One case occurred on Saturday, immediately opposite the consulate, in the person of a girl fourteen years old. She was attacked on Friday evening at 8 o'clock and at 11 o'clock on Saturday morning she died. Two other deaths occurred on Saturday, only a few doors from the consulate, as suddenly as that first named. The virus is more violent than it was in 1885, as indicated by the cases and deaths."

Gibraltar, August 15, 1887.—The board of health have decided that arrivals from ports in southern Italy, from Terracina round Spartivento to San Leuca, be subjected to ten days' quarantine, vessels having no sickness on board being allowed to coal and provision in quarantine.

Havana.—Fifteen deaths from yellow fever and 40 from small-pox are reported for the week ending August 27th.

Lima.—The United States consul, in his dispatch under date of August 13th, states that "it appears that cholera has never fully disappeared from the south of Chili in reality, and that it is now increasing in a degree at Concepcion, and possibly at Talcahuano and Talca, that is causing much alarm on the coast south."

MORTALITY TABLE, FOREIGN CITIES.

CITIES.	Week ending	Estimated popu- lation.	Total deaths from all causes.	DEATHS FROM—						
				Cholera.	Yellow fever.	Small- pox.	Typhus fever.	Erysip- elas.	Scarlet fever.	Diphther- ia.
Calcutta	July 16.	433,219	151	22	..	..	..	..	..	..
Bristol	August 13.	353,995	85	..	..	..	..	..	1	5
Rio Janeiro	July 9.	299,000	277	..	..	63	..	..	2	..
Rio Janeiro	July 16.	300,000	344	..	..	103	1	1	..	..
Rio Janeiro	July 23.	300,000	334	1	123	1	3	..	..	..
Rio Janeiro	July 30.	300,000	317	..	97	1	2	..	..	..
Rio Janeiro	August 6.	300,000	359	1	149	..	..	..	5	..
Trieste	August 13.	150,157	98	..	..	1	..	..	5	1
Toronto	August 27.	120,000	22	..	..	..	..	..	..	3
Bremen	August 13.	119,000	51	..	..	1	1	..	..	1
Pernambuco	August 9.	111,000	50	..	..	..	..	1	..	..
Merida	August 9.	50,000	28	..	3	..	..	..	..	..
Guayaquil	August 18.	30,000	51	..	15	..	..	..	..	..

UNITED STATES.

Key West, Fla.—Yellow Fever.—There have been no deaths from yellow fever at Key West since last report.

New York.—The medical officer in charge of the Marine-Hospital Service reports, under date of September 7th, one case of yellow fever. The patient was promptly isolated, and every precaution taken to prevent the spread of the disease.

ANSWERS TO CORRESPONDENTS.

No. 40.—In answer to your first question, our information is to the effect that none of the gentlemen mentioned were present. As regards your second question, the following is what we have been able to ascertain. In Colorado, the law of 1881 requires that an applicant for the right to practice medicine should either possess a diploma from a recognized medical college, the genuineness of which must be verified by the State Board of Medical Examiners (fee, \$5), or pass a satisfactory examination before the board, wholly or in part in writing, in anatomy, physiology, chemistry, pathology, surgery, obstetrics, and practice of medicine, exclusive of materia medica and therapeutics (fee, \$10). The board's certificate must be recorded in the county clerk's office

(fee, \$1). The penalty for practicing in violation of the law is a fine of from \$50 to \$300, or confinement in jail for from ten to thirty days, or both. In Kansas, the act of 1879 created a separate board of examiners for each sect (regular, eclectic, and homeopathic), each board being empowered to certify to the genuineness of diplomas and to examine candidates having no diploma. In Nebraska, according to the act of 1881, amended in 1883, an applicant must either (1) be a graduate of a legally chartered institution empowered to grant the degree of M. D.; or (2) have passed a satisfactory examination before an examining board of another State; or (3) have served in the War of the Rebellion as a commissioned medical officer; or (4) have practiced medicine for ten consecutive years (the last two years in the State), and have been a resident of the State at the time the law went into effect. Registration at the county clerk's office is also required, the fee being the same as for real-estate conveyances.

No. 41.—An entrance examination is not required this year, but it is announced that it will be required hereafter.

No. 42.—It may be applied dry, or made into a paste with a little water.

No. 43.—Fahnenstock's instrument, or some modification of it, is the one in general use.

To Contributors and Correspondents.—*The attention of all who purpose favoring us with communications is respectfully called to the following:*

Authors of articles intended for publication under the head of "original contributions" are respectfully informed that, in accepting such articles, we always do so with the understanding that the following conditions are to be observed: (1) when a manuscript is sent to this journal, a similar manuscript or any abstract thereof must not be or have been sent to any other periodical, unless we are specially notified of the fact at the time the article is sent to us; (2) accepted articles are subject to the customary rules of editorial revision, and will be published as promptly as our other engagements will admit of—we can not engage to publish an article in any specified issue; (3) any conditions which an author wishes complied with must be distinctly stated in a communication accompanying the manuscript, and no new conditions can be considered after the manuscript has been put into the type-setters' hands. We are often constrained to decline articles which, although they may be creditable to their authors, are not suitable for publication in this journal, either because they are too long, or are loaded with tabular matter or prolix histories of cases, or deal with subjects of little interest to the medical profession at large. We can not enter into any correspondence concerning our reasons for declining an article.

All letters, whether intended for publication or not, must contain the writer's name and address, not necessarily for publication. No attention will be paid to anonymous communications. Hereafter, correspondents asking for information that we are capable of giving, and that can properly be given in this journal, will be answered by number, a private communication being previously sent to each correspondent informing him under what number the answer to his note is to be looked for. All communications not intended for publication under the author's name are treated as strictly confidential. We can not give advice to laymen as to particular cases or recommend individual practitioners.

Secretaries of medical societies will confer a favor by keeping us informed of the dates of their societies' regular meetings. Brief notifications of matters that are expected to come up at particular meetings will be inserted when they are received in time.

Newspapers and other publications containing matter which the person sending them desires to bring to our notice should be marked. Members of the profession who send us information of matters of interest to our readers will be considered as doing them and us a favor, and, if the space at our command admits of it, we shall take pleasure in inserting the substance of such communications.

All communications intended for the editor should be addressed to him in care of the publishers.

All communications relating to the business of the journal should be addressed to the publishers.

Original Communications.

THE GALVANO-CAUTERY IN THE
TREATMENT OF HYPERTROPHIED TONSILS.*

By CHARLES H. KNIGHT, M. D.

WE have been told by one authority that in the normal condition the tonsils do not exist, or at least are not visible,† while another observer has recently asserted that these organs perform an important function in eliminating from the saliva certain ingredients which would otherwise be wasted.‡ The special office of the portion of secretion thus absorbed is supposed to be to provide nutrition for the leucocytes formed in the tonsils. The old idea of the function of these bodies seems to have been that they furnished a lubricating secretion to facilitate the act of swallowing, as possibly suggested by the curious definition given in Motherby's "Medical Dictionary," published in 1795, which reads as follows: "They are of a reddish color, and externally have many holes, which communicate with an irregular cavity in their inside, and which contains a viscid fluid, which is gradually discharged from the holes into the throat." Whether we accept this view, or adopt the theory that they are in some way concerned in hæmatisis, or invest them with both these functions, the fact is evident that in many individuals the tonsils undergo enlargement to such a degree as to impair health, if not to endanger life, since in their hypertrophied condition they show a constant propensity to inflammation, which may assume a serious aspect. A fatal case of enlarged tonsils has been reported by Dr. C. A. Blair,* death resulting apparently from asphyxia. A case, reported by Shaw, is referred to by Lefferts,|| in which tracheotomy was actually performed in order to save the life of the patient. A similar case has been reported by Puech.△

The picture of a typical example of hypertrophied tonsils is a familiar one. If a child, the victim of this condition has the appearance of feeble health, the face is pale, the teeth are closely crowded in the narrow jaws, the mouth is small and is generally kept open, the lips are thick, the lower one often projecting and inverted, these conditions being due in part to defective development, and in part to the habit acquired of drawing the lower jaw forward in order to drag the tonsils away from the opening of the glottis. The nose is pinched, the nostrils are small and narrow. The voice is thick and lacks resonance. The child is apt to wear a heavy, stupid expression. Finally, the so-called "pigeon-breast" deformity results from the extraordinary labor demanded of the respiratory muscles.

* Read before the American Laryngological Association at its ninth annual congress.

† F. H. Bosworth, "Trans. of the N. Y. Academy of Medicine," vol. iv, 1886, p. 298.

‡ R. Hingston Fox, "Jour. of Anat. and Physiol.," July, 1886, p. 559.

* "Med. and Surg. Reporter," Philadelphia, 1880, xlii.

|| "Med. Record," New York, 1879, xvi, 601.

△ "Moniteur des hôp.," 1857.

And yet we sometimes hear the advice given to let a child outgrow this condition. Undoubtedly, atrophy will in most cases occur after puberty, if the subject survives to that period, but meantime development is retarded, and robust health is utterly impossible. No doubt, too, when the hypertrophy of the tonsil is dependent upon a constitutional taint, much relief may be obtained from general medication, hygiene, generous diet, etc.

The question of the relation between hypertrophied tonsils and the constitution of the patient has been much debated. In his "System of Human Anatomy,"* Dr. Harrison Allen observes that "it is rational to assume that overgrowth of the tonsils is an attempt at compensation on the part of an organ engaged in manufacturing blood-corpuscles, when other blood-making structures, such as the medulla of bone, are inactive." Treves, in his work on "Scrofula,"† says that one of the most common manifestations of scrofula is the enlarged tonsil. On the other hand, Bosworth‡ asserts that "it is the result of a purely local morbid process, not the outcropping of a constitutional dyscrasia. Impairment of health, if present, is a result, not a cause." Probably in many instances it would be more correct to say that impairment of health is *both* a cause and a result. In either case prompt recovery, or even marked amelioration, is not likely to ensue from any system of drug-giving or local applications. Very often improvement in the general condition is accompanied by decrease of local tumefaction, but the true hypertrophied tonsil never entirely disappears until maturity. From a critical review of the subject of amygdalotomy, by Felix Semon,* it appears that a process of atrophy is to be expected in not more than three fourths of the cases. In the mean time, nasal voice, defective articulation, mouth-breathing and snoring respiration, facial disfigurement and thoracic deformity, impaired audition, not from encroachment of the enlarged gland upon the Eustachian orifice, but from thickening of the mucous membrane of the tube, imperfect mastication, dyspepsia, and declining general health—comprise a train of symptoms which render the existence of the patient a burden to himself and to others. The extraordinary statement occurs in Billroth's "Surgical Pathology"|| that hypertrophied tonsils are commonly a sequel rather than a cause of pharyngeal inflammation, and hence relief of the latter can not be expected to follow their extirpation. Quite the contrary opinion is generally held. Disturbed cerebral circulation as a result of pressure from the enlarged glands has been suggested by Chassignac,‡ and the same observer has called attention to disorders of digestion due not only to impeded deglutition, but also to the conveyance of putrid secretions from the tonsils to the stomach. Mackenzie§ notices that the senses of smell and taste become defective if the condition of

* Section vi, p. 640.

† F. Treves, "Scrofula and its Gland Diseases," 1882, p. 110.

‡ "Trans. of the N. Y. Acad. of Med.," vol. iv, 1886, p. 505.

* "St. Thomas's Hosp. Rep.," vol. xiii, 129.

|| Transl. of 4th German ed., N. Y., 1872, p. 611.

△ "Leçons sur l'hypertrophie des amygdales," Paris, 1857, p. 7.

§ "Diseases of the Nose and Throat," vol. i, p. 65.

hypertrophy be allowed to persist for a long time. In view of all these possible evils, the question of surgical interference must be considered.

The surgical treatment of enlarged tonsils has been a subject of no little discussion. The large number of amygdalotomes devised by various operators bears witness to the favor with which a cutting operation is regarded, while the supposed danger of hæmorrhage altogether deters not a few surgeons from the use of the knife. The question of hæmorrhage after amygdalotomy was the subject of an able paper presented to this association in 1881 by Dr. Lefferts.* The conclusions then reached were that fatal hæmorrhage was rare, that dangerous hæmorrhage occasionally occurred, that serious hæmorrhage, immediate or remote, was not unusual, while moderate bleeding, to a degree requiring pressure or the use of strong astringents, was common. In the course of the discussion following, Dr. Allen stated that he had discarded the bistoury and amygdalotome for fear of hæmorrhage, and was inclined to prefer the galvano-cautery. On the other hand, Elsberg announced that he had operated more than eleven thousand times, generally by cutting, and had met with but two cases of alarming hæmorrhage. In my own experience only two cases of serious bleeding have occurred—one in a child, which came on on the fifth day after a very radical amygdalotomy, and ceased spontaneously; the other in an adult, the hæmorrhage being finally checked by continuous pressure. A somewhat careful review of the literature of the subject shows that a large majority of cases in which this accident has happened were those of adults, and that in most of them it followed the use of the bistoury. According to Mackenzie, four cases have been reported by Velpeau in which the internal carotid artery was laid open during removal of a tonsil with the bistoury. Billroth† seems to have wounded the ascending pharyngeal artery while operating with a bistoury. Other cases are on record of hæmorrhage from a large tonsilar artery, from injury to one of the faucial pillars, and from wounding the venous plexus at the lower border of the tonsil. It seems to me, however, that this risk of the operation in children has been overestimated. Yet it must be admitted that the danger of hæmorrhage is the chief objection to excision of the tonsils.

Probably few of us use the amygdalotome without the suggestion of its possibility. Among arguments in opposition to removal of the tonsils in general, which are sometimes urged, may be mentioned the statement that the voice is thereby weakened and the sexual function impaired. Observations to the contrary are now too numerous to leave any room for question on these points. There has been a superstition that enlarged tonsils are a protection against infective disease, but it is now pretty generally agreed that they are a direct encouragement to infection, especially diphtheritic, while the subject of this hypertrophy is constantly liable to attacks of amygdalitis and peri-amygdalitis, extremely painful and often disabling. It is hardly probable that "suicidal mania," as a result of amygdalotomy, will be used as an objection to the operation by those who present an

adverse plea, but it may be of interest to notice incidentally that four cases of suicide after amygdalotomy have been reported by Rubio.* In addition to hæmorrhage, which, if not serious, may be very troublesome and a source of agitation to the patient, it is not uncommon to meet with other obstacles to a cutting operation. We frequently see broad, flat tonsils, deeply seated between the pillars, the anterior pillar often overlapping the gland and being firmly adherent to it. The use of the guillotine here is difficult, if not impossible. Finally, in some cases the patient's aversion to the knife can not be overcome.

Under such circumstances the galvano-cautery, said to have been introduced into surgery by Middeldorpf, offers a satisfactory alternative. Two methods of its application to the treatment of enlarged tonsils have been found useful—by cautery-puncture, as practiced by Voltolini, and by the galvano-caustic snare. In the former method a fine cautery-point is passed deeply into a crypt of the enlarged gland, if we have to deal with a condition of simple hypertrophy, or in the case of a hyperplastic tonsil, where the crypts are more or less obliterated, it may be forced directly into the substance of the tonsil. Not more than three independent lacunæ should be cauterized at one sitting. The pain of the operation is usually not severe, and inflammatory reaction is seldom excessive. By the fourth or fifth day all local disturbance will have subsided, the eschar may be partially detached, and the operation may be repeated. In this way the largest tonsils may be destroyed in from five to ten sittings, according to the tolerance of the patient. At the International Laryngological Congress, held in Milan in 1880, Krishaber stated that he had been obliged to use the thermo-cautery of Paquelin in one case no less than fourteen times.† Such an experience with the galvano-cautery would be very exceptional. Still he maintained that patients submitted to burning more readily than to cutting. In one of my cases, that of a boy not ten years old and of highly nervous temperament, the use of the galvano-cautery had to be abandoned after the second operation, not, as the patient admitted, on account of pain, but because he could not overcome his repugnance to the idea of being burned. In this case treatment has been continued by means of applications of London paste, and the patient himself states that it causes greater and more lasting pain than the galvano-cautery did. Many patients complain of the disagreeable odor of the burning tissues more than of pain. The discomforts of the operation and of the succeeding days may be reduced to a minimum by preliminary applications of cocaine in ten-per-cent. solution, and the subsequent use of carbolyzed alkaline gargles and, if necessary, further applications of cocaine.

Galvano-caustic écrasement is much more rapid and naturally more painful than cautery-puncture. A single operation by the former accomplishes the results of many weeks by the latter. Moreover, the amount of tissue actually removed by the snare does not represent the total effect of the operation, since the parts left behind are cauterized

* "Trans. of the Am. Laryngol. Assoc.," 1881, p. 136.

† J. Walker Downie, "Edinb. Med. Jour.," August, 1886, p. 116.

* R. B. Taylor, "On Amygdalotomy and Suicide," "Med. Times and Gaz.," ii, 1881, p. 758.

† "Trans. of the Int. Laryngol. Congr.," Milan, 1880.

to a considerable depth. The galvano-caustic snare is opposed by some writers, among them Schech,* who maintains that its use involves too much trouble, that it is difficult to secure an even cut surface, and that it does not exclude the danger of hæmorrhage. The first objection may perhaps be admitted; the second and third are groundless. A single case of hæmorrhage after the use of the galvano-caustic snare has been reported by Capart.† The bleeding, which was rather alarming, occurred in a child, eight years of age, five days after the operation, and was undoubtedly provoked by immoderate use of the voice.

Two precautions are essential. The current should be employed intermittently, and traction should be made upon the loop only during the passage of the current. In this way hæmorrhage may be entirely avoided, and the danger of damaging the pillars of the fauces and neighboring parts by diffusion of heat may be prevented. Should any unevenness of surface remain, it is a very simple matter to remove it by subsequent cauterizations. Inclusion of the greater part of the tonsil within the loop may sometimes be effected by dragging it from its bed by means of a volsella or a mouse-toothed forceps, or by the use of a transfixion needle. In several cases pain has been almost wholly abolished by injecting into the parenchyma of the tonsil, before applying the snare, six or eight minims of a ten-per-cent. solution of cocaine. At best this method is rather disagreeable, and is apt to be followed by considerable local disturbance. Its only advantage over galvano-puncture is that of being less tedious. The choice of a battery is of some importance. What is known as the "C & C" Electric Motor Battery has given me excellent satisfaction. For the snare, No. 30 platinum wire has been found to be more readily heated, more easily manipulated, and to cut the tissues with greater facility.

The use of the galvano-cautery in very young children will probably often be found impracticable, except under general anæsthesia. Only two of my own subjects were under the age of ten years, and one of these was unmanageable. It is not my intention, therefore, to recommend the galvano-cautery as a universal substitute for excision of the tonsils. In the vast majority of cases a cutting operation is both possible and preferable. Galvano-cautery should be reserved for a comparatively small proportion of cases, including those in which the hæmorrhagic diathesis is present or suspected, those in which vascular anomalies may be recognized, those in which anatomical conditions prevent a sufficiently complete excision of the organ, and those in which the use of a knife is positively declined. I am strongly disposed to add that this method should be chosen for all adult patients. At any rate, as Semon has suggested, a patient above the age of twenty should be allowed his option after a fair presentation of the risks and advantages of the two methods.

20 WEST THIRTY-FIRST STREET.

* "Diseases of the Mouth, Throat, and Nose." Transl. by R. H. Blaikie, 1886, p. 130.

† "Trans. du congrès internat. de laryngologie," Milan, Sept., 1881, p. 96.

SUPPORT IN THE TREATMENT OF OVARIES AND TUBES.

By SARAH E. POST, M. D.,

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A FEW weeks ago there came to the Demilt Dispensary a large, finely formed German woman, twenty-eight years of age, married, and the mother of two children. She complained of pelvic pain, and in the course of the usual routine questions I asked her when she had last menstruated. She replied: "I had an operation in ——— Hospital two years ago, and I have never had my blood since." Then she broke out in a despairing cry: "I did not know that I would have no more children, and that I would never more have my blood." Trying to defend the absent, I suggested that she had had a good deal of pain before the operation, that she had been relieved of this, etc. She turned quite fiercely upon me. "What is pain?" said she; "I might better have children, though I die."

This case requires no comment. Examination showed the atrophied uterus and the atrophied, contracted vaginal vault of old age. One immediately felt sorry for her. As she had suggested, too, a good deal of parametrial tenderness was present. It may be urged that this woman had already been sterilized previous to the operation by her disease. While this might have been true, no one could positively have stated it as a fact. The hope of maternity remained, and she was protected from the scorn which her husband subsequently heaped upon her. The sterile wife seldom escapes unhappiness. I have under treatment one threatened with desertion unless she soon bears a child. Besides the protection given by the hope of maternity, this woman had, too, the comfort of her menstrual flow. The stature of the woman seems to be dwarfed in order that she may have material to give away. To keep her system in order, to feel well, she must sustain her periodic loss. Contrary to Mr. Tait's experience, women, as a rule, dread the menopause, and many resort to electric treatment and other arts in order to keep it away. The accumulation of fat after the menopause, and earlier in women who menstruate scantily, also points to this surplus of nutritive force. The longer life of woman, and her superior endurance of loss of blood, cold, and fatigue, too, might be cited. A gifted, cultivated woman said to me once: "To flow freely is my idea of bliss." She was highly plethoric, and her menstruation lasted but a day. To deprive the woman of menstrual ability by operation is almost as serious a matter as the sterility counted its most important result. Mutilating operations, such as the removal of ovaries and tubes, can scarcely be justified except for conditions which endanger life. It can certainly be said that conservative treatment merits serious thought. But little has been done for the uterine appendages in this direction. The "Index Medicus" each month has a long list of communications upon diseases of the uterus, and another upon displacements of the uterus, but upon displacements of the uterine appendages it has nothing at all, communications upon the pathology and the displacements of these organs being so infrequent as to be included under

the heading of their excision. The meagerness of the recommendations given in text-books is known to all. In regard to chronic oophoritis Dr. Thomas says: "The day will probably come when our treatment will be satisfactory and effective, but it has not yet done so, by any means." Dr. Edis says: "Chronic oophoritis is a very intractable malady." Mr. Tait says: "I assert that it is absolutely incurable in by far the greater number of cases."

On the other hand, the support and protection of diseased parts is a cardinal principle of surgical procedure. Applied to hyperæsthetic, congested, and inflamed ovaries, it relieves suffering and favors cure. The beneficial influence of pregnancy in this condition is admitted by all. Absence of the periodic menstrual congestion is given as its explanation; but is this reasoning defensible? Women with chronic oophoritis are commonly more comfortable when menstruating than at any other time. During pregnancy there may be absence of periodic congestion, but in its place there is persistent hyperæmia with absence of periodic relief. The development of the corpus luteum of pregnancy can be accounted for only by increased nutritive activity and increased blood-supply. If, then, the ovary is not quiescent, but partakes largely of the increased vascularity of the uterus during pregnancy, and if, in addition, it loses the advantage of the menstrual discharge, how does it gain during this period? Manifestly by a change in position. During the early months, when the ovaries are pressed upon by the enlarging uterus, the woman commonly suffers from nausea and an aggravation of pelvic pain. She experiences the relief of her condition only later, when, rising out of the pelvis, the uterus carries the ovaries with it, and relieves them from their bony environment. If elevated artificially, the same relief can be obtained in the non-pregnant state.

Methods of obtaining Support.—In Dr. Parvin's edition of Professor Winckel's work a suitable pessary is recommended, but, while ninety-seven pages are given to dislocations of the uterus, the pessary suitable for the support of ovaries is not described. Dr. Thomas also says that where diseased ovaries are prolapsed, they should be supported upon a pessary; but he, also, does not particularize in regard to it. Dr. C. H. May, in his admirable compend, states that Thomas's bulb pessary, Emmet's, Noeggerath's, and others may be used. Mr. Tait has a wedge pessary, or one with a broad posterior bar. To use an old simile, one might as well try to poise a piece of ice on the fingertips as to try to hold up an ovary with one of these hard-rubber rings. Support is not a failure because unobtainable by such means. The dispensary connected with the Woman's College has an attendance of from thirty to fifty gynecological patients daily. Among these cases there are many of ovarian displacement, hyperæsthesia, and actual disease. Such cases are not there, however, considered less hopeful nor more difficult to handle than others; and for many years support has been the routine treatment, the cotton tampon being used. This is commonly applied in the knee-chest position. Personally I prefer the Sims position, and I use three or four small pads instead of one larger one. With the Sims speculum retracting the peri-

næum, I carry in the first, using the finger instead of the dressing forceps for this purpose. Then, with the finger retaining the pad, I withdraw the speculum, assure myself that the pad is well up in place, reintroduce the blade in front of it, and pass in another to one side or the other, as required. Having packed all into a secure position, I last place one in front and against the pubes to give leverage and support. Where the ovary is not adherent, immediate relief is, as a rule, obtained. Recently, in a case of this kind, after the application of the tampon, I asked: "Do you still feel pain?" "A little," the patient replied. Placing her again upon the table, it was found that the painful ovary had not been completely held up, and another pledget of cotton, passed along the side of the others so as to lift it, gave relief. Such a tampon will stay in place twenty-four hours. After some weeks the tenderness commonly diminishes, and the pain during the intervals is not so great. Finally, at the end of some months, the treatment can be suspended. Operation upon a fissured cervix often hastens the cure.

As a further means of support for ovaries I have recently used the old inflated ring pessary ("Med. Record," Jan. 15, 1887). In my previous paper I stated some objections to this pessary as manufactured here. Accidentally, or with intention, the central aperture is made smaller as the total diameter is increased. In Nos. 1 and 2 there is a hole which easily accommodates the cervix. In Nos. 3 and 4 it is smaller, but not so diminished as to afford a serious obstacle to use. In Nos. 5 to 7, on the contrary the hole is absurdly small. Professor Winckel makes a similar complaint of this pessary in Dr. Parvin's edition of his book. I am pleased to announce that Stohlmann, Pfarre, & Co., of East Twenty-eighth Street, have modified these larger sizes according to my suggestion.

It is now one year since the paper referred to was written, and two years since I commenced using this ring. Additional experience but confirms my belief in its value. In the case of the fissured cervix it acts as a splint. A colleague informs me that recently a cervical catarrh which would have lasted for months under the usual local applications disappeared in three weeks while the patient was wearing this ring. Another tells me that it was prescribed as a preparation for operation in the case of a deeply fissured cervix, with catarrh, and that under its use the separated parts had spontaneously united up to the external os.

The most brilliant results of this pessary are, however, obtained in the treatment of prolapsed ovaries. Several typical cases can be referred to.

CASE I.—A woman of twenty-five years came to the Demilt Dispensary announcing that she had ovarian disease. She had had many physicians, and had been well instructed in regard to her case. She had suffered from migraine since puberty, and had married upon advice, in the hope that maternity would effect a cure. At the time of my first observation she had been married for three years, pregnancy had not occurred, and her distress had been aggravated rather than relieved. She had constant hypogastric and inguinal pain. Intercourse was unbearable, excepting just after the menstrual period. She found it difficult to endure the jolting of the cars and painful to walk, especially if jarred unexpectedly by stepping upon a

stone. Menstruation was profuse, lasting a week, and headaches were almost constant, with special aggravations just before the flow. Examination showed laterally two large sensitive ovaries, and posteriorly a smaller mass continuous with the left tube. The ovaries were movable, but the posterior mass adhered. The uterus was in place. A diagnosis of chronic oophoritis was made. The tube was not enlarged, but simply displaced and adherent. This patient had recently been under the care of a distinguished gynecologist, visiting him at his office with considerable regularity during nine months. It would be but fair to state that she had had exceptional opportunities for obtaining relief. Hot injections were ordered, although the woman stated that they had already been persistently used. On September 1st an air-ring was inserted. For the first few days it gave pain in the left side, but from the first some relief of headache was obtained.

September 10th.—She stated that she was almost comfortable.

October 29th.—She stated that at her last period she had had one hour of her old inguinal pain, and headache for one day, but that otherwise she had felt well. Her mother noticed that she did not "grumble so much." At the end of three months she menstruated only two or three days, and her headaches had been reduced to a few hours just before the flow. Distress upon intercourse had ceased. Examination showed the ovaries still easily reached, but much less sensitive; the posterior mass still adhered, and the tube had elongated so as to arch over the ring. At the present time the patient feels perfectly well, can do her housework, and can go without the ring for a week without any return of her former symptoms. She no longer wears it constantly, but keeps one on hand and inserts it when she thinks a headache is threatened. Though anxious for children, her sterility continues. She is, however, happier than the woman in the case of operation cited.

CASE II is that of an unmarried woman of twenty-five years who, one year ago, while lifting a mattress, was seized with pain which for three days kept her in bed. Since that time she had suffered excessively with dysmenorrhœa and inguinal pain. She had emaciated, her appetite had been lost, and from a happy, rosy-cheeked girl she had become a pale, weary, hollow-eyed woman. Examination showed a perfect hymen, and with difficulty a retroflexed uterus and two enlarged, prolapsed ovaries were made out. Here, too, hot injections were used, and after a time pads, which always made her temporarily comfortable. They could only be worn a day, however, and during the intervals between their application all of her pains returned, and she was becoming discouraged, when recently, after three months' preparatory treatment, a No. 3 air-pessary was inserted. The relief was immediate, and with it in position she has menstruated for the first time without pain. The uterus is still retroflexed, the fundus lying upon the posterior bar, but sufficiently elevated, so that a free exit is secured. Hard-rubber retroflexion rings were tried several times in this case, but the posterior bar always took its position in the angle of the flexion, her sufferings were increased, and inflammatory action threatened.

While the history is not yet complete, I give this case because it is the first case of an unmarried woman in which I have used this ring. Two other similar cases might now be given. In all three the hymen was perfect, and the theory of masturbation as a cause of the retroflexion could not be entertained. All are working women, and it is believed that treatment which restores health will be in itself less likely to induce this practice than a continuation of

their disease. In treating these unmarried women I am particularly careful to be business-like—to not unnecessarily prolong an examination or the manipulation necessary for treatment, and to discontinue douches and home attention so soon as possible. An operating-table should, in treatment, be preferred to a chair or bed, because not associated with the ordinary routine of life.

These two cases also fairly well represent two classes of ovarian prolapse—Case I, that in which the uterus holds its position, the prolapse being congenital or due to the disease *per se*; and the second, that induced by uterine dislocation. In both, support is the essential element in treatment, although in both, hot water, iodine, and glycerin also were used. I am able to present also a third case representing the adherent ovary. Here the problem is more difficult and a general rule can not be given.

CASE III.—A woman, forty-two years of age, unmarried, had ceased to menstruate one year previously. She presented herself in February, 1886, with a pelvic abscess; temperature, 102.5 F°. The sac was toward the median line, upon the left side. It discharged through the rectum, refilling and emptying several times during the winter and spring. When the abscess was absent, a sensitive adherent ovary occupied its place. I supposed that the abscess was connected with the ovary in some way. The condition had probably existed for a long time. With the hope of obliterating the abscess cavity, on August 31st an air-ring was inserted. Even a No. 2 projected from the vulva, the contraction and infiltration were so great. No marked increase of pain occurred, and the ring continued at intervals to be borne. The hot-water douche also was persistently used. On October 5th the ovary was found slightly movable. On November 16th it adhered only at one side, and could be rotated through a distance of half an inch. The further entry reads as follows: "The pessary also rises an inch higher in the pelvis than on its first insertion, the patient walks better, has less pain, and professes herself improved. The abscess has not refilled."

Salpingitis.—Thus far my recommendation of support has been in harmony with the teachings of the books, differing from these only in the method employed and in the high estimate which I place upon it. In recommending the extension of this support to prolapsed and catarrhal tubes I, however, realize that I am advancing a new procedure, and that results only can justify me. The problem is more complicated, too, as salpingitis is commonly associated with peritonitis in either its acute or chronic form. Will this congested adherent mass brook interference? In the acute stage it certainly will not. Where there is elevation of temperature, and yet the symptoms do not demand operation, rest, opium, and antiphlogistic treatment, according to the indications, must be used. Complete resolution may result. Martin has seen pregnancy after such an attack in some cases. In others, however, the inflamed broad ligament rolls backward so that the fimbriated end of the tube lies in Douglas's pouch, where a matting of lymph or inflammatory adhesions ultimately binds it down. It remains there, discharging into the peritoneal cavity in some cases, and in others, where the abdominal opening is closed, never fully emptying at all, but having a periodic discharge through the uterus about the menstrual period, somewhat after the manner of the siphon-

ized underground springs figured in the geographies of our youth. More or less decomposition of the secretion occurs, and the discharge is said to smell bad. Endometritis, and even vaginitis, may secondarily result.

In a young girl, treated for vaginitis of several years' standing, it was found impossible to permanently heal an erosion upon the posterior aspect of the external os. It occurred to me that this location was one which would be covered by discharges from above, and examination showed what appeared to be a boggy tube upon the right side. On further questioning, I learned that, several years previously, there had been pain in this location. The excoriation referred to covers the cervix and invades the vagina so soon as topical applications are given up. There is now no pain, menorrhagia, or dysmenorrhœa; only this discharge to point to the original disease. The tube is, however, in this case at the side of the uterus; it is low, but not seriously prolapsed. When the delicate fimbriated extremity occupies Douglas's *cul de-sac*, it is with each motion of the body triturated, one might say, between the uterus and the rectum, and pain can scarcely fail to result. For this condition there appears to be no spontaneous cure.

In the cases to be referred to it had probably existed for years. It is for this class of cases that support is recommended; not for acute cases, and not for cases where resolution and cicatrization have left the tube in place with the thickened, shortened broad ligament which appears to result from this disease. It is not recommended, then, in new cases, nor in very old cases, but in a collection of intermediate cases whose number is only too large. By support in these cases I hope to lift the whole mass beyond the point of friction between the uterus and rectum, to facilitate the discharge of the contents of the tube, and, finally, to forcibly break the adhesions which confine it. In this treatment the equable pressure of the ring has been more effective and better borne than the tampon of cotton pads. I have treated a considerable number of dispensary cases. Relief of pain is usual. The most surprising result has been, however, a more or less profuse discharge throughout one or two days after the application of the ring. This discharge is irritating in some cases. Subsequently, even the ordinary discharge complained of has commonly ceased. With relief of her symptoms, the dispensary patient stays away, so that the ultimate condition of many otherwise interesting cases can not be known. I will therefore refer only to three cases in my private practice where careful records were made.

CASE IV.—A woman, thirty-four years of age, came to me in February of the present year. She was married, had had four children, two miscarriages, and one premature birth. The last pregnancy, three years previously, had resulted in a living child; the one before, in premature birth at eight months, and the miscarriages had preceded this. After the birth of the eight-months child she was very sick—had fever and convulsions, and was not expected to live. Both then and at the subsequent delivery the placenta was taken away in pieces, and the patient never had felt well since. She complained of sacral and inguinal pain, headache, irritability of disposition, dizziness, and defective sight. She could not walk. The reason was obscure, but appeared to be but an aggravation of her usual pains. She menstruated regularly, but for ten days afterward had colicky pains, and both before and after menstruation suffered

with leucorrhœa of a yellow tinge. For one week midway between the periods she was somewhat relieved. Examination showed a large anteverted uterus and the cervix fissured deeply upon the left side; no erosions of the os. Posterior to the uterus was a marked degree of the boggiess and sensitiveness formerly associated with cellulitis. Nothing was mapped out at that time on account of the tenderness, but afterward the right tube was found prolapsed and enlarged. Hot water, iodine, and glycerin were persistently used for over a month without improvement. April 7th an air-ring was inserted. April 10th the patient returned to say that a milky discharge was coming away from her like water, but that otherwise she felt well. There was no vaginal or vulvar congestion to account for the discharge, which was perfectly bland. April 17th the discharge had ceased.

May 25th.—Examination showed the tube freely movable and the general sensitiveness gone. With the ring in position the patient felt comfortable, and could walk as well as any one. When without the ring her old backache, and with the pain her old irritability of temper, returned. Subsequently she was able to discontinue the pessary. The discharge and pain about the menstrual periods had ceased.

CASE V.—A woman, forty years of age, was the mother of several children. She complained of sacral pain, headaches, and general irritability, with a leucorrhœal discharge. She had not walked any distance for years. Attempts at walking would be followed by a wretched irritable condition, which would persist for days. Previous to menstruation her distress was aggravated so that two weeks out of the month were spent upon the sofa or bed. Examination showed the perinæum partially divided and the cervix fissured with some erosion about the os. The uterus was in position, but the parametrial tenderness was so great as almost to forbid examination. With some difficulty a tube was made out, not larger around than a slate-pencil, but with its distal extremity in the *cul-de-sac*, the bottom of which was thickened and contracted so as to draw upon the cervix and hold it firmly toward the back. The uterus was not freely movable, apparently from this cause. The tissues were of a normal feel anteriorly and upon the other side. From the first, support was aimed at in this case, but for two months all mechanical interference but aggravated the distress, and the treatment was restricted to the prolonged hot douche taken twice a day. During the third month iodine and cotton packing were used. At the commencement of the fourth month a No. 5 air-ring, partially inflated, was inserted. The first day there was a dull ache in the back, but afterward it gave no pain, and was worn constantly for two months. With its help the patient passed through a menstrual period without premonitory disturbances for the first time in years, and was enabled to walk moderate distances without discomfort or fatigue. Examination showed the tube at the side of the uterus in an approximately normal position and the tenderness gone. The patient continued well, and shortly afterward discontinued the constant wearing of the ring.

CASE VI.—A woman, twenty-five years of age, was confined with her first child in June, 1886; had fever, and was quite sick. In November she came to me for menorrhagia. On examination, the uterus was found low and retroverted. The right tube also was sacculated and tensely distended. There was no dislocation of the tube, and no pain. The uterus was supported with an air-ring, and hot injections were used. Several weeks later the patient suffered with chilly sensations for several days, but still had no pelvic pain. The treatment was continued. Considerable leucorrhœal discharge was complained of during this period. In June of the present year the discharge had ceased, the patient menstruated only three days, and felt

perfectly well. She had not worn the ring in several months. Examination showed, in the place of the sacculated, distended tube, a shortened and thickened broad ligament, and deviation of the uterus toward that side. The use of the ring in this case was simply prophylactic, in order to relieve the tension on the diseased part.

In employing the inflated ring the patient removes and replaces it herself, and, where there is no pain when lying, it is left out at night. Used in this way, it never becomes offensive in any way, and even very fastidious women have been found willing to perform the manipulations required. In selecting this pessary, the size should be large enough, so that the front bar shall be depressed by the pubic bone. The back bar then rises to the posterior *cul-de-sac*, and never takes any other position. Partial inflation is, as a rule, preferred. Having inserted it, the patient takes the knee-chest position, when it spontaneously rises to its proper place. The No. 5 is the size most commonly useful, although even the largest size may be sometimes required. In ordering Nos. 5 and 7, it is necessary to specify as to whether the old or the new style is desired.

In examining for salpingitis, I place the patient in the Sims position, and use two fingers, or even the whole hand to the thumb. It must be remembered that the exploration of the pelvis under these circumstances is a much more serious matter for the patient than where the ovaries only are concerned. In one very instructive case the patient, who had been several times utilized for teaching purposes, said to me: "When I first came I had only my blood too often, but now I also have pain." One examination was in this case, out of the usual time, followed by the discharge of clots and expulsive pains. In another case, also, pain and hæmorrhage of a week's duration occurred.

For the detection of enlarged tubes the mucous membrane of the vagina should be moved with the finger backward and forward over the mass just as the skin is moved over a tumor in the palpation of external parts. The object found must be traced to the uterus in order to make the diagnosis sure. The sigmoid flexure is often found contracted so as to closely simulate the sausage-like enlargement of a tube. Again, small scybala in the sigmoid flexure will be mistaken for a nodulated, fimbriated expanse. The sigmoid flexure will of course be found continuous with the rectum, and the scybala can be brought down. But here, too, caution is required, as where the nodules are connected with the tube such manipulations may do harm. Having arrived at a diagnosis, I, as a rule, abstain from further deep manipulations, as superficial examination will afterward detect change in the relation of the parts. I do not use the sound or make intra-uterine applications in such cases.

The routine treatment consists, as a rule, of hot injections every two hours where the tenderness is great. Subsequently, with the daily douche iodine may be applied to the vault of the vagina and glycerin tampons lightly packed against it, and still later an inflated ring may be used. The object of the preparatory treatment is mainly to familiarize the physician with the peculiarities of the case. Until the ring has been inserted, in my experience but little subjective relief is obtained.

To summarize, diseased uterine appendages may be rationally treated by support. This support is best applied by the cotton tampon or the inflated ring. In cases of ovarian hyperæsthesia and prolapse, support relieves suffering and promotes cure. In cases of prolapsed and catarrhal tubes, pain has been diminished, adhesions have been broken up, the tube has returned to a lateral position, and the discharge from it has ceased. Shortening of the broad ligament has followed resolution in several cases. From three to six months is, as a rule, required for the treatment.

344 EAST FORTY-SECOND STREET, August 31, 1887.

AFFECTIONS OF THE CRICO-ARYTENOID ARTICULATION.*

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THE crico-arytenoid articulation, from a mechanical point of view, is a gliding surface which allows of rather than regulates movements. Friction between the cartilages is prevented by the interposition of a bursa mucosa instead of a synovial bursa, as in other joints. It is subject to much the same diseases as joints elsewhere, and, in my experience, is liable to be relatively affected more frequently. In fact, in my investigations, I have found that the crico-arytenoid articulation is prone to take on unhealthy action from comparatively trifling causes.

For several years my attention has been directed to abnormal states of this joint, and has resulted in the gradual accumulation of an amount of clinical material, the publication of a part of which may possibly prove of some practical value.

It does not come within the scope of the present paper to consider at any length affections of the joint arising from constitutional states, such as tuberculosis or syphilis.

In laryngeal phthisis the arytenoid region is frequently the first invaded, and even in favorable cases it is seldom that some impairment of movement does not result. In phthisis, vocal defect is usually attributed to myopathic causes or to tumefaction of the soft parts, whereby the vocal cords are either not properly tensed or poorly approximated. Independently of the destructive changes which the cartilage may undergo in phthisis, I am disposed to think that the altered state of the articular surfaces (the result of prolonged inflammation) plays a not altogether unimportant part. Tubercular deposits undoubtedly take place, and, if absorbed, must leave behind a quantity of calcareous material especially liable to impair articular integrity.

Syphilis frequently, especially when advanced, affects the crico-arytenoid joint and produces a true ankylosis.

The principal affections of the crico-arytenoid articulation to which I shall allude are sprain, dislocation, direct local injury, acute inflammation, and ankylosis.

Sprain may result from the sudden closure of the larynx when, in the act of swallowing, any solid or liquid has

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passed, or threatens to pass, into the laryngeal area. This accident may occur when there is lowered sensibility, as, for example, in the morning on rising. The throat of a person who breathes through the mouth is always dry on awaking, and the sensibility consequently diminished. In such an individual it is not difficult to understand how a combination of circumstances may give rise to sprain.

The action of the larynx is reflex, and, under the conditions alluded to, the muscular movement is sudden and spasmodic.

An unusual strain is thrown upon the muscles and a sprain is the result.

CASE I.—Mrs. A., aged forty-five, consulted me on April 22, 1887, for dysphagia. She is a strong and healthy woman and has not suffered from rheumatism or any constitutional disease. On external examination, digital pressure revealed tenderness over the left arytenoid region. A laryngeal examination showed some redness of the joint and slight swelling. The approximation of the vocal cords is perfect and the voice is not impaired. There is extensive hypertrophic rhinitis, and nasal respiration is proportionately impeded. Six weeks before visiting me, she arose in the morning and took a drink of milk, some of which "went astray." She felt a sudden pain in the region indicated, and has since suffered more or less pain and difficulty in swallowing. She breathes through her mouth at night, and as a consequence finds her throat dry in the morning.

Applications over the arytenoid region of liquor epispasticus and the use of laryngeal sprays of astringent character have reduced the swelling, redness, and sensitiveness of the joint, and swallowing has improved *pari passu*.

Dislocation of the arytenoid cartilage is of extremely rare occurrence. Several instances are reported of dislocations the result of cicatricial contractions, but I am not aware of any as the result of direct violence.

CASE II.—M. G., aged forty, came under observation on June 25, 1883. She complained of inability to swallow solids, and for two months subsisted on milk, milk and soda-water, and the yolk of an egg beaten up with milk. She is of an extremely nervous and fretful disposition, and at first I was inclined to regard her case as of an hysterical nature, and in fact was so indiscreet as to so express myself, to her intense disgust.

She gave the following history: Two months previously her son, a big, strong boy, while indulging in horse-play, undertook to demonstrate an improved method of garroting. He seized her larynx between the thumb and fingers of the right hand, and, not realizing his strength, produced such local injuries as led to the conditions presently to be described. The pain at the moment was severe and continued for some days unabated. Swallowing was difficult, and gradually aggravated. On external examination, tenderness was evinced over the right arytenoid region, the situation occupied by the young gentleman's thumb. There was glandular swelling and pain extending to the right ear, and stiffness of the muscles of the right jaw. The right side of the neck was sufficiently swollen, making all due allowance for excess of development of the right side, to attract attention. With the laryngoscope the right arytenoid was seen to be swollen, and its apex was inclined outward and backward. There was swelling of the pharyngeal wall on the right side. On laryngeal movement, the following points were observed: On full inspiration the right arytenoid cartilage was free from contact with the pharyngeal wall, though the sinus pyriformis was smaller than on the left side. On attempting phonation, the apex of the arytenoid came in contact with the pharynx,

and in moving toward the median line it not only produced a well-marked line of depression on the pharynx, but its point was also bent outward. When nearing the center point of phonation the arytenoid was released suddenly, with a decided and audible clicking sound. There was a perceptible hesitation in the process of phonation, allowing ample opportunity to observe the movement. The different conformation of the sides was apparent.

The voice was unimpaired, though speaking or reading was both fatiguing and painful.

The patient was under my care for four months, during which time gradual improvement occurred.

In this case there certainly was swelling of the pharynx, but there was also displacement of the arytenoid cartilage. As the cords approached in phonation, the cartilage gradually recovered its proper position.

The partial dislocation at one situation and total disappearance at another is not altogether inexplicable if we consider the character of the crico-arytenoid joint and its muscular attachments.

Displacement was probably the result of pressure exerted on the cricoid cartilage, whereby its diameter was somewhat altered.

The treatment consisted in the use of soothing inhalations, hot fomentations, and iodide of potassium. When some improvement had been achieved, laryngeal sprays were employed, as also the liniment of iodide of potassium with soap. The stiffness of the muscles, especially those of the jaw, was treated by a skilled masseuse with success.

CASE III.—W. G., aged fifty, five years ago struck his neck against a clothes-line in the dark. Disease of the cricoid cartilage resulted, and impending suffocation demanded tracheotomy. I assisted a medical friend in the performance of it. The tube is still worn, as occasional inflammatory attacks of the larynx render the precaution necessary.

The left crico-arytenoid joint is dislocated backward and is fixed at a point midway between extreme abduction and the cadaveric position. The vocal cord, which is occasionally visible, is quite motionless on attempted phonation or full inspiration. A rough but useful voice is produced by the right vocal cord, assisted by the ventricular band of the left or impaired side. The left ventricular band may be seen to dispose itself as follows: On attempted phonation, though its anterior and posterior points of attachment do not advance, its free margin is thrown inward, forming a convex belly which meets the vocal cord of the healthy side.

This manner of forming voice is not usual in the case of a ventricular band, though of comparatively frequent occurrence in the compensating action of a vocal cord. A healthy vocal cord may often be observed to protrude itself beyond the median line to meet its fellow, the freedom of whose movements is from some cause or other interfered with. The case serves as an example of dislocation the result of cicatricial adhesions.

Injury of the crico-arytenoid joint the result of traumatism must be comparatively common, though, from the undecided character of the symptoms, it no doubt often escapes detection.

CASE IV.—Miss G. came under my care on October 23, 1886, complaining of difficult deglutition. She was liable to sudden attacks of suffocation caused by the entrance of food into the

larynx. Two years previously, while swallowing an oyster, a portion of shell stuck in the throat. The pain at the time was intense and lasted some days, during which the speaking voice was impaired and swallowing of anything but bland liquids was rendered impossible. The treatment adopted at the time was sedative inhalations. After a week or more the piece of shell was expectorated with some blood after a violent fit of coughing. The throat did not recover completely, and the continuous dread of a recurrence of suffocative paroxysms interfered with her appetite and digestion.

On digital examination, tenderness over the crico-arytenoid region was found to exist, and this was notably increased on pressure. With the laryngoscope the left arytenoid was seen to be larger than the right and somewhat redder. On phonation, the joint did not rotate properly nor glide toward the center. There was a decided comparative difference in the movements of the two joints. Local applications of a twenty-per-cent. solution of lactic acid applied daily gave relief, and a permanent cure after two months' treatment.

Acute inflammation of the crico-arytenoid joint is met with in rheumatic and gouty attacks, in tonsilitis (a disease of rheumatic origin), in measles, scarlet fever, croup, bronchitis, and in many other acute diseases where the air-passage is involved.

It but seldom attains sufficient prominence to call for the attention of an expert, and consequently is not so often recorded as its frequency of occurrence would suggest.

CASE V.—In October, 1886, I was consulted by a professor in the medical faculty of McGill University for dysphonia. On examination, I found the left arytenoid slightly swollen and red. At a line corresponding to the contact of the articular surfaces the color was very much intensified. The joint was fixed at full inspiration, and on attempted phonation, inward movement was barely perceptible. There was also external tenderness over the crico-arytenoid region. Rheumatic inflammation of the crico-arytenoid joint was diagnosed. Further inquiry developed the fact that a week before he had suffered from an attack of acute inflammation of the right wrist and elbow joints.

CASE VI.—On the 16th of March last I made a laryngoscopic examination of Master Frederic D., aged two years. I had seen the child on a former occasion at the request of Professor Ross, of McGill University, but did not make an examination, as the child was suffering from an extensive abscess of the neck, and I decided to postpone any attempt until evacuation had taken place.

During an attack of measles of more than usual severity complete aphonia resulted without the slightest embarrassment of respiration. The aphonia developed many days before there were any signs of inflammation of the tissues of the neck.

On laryngoscopic examination, I found the left arytenoid fixed at full inspiration and completely immovable. There was redness about the joint and external tenderness. The larynx was otherwise free from any abnormal appearances.

CASE VII.—On April 19, 1887, I was called to see Miss H. It appears that until two days previously she enjoyed her usual good health. After dining she was suddenly seized with suffocative paroxysms. The family physician was summoned, and among other means employed expectorants. Slight improvement followed, for at the time of my visit I found on examination marked swelling and oedema of the left arytenoid joint, and the joint was completely fixed near the median line. I ordered a blister externally and steam inhalations. In the course of two days the oedema had entirely disappeared, leaving the joint red, swollen, and still immovable. Chloride of zinc,

used as a laryngeal spray, and the continued use of blisters, produced gradual improvement.

This case was one of acute inflammation of the joint, the result of cold. Beyond the local lesion described, the larynx presented no abnormal conditions. Tenderness still persists on external pressure.

Ankylosis is the affection of the crico-arytenoid joint most commonly met with, and may arise from a great variety of causes. Among the causes may be enumerated chondritis or perichondritis, primary or by extension, syphilis, typhoid fever, rheumatism, gout, the exanthems, and catarrhal conditions of the air-passages due to any cause. In my experience the most common cause of ankylosis is rheumatic or catarrhal inflammation of the joint.

I have met with one case only as a sequence of typhoid fever, in which necrosis of the cricoid had occurred, and have seen it many times as the result of syphilis.

Every possible degree of ankylosis may exist, from barely perceptible impairment of movement to absolute immobility. The size of the joint may also vary from extreme hypertrophy to actual wasting. The influence an ankylosis is capable of exerting in a given case depends upon the degree of ankylosis, the size of the ankylosed joint, and the situation on the cricoid at which ankylosis has taken place.

Of these three features the most important is of course the point at which ankylosis has been accomplished, as it regulates the all-important functions of respiration and phonation, and the symptoms of ankylosis depend much upon this latter condition. The leading symptoms of ankylosis may be laid down as follows:

If the joint is fixed at full expiration or phonation, the leading feature is embarrassed breathing, and inspiration is interfered with proportionately as the fixation takes place toward the above position. There is here little if any interference with voice production. Swallowing is, as a rule, not difficult, yet there may be a feeling as of the presence of a foreign body. Fortunately, ankylosis does not often take place inward, and this is no doubt obviated by the position assumed by the joint during the greater part of the time. There is usually some enlargement of the joint, but there may be actual wasting. Externally there is usually tenderness felt on pressure. On manipulation, there is generally a sensation conveyed to the fingers as of a decided roughness of the articular surfaces, and not uncommonly a distinct sound is detected, which may be either a distinct friction rub or more of an articular gliding character.

When the joint is fixed more at full inspiration, or midway between full inspiration and expiration, the latter naturally the more usual situation, phonation is interfered with, and not inspiration. Leakage of air, however, takes place here, and the patient easily gets out of breath on any violent exercise or exertion; this is of course aggravated as the ankylosis approaches extreme abduction.

Difficulty of swallowing is also here more pronounced, and the danger of foreign bodies entering the larynx is greater. Tenderness is felt on pressure externally, and on manipulation the characteristic friction-sound is obtained.

Ankylosis at full adduction or abduction seldom occurs,

the majority of cases being between the two extremes, and both joints are seldom affected.

It not infrequently happens that the ankylosed joint is smaller than its fellow of the opposite side.

This comparative difference is not necessarily the result of wasting of the tissues about the impaired articulation, but often is due to an hypertrophy of the healthy joint caused by an excess of activity in its work of compensation. This hypertrophy of the joint of the healthy side does not happen if the ankylosed joint is fixed at or near the median line, as then the effort to produce voice is not great, and the amount of work thrown upon the healthy side is proportionately small.

Atrophy of an ankylosed joint may occur as the outcome of want of use, just as happens elsewhere in the body.

The symptoms just now described, especially those relating to respiration and phonation, closely resemble symptoms of paralysis and require to be distinguished.

The differentiation between ankylosis and paralysis is by no means easy, though, generally speaking, quite possible, and is, moreover, a practical point of some importance.

The diagnosis has no important bearing in so far as the present state of the patient is concerned; for what can it matter whether a joint is fixed at any particular point by ankylosis or by paralysis of the muscles?

The prognosis and treatment are certainly very much influenced by the decision of this question.

The history of the case must be considered and all advantage taken of extraneous information. Tenderness on pressure over the crico-arytenoid region, possibly some enlargement of the joint capable of being felt externally, swelling or enlargement as seen by the laryngoscope, the sensation and sound on manipulation—will all assist the diagnosis of ankylosis. The absence of these signs will favor paralysis.

In paralysis we have generally characteristic shapes of the glottis. The general appearance, conformation, and behavior of the larynx when under examination will assist a diagnosis.

Last but not least, difficult deglutition is characteristic of many cases of marked ankylosis; in fact, in all cases of difficult deglutition ankylosis should be looked for.

The treatment of ankylosis is simple, and if persevered with for a sufficient length of time is not unsatisfactory. Frictions of a dilute ointment of biniodide of mercury over the crico-arytenoid region; the local use of astringents or of a weak application of iodine in glycerin; iodide of potassium internally, and galvanism—are all worthy of trial.

Massage, when properly carried out, will also be found useful.

CANCER OF THE LARYNX.*

By H. A. JOHNSON, M. D.,
CHICAGO.

PREVIOUS to the invention of the laryngoscope, cancer of the larynx was recognized only after death or in the last

stages of the disease. The reason for this seems to be found in the fact that, as a rule, the development of the disease in other organs or in neighboring glands either does not occur, or occurs only as one of the later manifestations.

The two cases observed by Morgagni were diagnosed only at the post-mortem. The case of Louis (1837) seems to have been under observation for a long time, but the cancerous nature was only determined at the autopsy. This case was thought by Louis to be the first one of cancer of the larynx reported. The report was incomplete, as were also those of cases noted by Trousseau, Bricheteau, Bouchet, Bart, and others. Krishaber states that the first complete description and report of a case of cancer of the larynx seem to have been published by Gibb in 1864. The paucity of the early literature upon the subject, and the comparatively few cases that up to the present time have been recorded, is the only justification I have to offer for the brief and in many respects unsatisfactory notes of the following cases:

CASE I.—X., aged sixty-five, male, of good habits. No specific taint. In fair health till one year before consultation, when he began to have some trouble with the throat. Soon afterward he noticed that he had pain in swallowing. The secretion of saliva was excessive and annoying. Early in the fall there began to be dyspnoea and dysphonia, and finally complete aphonia, and for this I was asked by his physician to see him. I found the epiglottis and vestibule of the larynx the seat of a somewhat firm growth, the larger part of the mass on the left of the median line. No enlargements of the lymphatics. The growth had so far encroached upon the glottis as to produce constant difficulty of breathing. After a few unsuccessful attempts to reduce the tumor and relieve the dyspnoea by topical measures, I was called in great haste one night and found the dyspnoea so alarming that I at once performed tracheotomy. This gave him complete relief, and he was for some time able to be up. Deglutition, however, was difficult and painful. Death occurred about three months after the operation.

So far as I could learn, there was nothing to suggest a cause for the trouble, and no hereditary taint. From the fact that the initial symptoms were connected with the act of swallowing and that the respiratory functions were modified subsequently, in connection with the excessive mucous secretion, I infer that its origin was extrinsic or mixed, and that in its progress the internal surfaces of the larynx became involved. No post-mortem was made, but, as the tissue was quite firm and as there was no marked hæmorrhagic tendency, I think it was an epithelioma.

CASE II.—X., aged seventy, male. Antecedents good; no cancer in family. Now in feeble health. Dysphagia and marked dyspnoea. I was asked by his physician to see him with reference to the propriety of the operation of tracheotomy. The vestibule of the larynx was filled with a ragged, irregular mass, with only a narrow, tortuous opening, through which a limited amount of air could pass. It seemed to be attached to or to involve more of the left side than the right. There were no manifestations of disease elsewhere. He had suffered much for a long time, and when the question of an operation was suggested to him he quietly asked how long life could be prolonged; and when we said several months he replied: "I hardly feel able to live so long. If it is not wrong, I want to die soon." He de-

* Read before the American Laryngological Association at its ninth annual congress.

clined the operation and died a few days afterward during a paroxysm of dyspnoea. No post-mortem was made.

I have but little doubt as to the origin. It was intrinsic, and probably from the left side above the vocal cord. There had been no hæmorrhages.

CASE III.—K., male, aged sixty-eight. Merchant; no cancer in family. Always in good health till within a year of the time of consultation, when he began to have some irritation of the throat, slight difficulty in swallowing, with cough; soon afterward the voice became hoarse, and when I was asked to see him he was completely aphonic. Examination revealed a somewhat smooth but slightly lobulated mass, springing evidently from the right internal wall above the vocal cords. I could not determine its point of origin more definitely. There was some glottic stenosis, but, as the dyspnoea was not great, efforts were made to reduce the growth by the galvano-cautery. Quite large masses were in this way destroyed, but the reproduction was rapid, and upon the whole no permanent improvement was reached. Deglutition was still fairly well accomplished. After about one month from the commencement of the use of the galvano-cautery the difficulty in breathing became worse, spasms of the respiratory muscles occurred, food and drink passed into the larynx, and on several occasions there seemed to be immediate danger to life. I therefore performed tracheotomy, with relief of all the alarming symptoms. He lived eight months and a few days after the operation. The post-mortem revealed an extensive epithelioma involving the whole of the right half of the larynx, and also the left portion of the supraglottic structures. The microscopic examination left no doubt as to the character of the tumor. The lymphatic glands were not enlarged and were not removed.

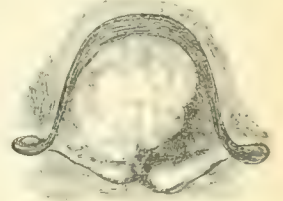
CASE IV.—X., male, aged forty-five, has had for the last two years a swelling in the right side of the neck, lately getting large, and within the last few months he has had difficulty in speaking and quite recently dyspnoea, especially at night. There is excessive secretion of saliva and mucus of the pharynx, and at the time of examination there is behind and including the sterno-mastoid of the right side a tumor, rounded in shape, firm to the feel, not especially tender upon manipulation. It is about two inches and a half in diameter and seems to be deeply seated; not easily movable. There is also a hard, irregular mass of tissue extending from this tumor downward and inward along the side of the larynx. Examination with the laryngoscope reveals a smooth, reddish tumefaction of the right arytenoid, together with the supraglottic structures, upon the same side. This swelling encroaches upon the glottis so as to produce the dyspnoea and dysphonia. There are no chest symptoms or morbid signs. The surface of the growth is not ulcerated, and I think we must conclude that it is not tubercular. The surgeon in attendance diagnosticated the external tumor as cancer. Tracheotomy was advised for the relief of the dyspnoea, but the patient, who was from a distant point, declined unless the whole tumor could be removed. He returned home, and I have been unable to get any further history of the case.

The interest in it consists chiefly in the fact that the malignant disease in the larynx developed after the appearance of the external cancer. This, I think, is extremely rare, and one can hardly understand how it is accomplished except by extension directly. As there was a line of hardened tissue extending from the original tumor downward and inward along the side of the larynx, I presume this must have been the way by which the larynx became involved. I may remark that I could not get from the patient, who

was a very intelligent person, any history of laryngeal trouble prior to the appearance of the external tumor.

CASE V.—F., male, aged fifty-four. Office work. Antecedents good. No family history of lung trouble, but his mother had died of cancer. General health good till about one year before consultation, when he began to have some discomfort in the throat, not marked and hardly enough to attract his attention. For the last few months this has been getting worse. He comes to the city for advice. I find that he has great difficulty in swallowing, can get down only liquid food, and this gets into the larynx; as a result he is very much emaciated and his strength is exhausted. Dyspnoea constant. Inspiration more difficult than expiration, but both labored, especially so at night. A few days ago he had a severe hæmorrhage from the larynx. Secretions of bowels and kidneys not abnormal.

Examination of the larynx reveals a dark reddish mass springing from the right side or wall of the larynx above the glottis; of the precise seat, however, I am not quite sure, and, as the tumor bleeds upon the slightest touch with the probe, I dare not attempt to examine it further. It partly fills the vestibule of the larynx and is fairly represented by the accompanying sketch. As a provisional measure I performed tracheotomy. Indeed, it seemed to me that there was danger of his dying at almost any time from the difficulty of breathing. There has been a constant tendency to hæmorrhage, but nothing alarming occurred while under observation. His general health improved, he swallowed better, had a fair appetite, slept comfortably, and after a few weeks returned to his home in a distant State. The question of partial extirpation of the larynx was considered, and when he left, it was with the understanding that in a few weeks he would return for re-examination. Soon after he reached home, however, the hæmorrhages became frequent and copious, and there began to develop swelling and tenderness in the lymphatics along the right side of the neck; none on the left side. In about three months he did return. I found the lymphatics as stated above. The growth evidently involved more of the structure of the larynx. The secretions of mucus were more copious. He had lost his appetite, but swallowed fairly well; breathed easily through the cannula, did not suffer much pain, slept fairly well, and desired to have the whole tumor removed. It seemed to me that the evident complications of the ganglia justified the conclusion that the system was already infected, and I advised a further postponement of an operation. Dr. Ingals, who saw the patient with me, concurred in that opinion. He returned home and rapidly declined, and died about six weeks after the last consultation, and a little more than five months after the tracheotomy. No post-mortem was made, and I am only able to conjecture that the tumor was an encephaloid, and mainly from the fact that it seemed to be so soft and easily broken.



In conclusion, I beg to call attention to the facts:

1. That all of the five patients were males, the youngest forty-five years old.
2. That of the five cases, the growth was evidently from the right side in three cases, from the left side in one case, and in the remaining case probably from the left side.
3. That in only one case was there a history of cancer in the family, in the mother of the patient (Case V).

4. That in one case the disease seemed to be secondary or an extension of an external cancer.
5. That in one case only was there any evidence of infection of the lymphatics from the larynx.
6. That in only one case was there any troublesome hæmorrhage.
7. That in none was there marked pain in the larynx.
8. That in three cases tracheotomy was performed, and the patients' lives were prolonged apparently three, five, and eight months respectively.

NOTE ON A

FREQUENT CAUSE OF NASAL HÆMORRHAGE.*

BY BEVERLEY ROBINSON, M. D.

EVERY general practitioner and every specialist meets with cases of epistaxis. Some of these are insignificant so far as prognosis is concerned. They may cause temporary annoyance to the individual, but frequently, when the bleeding is stopped, the patient suffers no ill effects from the loss of blood. Indeed, I have occasionally known young or plethoric persons to have headache relieved by free, spontaneous bleeding from the nose, and to feel more buoyant subsequent to its occurrence.

In general practice, as a sequela of fevers—notably of typhoid, measles, diphtheria—in chronic cardiac affections of different types, in Bright's disease of the kidneys, and in some other diseases that I could mention, profuse nasal hæmorrhage may occur, and at times is serious on account of its weakening effect and its difficulty of arrest.

Such, however, are not the cases of abundant epistaxis that, as specialists, we are likely to encounter. In the majority of instances in which patients consult me, either at my office or at my throat clinic, as to the cause and treatment of recurrent epistaxis, a more or less advanced stage of atrophic rhinitis is evident.

Usually the disease is known to have existed during several years when I am called upon to treat it, and attacks of epistaxis have become so frequent or so profuse as to occasion considerable anxiety. When the history of these patients is carefully taken, it is found that at first the nose-bleed was not very abundant or often repeated, and was easily arrested. Then, when ordinary household remedies failed to check it, the family physician was called in and different treatment was employed. An examination of the nose with suitable light and instruments was then occasionally † made, and, when finished, nasal catarrh was stated to exist. Thereupon the nasal douche, or the repeated employment of some medicated powder or salve, was ordered. This treatment usually proves unsuccessful, and after pursuing it for some time the patient finally consults a specialist.

Sometimes the attack of epistaxis is suddenly and alarmingly profuse, either in the beginning or at a later stage of

the disease causing it, and plugging the nose is resorted to in the hope of arresting it. One or two posterior plugs are introduced behind the soft palate by means of Bellocq's cannula or an ordinary catheter, carrying a small cord, to which the lint or sponge is attached.

Frequently the nasal fossæ are filled anteriorly with one of these substances, previously immersed in subsulphate of iron. Anterior plugging in the manner described often allows continuous and even abundant oozing alongside the nasal plug.

Posterior and anterior plugging at the same time almost always stop bleeding for the while, but when the plugs are withdrawn after twenty-four to forty-eight hours, it may or may not begin afresh. Examination of these cases after the plugs are removed and the nose thoroughly cleansed usually reveals the probable cause of nasal hæmorrhage in the existence of an erosion of the mucous membrane covering the cartilaginous nasal septum. The loss of tissue is variable as regards extent and depth. Sometimes it is small and superficial. Occasionally it involves a considerable area, or has penetrated the cartilage itself. Under these circumstances ulceration seems a more applicable term for the condition presented than erosion. If bleeding has occurred shortly before the patient is seen, and no covering has been formed by the introduction of some foreign substance of styptic nature, the erosion is bare and exposed, with the exception, perhaps, of a small amount of inspissated blood-clot which partially conceals it. If, however, bleeding has not occurred for several days, and in many instances when a particular point of the eroded surface occasions the hæmorrhage, the larger portion of the erosion is covered with an adherent crust which, if forcibly detached, occasions an immediate recurrence of epistaxis. Now and then I have seen the eroded surface as a mere point in extent, and yet the resultant hæmorrhages have been very considerable. This is true whenever the eroded point is seated directly over an arterial twig upon the septum, and by its corroding action has perforated into and through the arterial wall. The site of this perforation is usually about three quarters of an inch behind the nares, very near the junction of the cartilaginous and bony septum, and at a quarter to one third of an inch above the floor of the nasal fossæ. On one occasion I have had an opportunity to treat a case of profuse epistaxis occurring in a young lady in whom there was no erosion of surface at all, and no local cause whatever of recurrent hæmorrhage from the nose, except the extreme thinness of the pituitary membrane and the abnormal tenuity of the vascular walls. In this case it was presumable for a time that the epistaxes were *vicarious*, and, as later events proved, they were so, at least in part. But that they were not wholly so was proved by their continuance after menstruation, owing to the operative procedure on the uterus, had become tolerably normal. There was nothing in the general condition of the patient satisfactorily to account for the recurrent nasal hæmorrhages, and finally I was obliged to consider them as entirely due to atrophy of the nasal mucous membrane. As a general means for arresting these hæmorrhages when they occur, and also for the purpose of modifying in a continuous man-

* Read before the American Laryngological Association at its ninth annual congress.

† Often only the most imperfect examination (or none at all) is attempted.

ner the vascular supply of the diseased nasal membrane, I now rely upon the internal use of a combination of fluid extract of ergot, with tincture of digitalis. The preparations of these two drugs made use of by me are two to four parts of the former to one part of the latter, and of this mixture I give ten to twenty drops every few hours during several days when I wish to prevent the return of epistaxis; every ten to fifteen minutes, or in one or two large doses immediately, during the continuance of nasal hæmorrhage. I have also had evident good results from antipyrine in capsules, in doses of five, ten, or fifteen grains. Locally, to arrest nasal hæmorrhage, I rely somewhat upon hot water, which, however, often fails me, and principally upon plugging anteriorly one or both nasal passages with strips of sheet-spunk.*

When packed thoroughly in the nose, this substance forms an almost insurmountable barrier to nasal hæmorrhage, and it is only in very rare instances that we shall be called upon to introduce a posterior nasal plug.

In order to perform this operation with the least difficulty, I know of no instrument, particularly in children, quite equal to Steele's pliable probe. It is more serviceable than any ordinary catheter, or than Bosworth's or Bellocq's cannula. It is small enough to go through almost any nasal passage, no matter how impervious; it is sufficiently resistant to take and preserve the curve best adapted to the size and conformation of the parts alongside which it passes. In regard to curative local treatment the following plan has proved, in my experience, most successful: 1. Abandonment of every kind of douche or spray, as a rule, to loosen adherent crusts, if they are present. 2. Reliance for this purpose on the topical use of different kinds of ointments, which, in the course of a few days, soften and imbibe the crusts to that degree that they become readily detached by a moderate effort of blowing the nose. The ointment I favor the use of *most* in the beginning of treatment is the white precipitate ointment made with vaseline of full or half the pharmacopœia strength.† This ointment is applied three times daily, either with a camel's-hair brush or simply with the index-finger, and then sniffed into the nasal passages sufficiently to cover over the entire diseased surface.

After the crusts are removed, I make occasional applications of strong solutions of sulphate of copper, nitrate of silver, or (preferably) of compound tincture of iodine, to the seat of the erosion. Usually the very simple treatment advised, when persisted in, will bring about a complete cure in one or two months of the erosion and of the epistaxis. The original disease, as we all know, is one of the most obstinate which, as specialists, we are called to treat. I trust the apparent triviality of my subject will not

* Spunk is the product of a species of a genus of mushrooms denominated *Boletus*. It is known by botanists as the *Boletus igniarius*, or agaric of the oak, and usually rests immediately upon the bark of the tree. It was formerly much used by surgeons for arresting hæmorrhage, and probably acts mechanically. It is in flat pieces, of a consistency somewhat like that of very soft buckskin leather, and of a brownish-yellow color ("U. S. Dispensatory," thirteenth ed., pp. 1524, 1525).

† This is forty grains to the ounce.

hide its real interest and importance. To make this fact manifest, I would merely add that until I adopted the treatment outlined in the foregoing remarks I was frequently baffled in my successful care of patients thus affected, although I followed closely the indications ordinarily insisted upon by writers on atrophic rhinitis. Particularly would I refer in this connection to the injurious effects of the galvano-cautery, which I have known to render a slight affection lasting and very troublesome, by producing raw surfaces very difficult to heal in the subjects of this special form of nasal disease.

In conclusion, I desire to say that, although the subject of my brief remarks is mentioned here and there in laryngological literature in a casual way, Dr. G. M. Lefferts is the only person, so far as I know, who has attempted to give an accurate and complete description of it. To this I refer my hearers in the Philadelphia "Medical News," vol. xl, 1882, p. 100.

A CASE OF RECURRING HÆMORRHAGE OF THE VOCAL CORD.*

By C. E. BEAN, M. D.,

ST. PAUL, MINN.

As I have been able to find so little recorded on the subject of hæmorrhage of the vocal cord, I have deemed the following case worthy of mention:

Mr. A., tobacco merchant, consulted me in the latter part of May, 1884, for the relief of a nose and throat complication of several years' duration. Examination of the parts revealed a hypertrophic rhinitis, follicular pharyngitis, and superficial inflammation of both vocal cords.

He was under my treatment at that time for three months, when he was discharged as entirely relieved.

In July, 1885, he again consulted me for a sudden hoarseness, following a violent paroxysm of coughing. Both vocal cords were inflamed, the right one appearing much the worse. He was under treatment at this time for only a week, when he had to leave the city. On his return, in two weeks, I found both vocal cords perfectly normal in appearance, and all his hoarseness had disappeared.

In September of the same year he again visited me, complaining of the same thing, stating that for two or three days he had had to use his voice more than usual, and the day before seeing me there had been a great deal of dust where he had been working, this causing almost constant coughing. There was no pain in the throat, the voice more husky than hoarse, and a constant inclination to clear his throat of some foreign material.

Upon examining his larynx, I found the left vocal cord in a normal condition; the right one was swollen, and of a dark-red color. Remembering a case I had seen under Dr. Cohen's care, I concluded this was a hæmorrhage of the vocal cord.

I applied, by means of a cotton carrier, a solution of nitrate of silver (gr. xxx lx to $\frac{3}{4}$ j), varying it with a spray of sulphate of zinc (gr. lx to $\frac{3}{4}$ j), but it apparently was of no benefit, and it was the 1st of November, nearly two months after I saw him, before the cord was normal in appearance, although it had been reduced to its natural size.

On the 1st of February, 1886, he again applied to me for

* Read before the American Laryngological Association at its ninth annual congress.

the relief of the same difficulty, following violent coughing. The left vocal cord was normal in appearance; the right one was almost black and swollen. I again used a spray of sulphate of zinc (gr. xl lx to $\frac{5}{16}$), applied three times a week, and the vocal cord cleared to its normal color the middle of March.

I saw him no more until the 18th of August, when all the old symptoms had suddenly reappeared. The right cord was of a dull-red color; but on phonation the glistening membrane could be seen above the discoloration. I made no application at this time, but directed him to use his voice as little as possible, and gave him internally extract of ergot, in half-grain doses, three times a day. I examined the larynx once or twice a week. In about three weeks the cord had entirely cleared. Since that time he has been taking extract of ergot at intervals, and, by being careful in the use of his voice, has had no recurrence of the complication.

The suddenness of the attacks—coming on only after violent coughing caused by the inhalation of irritant substances—the absence of all pain during the attack, the limitation to one vocal cord, and the peculiar color of the part affected, seem to me to leave no doubt as to the diagnosis. I examined his lungs repeatedly, but could find no lesion there. During the last year he has gained in flesh and strength, and at this writing his larynx is entirely free from any appearance of his former trouble.

Correspondence.

LETTER FROM PARIS.

New Developments in Hypnotism.—Antipyrine in the Treatment of Painful Affections.

PARIS, September 8, 1887.

HYPNOTISM has already formed the subject of some of my letters, and the doings of Professor Charcot's school are certainly curious, but the late communication of M. J. Luys to the *Académie de médecine* on the experimental solicitation of emotional phenomena in patients while in the hypnotic state is so very extraordinary that I can not pass it by. M. Luys is well known as having studied localization in the brain, and for his works on nervous diseases. He says that his present experiments were undertaken to confirm those made by M. Bureau and M. Bourn, and presented by them to the scientific congress held at Grenoble in 1885. In a few words, the experiments relate to the action of certain substances purely physical in character, and yet having a decided effect on the emotions of these subjects while in the hypnotic state. This seems to vary according to the susceptibility of the person or the different substances employed. They appear to be simply placed in a tube, and this is held against certain parts of the body. Exact details of the mode of operating will be given hereafter, as the Academy has named a commission of five members to examine into the matter and report upon it. The following are some of the statements made by M. Luys: The physical action of certain substances, such as strychnine, thyme, sparteine, morphine, atropine, and spirits, such as cognac, rum, etc., at a distance is certain. Many different patients were experimented upon, and, as they were entirely ignorant of what sort of substance was being applied to them, there could be no deception on their part. Moreover, nothing is said to the patients, as the substance is silently applied to the part. Instantaneous photographs of the effects produced were taken, copies of which were passed

around to show the different emotional phases that the subjects passed through while under the influence of the physical action of the drugs mentioned. It would appear, for instance, that under sparteine the inspiratory muscles go into a convulsion and the whole region of the neck gets hard, while the patient becomes incapable of speaking. Morphine acts differently according to the tube holding it is placed on the right or left side; for instance, placed on the left side of the back part of the neck, it brings about at once an expression of terror, which changes to violent anger if the action is prolonged. If, however, the same tube is placed just back of the right ear, the whole scene changes and the subject passes at once into a languid state and drops into the chair with the soft expression seen on the faces of patients who have taken an internal dose of morphine.

Atropine seems to have an action that causes an extreme state of weakness. The patient remains seated with his face long drawn out and his eyes vague and fixed. If its action is prolonged, the whole body gets stiff and the subject falls into true opisthotonos. Cognac, rum, and champagne used in the same physical form are said to produce the same stages of intoxication as when taken in the usual way. Drunkenness comes on in eight or ten minutes, passing rapidly from the first slight excitation into complete resolution and inability to stand upright. The dose used in these last cases was 20 grammes [5 drachms] of cognac in the tube, and the process of getting sober again passed through the same phases that are usually observed, and took only the same eight or ten minutes. Some eighty-six substances were experimented with in all.

Antipyrine has been all the rage this last year with Professor Germain Sée. He again comes forward to tell of its good effects in headache, migraine, and facial neuralgia, which seem to be incontestable, but most of these results are obtained by hypodermic injections of the drug, and, as they very often give rise to local manifestations that are very annoying to say the least, it may be well to give the means used in Dr. Sée's service to prevent them. The local inflammation and pain are often quite intense, although they soon pass away, but the swelling produced by the liquid introduced very often remains and often frightens patients so that they will not submit to the injection. M. G. Beaudoin, an interne at the Hôtel Dieu, gives the means used there to prevent these bad effects.

First of all, the needle must be introduced *deep* into the tissues, and the injection should be introduced *very slowly*, so that the liquid will pass into the tissues progressively and regularly. In order to facilitate its diffusion, the ends of the fingers of one hand should perform a slight massage at the point of penetration of the needle. It would also be well to give several small injections at different points slightly removed, if the patient is not too sensitive to the prick of the needle. Part of the pain felt is due to the concentration of the remedy, so that it is best to use diluted solutions, 25 centigrammes [about $\frac{4}{10}$ grains] of antipyrine to each cubic centimetre of liquid.

But there are some cases that call for a more rapid action, and a gramme [about 15 grains] of antipyrine must be used at once. Here it is of advantage to use cocaine to act locally on the tissues injected. The following is the formula used:

Antipyrine, { each 1 gramme [about 15 grains];
Water, {
Cocaine hydrochloride . . . 0.015 gramme [about $\frac{1}{10}$ grain].

For those who are extremely sensitive to pain, the dose of the cocaine can be increased to 0.020 gramme [about $\frac{3}{10}$ grain]. The results in facial neuralgias, tic douloureux, etc., have been wonderful. In these last cases 5 grammes [about 75 grains] daily were given internally together with the use of the hypodermic injections.

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THE VAGARIES OF HYPNOTISM.

HYPNOTISM—using the term in the broad sense in which it is current—seems to be making greater and greater demands upon our credulity and threatening to play havoc with some of our most settled and apparently best founded notions of personal responsibility, the relation between cause and effect, and the like. Spiritualistic tricks grow tame and commonplace when we think of the manifestations of the occult power on which it may be supposed to depend. That aspect or phase of it which is known as “suggestion” was startling enough, notwithstanding the striking likeness it bore to the mesmerism of old, but it tallied with a popular tradition so prevalent that few men can wholly free themselves from it, and of which it would be rash to say that it had absolutely no foundation in truth. In view, also, of the diverse activities called into play in connection with the common events of life by the action of electricity and magnetism, it was not felt to be a matter of extraordinary difficulty to credit the alleged effects of bits of metal of one kind and another applied to the body, or even those of wood and other substances not before regarded as capable of generating a galvanic or magnetic current. But what is to be thought of the astounding manifestations that are said to have taken place in the course of M. Luys’s investigations, an outline of which is given in the Paris letter that we publish in this issue? According to the account, various drugs are capable of exerting a profound action on the system under circumstances which seem to make it impossible that they should act in any manner known to us or readily imaginable. That the phenomena of drunkenness should come on within ten minutes after a tube containing a little more than half an ounce of brandy has been placed in contact with some part of the body seems inexpressibly difficult to believe. No less astonishing are the results said to have followed the similar application of atropine and certain other drugs. Pending the report of the committee appointed by the French Academy of Medicine to investigate these matters, we must reserve our judgment, hard as it may be to do so.

But there is another aspect than that of their credibility that these experiments in hypnotism inevitably present to the practical mind, and that is the question of their utility. We lately gave our readers an account of a case in which a parturient woman was successfully anesthetized by means of hypnotism, but in that instance the accomplishment of anesthesia was not altogether perfect, and, such as it was, it was brought about and maintained only by efforts which most practitioners of medicine would hardly care to resort to. Still, the case was about the only example we remember in which hypnotism has

been found to answer a good practical purpose. But all knowledge is said to be valuable, and it is possible that the light of such investigations as are concerned with hypnotism may enable us to explain facts that have hitherto appeared mysterious. For example, when a fellow-citizen conducts himself in an undesirable or injurious manner, we may find ourselves relieved of the disagreeable necessity of imputing his course to original sin, and be able to account for it by the fact that the disturbing influence of a bottle of spirit carried in his right-hand coat-pocket was too much for his natural goodness. We may also find it easier to solve the question of why the presence of “the Great Panjandrum himself with the little brass button on top” was so dwelt upon in the account of the festivities that were indulged in on the occasion when a certain woman “very incontinently married the barber.”

MINOR PARAGRAPHS.

AN IMPOSITION ON THE NINTH INTERNATIONAL MEDICAL CONGRESS.

IN recent issues of a New York newspaper we have noticed advertisements purporting to give the text of two papers read at the recent meeting of the International Medical Congress. This is not only a plain violation of the implied (if not expressed) contract by which all papers read at the sessions became the exclusive property of the congress, but it is a shameful prostitution of the prestige of a body representing the medical profession of the world to the purposes of trade. The advertisers are not to be blamed, for from their point of view the thing is justifiable enough, and we can not suppose that the authors of the papers prepared them with a view to any such use being made of them; but the result is, nevertheless, that the public will take it for granted that the congress “indorsed” the wares thus advertised—a position which that body certainly never intended to assume.

INSPISSATION OF THE LIQUOR AMNII.

IN a recent number of the “*Centralblatt für Gynäkologie*,” Dr. Lomer, of Hamburg, gives a minute description of a “dry labor” at which he officiated last year. He is positive that, from first to last, there was no escape of liquor amnii, but he says that after the expulsion of the child about a cupful of thick, stringy, gray material came away—the inspissated liquor amnii, he thinks. The child, although fully developed, was in a decided state of immaturation, and lived only nine months. The author quotes from accounts of two similar cases, one of which was published by the late Dr. Lente, of New York. He thinks that they might be oftener observed if it had not become customary to account for an apparent absence of the amniotic liquid by assuming that it had escaped unobserved. Although he can not fully substantiate Ott’s theory that the liquor amnii has for its function the conveyance of nutriment to the fetus, while the umbilical cord carries its breath, so to speak, he yet believes that the liquor amnii in some way and to some extent serves the purpose of nutrition.

GUMMY TUMORS OF THE BREAST

IN a recent Paris thesis on “*Syphilis of the Mammary Gland*,” an abstract of which we find in the “*Gazette médicale de Paris*,” the author, M. Claude, speaks of the circumscribed

gumma as a pathological rarity which comes on insidiously, without prodromes and without pain, so that its existence is commonly discovered by pure chance. It is hard, globular, movable upon the parts beneath, and covered by normal integument. Unless treatment is employed to prevent it, it soon softens and breaks down, giving issue to a thick, brownish-purulent liquid. Antisyphilitic treatment is the touchstone in the diagnosis.

THE DISSEMINATION OF THE TUBERCULOUS CONTAGIUM

"LYON MÉDICAL" gives an interesting summary of a communication lately made to the Lyons Academy of Sciences by M. Galtier, a professor in the Lyons Veterinary School, that touches upon facts of the utmost importance to the public health. The author has found by experiment that the tuberculous virus is so tenacious of life that it survives immersion in water, desiccation, and freezing, and he properly calls attention to the dangers that must attend upon the neglect to disinfect the excreta of tuberculous animals, including the transmission of tuberculosis to man.

THE CITY SANITARY INSPECTORS.

We are glad to see that, as is specifically recorded elsewhere in this issue, the City Board of Health has decided to grade its sanitary inspectors, and to provide for a progressive increase of pay proportioned to the duration and efficiency of their service. We are confident that this course will lead to the retention of many competent and experienced officers who would otherwise stay but a short time in the service.

ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Fourth Division of the Health Department for the following statement of cases and deaths reported during the two weeks ending September 20, 1887:

DISEASES.	Week ending Sept. 13		Week ending Sept. 20.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever.....	47	7	52	12
Scarlet fever.....	36	9	23	3
Cerebro-spinal meningitis....	3	3	2	2
Measles.....	9	1	5	1
Diphtheria.....	81	26	70	29
Small-pox.....	4	1	4	2

The Health of New York City.—During the four weeks ending Tuesday, September 20th, the following numbers of cases and deaths from infectious diseases were reported to the Sanitary Bureau of the Fourth Division of the Health Department: Typhoid fever, 175 cases and 35 deaths; scarlet fever, 123 cases and 24 deaths; cerebro-spinal meningitis, 12 cases and 11 deaths; measles, 32 cases and 4 deaths; diphtheria, 276 cases and 97 deaths; small-pox, 16 cases and 4 deaths.

The Health of Boston.—During the week ending Saturday, September 17th, the following numbers of cases and deaths from infectious diseases were reported to the Board of Health: Diphtheria, 19 cases and 6 deaths; scarlet fever, 27 cases and 4 deaths; typhoid fever, 32 cases and 9 deaths. There were also 19 deaths from consumption, 8 from pneumonia, 7 from whooping-cough, 13 from heart disease, 4 from bronchitis, and 5 from marasmus. The total number of deaths was 182, against 189 in the corresponding week last year.

The New York Polyclinic.—The sixth annual session of the Polyclinic was opened on Monday, the 19th inst. We learn that the number of practitioners in attendance during last year's

session was 301. Since the close of that session two large lecture-rooms have been added, and a laboratory for the study of bacteriology has been thoroughly equipped. We are pleased to note these evidences of the school's prosperity.

The Albany Medical College.—The introductory lecture of the course was delivered by Dr. Henry Hun on Tuesday, the 20th inst.

An American Practitioner in Paris.—Dr. Alexander S. Clarke, formerly of Brooklyn, where for several years he was an esteemed member of the profession, announces that he has taken up his residence in Paris, at No. 4, Boulevard Malesherbes, for the practice of medicine.

The Wines furnished at the Pension-Building Dinner.—The report having been circulated that only domestic wines were furnished on the occasion of the dinner given in the Pension Building during the recent session of the International Medical Congress, the idea being that cheap wines were provided for the sake of economy, the chairman of the committee of arrangements, Dr. A. Y. P. Garnett, of Washington, who is also the president of the American Medical Association, has made the following statement, which we find over his signature in the "Washington Critic":

"This certifies that the 'grand sec, Jules Mumm & Co.,' wine was served at the banquet given to the members of the International Medical Congress in Washington, and that it was pronounced by both foreign and American members extra-fine in quality and flavor, and in our judgment it has no equal."

Dr. Morell Mackenzie.—The "Lancet" states that Queen Victoria has conferred the honor of knighthood on Dr. Mackenzie, in recognition of his services in the case of the Crown Prince of Germany.

The Sulphur Treatment of Phthisis.—M. Dujardin-Beaumetz, the well-known physician to the Cochin Hospital in Paris, while not a member of the teaching faculty of medicine, gives a number of interesting free lectures at the hospital on therapeutical novelties. He lately took up the subject of getting sulphur introduced into the system in cases of phthisis, which is now much thought of since Bergeon's method was introduced. Vaseline oil was first used, as M. Villi had established that at 13° C. [55.4° F.] 100 grammes [about 3½ oz.] of this oil would dissolve 60 centigrammes [about 9 grains] of anhydrous sulphurous acid. A subcutaneous injection of such a mixture is well borne by the cellular tissues, and under the influence of injections of from two to three cubic centimetres the patients had less cough and expectoration and slept better. Direct inhalations of sulphurous acid were first used at the Cherbourg Military Hospital; 20 grammes [about 300 grains] of sulphur to the cubic metre of space were burned, and after twelve hours the patients were put into the room and kept there nine hours. In a short time, under the influence of this treatment, the bacillus disappeared from the sputa. Dr. Dujardin-Beaumetz used this plan, and burned 250 grammes [about 4,000 grains] of sulphur in an inhalation-room that was perfectly closed and measured 25 cubic metres. In an hour the patients were brought in and allowed to stay four hours. The results were wonderful, for the cough was diminished, sleep was better, and the expectoration was no longer purulent. In one instance hæmoptysis stopped. M. Ernest Labbé calls attention to the fact that Pliny said that doctors in his time used to send their phthisical patients to breathe the emanations from the volcanoes. Without doubt these were complex in character, but still they consisted mostly of sulphurous-acid gas, so that once more modern therapeutists are confirming the facts known to ancient empirics.

The late Dr. Alonzo Clark.—At a special meeting of the medical board of Bellevue Hospital, held September 19, 1887, the following minute was adopted:

The medical board of Bellevue Hospital desires to express its deep sense of the loss it has sustained, in common with the medical profession of this country, by the death of its honored associate, Dr. Alonzo Clark. For a third of a century he has been closely identified with the interests of this institution as a skillful and kind physician to its patients, a wise instructor of its successive house staffs and clinical classes, a consulting physician of large experience, profound learning, and sound judgment, and for many years as president of its medical board.

Dr. Clark possessed in a marked degree the qualities that belong to a physician of the highest type. He was a man of unusually impressive and dignified presence, with a manner of mingled firmness and gentleness that commanded the respect and won the confidence of all with whom he came in contact. He was an acute observer and an accurate diagnostician, and, though he was conservative in therapeutics, his conservatism was equally removed from obstinate adherence to old methods and rash experimentation with new ones. A life-time student, he kept at the level of the best thought of his profession, but at the same time he was an acknowledged leader, and by his teachings and writings did much to elevate the standard of medical science in this country.

But to those who knew the personal character of the man, its simplicity, solidity, and symmetrical development, how incomplete a conception of him is given by a mere enumeration of his intellectual qualities, good as these unquestionably were! Nature not only built him on a large scale, but she left out of his composition most of the foibles which so often lessen our respect for and impair the usefulness of those whom the world regards as great men. No trait was more notable in him than his remarkable self-control. Nothing appeared to disturb his equilibrium, not because he was impassive, but because the foundation of his mental structure was laid too deep to be easily shaken. He was eminently a kindly man, charitable in his judgments of others, liberal in his benefactions, but so unostentatiously that none but his most intimate friends, and probably not even they, knew their frequency and extent, and, as some of us can testify, he was a true friend in time of sorrow.

His mortal life ended with a long and distressing illness, but he bore it with a brave and uncomplaining spirit. To the profession he loved and honored he has left the fruit of his labors and the memory of a great and noble character.

[Signed.]

A. B. BALL, M. D.,
AUSTIN FLINT, M. D.,
W. H. THOMSON, M. D.,
C. L. DANA, M. D.

At a special meeting of the Board of Trustees of the College of Physicians and Surgeons, held on the twentieth day of September, 1887, the following resolutions were passed:

Whereas, We have been called upon to deplore the death of our late associate, Dr. Alonzo Clark, a former president of the College of Physicians and Surgeons, and for more than thirty years a distinguished professor in the institution; therefore,

Resolved, That we hereby record our eminent regard for the dignity and influence of Dr. Clark's personal character and our high appreciation of his attainments and distinction as a teacher.

Resolved, That the College of Physicians and Surgeons is largely indebted to Dr. Clark, as one of the most learned and skillful physicians of his time, for its high reputation as a school of medicine; and that it is both appropriate and gratifying for

us, as trustees of the institution, to express our sense of the obligation. Also

Resolved, That we offer to the family of the deceased the assurance of our respectful sympathy in their deep affliction.

Resolved, That the foregoing resolutions be inscribed upon our minutes; that a copy of them, signed by the president and registrar, be transmitted to the family of the deceased; and that they be furnished for publication to such medical journals as the registrar may elect.

Naval Intelligence.—*Official List of Changes in the Medical Corps of the United States Navy for the week ending September 17, 1887:*

ASHBRIDGE, RICHARD, Passed Assistant Surgeon. Detached from Constellation and ordered to the Naval Academy, Annapolis, Md.

AYERS, JOSEPH G., Surgeon. Detached from Torpedo Station and to wait orders.

WISE, JOHN C., Surgeon. Ordered to relieve Surgeon Ayers at Torpedo Station.

COTES, SAMUEL T., Medical Director. Detached from hospital, Chelsea, Mass., and placed on retired list. September 17th.

BRADLEY, GEORGE P., Surgeon. Leave of absence extended six months, with permission to remain abroad.

Society Meetings for the Coming Week:

MONDAY, *September 26th*: Medical Society of the County of New York; Boston Society for Medical Improvement; Lawrence, Mass., Medical Club (private); Cambridge, Mass., Society for Medical Improvement.

TUESDAY, *September 27th*: New York State Medical Association (first day—New York); New York Dermatological Society (private); New York Academy of Medicine (Section in Laryngology and Rhinology); Buffalo, N. Y., Obstetrical Society (private); Medical Society of the County of Lewis, N. Y. (quarterly); Boston Society of Medical Sciences (private).

WEDNESDAY, *September 28th*: New York State Medical Association (second day); New York Pathological Society; American Microscopical Society of the City of New York; Medical Society of the County of Albany, N. Y.; Philadelphia County Medical Society; Auburn, N. Y., City Medical Association; Berkshire, Mass., District Medical Society.

THURSDAY, *September 29th*: New York State Medical Association (third day); Cumberland, Me., County Medical Society (Portland); New London, Conn., County Medical Society (extra, New London).

SATURDAY, *October 1st*: Clinical Society of the New York Post-graduate Medical School and Hospital; Manhattan Medical and Surgical Society (private); Miller's River, Mass. Medical Society.

Letters to the Editor.

DO THE OVARIES CONTROL UTERO-GESTATION?

DAYTON, KY., *September 9, 1887.*

To the Editor of the New York Medical Journal:

SIR: For the last seventeen years I have been studying the physiology of the female generative organs, and have from time to time given to the profession my investigations, principally through the columns of the "Cincinnati Medical News," but during all these years this enigma has to my mind remained unsolved. All physiologists admit that the ovaries are essential to pregnancy. Why? Because it has been proved to be true;

but the question, Do the ovaries control utero-gestation? has, I believe, never been settled, although plausible reasons can be given affirmatively and also negatively. In reading an article by Dr. Paul F. Mundé, in the "New York Medical Journal" of August 6th, I found what I had been in search of, namely, a double ovariectomy skillfully performed during pregnancy. Accordingly I wrote the following letter to the doctor, and received his courteous reply, in which he requested me to send both letters to the editor of the "New York Medical Journal" for publication, his letter taking one side of the question and mine the other side.

JAMES BARNSFATHER.

[Dr. Barnsfather to Dr. Mundé.]

August 28, 1887.

DR. PAUL F. MUNDÉ.

MY DEAR SIR: Excuse the liberty I have taken in writing you, but, after reading your article in the "New York Medical Journal" of August 6th, I could not resist the temptation of asking you a question that arose in my mind while studying your third case, viz., "double ovariectomy." You state that "on the third day uterine contractions set in in spite of the hypodermics of morphine which had been given at intervals since the operation to keep the uterus quiet, and on the fourth day I was [you were] suddenly called to find the whole intact ovum escaping from the vulva."

What I wished to ask you was, Have you ever known of a woman carrying her fetus till term *after she had had a double ovariectomy performed upon her?* With one ovary left, I can understand that utero-gestation may be uninterrupted, but, when both are gone, I see nothing left but the expulsion of the contents of the uterus. Please give me your experience, and you might also place the question before the New York Obstetrical Society.

I am, my dear sir, very respectfully,

JAMES BARNSFATHER.

[Dr. Mundé to Dr. Barnsfather.]

September 2, 1887.

DR. JAMES BARNSFATHER.

DEAR DOCTOR: Your letter of 28th ult., which reached me here [in the Adirondacks] just before my return to the city, contains an inquiry to which I find no answer in the literature at my disposal. I have just looked over Olshausen's work on "Ovarian Tumors," probably the most comprehensive recent book on the subject, and nowhere do I find the question of removal of both diseased ovaries during pregnancy referred to. He gives 20 per cent. as the proportion of cases in which pregnancy was interrupted by the operation, but does not state whether one ovary or both ovaries were removed. The inference is that only one ovary was diseased and removed. Certainly, as I remarked in my paper in the "New York Medical Journal," pregnancy with both ovaries so degenerated as in my third case must be unusual. And hence I infer that double ovariectomy during pregnancy is rare. But, aside from this question of rarity, I do not see why gestation should not go on undisturbed even though both ovaries are removed, since the only influence the removal of the second ovary (whether diseased or not) would have on the uterus, so far as I can see, is the infliction of an additional irritant to that organ in the shape of a second wound and ligature, and this double irritation the uterus certainly might endure, when, as cases have shown, it bore puncture without reaction. Your question is, however, exceedingly interesting, and I should like to see it answered. I would suggest your sending your letter, which I herewith return, and this, my answer, to the "New York Medical Journal," through which medium possibly a satisfactory reply from personal experience may be furnished by some laparotomist.

For our guidance in cases similar to my third case it is certainly of practical importance to know whether the removal of the second ovary, diseased or healthy, will *inevitably* bring on the speedy expulsion of the fetus. If this were proved to be the case, it would undoubtedly be worth while to risk a second subsequent ovariectomy by having one ovarian tumor (the smaller, of course) undisturbed, in order to secure a viable child.

Yours truly,

PAUL F. MUNDÉ.

Proceedings of Societies.

NINTH INTERNATIONAL MEDICAL CONGRESS.

SECTION IN GENERAL MEDICINE.

The President, Dr. A. B. ARNOLD, of Baltimore, in the Chair.

The Practice of Medicine at the Present Day.—The PRESIDENT called the section to order at 3 P. M. on Monday, September 5th, and proceeded to read his address, thus entitled. He contrasted the tendency to rely almost entirely upon nature's powers to restore health and the tendency to attempt to do everything by the aid of drugs. In spite of the fact that there were intelligent physicians who held such extreme views, the mortality from fevers and other diseases had decidedly decreased during the past few decades. It was often necessary to resort to some measures for the reduction of high temperature in fevers, yet drugs administered for this purpose were not without their dangers, and could not always take the place of cold applied directly to the surface. Facts in medicine were not without value, but, unfortunately, they often supplanted basic principles entirely. Preventive medicine and bacteriology might be said to constitute a new epoch in the history of medicine. The longevity of the human race, especially among the poorer people, had been much prolonged by the advance of preventive medicine during the past ten years.

Some Suggestions on the Pathogenesis of Yellow Fever.

—Dr. IGNACIO ALVARADO, of Mexico, in a paper with this title, took the view, based largely on his experience with yellow fever at Vera Cruz, that the disease was caused by a specific microbe, and that the symptoms were due either to acid phosphate of sodium or phospho-glyceric acid set free from lecythin by the reactions produced in the blood by the microbe.

Pneumonia as met with in various Parts of the Dominion of Canada.—Dr. W. P. GEIKIE, of Ontario, in this paper, gave a summary of the observations of various physicians throughout the Dominion of Canada as expressed in replies to a circular letter sent out by him. The disease was rare in Assiniboine and Alberta, but it was to be remembered that there the population was scanty. In British Columbia pneumonia often complicated typhoid fever. Low types of the disease were likely to be seen where there were bad drainage and impure water. Many cases had occurred in Ontario during the past spring and winter, and in some instances it had seemed to spread by contagion.

In reply to a question, Dr. GEIKIE said he had not found pneumonia more frequent in malarious districts, but it was more fatal.

The Preventive Power of Vaccination.—Dr. JOSEPH KOROSI, of Budapest, Hungary, read the paper. He reviewed statistics on vaccination, and dwelt upon those gathered during the past year from the hospitals of Hungary, going to show not only the ratio of mortality among the vaccinated and the unvaccinated having small-pox, and the relative liability of these two classes to acquire the disease, but also the ratio of mortality from other diseases among those who had and those who had not been vaccinated. The ratio of mortality among those acquiring small-pox was much greater if vaccination had not been previously performed. As to the relative frequency of other diseases than skin diseases in children, it did not seem to be influenced by vaccination; nor was the mortality from other diseases than small-pox greater among the vaccinated than among the unvaccinated. The frequency of cutaneous diseases among children was 13 per cent. greater among the vaccinated, but this was only a slight offset to the great saving of life arising from preventive vaccination.

Vaccination and Pasteur's Treatment was the title of a paper by Dr. W. M. WHITMARSH, of England. The author described Pasteur's method and illustrated it on the blackboard and by specimens. He thought it was by no means free from danger; some of Pasteur's patients had died after the inoculation, and it was a question whether the disease had not developed in consequence thereof. The infrequency of hydrophobia in persons supposed to have been bitten by a mad dog should make one hesitate to resort to an uncertain and probably dangerous preventive treatment. Dr. Whitmarsh also gave some reasons for doubting the efficacy of vaccination against small-pox.

Dr. C. A. LEALE, of New York, said that about twenty thousand sick children yearly entered institutions with which he was connected, yet he had never seen a case of hydrophobia. We should not, then, alarm people bitten by dogs by sending them for treatment to Pasteur.

Dr. WELCH, of Philadelphia, believed from hospital experience that vaccination had absolute power of preventing small-pox. He preferred humanized virus.

The Natural History of Disease.—Dr. JOHN A. OSTERLONY, of Louisville, in this paper, maintained that diseases had a natural history, but that it was often obscured by the action of medicines administered—of course, with the intention of benefiting the patient. While not expressing distrust in the value of medication, the author thought that often when diseases were left to nature they ran their course as quickly and as favorably as when art was called to nature's assistance. A knowledge of the natural history of disease was of great value, and to best obtain it would necessitate concerted observation by numerous physicians in various parts of the world. Such studies could be best made in hospitals, but important aid could be obtained from private practice. To show that it was justifiable to allow certain cases of disease to run their natural course in order that such information might be gained, he cited the fact that in public hospitals it was considered legitimate to experiment with drugs of the action of which little was known, and to try unsettled methods of treatment. Further reasons were cited, such as the fact that many diseases ran a favorable course without treatment, acute affections tended to recovery, the doubtful efficacy of remedies applied, etc.

The Disease of Inebriety, and its Treatment.—Dr. T. D. CROTHERS, of Hartford, Conn., first gave a historical review of his subject, showing that before insanity was regarded as anything else than spiritual madness, inebriety was considered a disease, but that at the present time this view was reversed, insanity being regarded as a disease, while inebriety was commonly looked upon as a kind of spiritual madness. Inebriety was due to heredity, to physical or mental shock, to structural changes in the brain, to disturbances of nutrition, or to nerve irritations. Inebriety also followed certain diseases without known reason. The proper place for treatment was in hospitals, which should be regulated according to the severity of the case and also according to the social standing of the patient.

Some Points on the Treatment of Phthisis.—Dr. R. S. SMITH first related his experience with injections of gas *per rectum*, after Berceon's method, and said he had found it to be of no value. The method which he had found most successful was the administration by the mouth and the intrapulmonary injection of iodoform or iodol.

Diabetes.—Dr. PAVY, of England, said that in diabetes the system was unable to dispose of the carbohydrates ingested, the sugar entered the circulation and was excreted in the urine. The fault lay, apparently, in the portal system. In testing the urine for the presence of sugar, the food taken should be considered. It was well to examine specimens obtained at night

and in the morning. The copper test was most reliable. Some of the early symptoms of diabetes were mentioned, and the dietetic and medicinal treatment was discussed. In general, the use of carbohydrates was to be avoided or restricted. The principal diet should consist of meat, butter, cheese, and a very limited amount of bread.

The Ætiology of Phthisis was the title of a paper by Dr. PHILLIPS, of Edinburgh, which was read, in the absence of the author, by Dr. Stockman.

Some Considerations on the Pathogenesis of Diseases of Women, a paper by Dr. W. B. NEFTL, of Chicago, was read by the secretary. Dr. Neftel described experiments on animals for the purpose of studying the effects of pulmonary compression, especially with relation to the development of tuberculosis. The morbid conditions produced by the experiments consisted of arterial anæmia and venous stasis. This condition resulted also from tight lacing in women, and predisposed to the development of the *Bacillus tuberculosis*. The author thought the whole question of dress for women should be discussed from a hygienic and scientific point of view, and, in order to exert any wide influence, the views advocated should receive the sanction of the profession in different countries as represented in the International Medical Congress.

Other papers were read by title.

AMERICAN GYNÆCOLOGICAL SOCIETY.

(Continued from page 331.)

Are the Tubes and Ovaries to be Sacrificed in all Cases of Salpingitis?—Dr. WILLIAM M. POLK, of New York, in a paper with this title, first described the conditions formerly attributed to pelvic cellulitis, but which it was now known might be caused by salpingitis. Salpingitis did not seem to be so destructive as maiming in its action. There was good reason to believe that this maiming was often due less to disease of the tubes or the ovaries than to adhesions to which it had given rise and to displacements. The conclusions given in the paper had been drawn from the observation of one hundred cases of salpingitis, in fifty of which the diagnosis had been confirmed by opening of the abdomen, while in the other fifty there could be no doubt of its correctness. On comparing the symptoms with those of what was formerly known as pelvic cellulitis, he had found the two conditions to be practically the same. The majority of patients with salpingitis recovered; of the remainder, much the larger number remained invalids for years, and the others succumbed to the disease. Of those who recovered from salpingitis, some remained sterile. Had he been asked a year ago whether the tubes and ovaries should be sacrificed in all cases of salpingitis not tending to recovery, he would have answered in the affirmative, but experience had modified this view. In some cases he had found that the adhesions were the most conspicuous feature; there was tubal disease, it was true, but it amounted to little more than a catarrhal inflammation. But there was absence of dilatation of the tubal canal, although the walls were thickened. Aside from some peri-oophoritis, the ovaries appeared normal. But they were bound by adhesions in an abnormal position. Recurrent inflammatory attacks did not form an important feature in the clinical history; they were chronic cases. In comparing the pathological condition with the clinical history, it had occurred to him that the adhesions might be an important factor in causing the sufferings of the patient. If this were true, it seemed a cure might be effected simply by relieving the adherent organs. There were certain objections to such an operation, one important one being to prevent the renewed formation of adhesions. An aid in this

direction was Alexander's operation for retaining the uterus in an elevated, corrected position. The object sought for was to relieve the patient of her sufferings, and at the same time avoid the mutilation which the operation performed by Mr. Tait involved. The success of the procedure was to be measured only by actual experience, and the author had eight cases to relate, the histories of four of which had already been published in the "American Journal of Obstetrics"; those of the other four were in the records of Bellevue Hospital. Of the last-named four cases, in the first, on opening the abdomen, shortening of the utero-sacral ligaments was found, the posterior face of the uterus being attached to the rectum. These adhesions were torn, the utero-sacral ligaments were stretched, and a drainage-tube was put in. The patient did well. In another case the womb was bound down by adhesions, which he broke up, and he then lifted the uterus, loosened the tubes and ovaries, and did Alexander's operation to retain the uterus in position. In the other two cases also there were adhesions, which he tore, and then performed Alexander's operation. In closing, he wished to say that the operation for the removal of the tubes and ovaries had been a great boon to woman, but, as it involved mutilation, it should be confined to the narrowest limits possible consistent with the preservation of health and life.

Dr. A. MARTIN, of Berlin, an invited guest, said that it gave him pleasure to know that Dr. Polk did not limit the term salpingitis to cases in which there was a tumor of the tubes. Neoplasms of the tubes were very rare, probably because there were no glands in those organs. Their most common affections were catarrhal, having their origin in the mucous lining of the uterus. Some thought salpingitis was often of gonorrhoeal origin, but in only one case had he found the gonococcus. Tuberculosis was seldom seen in this locality. Catarrh of the tube might give rise to swelling, to hemorrhage, or to purulent accumulation. Early occlusion usually took place. The disease was commonly limited to the tube. In only a minority of cases had he found it necessary to operate. As most of the cases of salpingitis were catarrhal, we should first try all means of treatment in harmony with this nature of the disease, and, failing, then operate. He had removed the tubes and ovaries in only eighteen cases, and they were carefully selected severe cases, urgently requiring the operation. The percentage of mortality had been about twelve per cent. The general treatment which he employed varied in different cases, but he enjoined rest, applied leeches and ice-bags over the abdomen, and, if there was tenderness, he employed a narcotic. When the tenderness had subsided, he applied preparations of iodine, peat, etc. He seldom used mercurial preparations locally unless there was a distinct history of syphilis. He tried to regulate the digestion, and in some cases employed massage with caution.

Dr. T. A. EMMET believed, with Dr. Martin, that a large number of these patients could be cured without resorting to an operation, and that it was our duty to first try other measures, unless it might be in cases of salpingitis of known gonorrhoeal origin.

Dr. GOODELL, of Philadelphia, was in accord in great measure with the views expressed by Dr. Martin and Dr. Emmet. But the whole subject under discussion was to him yet in a chaotic state. He would like Dr. Martin's opinion as to whether a purulent collection in the tube could be dispersed. He had become a convert to Dr. Polk's views, that the pelvic troubles usually began as a salpingitis, and that the peritonitis followed. But it seemed to him that Dr. Polk had mentioned procedures which were a little more severe than removal of the ovaries. Having opened the abdomen and liberated the tubes and ovaries, why need we resort to a second operation, Alexander's, expos-

ing the patient to the dangers of two operations? Why should we not remove the tubes and ovaries? The operation would not imply mutilation, for the woman was already incapable of bearing children, and her sexual instincts remained the same after the operation. The speaker was unable to say what constituted such a pathological condition of the tubes and ovaries as always to demand their removal.

Dr. G. G. BANTOCK, of London, an honorary member, answered the question involved in the title of Dr. Polk's paper unhesitatingly in the negative. His own views had been well expressed by Dr. Martin. He had come to the conclusion that certain cases of salpingitis required removal of the uterine appendages. He had seen cases in which the adhesions were more serious than the disease within the tubes. The operation suggested by Dr. Polk seemed to him uncalled for, the occlusion of the tubes which existed would prevent pregnancy, and, if the appendages were left, they might again become adherent.

Dr. R. STANSBURY SUTTON, of Pittsburgh, Pa., said that, when there was pus in the tubes, it should be removed. He asked what the use was of pulling the tubes and ovaries higher up and sustaining them there in the class of cases described by the author? He cited cases showing the difficulty of deciding whether or not the ovaries and tubes should be removed.

Dr. POLK said the operation performed by him had been suggested by a case in which neither the young wife nor the husband would hear of any operation involving mutilation. The symptoms rendered an exploratory operation necessary, and, finding the chief pathological condition to be adhesions of the tubes and ovaries, he broke up the adhesions, and the symptoms afterward disappeared. The question of mutilation was to this couple, if to no one else, a question of the greatest importance. A case cited by Dr. Bantock, moreover, showed that, after salpingitis presumably demanding removal of the appendages, pregnancy might take place. The dangers of an exploratory operation had no weight in deciding upon a curative operation in these cases. We must, if possible, avoid mutilation. Where this was not possible, we should not hesitate to remove the tubes and ovaries, but the field for this operation should be well defined.

Drainage after Laparotomy.—Dr. PAUL F. MUNDÉ, of New York, read a paper in which he first reviewed the practice of distinguished gynecologists in the use or non-use of the drainage-tube after laparotomy. Olshausen was the most strenuous opponent of drainage. The paper, which was read in part only, further considered the advantages and the disadvantages of the drainage-tube, the best form of tube, and the substitutes for drainage. Theoretically, all blood, pus, and other fluids should be removed, but practically this was not always found to be necessary, for the peritonæum was capable of disposing of serum, ovarian fluid, and even laudable pus, without endangering the system. But the object of drainage, when it was employed, was the removal of intra-abdominal fluid, which by subsequent decomposition might cause septicæmia. The author had employed drainage, but he never felt safe until he was enabled to remove the tube and found the pulse and temperature normal. Of late he had omitted drainage in several cases in which formerly he would not have done so, and the results had been favorable. There was some danger of exciting peritonitis by the tube, and in practice there were several instances in which mischief had resulted which he believed would have been avoided had he closed the abdomen and trusted to absorption of the oozing blood. He would now use drainage less frequently than heretofore. Another possible trouble from the tube was gastric irritation, which in a few cases he had been able to account for in no other way. Remote dangers from the tube were delayed healing of the abdominal wound,

and hernia. If drainage was omitted, the peritoneal cavity should be thoroughly cleansed, and the abdominal cavity might be washed out.

Dr. MARTIN, speaking of his own experience, said he did not apply a drainage-tube in ordinary cases of laparotomy. The few cases in which he applied the drain were those of supravaginal hysterectomy, vaginal hysterectomy, and large fibroid and cystic tumors of the broad ligaments in which the wound surface could not be closed.

Dr. BANTOCK used the drain when there were abundant adhesions and he found it impossible to dry the peritoneal cavity. Here he would wash out the cavity with warm water. He thought Dr. Mundé was influenced by the germ theory, but he (Dr. Bantock) attributed his improved results in great measure to his having discarded antiseptic fluids. When he used drainage he employed the straight glass tube, and attached importance to emptying it every two or three hours, particularly during the first day. The tube should not be removed so long as the fluid was tinged with blood.

Dr. GARDNER, of Montreal, an invited guest, said that, of his last thirty-five cases of laparotomy, he had employed drainage in about one half.

Dr. W. GILL WYLIE, of New York, referred to the advantage of the drainage-tube in indicating hæmorrhage.

Dr. GOODELL employed drainage, but he was skeptical as to its advantages.

Dr. MUNDÉ disclaimed any knowledge of germs and the part they played in septic infection.

At the opening of the second day's session, the president referred to the loss to the society of Dr. John Scott, of San Francisco, and asked Dr. T. A. Emmet to prepare a memoir.

The Therapeutic Value of Some Medicines in the Treatment of Hæmorrhagic Conditions of the Uterus.—Dr. C. D. PALMER, of Cincinnati, in a paper with this title, referred to the meagerness of the literature of this subject, and to the fact that the surgical aspect of gynecology was, it seemed, being cultivated almost to the exclusion of the medical. The principal drugs which were discussed were ergot, digitalis, *Cannabis indica*, bromide of potassium, arsenic, and gallic acid; remedies more recently employed were gossypium, *Hamamelis virginica*, fluid extract of hydrastis, and *Viburnum prunifolium*. Indications for these drugs in different cases were based upon the author's own experience and that of others. Of these medicines, none was oftener prescribed or was more efficient in its action than ergot. Digitalis could also be spoken of as a uterine hæmostatic with considerable confidence. The cases calling for digitalis were those in which the uterine hæmorrhage was related to disordered circulation, as in mitral insufficiency. Arsenic was of benefit when there was a malarial state: the bromides were useful when there were nervous symptoms. Cathartics were often indicated.

Dr. FORDYCE BARKER, of New York, said the success which he had obtained with these remedies depended upon using them in properly selected cases. Arsenic, when indicated, as it was in vaso-motor disturbances before the menopause, should be administered between the menstrual periods. When the period approached, he gave bromide of potassium, fifteen or twenty grains three times a day. Hydrastis was one of our most important internal remedies for controlling hæmorrhage. He was particularly pleased with what the author had said regarding the fault of the portal circulation. He frequently gave a mercurial purgative, and some mineral water on the mornings before the period.

Dr. LLOYD ROBERTS, of Manchester, England, an invited guest, had very little confidence in any drug, except ergot, in the treatment of passive hæmorrhage of the uterus. It was all

important to have a good preparation of the drug. The greatest good would be secured by administering it between the periods.

Dr. BALLS-HEADLEY, of Melbourne, Australia, an invited guest, used ergot, but had not been convinced that it did any good. He also employed tincture of chloride of iron.

Dr. GRANT (Bey), of Cairo, an invited guest, related a case of uterine hæmorrhage in a woman treated by other physicians for uterine fibroid. Suspecting syphilis, he administered mercury, and the hæmorrhage ceased.

Dr. H. P. C. WILSON, of Baltimore, had little confidence in any particular remedy for arresting uterine hæmorrhage.

Dr. J. R. CHADWICK, of Boston, had found that Chian turpentine had a marked effect on uterine hæmorrhage. He gave ergot preferably between the menstrual periods. He gave aromatic sulphuric acid during the flow.

Dr. WILLIAM L. REID, of Glasgow, Scotland, an invited guest, among other measures, employed alum.

(To be concluded.)

AMERICAN LARYNGOLOGICAL ASSOCIATION.

(Continued from page 276.)

The Treatment of Laryngitis in Professionals who are Unable to Rest.—A discussion of this subject was opened by Dr. J. SOLIS-COHEN, of Philadelphia, as follows: I must confess that I am not able to treat laryngitis in professionals who are unable to rest any better than I can in anybody else. When, as occasionally happens to all of us, a professional who is compelled to attend a performance that night comes to me hoarse from a recent laryngitis, caught probably *en route*, the one method which I have found the best is to administer a sharp emetic, and then let the patient rest until the time of the performance, forbidding the use of the voice. In addition to this, I often let him keep fragments of ice in the mouth, and put a cold compress around the neck. In chronic laryngitis in persons compelled to travel and to attend to their professional duties, I have found nothing of more service than a weak solution of sulphate of zinc (two grains to the ounce), sometimes the sulphocarbonate of zinc, used two or three times a day with an ordinary hand-bulb atomizer. In the intervals of the play, if very hoarse, let them inhale a little compound tincture of benzoin. For habitual inhalation, turpentine, terebene, eucalyptol, etc., are good. Sometimes I advise these patients to throw some turpentine upon the carpet at the bedside when they go to bed, so that they can inhale some of the vapor during the night. I am not aware of any method which is especially adapted to these people.

Dr. T. A. DE BLOIS, of Boston: I have had these professional vocalists under my care occasionally, and I have found that, no matter how much zinc is used, or how much turpentine is sprinkled upon the carpet, if they do not rest their vocal organs the hoarseness will continue. When a person has to take part in a performance within twelve hours after treatment, I have sometimes found excellent results from the local use of nitrate of silver, and very distressing results from the use of hydrochloride of cocaine. There seems to be a certain amount of relaxation following the use of cocaine, so that, although the pain of the laryngitis subsides, it does not seem to bring tone to the vocal cords. I think we may say, in general, that where there is no rest there is no cure in these cases.

Dr. BEVERLEY ROBINSON, of New York: My experience in the treatment of cases similar to those referred to by Dr. Solis-Cohen has been very limited. Still I have had a certain number of cases during the past eight or ten years which I have watched

pretty closely, and I have come to the following conclusions: That, as far as acute cases are concerned, there are other methods than the use of an emetic, as employed by Dr. Solis-Cohen. Certainly the persons with whom I have had to do would not consent to such treatment with any great amount of cheerfulness. In light cases I have found chloride-of-ammonium tablet triturations, taken every fifteen minutes or half-hour, the most efficient internal remedy. For local use nothing is better than the modified carbolized spray. When applied two, three, or more times a day, I think it is one of the best agents for the relief of the acute stage of laryngitis in those who are obliged to use their voice frequently. I believe the difficulty with the voice is due to the acute inflammation. So far as the chronic functional trouble of vocalists is concerned, I believe at times it is dependent upon an inflammatory condition of the mucous membrane. When I have believed this to be the case, I have used with benefit applications of an astringent solution. In such cases internal remedies are not likely to do much good. With this experience I have come to think that occasionally the trouble lay with the nervo-muscular power, and that the mere appearance of the mucous membrane was of little importance. I put it into the power of one gentleman to re-establish his voice when it got beyond his proper control by teaching him how to use the faradaic battery once or twice a day as occasion demanded. This man's vocal cords are nearly always more or less red, but I do not attach so much importance to that, for, according to my limited experience, that condition is present to some degree in almost all vocalists, and we can not expect to bring about what is usually regarded as an absolutely normal appearance of the cords, although we may bring about vocal power.

Dr. F. H. BOSWORTH, of New York: As I have said before, I do not believe that there is any such disease as a laryngitis in the sense that the larynx itself is the seat of an inflammatory affection, any more than we should say there was a dermatitis when there was a thorn sticking in the flesh. The seat of the disease is not in the larynx, but in the nasal passages above. Furthermore, the treatment should be directed to the nose, the object being to contract the blood-vessels. It has become a habit with me, and I have repeated the practice successfully within a very few days in this class of cases, to eliminate the cold in the head, in the nose, by applications of cocaine. If we reduce the hyperæmia in the nasal chambers, in the majority of cases the larynx will take care of itself. My experience with the use of cocaine extends over many cases, and, contrary to what has been said by Dr. De Blois, I have not seen more than two cases in which there was any reaction. Take twelve grains of hydrochloride of cocaine, use just sufficient water to dissolve it, and suspend it in fluid cosmoline. The patient carries with him a hand atomizer, and sprays this cocaine into the nose every hour or two. Some of it is at the same time inhaled. What is done, then, is to control the cause of the hyperæmia of the larynx—namely, the disease in the nose.

Dr. BEVERLEY ROBINSON: I rise to make a correction. I think it would be a grave mistake to allow the impression to go forth that this association believes with Dr. Bosworth that a large proportion of cases of hoarseness and laryngeal difficulties depend upon nasal trouble; or that we do not repeatedly see cases of hoarseness and trouble in the larynx without any nasal trouble whatever. I think the reason why Dr. Bosworth has made this mistake is that a large proportion of the people who have laryngitis do not go directly to the specialist.

Dr. C. E. SATORS, of Philadelphia: Dr. Robinson has said in part what I had intended to say. I have treated a good many of these people, and I can most emphatically say that the action of cocaine on the larynx is pernicious. At first I supposed that

cocaine was precisely the drug for these cases, so I applied a four-per-cent. solution, and sometimes a ten-per-cent. solution, to the larynx, but every time I used cocaine I had occasion to regret it. These people felt afterward as if some foreign body were in the throat which rendered them unable to use it properly. As to acute laryngitis in singers, I do not see the necessity for always attributing it to a nasal trouble. In the majority of these cases there is fatigue as a cause. They generally owe it to their heartless manager, who requires them to rehearse six or seven hours a day, besides performing at night. The presence of a cold in the head, of course, occasionally militates against our treatment, a fact which we must not overlook when these patients come for treatment. I never neglect the nose in these cases, but I can not agree with Dr. Bosworth that in every case the nose is affected. It has been my custom to use internal treatment to a degree. I have found quinine and nuxvomica of great assistance in some cases in which local applications to the larynx were not beneficial. I have found even sprays irritating; fumes are sometimes so. I content myself then with giving a grain or two grains of quinine every hour or two hours, with a quarter of a grain of nuxvomica. In that way I am very often able to place patients in such a state that they are able to sing in the evening. A weak faradaic current, as recommended by Dr. Robinson, I have also found advantageous. I make the application at my office, and request the patient to come for another application an hour before the performance. Now, with regard to coca wine, I can not say that I disregard its merits at all. I generally advise patients to take between the acts a sherry wineglassful, and have always obtained satisfactory results with it. Formerly this kind of laryngitis had been to me a kind of bugbear, but within the last year, since recognizing the virtues of these remedies, I have obtained better results.

Dr. W. C. GLASGOW, of St. Louis: I object decidedly to the views advanced by Dr. Bosworth. I have cured laryngitis without touching the nose, and I regret that such heretical opinions should have been presented. I have seen the class of patients who are the subject of discussion at present. The laryngitis from which they suffer is of various kinds. When they are obliged to play, I do not spray the nose and I do not use cocaine. I use an application to the larynx consisting of carbolized iodine, which is a soothing application, one which relieves the congestion; and it gives power, for it is also a stimulant. Thus a great many of these people are enabled to finish their engagement, not cured, of course, but relieved. I have seen many such patients, but my attention has been given to the larynx, and not to the nose.

Dr. C. C. RICE, of New York: It seems to me that the whole truth is not on either side in this discussion. I think the predisposition to laryngeal congestion and inflammation does usually originate in the nose. I believe that nasal troubles antedate laryngeal troubles, and predispose to the laryngeal congestions and consequent disorders of the voice from which singers suffer. On the other hand, these people are frequently unable to sing on account of fatigue of the laryngeal muscles, when there is no disturbance in the nasal chambers at all. I agree with Dr. Robinson that the color of the mucous membrane in the larynx in these cases is of little significance. I have seen one or two singers who could sing exceedingly well whose vocal bands were always red. On the other hand, persons who have constant difficulty with the voice sometimes have pallor of the mucous membrane, and no other pathological condition except inaction of the internal muscles of the larynx. With regard to treatment, I think well of Dr. Bosworth's prescription of cosmoline and cocaine, but I think it is the cosmoline which does the work, not the cocaine. I approve of cosmoline and vaseline prescrip-

tions. I have had much better results with a spray of vaseline in the larynx, or some mild soothing application of that kind, than with astringents.

Dr. M. J. ASCH, of New York: The views presented as to laryngitis being due invariably to nasal disease must be received as individual, and not as representing the generally accepted opinion. By no means a few still believe that affections of the larynx belong to the larynx alone. I believe that the cases under discussion should be divided into two classes: those which are acute, and those which are chronic in character. The acute cases, I have found, are best treated by ordinary methods for treating any acute complication. A singer can not be relieved any more quickly than anybody else. But by vapors, internal medicines, etc., I think we can resolve this condition as readily as any other. The internal treatment which I have employed is like Dr. Robinson's. I think chloride of ammonium is one of the most useful internal remedies in diseases of the larynx or bronchi. The difficulty in treating singers is the fact that they are unable to take rest. There is a certain amount of hyperæmia constantly present in their vocal organs, together with some thickening of the membrane, which will not be cured without local applications. I do not think that applications to the nose will cure it. I have seen a number of cases in which there was no catarrh of the nasal passages: the whole trouble seemed to be in the larynx. Nothing equals the application of an astringent, but I do not believe it necessary to use any exclusive method. The spray does well in some cases, but if I want to cure a case I use the brush. The application which I have most frequently used is a solution of perchloride of iron, thirty to sixty grains. In many cases, when singers get rather hoarse, a single application of this kind will put them in very good condition. It will not cure them, but it will enable them to sing or to speak. There is another matter which has been overlooked. Many singers, especially opera-singers, lead rather an irregular life; they take a good deal of wine, eat heartily when they are not expected to sing, and are apt to suffer from some hepatic trouble. I do not believe that there is any method by which the larynx of the professional singer can be put in perfect order while he is at work.

Dr. F. H. HOOPER, of Boston: I would say a word with regard to a class of cases not yet referred to—namely, those of professionals in whom there is an alteration in the quality of the voice simply from overexertion or fatigue. In one case of this nature I have seen a want of tension in one cord and not in the other. Applications of electricity externally over the larynx, and the use of aromatic spirit of ammonia, thirty or forty drops in half a tumblerful of soda-water, repeated, are very efficacious in these cases.

Dr. J. N. MACKENZIE, of Baltimore: I think Dr. Bosworth has been a little unjustly criticised in this discussion. For my own part I think he is to a great extent right in his conclusions as to the dependence of laryngeal upon nasal diseases. I think that the vast majority of cases of chronic laryngitis will be found on careful examination to be dependent upon or associated with disease of the nasal passages, and upon the recognition of this fact, it seems to me, depends the successful treatment of the vast majority of cases of chronic laryngitis which we see in practice. Yet I admit there are cases in which the larynx is the primary seat of the disease, and that apart from any local irritative process. I should like also to caution against the indiscriminate and injudicious use of cocaine in diseases of the nose and throat. I have called attention to this at several meetings of this association. The explanation of the danger which suggested itself to me was that after a while the cocaine produced a permanent puffy condition of the erectile tissues. I am confident that in several cases I have prolonged the con-

dition several weeks by the use of cocaine, and I shall never use it just before the singer is going on the stage or the speaker commences to address an audience. The sensation in the larynx which these people experience after the use of cocaine is sometimes second only to that of hanging. I have tried it on myself. But when it is used in the nose the sensation is delicious, provided none of it trickles down the throat. I think the impression is gaining ground in this country that the indiscriminate use of cocaine is to be deprecated.

Dr. B. F. WESTBROOK, of Brooklyn: I think the suggestions of Dr. Solis-Cohen and of Dr. Asch have not received sufficient consideration. While it is undoubtedly true that many singers and elocutionists who suffer from acute and chronic laryngitis suffer from strain and overwork of the vocal apparatus, yet it is probably true that in the majority of the cases the primary cause of the trouble is some derangement of digestion. It is this, probably, which predisposes them to these laryngeal affections. There are a great many singers and readers who do not have laryngitis, and there is a minority who do. It is fair to conclude that in the latter class there is a predisposition to it, and I think this predisposition depends primarily upon mal-assimilation—the lithæmic, gouty, or rheumatic condition. Therefore the practice of giving an emetic is very valuable, and the advice of Dr. Asch, which is in the same direction, is almost equally important. I think there is nothing so beneficial in cases of this kind as to give a large dose of tartar emetic. Calomel and jalap are very good, also podophyllin, compound cathartic pills, and so on; but it seems to me that an active emetic does more toward restoring the natural condition than all these other things. I think I have seen a number of cases of acute hoarseness clear up very rapidly under the use of mineral acids. The best way to give them is in very small doses frequently repeated, say every hour or half-hour. I have seen cases in which it was necessary to give the salicylates or wine of colchicum.

Dr. S. W. LANGMAID, of Boston: Although so many remedies have been found to be sure cures, I doubt if any of the gentlemen have found the condition in question an easy thing to cure at all times.

The Galvano-cautery in the Treatment of Hypertrophied Tonsils.—Dr. CHARLES H. KNIGHT, of New York, read a paper with this title (see page 339).

Dr. C. E. SAJORS, of Philadelphia: I have frequently tried the method advocated by Dr. Knight, puncturing the tonsil repeatedly with the galvano-cautery, and I am inclined to think that, unless one is rather heroic in the treatment, it will prove too tedious. As to operating on the tonsil with the galvano-cautery snare, I think it is an excellent method. The plan I usually pursue is to tighten the wire around the tonsil first and then apply the current. The heated wire burns as long as it is tightly drawn around the tonsil. By drawing it up more, the entire gland is gradually burned through. In operating in that way I have never yet seen the patient lose a drop of blood. The procedure requires from twelve to fifteen minutes, and is rather unpleasant to the patient, but it is safe. As to hæmorrhage after amygdalotomy, I have had two cases which were exceedingly tedious and very dangerous. One of the cases occurred recently in a patient sent me by Dr. Bartholow. He had large tonsils, the vessels were large, he was of a plethoric habit, and was forty-seven years of age. I hesitated to use the guillotine, and by using the galvano-cautery puncture succeeded in bringing the tonsils down pretty well, but not with sufficient speed to satisfy the patient, who said that Dr. Bartholow also thought it might be done more rapidly. I concluded to take off a part of the tonsil with the guillotine, but found that any apprehensions regarding hæmorrhage had not been ill-founded, for, after I had taken

a piece off, the patient had seven consecutive hæmorrhages, losing several ounces of blood.

Dr. T. R. FRENCH, of Brooklyn: It not infrequently happens that patients will refuse the guillotine and submit to applications of the cautery. In cases where the tonsils are small or have been insufficiently removed, and can not be grasped by the guillotine, the cautery is a very valuable substitute. I should like to inquire if Dr. Knight usually finds it necessary to use cocaine before applying the cautery loop to the tonsils. I am in the habit of using the cautery quite freely in these cases, and have not seen inflammatory reaction, except in one instance, and then it was very mild. I certainly do not consider the danger from hæmorrhage after the use of cutting instruments sufficiently great to make the cautery method preferable to amputation with the guillotine.

Dr. A. W. MACCORT, of Philadelphia: I have had some experience with the galvano-cautery, and am in the habit of making a distinction in its application to different conditions. In cases of glandular hypertrophy I am fond of using the galvano-cautery, but for some years past I have ceased to use it in the interstitial, or connective-tissue, hypertrophy. I think the objection which has been raised is probably founded somewhat on the truth, that in cases of interstitial hypertrophy it is likely to leave a cicatrix which often constitutes a painful and annoying point or the basis of further trouble. I do not use the snare, and am not satisfied that the point is more satisfactory than several other caustic measures, especially chromic acid. Applying this agent on a small probe inserted into the crypts, I am satisfied that one can get quicker action and less disagreeable and offensive sloughing than in some cases in which the galvano-cautery is used. I am positive that I have seen a few cases in which the cicatrix in the tonsil made by the galvano-cautery was the source of great annoyance.

Dr. BEVERLEY ROBINSON, of New York: I have pretty distinct views on this subject. For my part, I have held, and hold more firmly to-day than ever before, that there is no so-called small operation in surgery that is so unpleasant to perform as amygdalotomy. Mothers bring their children to the doctor for an operation upon enlarged tonsils, supposing that it is a comparatively trivial affair, but, for my part, I prefer not to do it if I can avoid it. I think this feeling is due partly to a certain kind of timidity; I do not believe that there is any great probability of serious hæmorrhage. Still, the operation is one which I regard as an unpleasant one. Eight or nine months ago a child was brought to my office with very large tonsils, almost touching each other in the median line. I felt a good deal of timidity about cutting them off, and had my friend Dr. Bull see the patient, who said that of course they ought to be excised. Dr. Bull was present at the operation, and Dr. Hasbrouck administered nitrous-oxide gas. The teeth of the child remained tightly clenched and were separated with difficulty, thus rendering the operation less easy. Despite this fact, and likewise that one tonsil could not be completely excised with the amygdalotome, the operation was completed; the child bled a good deal, but not alarmingly. Still, for a few minutes it was to me, as it often has been, a disagreeable experience, and I do not hesitate to say that I would rather perform tracheotomy than amygdalotomy in a small child. I do not believe the tonsils are taken off with half the frequency that is generally believed, even by men who are not bad surgeons. I have used the galvano-cautery several times, and I am inclined to regard it as one of the most convenient and best methods.

Dr. C. C. RICE, of New York: It seems to me most unfortunate to unduly frighten the profession with regard to the dangers of tonsil-cutting. I do not propose to speak of the frequency of hæmorrhage, but we all know that it occurs very

rarely. The large, white, boggy, hypertrophied tonsils of children must be cut. There is no substitute for the amygdalotome here, as the use of the galvano-cautery is a slow, tedious process. The child will bear only one touch of the cautery at a time. I am not underestimating the value of the galvano-cautery in adults, for it is a very efficient instrument in reducing tonsils. I think we must generally resort to amygdalotomy in children. The galvano-cautery is particularly useful in adults when there is reason to fear hæmorrhage, and in cases in which the tonsil is so small that it is difficult to grasp it with the guillotine.

The PRESIDENT: I do not mean to occupy much time in speaking on this subject, although it is one of considerable interest to me. I think it was Dr. Solis-Cohen who, a number of years ago, said something about treating the tonsils with the galvano-cautery. I have done this frequently, but my experience has been different from that of some of the gentlemen who say there is no soreness afterward. At least that is the impression I have of their belief. In the cases in which I have used the galvano-cautery, whether used little or much, there has always been soreness. The patient complains of it for from one to three days. If it is possible to reduce the size of the tonsil with any sort of rapidity and without this soreness I should be very glad to know it, but from my experience I can not believe that it is possible. In the paper to which I referred I believe it is stated that twenty or thirty operations were required. I have latterly come to feel very much like one of the speakers regarding removal of the tonsil in children, but not for quite the same reason. I do not think I am timid about it, and I do not fear hæmorrhage, but I hate to hurt these little ones. I think it is as serious a matter for a child to have the tonsils removed as it would be for an adult to be hung, so far as the mental suffering is concerned. If this can be avoided it certainly ought to be done. On this account I have been in the habit for some time whenever it was practicable, and it usually is, to give ether, and remove the tonsil with the snare, using a large steel wire; and a tonsil forceps when the gland is not easily secured by the wire loop.

Dr. HARRISON ALLEN, of Philadelphia: Hearing the paper and the discussion has awakened my memory to the circumstance of Dr. Lefferts, when president, reading a valuable paper upon tonsillar hæmorrhage. He took for his motto, "To be forewarned is to be forearmed." In fact, when you take out a tonsil you must be ready for hæmorrhage. Dr. Lefferts advocated amygdalotomy, yet his homily was, "Be ready for hæmorrhage." If I remember aright, I was the only one in the hall at that time who opposed amygdalotomy. I did not hesitate to express dread of such operations. You do not know what vessel will be wounded. I think we should take particular care in the selection of our cases, and not make too broad a statement in favor of amygdalotomy. We should not forget that the general practitioner may not be able to select cases with as much judgment as Dr. Rice, who advocates free cutting. The cases of serious hæmorrhage are much more numerous than we know of.

Dr. D. BRYSON DELAVAN, of New York: I have operated many times. I have occasionally seen the operation followed by pretty sharp hæmorrhage, but I believe that, with suitable means at hand for checking it, there is little danger. I prefer the Physick amygdalotome as modified by Morell Mackenzie, and have never known its use to be attended with undue loss of blood. General practitioners often become much alarmed at the first gush of blood which follows the excision. That gush is perhaps the rule, but it generally ceases within a few minutes. If it does not subside we have means of stopping it. I have found it very difficult to discover many authenticated

cases of dangerous hæmorrhage after amygdalectomy. I have been very much interested in the paper read by Dr. Knight, and have used the method referred to in a number of cases with decided success. I think, however, that in children it is very difficult of application, but that it is especially applicable to persons whose tonsils are of large size, and who are old enough to control themselves.

Dr. J. SOLIS-COHEN, of Philadelphia: I can only say what I said before this association several years ago, namely, that in many cases of moderate engorgement on freeing the palate from the tonsil the tonsil will go down without further operation. Inflammation causes adhesion of the tonsil to the anterior fold of the palate. The tonsil being fastened there, it can not go down. I think that, in a great many of the cases of hæmorrhage, at any rate of minor hæmorrhage, the bleeding is caused by cutting the arch of the palate. The vessels here run vertically, and, of course, if you cut out an oval portion they can not contract as they do when the vessel is cut transversely. With regard to the galvano-cautery, while I have used it a good deal, I have never been able to obtain the success with it which the writer of the paper alleges. I should like to send him a number of patients to see whether they could be relieved by four or five applications. In my own cases it has required twenty, thirty, or even fifty applications of the galvano-cautery, whether used in the interior of the tonsil or on the outside. A very good method is to take a flat-bladed knife, such as is used with the electro-cautery, penetrate the tonsil transversely, and work your way outward. This may require one, two, or four days. Then go in the vertical direction, and thus get a half or a third of the mass off. Repeat with the remainder, gradually trimming the irregularities of the tonsil down as you proceed. In that way, if the patient is able to keep up his visits regularly and long enough, I am able after some time to get permanent good results.

Dr. C. H. KNIGHT: I think Dr. Solis-Cohen misunderstood me when he represented me as saying that it required only four or five applications of the cautery to cure the tonsils. I said the tonsil should be burned at two or three points, and that it took from four to ten sittings, the average being from six to eight. With regard to cocaine, I do not use it habitually; I do not think the tonsil is a very sensitive organ, but, for the sake of reassuring the patient, I sometimes use cocaine.

OBSTETRICAL SOCIETY OF PHILADELPHIA.

Meeting of September 1, 1887.

The President, Dr. THOMAS M. DRYSDALE, in the Chair;

Dr. W. H. H. GITHENS, Secretary.

Placenta Prævia Centralis.—Dr. ROBERT H. HAMILL showed the specimens from the case of a woman, forty years old, who, in the seventh month of her fourth pregnancy, had such severe recurrent hæmorrhage, due to placenta prævia, that, Dr. B. C. Hirst having been called in consultation, version and extraction were decided upon, the fœtus presenting transversely. The placenta was perforated, and a foot was readily brought down through the perforation, but extraction of the head proved exceedingly difficult, in consequence, the speaker thought, of the narrowing of the pelvic canal by the bulk of the placenta. The first loss of blood had occurred very early in gestation.

Dr. LONGAKER remarked that the most favorable statistics showed from forty to forty-five per cent. of children saved. Hæmorrhage early in the pregnancy usually indicated a central implantation of the placenta, and labor should be induced early in such cases. Immediate delivery by traction on the leg was to be condemned. The breech was a perfect tampon, and after

one leg was brought through the placenta the case might be left to nature. The hand should not be passed into the uterus, but the placenta should be perforated by one or two fingers and bipolar version effected. If traction was made on the leg and rapid delivery was attempted, a bad presentation of the head at the superior strait would result, and the cervix would not be sufficiently dilated by the body to allow the head to pass quickly, so that the child would become asphyxiated. The average result of rapid delivery was unfavorable. The maternal mortality was from ten to forty per cent.

Dr. HAMILL did not think the delivery in his case had been too rapid. Traction was made on the leg, because nature was exhausted.

Dr. B. C. HIRST read a paper entitled "A Contribution to the Study of Diffuse Hyperplastic Inflammation of the Decidual Endometrium."

Acute Pneumonia in Utero.—Dr. HIRST exhibited the specimens and remarked that pneumonia during intra-uterine life was rare, but had been observed. Dr. Stischen, of Australia ("Brit. Med. Jour.," 1886, ii, p. 860), had reported a case, and Dr. Sigl, of Germany ("Arch. f. Gynäk.," xv, p. 384), had collected three others. Sigl's explanation was undoubtedly the correct one. If the fœtal blood was not properly aerated, the respiratory center in the brain was stimulated to action by the excess of carbonic-acid gas in the blood, and the fœtus made inspiratory efforts, drawing into its lungs amniotic fluid, containing in these cases possibly meconium, and a catarrhal pneumonia was the result, ending usually in the death of the fœtus, either *in utero* or shortly after birth. These cases were to be distinguished from those in which the fetus drew into its lungs amniotic fluid, mucus, and blood during labor. The specimens shown by the speaker were the lungs of an infant which had died twenty-two hours after birth, having been cyanosed from the first. The mother had had a large lumbar abscess for the past year, and when she came under the speaker's observation in the Philadelphia Hospital, in the sixth month of pregnancy, exhibited all the signs of general septicæmia. She gave birth to her child at the seventh month of gestation. The post-mortem examination of the infant showed no other cause for death than the pneumonia, which involved both lungs, and must have arisen *in utero*, as the labor was easy and rapid, and there was no reason to believe that the child made inspiratory efforts during its expulsion. The microscopic sections, which were exhibited, confirmed the diagnosis. They showed well-marked catarrhal pneumonia.

An Ectromelic Monster was also shown by Dr. HIRST. The deformity consisted in the absence of the left femur and four toes of the left foot.

Rapid Development of a Fibro-sarcoma of the Uterus.—Dr. J. C. DACOSTA narrated the case of a patient who came under his care three years ago for catarrhal metritis, the uterus being sharply retroflexed, and the posterior wall bulging as if an interstitial fibroid were present. These conditions were all cured by the use of sponge tents. About the middle of last May she was attacked with a profuse metrorrhagia, lasting ten or twelve days. Fungous vegetations were removed with the curette. The June period occurred normally on the 22d, but a recurrence of the bulging in the posterior wall was noticed. She went to the sea-shore, but returned on July 22d, worn out, thin, and with white, anæmic lips. She had had a sanious discharge from the vagina for the preceding twelve days. Her condition had been diagnosed at the shore as "fibroid and ulcerated cervix." The os was as large as a five-cent nickel. The cervix was filled with a pulsatious mass, which was extruded by the free use of ergot. On July 25th the speaker removed from the body of the uterus a tumor three inches long

by two inches thick—a fibro-sarcoma which had grown in the course of thirty days. The patient recovered rapidly.

Dr. DRYSDALE thought this very rapid. These tumors were likely to recur.

Abscesses of Both Ovaries.—Dr. JOSEPH PRICE exhibited a specimen. In his experience it had been a common condition. He had operated in four such cases within three months. This patient had escaped unoperated upon from Birmingham. Pus was present in both tubes. The operation was a complete enucleation without ligature.

Dr. Price also exhibited a "cotton rope," or wick, which he used in drainage-tubes. It became filled with blood, serum, etc., and was replaced with a clean one two or three times a day. This kept the openings clear, and favored the discharge of fluids.

NEW YORK PATHOLOGICAL SOCIETY.

Meeting of May 11, 1887.

The President, Dr. T. MITCHELL PRUDDEN, in the Chair.

Measles, Pneumonia, and Diphtheria.—Dr. W. P. NORTHRUP presented the larynx, trachea, lungs, and kidneys of a child which had died in the New York Foundling Asylum at noon that day. It had been brought into the asylum on the 3d of May, sick with measles. There was very little respiratory trouble, and there were no signs of croup. The dyspnoea from which the child afterward suffered was supposed to be due to a well-marked double pneumonia. There were at no time croupy symptoms, nor was any membrane to be seen in the throat. Yet the autopsy revealed a tough membrane, extending from the tip of the nose down into the finest bronchi at the base of the lungs. There was in the larynx an abundant deposit of the membrane, yet there had been no symptoms of croup. This fact was interesting in connection with another which the speaker had seen in some cases of measles—namely, marked croupy cough, sometimes with loss of voice, although no membrane was present, the anterior commissure of the vocal cords, however, being found ulcerated. If the slough at that point constituted diphtheria, that was its only location. The case was also interesting with regard to the condition of the lungs and kidneys. The lower lobe of the left lung was nearly solid, and when first removed was blue and sunken. The same condition was present in the right lung until it was inflated by blowing with some force through a pipette. The appearance of the lung corresponded to the descriptions given of atelectasis, and the test of inflation would bear out that diagnosis. But after inflation the lung was rose-colored, there was infiltration of the bronchi, and there were signs of parenchymatous pneumonitis. The speaker had examined the lungs in many cases for several years past, to determine whether it was collapse or pneumonia which killed children after tracheotomy. In no case in which there was membrane in the trachea and bronchi, and an area of livid, depressed, but inflatable lung, corresponding to the classical descriptions of collapse given by authors, had he failed to find conclusive evidence of parenchymatous pneumonitis. In the alveoli there were pus and swollen cells, probably swollen epithelial cells, although he could not say positively that they were not pus cells. In the alveoli, supposed by some authors to be collapsed, he had occasionally found fibrin. He thought the presence of pus, swollen epithelium, and fibrin placed it beyond doubt that it was pneumonitis and not collapse. Many cases had been reported recently in which the authors spoke of there being albumin in the urine drawn after death. The speaker was unable to say how soon after death albumin might make its appearance in the urine, but he had examined the urine soon after death (within three hours) in a number of cases, and had

found that there might be albumin without casts or indications of nephritis. He thought drawing the urine after death and finding albumin did not show that the patient had had nephritis. In the present case the autopsy was made within half an hour after death, and albumin and casts were found in the urine. The kidneys were anæmic, as were also the lungs. The speaker queried how much this anæmia of the internal organs was due to opening the aorta and letting out the blood. The gross appearance of the kidneys did not enable him to judge whether or not there was parenchymatous nephritis, but this was indicated by the microscope.

General Tuberculosis; Hæmorrhage into the Brain.—

Dr. NORTHRUP also presented specimens from a child which was brought to the asylum, having been taken suddenly with convulsions, which continued twelve hours, when it died. The only condition found, aside from general tuberculosis, was punctate hæmorrhages at the floor of each lateral ventricle of the brain. The ventricles were much dilated, and contained considerable serum. It was a question whether the convulsions were due to the hæmorrhage into the ventricles, or whether the hæmorrhage was due to the convulsions. The liver, among other organs, contained tubercles; it was large, and on its cut surface there appeared to be nodules, which were found, on examination, to consist of dilated gall-ducts. The walls of these ducts were stained green and thickened. This condition was unusual in the general tuberculosis of adults, but was common in that of children.

Dr. W. H. PORTER thought hæmorrhage into the lateral ventricle of the brain was likely to be followed by contraction of the pupil on that side, and afterward by dilatation; then came contraction of the other pupil, succeeded by dilatation. He thought that, with that peculiar condition of the pupils in a case in which there was loss of consciousness, there was likely to be hæmorrhage into the lateral ventricles. He did not know why an effusion into the ventricles might not give nearly the same symptoms that a moderate hæmorrhage would produce.

Dr. NORTHRUP remarked that the convulsions had been sudden, severe, and general, ending in coma. That would seem to point to an effusion into the ventricles.

Book Notices.

A Practical Treatise on Renal Diseases and Urinary Analysis.

By WILLIAM HENRY PORTER, M.D., Professor of Clinical Medicine and Pathology in the New York Post-graduate Medical School and Hospital, etc. Containing One Hundred Illustrations. New York: William Wood & Co., 1887. Pp. xiii-349.

WITH such classical works on kidney affections as Roberts's, Tyson's, and others, an author must have good reasons for entering this field of medical literature. In Dr. Porter's case these seem, as he tells us in the preface, to rest on a large experience in the pathological laboratory, extensive investigations in experimental pathology on the lower animals, and a line of reasoning different from that of other writers on the same subject. Heretofore, he says, renal diseases have been studied chiefly from the clinical and pathological points of view. He has added in his reflections the physiological standpoint. We are thus prepared for novel ideas, of which we get an abundance in the text.

The book is divided into two parts. The first treats of the various kidney affections, the second of urinary analysis. It is a difficult task to criticise the first part. The author speaks with

such positiveness and dogmatism that he disarms all criticism and evokes instead a feeling of gratitude for his having supplied us with what appears *terra firma* instead of what has always appeared as an ocean of skepticism and uncertainty. The young student, at least, would feel thankful to him were it not that the classification is interminable and not a little confusing. "Acute parenchymatous metamorphosis of the kidney" takes the place of acute parenchymatous nephritis. Sclerosis of the kidney is subdivided into four forms. Three varieties of chronic diffuse nephritis are given, each of which, it is stated, can be distinguished by some differences in the urine. Syphilis is considered as an aetiological factor of one variety. The complications of renal diseases are enumerated, and under the complication of peritonitis the subject of acute kidney affections following surgical operations is discussed. The remarks in this connection are timely, and, if too positive, at least raise a note of warning not to be unheeded in the management of surgical cases.

The second part, devoted to urinary analysis, takes up 145 of the 339 pages which form the volume. That the subject is important and worthy of thorough treatment every one will admit. But there may be a few who will find fault with the author for padding this part with nearly ten pages of an article on the fermentation test that recently appeared in a medical journal, and would like to be told if the test has been found more reliable and more expedient than the simple quantitative test given by Roberts. The reviewer, from his experience, is inclined to answer in the negative.

GENERAL LITERARY NOTES.

AMONG recent foreign publications we note the following:

ASSELIN & HOUZEAU, Paris.—A. Boucard, "Nouveaux éléments de pathologie externe." Vol. i, part 1. (6fr.) — C. Paul, "Diagnostic et traitement des maladies du cœur." 2d ed. (16fr.)

A. DELAHAYE & E. LECROSNIER, Paris.—C. L. Quincerot, "Manuel de thérapeutique dentaire spéciale et de matière médicale appliquée à l'art dentaire." — Odent, "Des angines pseudo-membraneuses au cours de la scarlatine." (2fr.)

BUREAUX DU "PROGRÈS MÉDICAL," Paris.—C. Féré, "Étude expérimentale et clinique sur quelques fractures du bassin." (1fr. 25.) — F. Guyon and C. Féré, "Note sur l'atrophie musculaire consécutive à quelques traumatismes de la hanche." (0fr. 50.) — H. Picard, "De l'incontinence nocturne d'urine essentielle." (0fr. 50.) — A. G. Raison, "Des traitements des phénomènes douloureux de l'ataxie locomotrice progressive par pulvérisations d'éther et de chlorure de méthyle." (2fr. 50.)

G. STEINHEIL, Paris.—A. Lutaud, "Étude médico-légale sur les assurances sur la vie et le secret médical." (2fr.)

F. HAYEZ, Brussels.—Masius, "Note sur l'action physiologique et sur l'action thérapeutique du sulfate de spartéine."

F. VALLARDI, Rome.—G. Cesari, "Il feto e suoi preparati." 2d ed. (4l.) — P. Schivardi, "Manuale teorico pratico di elettroterapia." 2d ed. (7l. 50.) — P. Loreta, "Conferenze cliniche sulle lussazioni traumatiche." 2d ed. (6l.) — E. Perroncito, "I parassiti dell'uomo e degli animali utili." (20l.) — G. Bizzozzero, "Di un nuovo elemento morfologico del sangue e della sua importanza nella trombosi e nella coagulazione." (2l. 50.)

Miscellany.

The City Board of Health.—At a recent meeting of the board, the following resolutions were passed:

Resolved, That Dr. W. DeF. Day be and is hereby relieved of the duties of Register of Records of this Department.

Resolved, That Dr. R. S. Tracy be and is hereby transferred from

the position of Chief Sanitary Inspector to that of Register of Records, and that his salary be fixed at \$3,000 per annum.

Resolved, That the position of Chief Inspector in charge of the Sanitary Police be and is hereby abolished, and that William Bullard be transferred to the position of Chief Sanitary Inspector, vice Dr. Tracy transferred to the Division of Vital Statistics, and that the Sanitary Police report to Chief Sanitary Inspector Bullard.

Resolved, That on September 19, 1887, the medical sanitary inspectors of this Department be transferred to the Division of Contagious Diseases, and that on that date they do report to Dr. J. B. Taylor, Chief Inspector of that Division, for instructions.

Resolved, That the Chief Inspector of the Division of Contagious Diseases be and is hereby directed to report to this board at once a comprehensive and concise plan for the instruction of the medical sanitary inspectors in the performance of their duties, whereby a systematic and persistent war can be waged on all forms of preventable and contagious diseases in this city.

Resolved, That from and after January 1, 1888, the medical sanitary inspectors be graded as follows: *First Grade*.—This grade shall consist of all such medical sanitary inspectors as may thereafter become connected with this branch of the department, together with all such medical sanitary inspectors as are then connected with this branch of the service who have served the department satisfactorily in the capacity of medical sanitary inspectors for three years or less. The salary of this grade shall be \$1,200 per annum. *Second Grade*.—This grade shall consist only of such members of the first grade as shall have served satisfactorily in that grade for the term of three years, together with all other medical sanitary inspectors of this branch of the service as at present constituted. The term of service of each member of this grade shall be two years and the salary shall be \$1,500 per annum. *Third Grade*.—This grade shall consist of only such medical sanitary inspectors as shall have served satisfactorily in the second grade for the full term of the same. The term of service of each inspector of this grade shall be three years at a salary of \$1,800 per annum. *Fourth Grade*.—This grade shall consist only of such of the members of the corps as shall have served satisfactorily in the third grade for the full term of its service. The salary of this grade shall be \$2,000 per annum.

Government Health Reports.—By direction of the Secretary of the Treasury, Dr. John B. Hamilton, Surgeon-General of the Marine-Hospital Service, has issued the following abstract of sanitary reports received during the week ending September 15th:

England and Wales.—The deaths registered in twenty-eight great towns of England and Wales during the week ending August 27th corresponded to an annual rate of 20.8 in a thousand of the aggregate population, which is estimated at 9,245,099. The lowest rate was recorded in Sunderland, viz., 17.7, and the highest in Preston, viz., 38.8 in a thousand. Small-pox caused 5 deaths in Sheffield.

London.—One thousand four hundred and ninety deaths were registered during the week ending August 27th, including 29 from measles, 36 from scarlet fever, 24 from diphtheria, 51 from whooping-cough, 13 from enteric fever, 191 from diarrhoea and dysentery, and 3 from cholera and choleraic diarrhoea. There were 160 deaths from diseases of the respiratory organs. Different forms of violence caused 50 deaths, and 6 suicides were registered. The deaths from all causes corresponded to an annual rate of 18.5 in a thousand. In greater London 1,911 deaths were registered, corresponding to an annual rate of 18.4 in a thousand of the population. In the "outer ring" 93 deaths from diarrhoea were registered.

Ireland.—The average annual death rate represented by the deaths registered during the week ending August 27th in the sixteen principal town districts of Ireland was 24.1 in a thousand of the population. The lowest rate was recorded in Lisburn, viz., 4.8, and the highest in Wexford, viz., 42.8 in a thousand.

Dublin.—One hundred and ninety-eight deaths were registered during the week ending August 27th, including 13 from measles, 1 from whooping-cough, 3 from enteric fever, 26 from diarrhoea, and 4 from dysentery. Diseases of the respiratory organs caused 24 deaths. Five accidental deaths were registered, and in 34 instances the causes

of death were uncertified. The deaths from all causes corresponded to an annual rate of 29.2 in a thousand.

Scotland.—The deaths registered in eight principal towns during the week ending August 27th corresponded to an annual rate of 18.7 in a thousand of the population, which is estimated at 1,299,000. The lowest mortality was recorded in Greenock and Leith, viz., 14.4, and the highest in Perth, viz., 25.9 in a thousand. The aggregate number of deaths registered from all causes was 466, including 2 from measles, 16 from scarlet fever, 10 from diphtheria, 26 from whooping-cough, 4 from fever, and 53 from diarrhoea.

Germany.—The deaths registered in fifty-two cities of Germany, having an aggregate population of 6,821,222, during the week ending August 20th, corresponded to an annual rate of 26.3 in a thousand. The lowest rate was recorded in Mülhausen, viz., 13.8, and the highest in München, viz., 40.3.

Calcutta.—Two thousand four hundred and sixty-three deaths were registered during the quarter ending June 30, 1887, including 438 from cholera, 679 from fevers, 190 from dysentery and diarrhoea, and 2 from small-pox.

Naples.—The United States consul, under date of August 22d, states that "since my dispatch of the 10th instant there have been about 77 cases of Asiatic cholera in this city, the mortality being 70 per cent. The number of cases at Resina is unknown, all official information being withheld. The disease appears to be on the decline."

Malta.—The United States consul, under date of August 22d, states that "since the 13th instant the number of cases of cholera and deaths ensuing therefrom which occurred in this island have been officially reported to be 70 cases and 19 deaths. Twenty-six deaths occurred during the same period from cases previously reported. . . . The epidemic, which some doubt whether it is the real Asiatic cholera, has not assumed alarming proportions considering the dense population of this island and the intense heat prevailing this summer."

Marseilles.—The United States consul, under date of August 4th, states that "the health of Marseilles, notwithstanding the constant and excessive heat which has prevailed during the past thirty days, has been exceptionally good. . . . I am assured that not only is there no choleraic disease in the city, but likewise none of that tendency to digestive disturbances which preceded both recent epidemics. A strict quarantine is maintained in case of all vessels arriving from the infected ports, and the sanitary prospect at Marseilles for the remainder of this year is thought to be exceptionally favorable."

Gibraltar, August 19th.—The board of health has this day decided that the existing restrictions on arrivals from southern Italy be extended as far as the Promontory of Gargano, in the Gulf of Manfredonia.

Livingston, Guatemala.—The secretary of the legation of the United States at Guatemala City, under date of the 7th instant, states that 4 cases of yellow fever are reported at Livingston.

Havana.—The sanitary inspector, Dr. D. M. Burgess, reports 15 deaths from yellow fever and 47 from small-pox for the week ending September 3d.

MORTALITY TABLE, FOREIGN CITIES.

CITIES.	Week ending—	Estimated popu- lation.	Total deaths from all causes.	DEATHS FROM—						
				Cholera.	Yellow fever.	Small- pox.	Typhus fever.	Erysip- elas.	Scarlet fever.	Diphtheria.
Paris	August 20.	2,290,045	885	...	...	11	...	18	4	18
Glasgow	August 27.	545,678	183	...	...	...	...	1	5	5
Warsaw	August 20.	439,174	298	...	...	22	...	...	...	...
Calcutta	July 23.	433,219	181	19	...	...	...	...	...	...
Amsterdam	August 27.	378,686	156	...	...	...	...	...	...	2
Rome	July 2.	372,779	181	...	...	4	...	2	1	...
Münch	August 26.	2,000,000	211	...	...	...	3	...	4	2
Palermo	August 21.	250,000	274	85	...	...	...	...	...	3
Edinburgh	August 20.	258,020	84	...	...	...	...	1	2	...
Bolton	August 27.	224,122	115	...	...	...	...	2	1	...
Bristol	August 27.	223,695	81	...	...	...	...	...	4	2
Havana	August 25.	218,000	181	...	15	40	...	1	...	...
Göteborg	August 20.	170,264	97	...	...	1	3	...	...	...
Trieste	August 20.	151,157	81	...	...	3	...	1	2	3
Stuttgart	August 27.	125,510	41	...	...	...	...	...	1	...
München	August 20.	110,000	49	...	...	...	...	...	1	1
Havre	August 20.	112,074	91	...	...	...	...	22	...	...
Rotterdam	August 20.	97,903	64	...	...	...	...	...	1	1
Leith	August 13.	72,297	22	...	...	...	...	...	...	1
Melbourne	August 23.	50,000	162	...	2	...	...	...	...	...
Mayence	August 13.	65,701	44	...	...	1	...	...	1	...

UNITED STATES.

Key West, Fla.—Yellow Fever.—Two hundred and eighty-two cases and 62 deaths have been reported up to September 14th. Eighteen cases are now under treatment.

ANSWERS TO CORRESPONDENTS.

No. 44.—The vinegar need not be diluted.

No. 45.—The word is pronounced to-mah-ene.

No. 46.—(1) We do not know what has become of Dr. Ferrán. As to his alleged discoveries in the preventive inoculation of the cholera microbe, they seem to have excited no interest among scientific men, since a French commission made its report, a year ago or more, which report intimated that the opportunities necessary for a proper investigation of Dr. Ferrán's processes had not been afforded. (2) For accounts of Kolischer's treatment of tubercular deposits, see the Journal for July 30th, page 131, and for August 6th, page 159. We know of no more precise published data than were given by our Vienna correspondent.

No. 47.—The instrument is made by Messrs. Stohlmann, Pfarre, & Co., 107 East Twenty-eighth Street, New York.

To Contributors and Correspondents.—The attention of all who purpose favoring us with communications is respectfully called to the following:

Authors of articles intended for publication under the head of "original contributions" are respectfully informed that, in accepting such articles, we always do so with the understanding that the following conditions are to be observed: (1) when a manuscript is sent to this journal, a similar manuscript or any abstract thereof must not be or have been sent to any other periodical, unless we are specially notified of the fact at the time the article is sent to us; (2) accepted articles are subject to the customary rules of editorial revision, and will be published as promptly as our other engagements will admit of—we can not engage to publish an article in any specified issue; (3) any conditions which an author wishes complied with must be distinctly stated in a communication accompanying the manuscript, and no new conditions can be considered after the manuscript has been put into the type-setters' hands. We are often constrained to decline articles which, although they may be creditable to their authors, are not suitable for publication in this journal, either because they are too long, or are loaded with tabular matter or prolix histories of cases, or deal with subjects of little interest to the medical profession at large. We can not enter into any correspondence concerning our reasons for declining an article.

All letters, whether intended for publication or not, must contain the writer's name and address, not necessarily for publication. No attention will be paid to anonymous communications. Hereafter, correspondents asking for information that we are capable of giving, and that can properly be given in this journal, will be answered by number, a private communication being previously sent to each correspondent informing him under what number the answer to his note is to be looked for. All communications not intended for publication under the author's name are treated as strictly confidential. We can not give advice to laymen as to particular cases or recommend individual practitioners.

Secretaries of medical societies will confer a favor by keeping us informed of the dates of their societies' regular meetings. Brief notifications of matters that are expected to come up at particular meetings will be inserted when they are received in time.

Newspapers and other publications containing matter which the person sending them desires to bring to our notice should be marked. Members of the profession who send us information of matters of interest to our readers will be considered as doing them and us a favor, and, if the space at our command admits of it, we shall take pleasure in inserting the substance of such communications.

All communications intended for the editor should be addressed to him in care of the publishers.

All communications relating to the business of the journal should be addressed to the publishers.

Original Communications.

THE TOXIC EFFECTS OF IODOFORM, CUTANEOUS AND SYSTEMIC.*

By R. W. TAYLOR, M.D.,
SURGEON TO CHARITY HOSPITAL.

AMONG the important advances which have been made within the past ten years in medicine and surgery, and particularly ætiology and therapeutics, the contributions to our knowledge of the toxic action of drugs, systemic and cutaneous, may, I think, deservedly take high rank. While, ten years ago, our knowledge of the toxic effects of drugs upon the skin was limited and fragmentary, to-day it is much more extended and far more systematic. Many drugs which were formerly thought to be harmless are now known to possess toxic properties which develop upon the skin. Indeed, in no department of medicine has more good work been done than in the study of drug eruptions, much of it, by the way, by American observers. It is pleasing to note that two monographs on this subject, showing wide and painstaking observation and much erudition, have appeared within the present year from the pens of two members of this association, Dr. White and Dr. Morrow. It is in the line of this good work that I venture to present this paper upon the action of iodoform, which within the past seven years has been shown to possess the most subtle and formidable toxic qualities, systemic and cutaneous. Though a number of cases of the iodoform exanthem have been published, our knowledge of the subject is to-day incomplete and unsatisfactory. The literature is as follows: Zeissl reported two cases, 1881; Fifield one case, 1882; Fabre published two, Janowsky six, and from Neisser appeared a short article based on seven cases, in 1884; Goodell one case in 1885; Treves two cases and Köster-Syke one case in 1886; Koenig, in 1882, and Hoepfl, in 1883, spoke casually of erythema occurring in cases of iodoform poisoning. There are really, however, but sixteen cases on record from which definite information may be obtained. To these I add nine, seven of which occurred in my surgical and genito-urinary practice, and two were under the care of friends.

The histories of these cases, which I will give with all possible brevity, very clearly portray the multiform dermal changes due to this drug. Since the toxic action is largely and sometimes wholly systemic, the constitutional effects of the agent must also be considered in this essay.

Finally, the practical lessons drawn from my own experience and from my study of that of others, which are of interest to physicians and surgeons as well as dermatologists, will also be considered.

CASE I.—A man, aged twenty-one, in the fall of 1885 presented two small chancroids on the inner layer of the prepuce. He applied iodoform to the surface, and within three hours the whole penis and scrotum were red, swollen, and the seat of intense

pruritus and burning. By the use of cooling lotions in the recumbent position, the inflammatory symptoms disappeared in three days. As the chancroids were still active, I touched them with an ethereal solution of iodoform (5j to ʒj), and in a few hours an erythematous œdema, nearly as severe as the first, was produced. There was no systemic reaction.

CASE II.—A man, aged thirty-two, syphilitic four years, having extensive rupial syphilide, was under my care at Charity Hospital in the summer of 1884. So wretched was his condition that it was thought best to conciliate the stomach with easily digestible food before beginning internal medication. The crusts were soaked with oil, and those on the left leg removed at the first séance. The exposed ulcers were washed, and then quite freely dusted with iodoform, and the limb bandaged. That night the man slept very little, and complained of great burning and tension in the diseased parts. The next day a deep-red erythematous eruption had spread from the leg to the thigh. There were elevation of temperature, severe frontal headache, and giddiness and absolute anorexia. The erythema, which was very superficial, appeared about the neck and shoulders and increased rapidly, and merged with the invading erythema of the thigh, and in forty-eight hours covered the whole body. The appearances were those of scarlatina. There were no throat symptoms, nor had the patient taken quinine or any medicine surreptitiously. The use of iodoform was discontinued, and the rash faded, with decided exfoliation, in about four days.

CASE III.—A woman, aged twenty-eight, syphilitic four years, was admitted to Charity Hospital in the fall of the year 1882 for an extensive gummatous ulcer of the left leg. It was freely dusted with iodoform, and a retentive bandage applied. Two days later she complained of a burning and throbbing pain of the part. She had diarrhœa and vomiting, complained of great frontal pain, had delusions, and was utterly prostrated. An œdematous erythema, almost as pronounced as that of erysipelas, beginning in the bandaged leg, invaded the thighs, buttocks, and hypogastrium. Fully two weeks elapsed before this woman's local and general condition was as favorable as it was prior to the use of the iodoform. She had taken iodide of potassium prior to the appearance of this drug eruption, and did so afterward with impunity.

CASE IV.—A woman, aged twenty-six, in the fourth year of syphilis, was attacked in June, 1885, with infiltration in the inguinal ganglia of the right side, which were excised and eurented. The case was much retarded by the constant appearance of new infiltrated ganglia. The woman's general condition was poor, and the wound cavity was slow to heal under iodoform and gauze. On the twelfth day, shortly after a healthy healing surface had been observed, the wound became unhealthy in appearance, its surface pale, flabby, secreting no pus, but a scanty and bloody serum. The integument around it upon the hypogastrium and groin became painful, red, and œdematous. Within twenty-four hours a patch, fully ten inches in diameter, was the seat of this erythema, which was sharply margined. On the second day groups of papules and papulo-vesicles and pustules developed, and the appearances were much like those of erythema multiformis of severe type. Under appropriate treatment the erythema fully disappeared by the eighth day. Coincidentally with the appearance of the rash the patient became weak, restless, dizzy, and drowsy. Temperature was 101° F., and urine was scanty and albuminous, but showed no casts nor blood. At no time was more than a drachm of iodoform used in the wound cavity, and just before the morbid outburst about half that quantity was used.

CASE V.—For the history of the following case I am in-

* Read before the American Dermatological Association at its eleventh annual meeting.

debted to my friend, Dr. A. G. Gerster. A. B., a laborer, aged thirty-four, was admitted into the German Hospital, January 2, 1887, on account of an ulcerated stump of the right thigh. Re-amputation was performed, January 7th, just above the condyles. Drainage-tubes were inserted, and the wound was dressed with iodoform and corrosive sublimate gauze. On January 8th an intense erythema of thigh and thorax, also of face, arms and hands, and left lower extremity—in fact, of the whole body—appeared. Eruption resembled scarlet fever. The patient had not taken quinine. Severe itching was experienced all over body. No systemic symptoms were observed.

January 10th.—A change of dressing to boro-salicylic lotion was made. Wound united by primary adhesion. Erythema about the line of union, where the iodoform gauze had been applied, has become the seat of bullæ.

11th.—Erythema has disappeared, leaving desquamation over the thighs, abdomen, and gluteal regions.

CASE VI.—Zeissl's first case* was that of a boy three years of age upon whose leg was an ulcer which was dressed for fourteen days with iodoform, when his temperature rose to 105° F., and he became drowsy and vomited and passed albuminous urine. At this time a sharply outlined erythematous eruption appeared on the flexor aspect of the upper part of each arm and on the inner aspect of each thigh, with islands of unaffected skin. Discontinuance of the use of iodoform was followed by fading of the rash and cessation of the morbid symptoms. A second application caused a similar result in two days. After that the drug was still used and the patient became gradually accustomed to it, so that it no longer produced an inflammatory reaction.

CASE VII.—The second case was that of a man, aged thirty-six, having caries of the rib with sinus. This was treated with a pencil of iodoform every second day, when after ten days an erythema urticata in circumscribed patches appeared on the flexor aspects of the limbs.

CASE VIII.—Janowsky † reported the following five cases at the International Medical Congress at Copenhagen:

1. A man, aged twenty-eight, having soft chancres which were dusted with iodoform, was attacked with fever, and an erythema appeared on thighs, right hypogastrium, and lumbar region. The temperature remained elevated two days; the erythema extended to the left side and grew pale in three days. The iodoform being still used, the eruption invaded the forearms and disappeared in two days with desquamation. Temperature was normal during the latter part of the attack. In this case, as in others observed by this author, continued use of the drug caused a repetition of the appearance of the exanthem.

2. A man, aged twenty-two, had an ulcer on the sulcus glandis, and an open bubo, which was treated with a permanent iodoform dressing. In twenty-four hours an eruption of small red papules appeared on the hypogastrium which in places became confluent. On the third day a similar eruption appeared on the left forearm, which later on, like the former, became a diffuse erythema. Still later the buttocks were similarly invaded. The eruptions disappeared rapidly, there being slight scaling. There was no fever at any time.

3. A man, aged thirty-one, had a scattered ulcerating syphilide. Some of the ulcers on the legs were scraped and dressed with iodoform. On the next day the patient complained of severe itching on the thighs, and in two days a symmetrical eruption resembling erythema iris appeared on the thighs and legs which disappeared in two days with slight desquamation.

Fourteen days later a similar application was made, and was followed by an erythema similar to the first one.

4. A man, aged twenty-four, had soft chancres on the penis, and a bubo, which had been incised and dressed with iodoform. Three days later there was a rise in temperature, and an erythema appeared on the surrounding parts and extended to the hip, the buttocks, and the chest. The congestion was so great that hæmorrhage took place from some of the papules seated on the erythematous surface. Three days after the substitution of bichloride gauze for the iodoform the eruption disappeared. But when the latter was again used, some days later, the eruption reappeared.

5. A man, aged forty-eight, had an ulcerated gumma of the left calf which was dressed with iodoform. No internal treatment was ordered. In three days an erythema appeared on the left thoracic region, the back, and the left shoulder-blade, accompanied with a mild but ephemeral fever. Very soon large bullæ formed on the reddened surface and ran a similar course to those of pemphigus.

CASE IX.—Dr. Köster-Syke* gives his personal experience very graphically as to the action of both carbolic acid and iodoform on the integument. The latter was to him a veritable poison, even if he merely came near it. A short time after using it in his professional capacity he experienced a fearful itching of the whole body, slight elevation of temperature, and during the night his face and hands up to the elbows became red, swollen, and the seat of large bullæ. For three or four days so great was the swelling of the face that his eyes were closed. For a long time he ceased to use iodoform in his practice, but later on ventured to use it about the eyes of his patients, taking all precautions, even to wearing kid gloves, in order that none of the drug should come in contact with his skin. In spite of this care, in ten minutes he experienced itching on the hands and face, which during the evening became red and swollen. Such was his suffering from simply smelling the drug.

Not long ago I was consulted by a young man for obstinate ulceration of the prepuce following herpes, who requested me particularly not to prescribe iodoform, since upon two occasions when he had used it his room-mate had suffered severely from coryza and swelling of the eyelids.

CASE X.—Treves reports the following case: † A well-developed, healthy girl, aged thirteen, was admitted, in April, 1886, into the London Hospital with a simple ununited fracture of the left ulna. On May 8th the fracture was cut down upon and at first dressed with Lister's gauze, which, two days later, was replaced by iodoform. No ill effect of the drug was experienced until the end of May, when the wound had become very shallow. Then, when comparatively little iodoform was being used, on June 1st, the entire forearm became evenly swollen and oedematous, slightly red and tender. From this time on for several days there was elevation of temperature. Soon a crop of vesicles appeared on the morbid surface, limited to the forearm but not to the wound. On June 2d the use of iodoform was discontinued and the rash was healing. Three days later, after the discontinuance of the use of iodoform, after a few hours of severe headache and giddiness, a rash, limited to the left forearm, arm, and shoulder, made its appearance. In a day it spread to the neck, face, and chest. The eruption, seated on the erythematous surface, consisted of pin-head sized, pale-red papules grouped together in clearly defined patches of the sizes of a five-cent nickel-piece and of a half-dollar. At the end of

* "Zwei Fälle von Jod-Exanthem nach äusserlicher Anwendung des Iodoforms," "Allg. Wien. med. Ztg.," xxvi, 455, 1881.

† "Vierteljahrsschrift für Dermatologie und Syphilis," pp. 495 et seq., 1884.

* "Hochgradige Idiosynkrasie gegen Iodoform und Karbol," "Deutsche Medizinal-Zeitung," April 26, 1886.

† "The Iodoform Rash," "Practitioner," October, 1886.

the second day the eruption had disappeared. On the day after its appearance the wound had assumed an unhealthy look. In a few days healing began and the patient was discharged cured.

CASE XI.—A man, aged twenty-seven, had, in January of this year, a suppurating bubo, which after incision I curetted, dusted the cavity with about a drachm of iodoform, and then stuffed it with plain gauze, retained by a spica bandage. During the night he suffered from great heat and itching in the wound, and on the following day at 5 P. M. I found an erythematous rash, which had extended from it nearly to the umbilicus and half-way down the thigh. Excepting the burning and itching sensation, there was no systemic involvement whatever. On the third day after operation the eruption presented every feature of a severe eczema madidans. Under treatment, in a week resolution had nearly taken place, there still being, however, slight infiltration and scaling. The singular point in this case is that the chancroids which caused the bubo were promptly healed by iodoform without any unpleasant complication.

CASE XII occurred in the person of a physician, aged thirty-six, who came to me in his fourth year of syphilis. He gives his experience as follows: "Iodoform is to me poisonous in a very high degree. The effects are the same whether I use it locally or whether I only handle it in treating patients. My sufferings are in proportion to the amount of the drug used. About three hours after having used it, a sensation of intense heat is felt in my head. My face becomes flushed, hot, and itchy, my nose and eyes run profusely, and my feet are hot and sore. In the mean time different parts of my body are similarly affected, such as the hands, neck, shoulders, penis, scrotum, and a spot over the sacrum. When this period of heat is in progress, the affected parts become of a deep-red color and excessively itchy. In less than two hours the parts become greatly swollen and covered with myriads of small vesicles, superficial and deep, which contain a yellowish serum. The more superficial vesicles will break of themselves and ooze profusely, an odor of iodine being perceptible. The larger and deeper vesicles, which are seated on parts with quite thick epidermis, usually fuse together into patches. The process is especially severe upon the fingers and toes and around the matrix of the nails. The nostrils and the inside of the nose for some depth are usually affected very severely, become swollen, oozing, and covered with crusts. This same eczematous condition also affects my face and beard. After several days have elapsed under treatment, the intensity of the morbid process diminishes, the itching and discomfort become less, the swelling slowly subsides, the crusts fall, and in a short time the thickening and redness of the skin disappear. If, however, proper treatment is not adopted, a well-marked eczema results which is exceedingly difficult to cure." On one occasion these toxic phenomena were caused by the patient simply handling a box which contained iodoform, not a particle of which came in contact with his skin. Headache, great weakness, want of appetite, and restlessness are also experienced. This patient thinks that he is more susceptible to the influence of iodoform when he is taking iodide of potassium or some preparation of iodine. I watched the progress of eczema from iodoform in this case, seated on the hand, fingers, and face. It was typical in all its features, and differed from the eruptions of other cases of iodoform poisoning in showing the tendency to chronicity.

CASE XIII occurred in the service of my colleague, Dr. A. V. Stein, in Charity Hospital. It was that of a man, aged thirty, having several chancroids and severe balanitis. A few hours after dressing the parts with a small quantity of iodoform the patient experienced great heat and burning in the penis and scrotum, and an erythema appeared, which promptly

developed into typical eczema madidans, which extended nearly to the umbilicus and down the thighs for a few inches. There were no constitutional symptoms. A cure of the rash was effected in about a week.

CASE XIV occurred in the practice of Dr. J. H. Putnam, of Rutland, Vermont. I quote his words: "The patient, a healthy young woman, had catarrh of the middle ear, and I used iodoform dissolved in alcohol upon cotton in an inflator. In about four hours the face began to tingle and burn, and soon became very painful. This was followed by redness, swelling, and vesiculation, which went on rapidly to pustulation. All these morbid symptoms subsided as rapidly as they appeared. After three weeks a similar application was made to the ear, with the same result as before. A new inflator was used and no bad result followed until it was carelessly put in the same drawer with the old one. Its use was then followed by similar but milder symptoms. During the first attack she had slight febrile action, but there was none afterward."

CASE XV is of especial interest. The patient is a man, sixty-one years of age, who has worked in many minor capacities in Charity Hospital. Seven years ago, when, as boatman, his duties caused him to undergo cold exposure and contact with salt water, he suffered from an ulcer of the leg, which was dressed by one of the orderlies with iodoform ointment. Soon after an acute and severe eczema appeared on the hands and face. This was seen by several of the hospital surgeons, who attributed it to exposure. As the eruption resisted treatment while the man was careful to have his leg dressed with the iodoform salve, and as it grew better and even disappeared when he was irregular or ceased to have the applications made, he became convinced that the iodoform ointment applied to his leg caused the eczema of the hands and face. He discontinued the use of the ointment, and his eczema disappeared without any treatment, after having resisted the most careful use of proper remedies. Four years later he allowed an interne to experiment on him by applying an iodoform ointment to a cut, and as a result was promptly attacked on the face and hands with eczema. In January of this year he received a severe cut on the right wrist, which was dressed by an orderly with iodoform. Within twenty-four hours eczema appeared as before, and ceased on the discontinuance of the use of the drug. There were no systemic symptoms.

A case similar to this is reported by Neisser* as occurring in the person of a colleague who for some months suffered from an extensive eczematous eruption, the cause of which and of its continual recurrence they were unable to discover. Later on, when Neisser treated an injury to his patient's foot, he found that he had the iodoform idiosyncrasy, and that his eczema was wholly due to the action of that drug. He has since avoided it, and no longer has the eruption.

CASE XVI.—Fabre† reports the following: A syphilitic man, aged twenty-seven, having suffered from manifestations of an ulcerative and gummatous nature, and also from eczema, had upon the upper lip, near the left commissure, a rupial-looking patch, which was uninfluenced by internal treatment. An ointment of iodoform and benzoated lard (1 to 15) was then applied. Following the first application, an abundant serous

* "Ueber Iodoform-Exantheme," "Deutsche med. Wochenschrift," July 24, 1884.

† "Éruption eczémateuse provoquée par l'application d'une pommade à l'iodoforme chez un syphilitique," "Gazette med. de Paris," October 11, 1884.

discharge was observed upon the sore, and soon the integument of the whole face and head became red and swollen and the seat of exudation and itching. Under appropriate treatment the acute symptoms were relieved in a few days, and the iodoform ointment was again used, when the eczematous eruption appeared again with greater violence. Yet a third time was the same ointment applied with similar results. A strange feature of this case was that a year previously iodoform in powder had been used upon some ulcers without any bad results.

CASE XVII was reported by Fifield.* It was that of a young woman who suffered from deep ecthymatous ulcerations which had resisted mercurials and the iodides. One day several crusts were removed from the hands and from the left temple, and the surfaces left were dusted with iodoform. The next day, as nothing unpleasant had happened, the crusts of three other ulcerations of the scalp were removed and the surfaces were lightly dusted with the powder. Within a few hours the whole scalp became swollen and exuded a profuse serous discharge, and, in fact, presented the appearance of an acute eczema. There were no constitutional manifestations. The eruption disappeared in a week.

CASE XVIII, reported by Goodell,† was that of a woman, forty years old, of irregular habits, who had had, seven years previously, ragged and indolent ulcers, which had left scars. In August, 1881, she had a ragged ulcer of more than an inch in diameter on the chin, a little to the left of the median line. Various modes of treatment having failed, in the following March an ointment—an iodoform ointment (fifteen grains to the ounce)—was ordered. After its use for nine days the face became red, swollen, and covered with vesicles, and from it exuded a yellow serum. The eruption was accompanied by intense smarting and burning and a sense of tightness of the skin. The patient became slightly delirious, with weak and irregular pulse.

No.	Reported by	Age	Nature of skin lesion.	Time of appearance	Constitutional symptoms
1	Taylor.	M. 21	Intense erythema.	3 hours.	None.
2	"	M. 32	Erythema scarlatini-forme.	Few hours.	Anorexia, fever, headache, and giddiness.
3	"	F. 28	Erythema erysipeloides.	2 days.	Vomiting, diarrhea, headache, delusions, fever.
4	"	F. 26	Erythema multifforme.	12 days.	Fever, malaria, dizziness, and drowsiness.
5	"	M. 34	Erythema scarlatini-forme.	Second day.	None.
6	Zeissl.	M. 3	Erythema.	14 days.	High fever, vomiting, & albuminous urine.
7	"	M. 36	Erythema articatum.	10 days.	Fever.
8	Janowsky.	M. 28	Erythema.	Probably 1 day.	Fever.
9	"	M. 22	Papular erythema.	24 hours.	None.
10	"	M. 31	Erythema.	18 hours.	None.
11	"	M. 24	Papular erythema.	Third day.	Fever.
12	"	M. 48	Erythema bullosum.	Third day.	Mild fever.
13	Köster.	M. Not given.	Erythema bullosum.	Short time.	Not given.
14	Treves.	F. 13	Papular and vesicular erythema.	14 days.	Fever, headache, and giddiness.
15	Taylor.	M. 27	Eczema madidans.	1 day.	None.
16	"	M. 56	Eczema madidans.	3 hours.	Headache, loss of appetite, nervousness, and malaria.
17	Taylor & Stein.	M. 30	Eczema madidans.	Few hours.	None.
18	Pottam.	F. About 20.	Eczema rubrum.	Few hours.	Slight fever.
19	Taylor.	M. 61	Eczema madidans.	Few hours.	None.
20	Fabre.	M. 27	Eczema madidans.	24 hours.	None.
21	Fifield.	F. Young.	Eczema madidans.	24 hours.	None.
22	Goodell.	F. 40	Eczema madidans.	9 days.	Mild delirium, weak and irregular pulse.
23	Janowsky.	F. 16	Purpuric spots.	Third day.	None.
24	Hoepl.	F. 37	Red spots.	Uncertain.	Death on 10th day; fatty degeneration of heart, liver, and kidneys.

CASE XIX is Janowsky's sixth case. A girl, sixteen years old, anæmic and neurotic, had a patch of lupus tubercles and ulcers on the right thigh, which were scraped, scarified, and dressed with iodoform. Three days later purpuric spots appeared over the surrounding skin, and continued to develop as far up as the breasts. Discontinuance of the use of the drug was followed by the disappearance of the spots. Fourteen days later it was applied again, with the same result as at first. There was no elevation of temperature, nor rheumatism, nor were there any symptoms pointing to purpura rheumatica.

CASE XX is one of the four cases reported by Hoepl* of systemic iodoform poisoning. The patient was a woman, aged thirty-seven, whose breast was amputated and the wound dressed with iodoform (ten grammes) and iodoform gauze. Severe sensory disturbances were developed, and an exanthem of red spots over the whole body appeared. Death took place on the thirteenth day. Fatty degeneration of the heart, liver, and kidneys was found.

A clear idea of the most important features of these cases is given in the accompanying table.

In sixteen of these cases we find the association of constitutional symptoms in varying degrees with a well-marked exanthem. In nine cases the rash existed alone, without any apparent systemic reaction to the toxic agent. As a corollary to this we have the facts presented by the statistics compiled by Cutler† in his admirable article on "Iodoform Poisoning," which should be widely read, in which are given the main points of seventy-seven cases, all of them showing more or less grave constitutional disturbance, and yet in but five of them was there a history of a co-existent rash. The same features are presented by the more recent statistics of Willemer.‡ The conclusion is obvious that the toxic effects of iodoform are observed more frequently in the form of systemic involvement than in that of cutaneous manifestations, and, further, it may be said that it may set up inflammatory disturbances of the skin without any apparent constitutional reaction.

The nature of the skin lesions due to this agent may be concisely stated under the head of dermatitis; but they may, for the sake of accuracy, be further subdivided as follows, according to their relative frequency: First, erythema; second, eczema; and third, purpuric spots.

The erythemata due to iodoform present many of the features of similar simple eruptions, and to those due to other drugs. Their mode of invasion is prompt, and their extension rapid. They may increase from an original focus of contact with the drug, and extend over parts of or over the whole body, or they may also thus begin and be met with patches which have developed in parts remote from the point of invasion. Then, again, a more or less general erythematous rash may follow the simple act of smelling the agent, without any contact whatever. Reaching their full evolution in one or several days, they, under favorable circumstances, rapidly undergo involution, behaving much like the ordinary erythemata, except that their course is usually even more rapid.

* "Aerzt. Intelligenz-Blatt," xxx, München, 1883.

† "Boston Medical and Surgical Journal," July 29 and August 5, 1886.

‡ "Centralblatt für Chirurgie," No. 50, 1886.

* "Boston Med. and Surg. Journal," March 16, 1882.

† "Boston Med. and Surg. Journal," April 9, 1885.

Various forms of erythema have been noted. In some instances it is a very superficial and comparatively mild, pinkish exanthem; in others it is still superficial in character, but very deep in hue, and may be termed scarlatiniform, so great is the dermal congestion. Then, in rather exceptional cases, and usually in those presenting more or less grave constitutional symptoms, the erythema presents, in its hue and brawny feel, points of resemblance to erysipelas. While some cases have presented lesions similar to erythema iris and erythema urticatum, others have been observed of the papular, vesicular, and bullous forms, and come under the head of erythema multiforme. The toxic action of iodoform, therefore, may show itself on the skin in all of the forms of erythema.

The eczema caused by iodoform is usually of severe form and of rapid evolution. It may begin at the point of contact with the drug, or it may develop in parts far distant, or again appear in one or in several spots—such as the hands, face, and trunk—simply from smelling of the drug. Its character is pronounced from the first; much surface is rapidly involved; the erythema and infiltration go promptly on to vesiculation and the formation of a well-marked weeping surface, in all respects similar to the ordinary eczema madidans. In most cases the involution is almost as rapid as the evolution, provided the toxic agent is removed. But in some instances, perhaps of debility of marked eczematous tendency, or of excessive idiosyncrasy, the affection shows a tendency to become chronic. It is usually very amenable to treatment. My statistics show that eczema occurred nine times in twenty-four cases, being a ratio of forty-three in a hundred.

I am unable from my own observation to say anything as to the occurrence of purpuric spots as a result of iodoform intoxication. Janowsky reports such a case, in which the spots appeared on the third day, strange to say, without any co-existent systemic symptoms. Further observation is necessary upon this branch of the subject.

A mild form of erythema is often seen on the hands of dressers, nurses, and orderlies in hospitals, and of those who manufacture iodoform gauze, which has no specific characteristics whatever, and is comparable to the simple irritation produced by any drugs, such as mustard or the tarry preparations.

The date of appearance of these iodoform exanthems is interesting. In twelve cases the rash began within a few hours on the first day, in three on the second, three on the third, one on the ninth, one on the tenth, one on the twelfth, and in two on the fourteenth day. In one half of them, therefore, we find that the toxic action began very early. This is in marked contrast with the statistics of the cases of systemic poisoning, in the majority of which the morbid symptoms began in the second week. As a rule, it may be stated that, in proportion as the rash is slow in appearing, so are the concomitant symptoms severe. The cases reported seem to warrant the belief that the earlier the date of evolution of the rash, the more general and exanthematic it is.

The age of those patients showing a tendency to this form of toxic action of iodoform is noteworthy. Three

patients had not yet reached puberty, eleven were between twenty and thirty, seven were between thirty and forty, and one was sixty-one years of age. The statistics seem to show that this form of intoxication is most frequent in youth and middle age, in contrast with the severe forms, which occur more often in the aged.

The concomitant symptoms present much variation, since in nine cases they were absent, were mild in eight, and severe in five cases, in one of which death occurred.

It is probable that we shall have no more of those dreadful fatal cases, since we have now learned how to use the agent intelligently, and since it has been largely replaced by the bichloride dressing. Though thus limited, its use will still be very extended, since its action in promoting healthy granulation is more efficient than that of any other known agent. While we certainly shall not use quantities such as one hundred to two hundred grammes, which, strange to say, in some cases have produced no untoward results, we must bear in mind the fact that grave symptoms of poisoning have followed the use of fifteen grains and less.

The systemic symptoms presented in the foregoing cases varied considerably in degree. I am in accord with Cutler, who adopts Nussbaum's division of the symptoms of iodoform poisoning, making three degrees.

The first is comparatively mild. A loss of appetite, headache, disturbance of disposition by excitation or depression, a mild delirium or loss of memory, and sleeplessness may be observed.

In the second degree there are absolute anorexia, an intensification of the head symptoms, perhaps dementia, mania, or melancholy, weak and rapid pulse, mild fever, and emaciation.

The third degree is a continuation and intensification of the second. Such patients lie perfectly abject in sopor, with a rapid, thready pulse and a cold surface, and die in collapse.

The systemic symptoms in the majority of cases of iodoform exanthems belong to the first and second degree. In but one case did they go on to the third degree and end in death.

The origin of these exanthems in the toxic action of iodoform being beyond dispute, the interesting question suggests itself, In what way does the drug act? Certain of the cases show that at a given spot irritation of a high grade began, and from that form extended until much surface was involved in acute inflammation. The morbid process is, therefore, what is termed "contagion by continuity," in which healthy areas around a morbid one become affected. It is simply a local inflammatory process. This form of iodoform rash, itself an eczema, has its analogue in the eczema caused by mercurial ointment.

The diffused erythematous rashes of iodoform and the eczematous form developing at several different sites can hardly be accounted for in this manner. Their history shows, as a rule, that there is more or less systemic reaction, and that they are probably angio-neuritic in origin. They have their analogues in the quinine and antipyrine exanthems. The same origin undoubtedly exists in the

cases in which the mere smelling of the drug gives rise to severe local and general symptoms. Iodoform exanthems have no points of resemblance to those of iodide of potassium except in the erythema, but differ in being more ephemeral and less prone to hæmorrhagic exudation.

A consideration of all the facts presented by the foregoing cases shows clearly that, if we attempt to explain the ultimate origin of the morbid phenomena by the term idiosyncrasy, we must concede much latitude to that vague factor. In most of the cases of eczema caused by iodoform I am of the opinion that the irritating influence of the drug is equally an important factor as the individual peculiarity, and that the same facts apply to eczema provoked by mercurial ointment.

The cases, however, which, for want of a more precise term, I designate as of angeio-neuritic origin, can only be explained by the term idiosyncrasy or the mystery of individuality. I think that too much stress has been laid upon this indefinite factor by writers upon the severer forms of iodoform poisoning. In most of the cases the agent acted as a poison pure and simple. In those instances in which large quantities of the drug were used with impunity the probability is that for some occult reason absorption did not take place. Certain it is that, in all experiments on animals, where the agent was administered by the mouth or by subcutaneous injection, toxic phenomena promptly followed.

The practical lessons taught by the collective knowledge of the nature and action of iodoform should be well remembered, and may be concisely stated as follows:

A. Its use is indicated: 1. On fresh wounds.

2. On diseased surfaces—gangrenous, chancreoid, phagedenic, syphilitic, tuberculous—and on those slow to take on healthy granulation.

3. On the surface of necrosed bone.

B. Its use is contra-indicated: 1. On freshly cut bone.

2. On granulating surfaces.

3. In cases in which it is known or is found to produce toxic effects.

C. Modes of use: 1. It should be dusted on the surface lightly and sparingly.

2. In wound-cavities or in the natural cavities as small a quantity as possible should be employed; in the former it is preferable to use it in the form of gauze.

3. It should never be rubbed in with the finger.

4. Its application should be renewed as infrequently as possible.

5. Such aids to absorption as tightly fitting bandages and impermeable dressings should not be used.

6. Its use should be discontinued as soon as healthy granulations appear.

7. It should not be used coincidently with any other antiseptics, carbolic acid especially (Mosetig-Moorhof).

8. It should be used with great caution in the young and the old, in anæmic and neurotic persons, and those suffering from weak heart or Bright's disease; also in very fat and flabby subjects.

9. Should toxic symptoms appear, the iodoform dressing must be promptly and thoroughly removed.

D. The occurrence of anomalous forms of persistent or recurrent eczema in persons who handle or in any way come in contact with the drug, or who use it as an ointment or in suppositories in the vagina or rectum, should cause the physician to suspect the agent as the possible cause.

E. It is most important that the practitioner should exercise a watchful care over all patients for whom he prescribes this agent, and should he observe morbid symptoms, however mild, pointing to the brain, heart, or lungs, or a tendency to loss of appetite or emaciation, he should cause the discontinuance of its use at once.

F. The treatment of the skin manifestations is similar in all respects to that of the simple eruptions of the same varieties. Systemic poisoning should be treated symptomatically, since we have no specific.

40 WEST TWENTY-FIRST STREET, NEW YORK.

THE GRADUAL PREPARATORY TREATMENT OF THE COMPLICATIONS OF URINARY AND FÆCAL FISTULÆ IN WOMEN,

*Including a Special Consideration of the Treatment of Pyelitis by a New Method, and the Prevention of the Evils of Incontinence of Urine by a New System of Drainage.**

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In the course of my experience in the treatment of urinary and fæcal fistulæ, as I encountered new difficulties, I have described from time to time the cases and the means by which I endeavored to overcome them; but all, especially the more recent of my results, have not been published. The object of the paper, of which this is an abstract, is therefore to set these latter before the profession and to combine them with what I have already written. In this way I hope to communicate in a more systematic manner the results of my experience and observation in this department of the subject of fistula, which have extended over a period of thirty-four years.

The object of my method of treatment, preparatory to the performance of the operation for the closure of a fistulous opening, is to prevent and to overcome the injurious effects of incontinence of urine, and to remedy the complicating injuries and diseases of all the organs involved. In other words, to remove as far as possible the obstacles in the way of the easy performance and success of the final operation, and to cause the diseased tissues to return to a state of health, so that not only will the incontinence of urine be cured, but the functions of all the organs be preserved.

Treatment and Prevention of the Effects of Incontinence of Urine.—Inflammation and ulceration of the vagina, vulva, and buttocks, due to the contact of ammoniacal urine, may be treated in the usual way by cleanliness and stimulating and astringent applications. Although by these measures the sufferings of the patient are relieved to a considerable extent when for any cause the closure of the fis-

* An abstract of a paper read before the Section in Gynæcology of the Ninth International Medical Congress.

tula is long delayed, it is of the utmost importance that we should possess some form of instrument by which the urine may be drained away and its contact with the mucous membranes, integument, and linen of the patient be avoided.

After many experiments, I have recently devised an instrument which accomplishes these results in a perfect manner, and have also been able to combine, in the same instrument, drainage with the dilatation of cicatricial contractions of the vagina. The forms of the instrument which concern us here are intended to secure drainage alone, and I have called them utero-vesical and utero-vesico-urethral drainage supports. The former is applicable to most cases, to all positions of the body, and is the most convenient. The latter is suited to the recumbent position and to cases where the perinæum is lacerated.

These instruments can be introduced and removed by the patient whenever necessary and without difficulty. They are small, simple, free from angles and sharp borders, are readily kept clean, excite no discomfort or irritation of the vagina, and do not press upon the rectum or bladder, nor interfere with locomotion. While possessing all these qualities, they collect the urine and conduct it away with a degree of perfection that to the patient is a constant cause of wonder and delight. I have now five cases in which the different forms of the instrument are in use. In one of the cases there is entire destruction of the urethra. In all, the instrument performs its functions perfectly.

The Treatment of the Complications of Urinary and Fæcal Fistulæ.—Very few cases of fistula are simple. The same cause, the pressure of the child's head, which produced the perforation of the vesical or rectal wall injures to a greater or less extent other parts of the vagina, and frequently the uterus, ureters, and urethra. These injuries and the distortions of the structures involved, the result of the contraction of the cicatricial material produced in the healing process, constitute the most frequent complications. In the worst cases, to them are added subsequent disease of these organs and the bladder, and fixation of the uterus, the consequence of puerperal cellulitis and peritonitis.

Cicatricial Contractions and Distortions of the Vagina.—General thickening and rigidity of the vaginal walls and narrowing of the vagina by the presence of cicatricial bands and adhesions render the exposure of the fistula difficult, and tend to prevent the easy approximation of its borders. The operation for closing the opening is thus made difficult, and, owing to great tension, the sutures cut and it fails.

The means by which I overcome these difficulties are, mainly, division of the cicatricial material and gradual dilatation of the vagina. In cases in which the vagina is very much contracted my method consists first in the section of all the prominent bands and adhesions, and afterward in the dilatation of the vagina with hard and soft instruments.

When it is necessary to give ether, the patient is placed in the knee-chest position and secured by means of an apparatus which I have had constructed for the purpose. In the ordinary treatment of the case this is unnecessary. I place the patient simply in the supported knee-elbow position. The parts are exposed to view by means of my dilating

speculum and perineal elevator, and the bands, which are at the same time rendered tense and prominent by these instruments, are divided while on the stretch by means of sharp and probe-pointed bistouries and the peculiar knife which I show you.

The subsequent dilatation of the contractions of the vagina is produced by hard and soft dilators. On account of differences in form and in the manner in which they are used, I have divided them into two classes—the vulvo-vaginal and intra-vaginal.

The hard dilators which I show you are made to combine drainage with dilatation. The vulvo-vaginal can be distinguished from the intra-vaginal by their greater length, and the beak-like extremity, which rests on the perinæum. The intra-vaginal instruments are worn altogether inside of the vulva, and rest upon the posterior surface of the arch of the pubes and the perinæum. A set of the vulvo-vaginal dilators consists of five sizes, ranging from thirty to fifty millimetres in diameter, and a set of the intra-vaginal of eight sizes, ranging between thirty and sixty-five millimetres.

The soft dilators are made of coarse sponge, torn in pieces, and covered with oil silk, and may be of any size up to seventy millimetres in diameter, or larger if necessary. The difference between the vulvo-vaginal and the intra-vaginal forms of these soft instruments is, that the former are made longer than the latter, but never so large, the sizes being graded like the hard instruments. I have been unable to combine drainage with dilatation when the sponge instruments are used, but, if they are frequently removed, and the urine which they absorb squeezed out, the vagina and vulva may be kept comparatively dry.

Although only a very imperfect sort of drainage, which I have called sponge absorption, can be obtained with sponge dilators, they are superior in many respects to the hard instruments. A much larger dilator can be introduced, and, being soft, it causes less pain. In virtue of its elasticity, the sponge accommodates itself to the shape of the vagina when the organ is irregularly contracted, and, by the imbibition of urine, increases in size after introduction.

Time, patience, and perseverance are all that are necessary to produce, by the gradual division of opposing cicatricial bands and the systematic use of these dilating instruments, a distension of the vagina nearly equal to that caused by the child's head at the time when the injury was done. As the dilatation proceeds, the exact nature of the lesions present becomes more evident, and the form and the relations of the fistula to the surrounding structures are more distinctly exposed to view; the cervix uteri, which was perhaps altogether hidden, becomes visible and the anterior and posterior *culs-de-sac* are restored; the vaginal walls are relaxed and the uterus made movable; the mucous membrane of the vagina loses its fiery red hue and assumes a natural pink color; the inflammatory thickening of the vaginal walls melts away beneath the pressure, and the borders of the fistula lose their leather-like hardness, become smooth and soft, and may be more easily approximated.

Fixation of the Uterus.—When there is great loss of tissue at the fistulous opening and the uterus is fixed, the

remnants of the septum can never be sufficiently stretched to bridge the interval. The uterus must be rendered movable, so that the cervix can be drawn down and made subservient to the closure of the opening.

The fixation of the uterus may be overcome by upward pressure, made with the dilators already described, and by a sort of passive motion of the uterus, which is secured by traction, frequently repeated, with a hook fastened in the cervix.

The practical use of these measures is sufficient to demonstrate their efficiency, but, in order to render the results obtained by them clear to all, I made an experiment, while in Vienna, in a case of fistula in which there was immobility of the borders, due to fixation of the uterus. The results of this experiment have been reported by Bandl.* At the beginning of the treatment the edges of the opening could not be approximated by any amount of force. After section of the band and dilatation of the vagina continued for four days, they could be brought together imperfectly by the exercise of two thousand eight hundred grammes of traction, measured by a scale. After the continuance of the treatment for seventeen days longer, one hundred and twenty grammes were sufficient for this purpose, and the operation for the closure of the fistula had become easy.

The advantages secured by the use of these preparatory measures are also well illustrated in certain more special forms of fistula. By the aid of my button suture and these preparatory measures, with the modifications which I have described fully in my paper, I have been able to treat successfully vesico-utero-vaginal fistulæ with incarceration of the cervix uteri in the bladder, restoring the cervix to its natural position in the vagina and closing the vesical opening without the formation of a pouch in the bladder; I have been able to reach and to close vesico-utero-cervical fistulæ, attended with loss of tissue, even when the opening was situated above the vaginal junction, and have met with the same success with recto-utero-vaginal fistulæ, with incarceration of the cervix in the rectum. All these conditions have been and are still considered without remedy, except by kolpokleisis, occlusion of the os uteri, or by the perpetuation of the incarceration of the cervix in the bladder or rectum.

Cystitis, Contraction, and Prolapse of the Bladder are frequent complications, and must be treated. The principal cause of cystitis is the retention in the bladder of stagnant pools of urine in pouches of the mucous membrane, or as the result of imperfect drainage of the urine through the fistulous opening. The sacculation of the vesical mucous membrane at the base of the bladder is due to the distortion of the anterior wall of the vagina by cicatricial bands. The treatment of cystitis consists, therefore, in the frequent irrigation of the interior of the bladder and the obliteration of the folds of the mucous membrane by dilatation of the vagina.

Atrophy or contraction of the bladder is best treated by obturation of the fistulous opening by means of an oil-silk sponge dilator placed in the vagina. A sufficient quantity

of urine is thus retained in the bladder to gradually distend its walls. A prolapsed bladder should be reduced in the supported knee-chest position, the abrasions of the mucous membrane touched with nitrate of silver, and the reproduction of the condition prevented by filling the vagina with one of the forms of dilators already described.

Injuries of the Ureters.—One of the ureters may be opened by a slough which does not penetrate the whole thickness of the septum. By an injury of this kind a uretero-vaginal fistula is produced. One or both of the ureters may also form a part of the border of a vesico-vaginal fistula. In the first form of injury the ureter must be turned into the bladder before the fistula is closed, thus converting it into a vesico-uretero-vaginal fistula. In all cases, when the ureters are involved, unless they are slit up on their vesical surfaces, their orifices are liable to be obstructed by the sutures or to be occluded by the apposition of the borders of the fistula. This little operation is best done, as a preparatory measure, long enough before closure of the fistula to allow healing to occur. Stenosis and eversion of the orifices of the ureters frequently occur in these cases, and it is therefore important to ascertain, before closing a fistulous opening, whether these conditions exist. When such a condition is present, the lower part of the ureter should be divided and the incision should extend through the vesical mucous membrane, and be followed by dilatation with sounds if necessary.

Pyelitis.—The causes which lead to the development of pyelitis, as a complication of fistula, are cystitis and obstruction of the ureter or ureters. The principal symptoms which I have observed to be present in this disease are more or less constant pain in the lumbar region, attacks of renal colic, nausea and vomiting, anæmia, emaciation, and the cachexia of chronic suppuration. At times the course of the disease is varied by the occurrence of severe rigors, accompanied and followed by great pyrexia. Pus and blood may be seen to exude from the orifice of the ureter, which is exposed to view by the fistulous opening.

I have recently devised a new method of treatment for this disease, and have used it in two cases, both of which are now cured. It consists essentially in dilating the ureter and washing out the pelvis of the kidney by means of a catheter. In my first case, which I have reported at length in my paper, the pyelitis involved the pelvis of the left kidney, and occurred as a complication of a large urethro-vesico-utero-vaginal fistula implicating both ureters and the greater part of the septum. It was occasioned by the obstruction of the orifice of the ureter, due to the contraction of the cicatricial border of the fistula of which it formed a part. The patient was suffering from frequent paroxysms of renal colic, rigors were occurring at short intervals, and her temperature was constantly elevated, ranging between 102° and 105°. Pus could be seen exuding in considerable quantities from the left ureter. The patient was emaciated and her complexion was pale and sallow. She was evidently rapidly dying from exhaustion, induced by the fever and the pain. The condition of the patient continued to grow worse and the case more hopeless until December 26th of last year, when I passed a small olive-tipped cathe-

* "Wiener medizinische Wochenschrift," Nos. 49-52, 1875.

ter through the ureter into the pelvis of the kidney. Carbolic water was then injected with a syringe, and a small quantity of fetid pus washed out. The catheter was allowed to remain in place twenty-four hours without causing any evil consequences, and the irrigation of the pelvis of the kidney repeated at frequent intervals. Afterward the douching was repeated daily, the catheter being introduced and removed without difficulty. The condition of the patient improved after this treatment was begun with remarkable rapidity, the temperature became normal in twenty-four hours, and the pus gradually diminished in quantity, and at the end of six weeks entirely disappeared. The patient has since gained about thirty pounds in weight, her general health has become good, and the fistulous opening is now ready for operation.

In the course of the treatment of this case I made several interesting observations on the relative secreting capacities of the two kidneys, the details of which I have not time to tell you in this abstract. I also caused to be constructed the flexible steel renal sound which I show you. It is intended for purposes of diagnosis rather than of treatment, but was of service in this case in dislodging the detritus from the pelvis of the kidney.

Encouraged by my success in this case, I conceived the idea of extending this method of treatment to cases of pyelitis when no fistulous opening existed. Fortunately, I soon had an opportunity. Mrs. B. came under my care. She gave a history of symptoms similar to those already described. Hæmaturia formed a marked feature of the case, and had continued for three years and a half. The pelvis of the right kidney was suspected, from the location of the pain, to be the seat of the disease. In order to expose the right ureter, an opening was made in the bladder at the point where it pierces the vesical mucous membrane.

The name which I suggest for this new operation is kolpo-uretero-cystotomy; it is appropriate because it corresponds with the established nomenclature, and serves to distinguish the operation from kolpo-cystotomy done for cystitis, and kolpo-ureterotomy, which may be done in future.

When the orifice of the ureter was thus exposed, blood was seen exuding from it. The ureter having been made accessible, the subsequent treatment was the same as in the previous case, and the result equally fortunate. The discharge disappeared in a few weeks. The use of my utero-vesical support prevented all inconvenience from incontinence of urine, and made the patient so comfortable that haste in closing the opening was considered unnecessary. She was therefore sent home to Charleston, and instructed to return for this purpose when she was stronger and fully restored to health.

She wrote me on August 12th the following report of her condition: "The drainage works perfectly. There is no escape of urine, except sometimes a little while lying down. I do not suffer from any irritation whatever. The instrument keeps the uterus in position. I have not suffered any pain in the kidneys. I feel better than I have for years. I have just been weighed, so will acquaint you with the numbers—one hundred and nine pounds, having gained nineteen pounds in three months (that is, since the

operation). I am able to attend church services. I can either ride or walk. Neither gives me any uneasiness. My friends look at me, and speak of my improvement with astonishment."

All the complications of gravity of urinary and fecal fistulæ having now been studied, what I have already said may be, in conclusion, enforced by a brief summary of certain important facts and principles, and an enumeration of the results that I believe may be secured by the employment of the methods of treatment which I have described.

1. The importance of the complications has not been duly appreciated. They form in many cases the principal difficulty in the way of the successful performance of the operation for the closure of the fistulous opening. In other cases, when the fistula is cured but the complications left without treatment, they lead sooner or later to suffering or to the death of the patient. The greatest care should, therefore, be taken to discover and remove them.

2. Kolpokleisis, occlusion of the os uteri, and incarceration of the cervix in the bladder or rectum, are unjustifiable operations. They destroy the functions of the genital organs, and lead to cystitis, the formation of renal and vesical calculi, pyelitis, and other grave diseases. Moreover, they are unnecessary operations. By means of the gradual preparatory treatment of the complication, and by the aid of my button suture and dilating speculum I have been able to overcome all the difficulties which have been described as indications for their performance.

3. The association of intra-vaginal drainage with dilatation of the vagina is a great improvement. The inconvenience and evil effects of incontinence of urine are thereby lessened, and the duration of the treatment is shortened by the more rapid healing of the incisions and the formation of less cicatricial material in the reparative process.

4. We now possess a means of palliating the suffering due to incontinence of urine in the small percentage of cases of fistula which are incurable by any method—even the dangerous one of kolpokleisis. I believe some form of drainage instrument may be adapted to every case, and these patients may be thus restored to the enjoyment of life and the performance of its duties.

5. The possession of a system of drainage will widen the scope of the operation of kolpo-cystotomy done for cystitis by removing the evils of incontinence of urine, now the chief objection to its performance.

6. Finally, I believe the operation which I have called kolpo-uretero-cystotomy, followed by the exploration and treatment of the diseases of the ureter and pelvis of the kidney, has a brilliant future of usefulness before it. In the treatment of pyelitis, renal calculi, and obstruction of the ureters, it will restrict within narrow limits the operations of nephrotomy and nephrectomy.

Trichinosis.—It is announced from Hamburg that a severe outbreak has just occurred there. In one house alone nine persons are suffering from the disease. The authorities have seized a number of living hogs, as well as a quantity of pork, believed to be infected with the dangerous parasite. The outbreak is stated to be due to the German habit of eating uncooked ham, and often pork, in a half raw state. —*Lancet*.

REPORT OF A CASE OF PANCREATIC CYST
TREATED SUCCESSFULLY BY INCISION AND DRAINAGE.
SUBSEQUENT DEATH FROM DIABETES.

By WILLIAM T. BULL, M. D.,
SURGEON TO THE NEW YORK HOSPITAL.

SHORTLY after the exhaustive monograph on the surgical treatment of cysts of the pancreas by Senn* came under my notice, the following case presented itself. For the information necessary to establish the diagnosis and adopt the proper surgical treatment I am wholly indebted to that essay, while I have derived much assistance from Dr. Charles E. Hackley and his internes, Dr. H. Van Rensselaer and Dr. G. H. Richards. The small number of cases on record makes it desirable to report the case as fully as possible.

A clerk, forty-five years of age, was admitted into Dr. Hackley's service at the New York Hospital, July 7, 1886. Dr. Van Rensselaer, the house physician, made the following record: The patient has had malarial fever, but has neither rheumatic, syphilitic, nor alcoholic history. He was well until about ten months ago, when he had a sudden colicky pain in the abdomen lasting a few hours. Two days later he vomited a dark-colored material, was sore and tender in the region of the liver, and became jaundiced. Four weeks later a swelling appeared above the navel and increased rapidly in size without pain for ten weeks. At the end of this time he had abdominal pain and diarrhoea. The stools were very dark-colored and the abdominal swelling disappeared. Three weeks after this the swelling reappeared and increased in volume till during the month past, when it has been stationary. He has lost flesh and strength, has a poor appetite, and the stools are light-colored.

Physical Examination.—He is moderately emaciated, but has no oedema. The pulse, as shown by sphygmograph, has a rather high tension. There is no apparent thoracic lesion, and the apex-beat is in its normal place. The hepatic dullness extends from the upper border of the sixth rib to the free border of the costal cartilages. The spleen is not enlarged. There are

by a smooth, tense, fluctuating, non-adherent tumor, slightly tender in its upper part. It is most prominent midway between the sternum and the navel (Fig. 1). Here the circumference is

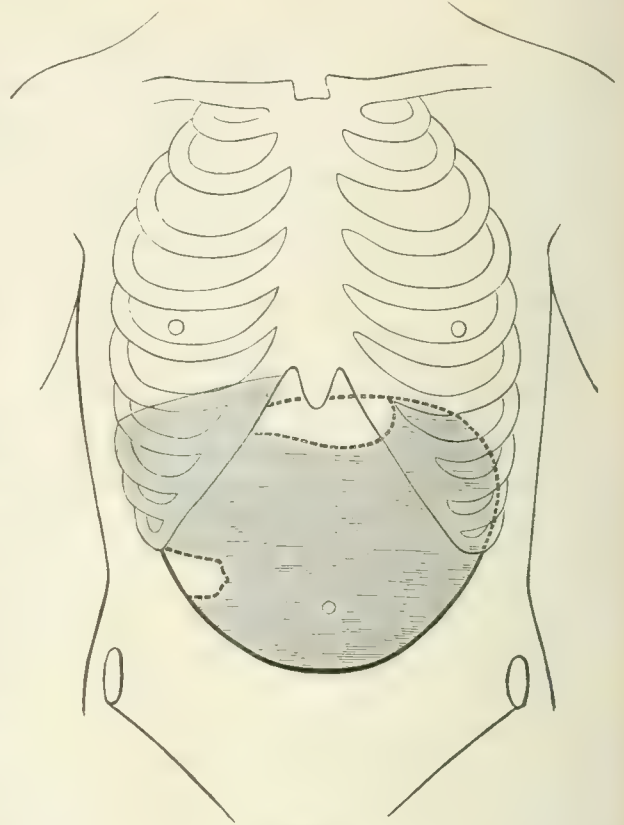


FIG. 2.

thirty-three inches and a half. There is no hydatid fremitus, but a "wave impulse" on palpation. Percussion over it is dull, except at its upper middle part and occasionally at its right border, where there is tympanitic resonance (Fig. 2). In this latter situation a tympanitic swelling (colon or duodenum) appears suddenly and can be made to disappear by pressure. The tumor moves up and down with the respiratory movements, has a slight lifting, but no expansile pulsation. No murmur is heard over it. After inflating the stomach with a Seidlitz powder, the percussion-note was tympanitic over the upper two thirds of the tumor, and the resonant swelling on the right border, which appeared occasionally, extended over to the middle line (Fig. 3). The fluid, drawn with a hypodermic syringe, is dark-brown in color, turbid, odorless, alkaline, and has a specific gravity of 1.010. Chlorides are abundant, but there is no bile, and but a trace of urea. It becomes solid on boiling. The microscope detects degenerated cells, fat globules, granular matter, hæmatin crystals, but no scolices. When kept at a temperature of 100° F. for fifteen minutes with some boiled rice, the fluid resulting contains gr. j of glucose to the fluidrachm. The fluid furthermore emulsifies oil. The contents of the stomach, pumped out before inflation, are only the products of digestion, and have no resemblance to the fluid of the tumor. The fæces contain free fat. The urine is pale-yellow, acid, of a specific gravity of 1.032, without albumin or cast, and contains about gr. x of sugar to the ounce. In the ten days that he was under Dr. Hackley's observation he had a slight rise of temperature—99° and 100° daily. His only symptoms were dyspnoea and acid stomach. The bowels were regular, the stools light in color, and always containing free fat. The urine in quantity varied from forty to



FIG. 1.

no enlarged glands. The epigastric, umbilical, and inner part of both hypochondriac and lumbar regions are distended

* "Journal of the Am. Med. Assoc.," Sept. 26, 1885.

sixty ounces, and the percentage of sugar above noted, gr. x to $\frac{3}{4}$ j, was pretty constant. Urea was present in 2.35 per cent.

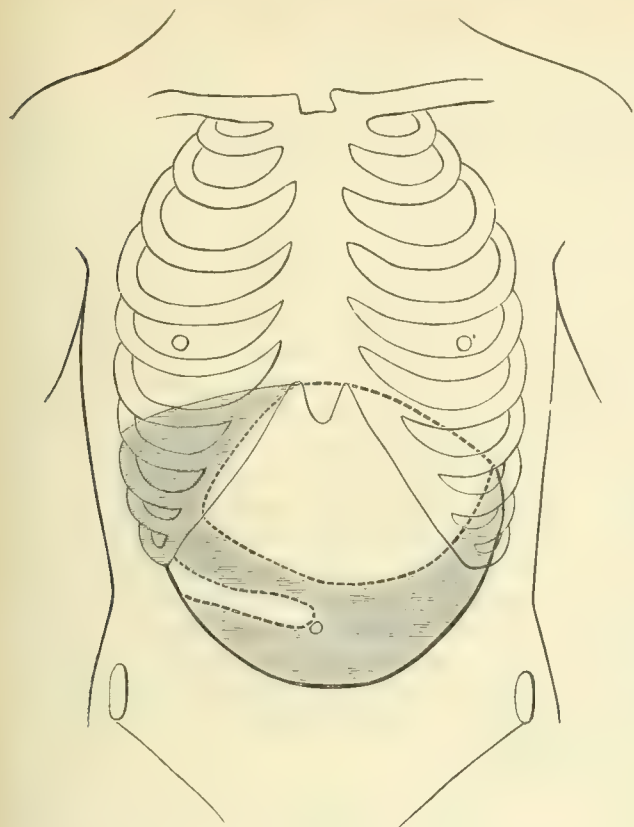


FIG. 3.

On July 19, 1886, Dr. Hackley transferred the man to my service for operation, and with his approval I decided to expose the cyst by incision, wait for adhesions to form, and then to drain it, as recommended by Dr. Senn. The diagnosis seemed clear enough. Physical examination excluded ascites, aneurysm, hydro- or pyo-nephrosis, and established the fact that we had to deal with a retro-peritoneal tumor, as shown by its relation to the stomach and colon. The absence of hooklets and the hydatid fremitus excluded in all probability an echinococcus cyst of the liver, and malignant disease of the supra-renal capsules or pancreas was excluded by the evident cystic character of the growth. The history, its first appearance and rapid growth following an attack of inflammation of the common bile-duct, its subsidence with the appearance of dark-colored stools, its reappearance and rapid increase—all pointed to a cyst of the pancreas from inflammatory obstruction of its duct, while the examination of the fluid, made by Dr. Van Rensselaer with much care, taken in connection with the fatty stools and the mellituria, made that conclusion a positive one. The preliminary operation was done July 19th, under ether, with an antiseptic solution of 1-to-5,000 bichloride of mercury. An incision was made extending four inches upward from just above the navel, and after stopping all bleeding points the cavity opened. In the upper third of the wound the stomach, recognized by its color, thickness of its walls, and the disposition of its vessels, came into view with the omentum dependent from it. On pushing these upward, the posterior surface of omentum was found to be adherent to the cyst. The transverse colon was not recognized. The omentum contained very large veins, and was thicker than normal. It was torn through, the vessels being ligated with catgut when severed, and the cyst-wall exposed. It felt quite thick (one half to three eighths of an inch), and was tough. The up-

per half of the wound was then closed with silk sutures through all the layers of the abdominal wall. In the lower half the peritoneum was stitched to the skin with fine catgut, left open, and stuffed with iodoform gauze, which was covered with bichloride of mercury compress, absorbent cotton, and a binder. There was slight fever (101°) for two days, but no other reaction. The edges and bottom of the wound were covered with granulations at the end of five days.

On the seventh day after this incision, July 26th, the cyst was drained without anæsthesia. A hypodermic needle was thrust into the exposed cyst-wall at the bottom of the wound, and drew the same fluid as before at a depth of half an inch. Taking this to be the thickness of the wall of the cyst, I cut partly through it with Paquelin's thermo-cautery. There was no pain felt. A large trocar and cannula were thrust into the cyst, and one hundred and eighteen ounces of dark-brown fluid flowed out. A probe passed eight inches inward, upward, and to the left of the middle line. The opening was then cautiously dilated with the finger, and much granular and putty-like material removed with a lithotomy scoop. The cavity was not irrigated. Two large rubber drains, four inches long, were left in; the skin of the abdomen rubbed with carbolyzed vaseline and iodoform; bichloride and cotton dressing applied. An hour was occupied in these manipulations. The adhesions to the edge of the abdominal wall were not disturbed. Following this evacuation of the cyst there was a rapid improvement in the general condition without any accidents. Between August 13th and September 14th the weight increased from 89 to $101\frac{1}{2}$ pounds, the appetite became good, and strength increased so that the patient walked about freely at the end of six weeks. At the end of a month the stools were of normal dark color. The diet was not restricted, and the urine gradually increased in quantity to 100 and even 140 ounces daily, containing 5 per cent. of sugar. After forty-eight hours the sac was irrigated once or twice in a day with warm water. The discharge gradually diminished in quantity and became pale in color, and the cavity contracted. On September 18th the sinus, occupied by a small tube, was only four inches deep, and the discharge only a few drachms per day. Though he had a good appetite, he was not strong, and complained of thirst. At this date he was transferred to the care of Dr. W. H. Draper, who placed him on restricted diet, and administered codeine, beginning with gr. $\frac{1}{4}$ t. i. d. This was gradually increased till, on November 1st, he was taking twenty-four grains a day. It was diminished then to twenty grains a day, because of two attacks of sudden and short unconsciousness (ten minutes), without convulsion, and with slight loss of power (transient) in left leg and arm. The quantity of urine fell to fifty ounces a day, and there was but 1.25 per cent. of sugar. The thirst disappeared, the patient took his food eagerly, and was much stronger. On November 13th the sinus was two inches and a half deep, with but a few drops of secretion daily. He was discharged from the hospital at his own request. Two weeks later he died suddenly at his residence out of town. No autopsy was held, and no facts could be learned, except that he had stopped all medicine and paid no attention to diet.

The following analysis of the fluid of the cyst was made for the pathological department of the hospital by Dr. William Gilman Thompson, now professor of physiology in the medical department of the University of the City of New York:

The fluid has a moderately alkaline reaction, a faint sweetish odor, and a specific gravity 1.0105. It is somewhat viscid, but has no froth. It is dichroic, appearing dark green-brown with reflected light, and dull red-brown in a thin layer in transmitted light. After standing for six hours, an iridescent film of mucus holding ammonio-magnesium phosphate crystals in suspen-

sion appears upon the surface, with bacteria. A precipitate also forms, amounting to $\frac{2}{3}$ of the entire bulk of fluid, consisting of brownish masses resembling coagulated fibrin. The filtrate is dark green-brown, and the residue is very small, brown, and closely adherent to the filter.

The micro-spectroscope gives the characteristic absorption bands of methæmoglobin in alkaline solution.

The various tests for serum albumin show it to be present, and when dried and weighed it amounts to 2.21 per cent. Mucin is present.

The "dialo" pigment test gives no reaction. Peptones, urea, and glycogen are all absent, as well as the bile pigments. Glucose is present in the quantity of 2.7 per cent. Ether clears the fluid very slightly, if at all, and fat globules are absent in the microscopic examination. The guaiac test shows the presence of an oxygen-reducing agent, probably the protoplasm of numerous leucocytes.

The fluid, when shaken with oil, forms a coarse emulsion which separates again for the greater part, but when examined microscopically, a considerable permanent fine emulsion of the oil is found to have resulted.

The ash, after removal of albuminous matters, amounts to about thirteen parts in a thousand, and consists chiefly of sodium and potassium salts.

A diastatic ferment is found after careful elimination of the sugar already present. This ferment is somewhat less active than ptyalin.

A large number of comparative experiments demonstrate the presence of a trace of peptonizing ferment. The experiments were made upon egg albumin and meats in a digesting oven, and were compared with the simultaneous results of digestion with a dozen different preparations of pancreatic extracts, trypsin, etc.

No peptone reaction is obtained by digesting milk with the fluid, but a coagulum separates after half an hour, which remains undissolved.

The fluid injected in frogs and rats in quantities up to m^v produced no symptoms.

Microscopic examination reveals large numbers of free, large, round granular cells and many polygonal and branched cells with nuclei obscured by granulations, and no amœboid activity. There are numerous red blood discs and leucocytes, mucus, indican, fibrin, vibriones, granular detritus, and ammonio-magnesium phosphate in large amount.

Summary of the More Important Features.

1. Digestion of starch.
2. Emulsion of fat.
3. Spectrum of a blood pigment (methæmoglobin).
4. Large quantity of sugar, 2.70 per cent.
5. Large quantity of serum albumin, 2.21 per cent.
6. Large quantity of free cells resembling leucocytes, etc.

IRREGULARITIES OF THE SEPTUM NARIUM,

WITHOUT DEFLECTION,

AS AN ÆTIOLOGICAL FACTOR IN NASAL CATARRH.*

By F. WHITEHILL HINKEL, M. D.,

CLINICAL PROFESSOR OF LARYNGOLOGY, MEDICAL DEPARTMENT OF THE UNIVERSITY OF BUFFALO.

It is the purpose of this paper to invite your attention to outgrowths from the septum narium without deflection

of that structure *in toto* from its normal plane, and to consider the relation that such irregularities of structure sustain to the production of certain forms of nasal catarrh.

While this paper was in course of preparation, and after its title had been announced, there appeared in the "New York Medical Journal" of January 15, 1887, an abstract of a paper presented by Dr. F. H. Bosworth before the New York Academy of Medicine, December 30, 1886, that appears to include the topic selected for your consideration. However, as the writer has been led to take up the theme from personal observation and experience, a further consideration of the matter may not be amiss, on somewhat narrower lines and from a different personal standpoint.

With the introduction of cocaine into nasal surgery, and the discovery of its peculiar retractive effect upon the engorged turbinated body, has come an ability to examine thoroughly the nasal cavities under most conditions that has resulted in a decided increase in the therapeutic resources of rhinology, and in an improvement in their results. In the two years past, in consequence, the attention of every rhinologist must have been attracted to the frequency of septal excrescences apart from marked or obstructive deflection of the osseous or cartilaginous septum. As these irregularities of the septum are frequently accompanied by hypertrophy of the opposing turbinated body, they were often overlooked of necessity before cocaine was employed for diagnostic purposes.

These irregularities of the septum are usually found on the sutural lines of the component bones and cartilage. They are osseous or osseo-cartilaginous in structure. Occasionally they are pure ecchondroses, but rarely so without deflection of the triangular cartilage, in which case they are found on the convexity of the deflection. The most frequent location, in my experience, is the sutural line of the vomer and maxilla, just within the anterior nares, and, of course, close to the floor of the nose. This outgrowth usually springs abruptly at right angles to the septum on its inferior margin, and, receding gradually, blends with the cartilaginous septum above. It rarely extends more than half an inch antero-posteriorly, and is osseo-cartilaginous in structure. It occurs with equal frequency on either side, and occasionally on both sides. The next location in order of frequency is on the sutural line of the vomer and the perpendicular plate of the ethmoid, about opposite the posterior third of the middle turbinated body. Here the outgrowth is usually a spur-like development, with small base and sharp apex, occasionally impinging firmly on the opposing turbinated bone, and is a pure exostosis, often of extreme hardness. The ecchondrosis on a more or less deflected septum, as mentioned above, occurs next in frequency. It is a rounded knuckle or sharp spur, and lies immediately within the nostril, occasionally being mistaken for polypus by the inexperienced. Lastly, there is an osseo-cartilaginous ridge formed upon the line of junction of the vomer, the triangular cartilage, and the perpendicular plate of the ethmoid, sloping upward and backward, occasionally extending the entire length of the nasal chamber, and visible by posterior rhinoscopy as a more or less elevated tumor within the posterior nares.

* Read by title before the Medical Society of the State of New York, at its eighty-first annual meeting.

These septal irregularities vary in size and number in all degrees, and appear to exist without regard to sex or social condition; I feel tempted to add, without regard to age. I certainly find them in patients as young as five years. In spite of excellent authority to the contrary, I am inclined to regard them as not usually of traumatic origin, but rather due to hereditary peculiarity of development. This belief is confirmed by the often observed similarity of septal deformity in members of the same family.

Jarvis, in papers appearing at various times in the "*Archives of Laryngology*," the "*Medical Record*," the "*New York Medical Journal*," and other periodicals, has exhaustively considered the ætiology of deflected septum, alone or in connection with other topics. He shows quite conclusively its habitual relation to faulty development rather than to traumatism, and cites cases where the deformity appears to be hereditary. His line of argument may, in part, be applied to these septal excrescences without deflection. Certainly the frequency of their occurrence, the limited area usually involved, and its often deep seat, point to structural changes from more complicated and wide-reaching causes than local injury. A blow upon the nose occasionally produces, undoubtedly, a deflection of the cartilaginous septum, or even of the entire structure anterior to the plane of the malar bones, but it seems improbable that it should cause a septal spur, for example, near the posterior nares. It is probable that an over-development from the ossific centers of the various components of the septum, or a lack of proportion between their development and that of other bones of the skull or face, produces a hyperostosis on the sutural lines in certain cases, rather than a bending or deflection of more yielding structures, producing deviated septum in other cases. Whatever the cause, the frequency of septal excrescences without deflection is indisputable.

It is to the part that these forms of irregularity of the septum narium play in the development of nasal catarrh—to the predisposition that their presence produces to the lapsing of acute rhinitis into chronic nasal catarrh—that your attention is particularly invited.

The researches and publications of Jarvis, Bosworth, Allen, and other American rhinologists have established the truth that the prevailing forms of nasal catarrh are essentially local affections, though often far-reaching in their influence. It is now generally recognized that marked deflection of the septum narium, polypus, hypertrophy of the turbinated bodies, or any obstruction to nasal drainage and ventilation, must be removed to admit of relief or cure of the various symptoms of obstructed respiration and perverted secretions that make up the picture of the ordinary and most frequent forms of rhinitis. The rôle of the septum in producing certain forms of irritative hypertrophy of the turbinated bodies, so strenuously advocated by Jarvis, is now receiving wide-spread attention. The effect of a deflected septum, with its usual exostosis or ecchondrosis on the convex side, has been traced by Jarvis and others, and the successive steps of the resultant nasal catarrh have been minutely described. The importance of deflection of the septum as an ætiological factor in catarrh was thus recognized before the cocaine era in nasal surgery.

But there is a large class of cases in which there is not present a deflected septum, nor a typical hypertrophic catarrh—in which there are rather an irritability of the turbinated body, a relaxation of vaso-motor control, and frequent engorgement, with excess of secretion and nasal obstruction alternating and irregularly recurrent—cases classified by some as chronic coryza, by others as a preliminary or first stage of hypertrophic catarrh. Accompanying this condition there are often an increase of the normal nasopharyngeal secretion, and a drainage of the over-secreting nasal chambers into the naso-pharynx.

The greatest number of cases of nasal catarrh occurring in otherwise healthy individuals is of this type, and it is in the production of precisely these cases that irregularities of the septum narium of the kind under consideration play a prominent part. In that portion of our country bordering on the great lakes and the Atlantic an occasional acute coryza falls to the lot of all. The occasional rhinitis of those in good health, with ample nasal chambers and without septal irregularities, recedes in time, leaving no unusual or annoying symptoms behind. Where an exostosis or ecchondrosis narrows the lumen of the meatus, the influence of pressure irritation, so well explained by Jarvis, tends to prolong the period of congestion and engorgement, and to produce an irritable point on the opposing turbinate. This spot of subacute inflammation affords a vulnerable point, and soon another "cold" adds its quota to the already existing irritation, and increases the liability to further inflammation. Obstruction to nasal sewage and ventilation occurs and recurs, and in this vicious circle a chronic catarrh of the type mentioned is set on foot, to be fostered by climate, habitation, and habits, for it is not for a moment assumed that nasal catarrh is entirely a local affair uninfluenced by the other functions and conditions of the body. But it is asserted that, in the form of rhinitis under consideration, the disease is largely influenced by local conditions, and relieved in the main by local treatment.

The septal outgrowths are not uninfluenced by these recurring inflammations, and show a tendency to growth from the increased vascularity and excess of nutrition accompanying the chronic inflammation. This is evidenced by the distinct history occasionally given of complete occlusion of one nasal passage within a year or two of the time of examination, and where the obstruction is found dependent on the bony or cartilaginous spur or ridge. When a septal spur or ridge arrives, by natural growth or from inflammatory overfeeding, at sufficient size to project into the lumen of the meatus, so that, when the turbinate is at its average point of distension under ordinary conditions, the apex of the spur almost impinges upon it, the slightest disturbance of balance of vaso motor tension produces pressure and occlusion, as indicated above. Under the trying conditions of our climate, this balance is repeatedly disturbed, and repeated local irritations occur, which gradually become more constant and severe, and a chronic catarrh may thus occur gradually and without preceding "colds" or severe rhinitis. In cold, dry weather, or in the mild, even weather of early fall, such cases have little

or no annoyance, but the return of inclement weather renews the unpleasant symptoms.

Very slight changes of climate effect decided changes in these cases. For example, some who are constantly annoyed in Buffalo are comparatively free from catarrh in New York city. Most of the patients who report themselves free from indications of nasal catarrh before living in the lake region, and who afterward develop catarrh, will be found to have slight septal irregularities. The dampness and variability of this climate make too great demands upon a nasal apparatus sufficient for favorable environment, and nasal catarrh follows, as indicated above.

To sum up the conclusion of this paper, it is not alone or in the main the condition of the general health that decides whether an individual shall or shall not have a chronic catarrh in our climate. While admitting the influence of general factors not now under consideration—such as lithæmia, imperfect excretories, diathesis, etc.—yet, other things being equal, the presence or absence of septal irregularities, with or without deflection, decides the occurrence of the prevailing forms of chronic nasal catarrh in one person, and their absence in another. Slight irregularities of the septum narium, without deforming or markedly occluding deflection, are a fruitful source of irritation in a large proportion of cases, inviting and inducing recurrent rhinitis under slight strain upon the power of resistance from climate or environment.

AN ABSTRACT OF A COMMUNICATION TO THE
LARYNGOLOGICAL SECTION OF THE NINTH INTERNATIONAL
MEDICAL CONGRESS, ON
RECENT VIEWS AS TO THE
PATHOLOGY AND TREATMENT OF TUBERCULOSIS
OF THE THROAT AND LARYNX.

BY LENNOX BROWNE, F. R. C. S. ED., LONDON,
A VICE-PRESIDENT OF THE SECTION.

PATHOLOGY.—*Lungs*: 1. The tuberculous process is initiated by the settlement of a specific bacillus on a suitable nidus.

2. The bacilli may be deposited at a portion of the lung—*e. g.*, the apex—ill supplied with blood and air, or in altered pulmonary tissue, the result of acute inflammation, as at the base.

Larynx: 3. Bacilli may be carried into the general circulation by the lymphatic system, or, in the case of cavities, may be conveyed to the larynx by means of the sputa. The former, since it does not involve a previous breach of surface, is the most probable route in the commoner forms of laryngeal tuberculosis.

4. The tuberculous process is manifested in the larynx, as in the lungs, in two ways: first, as the result of anæmia, in which case the marginal and apical regions are primarily attacked; secondly, as the result of an inflammation frequently induced by functional abuse, in which case the vocal cords and ventricular bands are situations in which the disease is not infrequently first manifested.

5. Erosions, non-tuberculous in character, may appear in

the larynx of a tuberculous patient; doubtless some of those that heal are of this nature.

6. Clinical evidence has long warranted the supposition that a laryngeal may precede a pulmonary tuberculosis. Recent facts have proved the truth of this hypothesis.

Fauces and Pharynx: 7. A nidus may be formed in this region by absorption of the contaminated fluids of pulmonary, laryngeal, and oral secretion, and the bacilli be conveyed through the general system.

8. In the case of a primary faucial tuberculosis there is probably a previous breach of continuity.

9. Clinical evidence would show that there is a possibility of a primary faucial tuberculosis, but the fact has not yet been verified by post-mortem evidence.

Tonsils: 10. While faucial and pharyngeal tubercloses are acutely painful, the tonsils may be attacked without symptoms, provided the other portions are free from ulceration.

TREATMENT.—Considerations under this heading are limited to cases in which the disease, though well established, is not advanced.

1. The first indication is, by *climate, hygiene, and general measures*, to place the patient in the most favorable position for resisting the baneful influence of the bacilli and rendering their life impossible; preference is given in early cases to sea voyages and mountain air over hot or moist climates.

2. *Inhalations* containing oxygenating elements and administered by oro-nasal inhalers are preferable to those of steam.

3. *Medicines* include, first, atropine as a probable alkaloidal antidote to symptoms of the septicæmic process indicating a ptomaine toxæmia; secondly, *hypophosphites*, of which that of calcium is preferred as most favorable to beneficial (calcareous) degeneration of the tubercle; thirdly, arsenic, which it is suggested may act as a specific in the tuberculous disease, though not to the same extent as mercury does in syphilis.

4. *Germicides* are of two classes—(a) those which may powerfully affect the general system, and (b) those of a more purely local character. Of the first may be mentioned bichloride of mercury and aniline applied locally to the larynx; both of these I condemn on the ground that, since it is much easier to destroy normal cells than the bacilli in the case of a tuberculous patient, the treatment may aggravate rather than relieve. Moreover, mercury internally administered is invariably harmful in a case of tuberculosis. The use of sulphureted hydrogen and carbonic-acid gas *per rectum* is a method of treatment which is still on its trial, and, so far as can be judged, it is more favorable in cases of chronic bronchitis than in tuberculosis. The microbicidal effect of the gas is very feeble.

Conclusions.—That, while throat symptoms may be greatly relieved even in cases of advanced pulmonary disease, there is seldom any true cure, but that each year there is a greater hope of such a happy result.

There can be no doubt that ulcers in the regions under consideration can be healed, and success in this direction is in proportion to the accessibility of their site.

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THE BEARING OF ANTHROPOLOGY ON HYGIENE.

DURING the last thirty years, especially since the impulse given by Broca, observation, research, and comparison have done much toward the scientific study of man in his many relations to his environment. The application of the data thus obtained to the betterment of human life, individual and social, may be looked for in such a work as has recently been presented to the Paris Society of Anthropology, as well as in certain papers by Professor Spatuzzi, of the University of Naples, treating of hygiene and anthropology in their relation to the development of human stature, the publication of which was recently begun in "Il Morgagni." The chief subjects upon which light is thrown from these sources are: acclimatization; the immunity of natives to certain diseases; the crossing of races and its effects in giving rise to new types (applying to marriage, for some marriages of consanguinity must result in the transmission of certain diseases); and heredity. The struggle for mastery which Darwin demonstrated among the lower animals has existed among men from the time of the cave-dwellers to the present day, and the country which expects to win must prepare its own soldiers for the warfare of modern industrial and intellectual life. Instruction of the mind should go hand in hand with physical education, and hygienists have to provide physiological exercise for the principal functions of the organism.

It may at first glance seem trite to say, with Professor Spatuzzi, that growth, from the beginning of intra-uterine life through infancy, youth, manhood, and old age, is not a thing of mere chance unaffected by climatic, anthropological, and ethnographic influences; yet the failure of enlightened communities and persons to grasp the fact may well give rise to thought. In the breeding of the domestic animals scientific methods are followed, resulting in heightened strength and beauty; but with man too much is left to unreasoning impulse, and the consequences are to be seen in puny and feeble-minded children. By the application of physiognomy—meaning not only the character-study of the face, but that of the whole individual, physical, mental, and emotional—much might be done to promote marriages from which a better development in the offspring might be expected.

Professor Spatuzzi has taken military statistics as a basis for the study of stature in the various regions under the control of the Italian Government. He finds a mean height somewhat lower than the standard in the districts inhabited by the descendants of the Græco-Saracens (southern Italy, Sardinia, and Sicily) as compared with those where we find the offspring of the Pelasgians, Sabinians, Umbrians, and Etruscans (central

and northern Italy). Differences of stature have relations, somewhat undetermined as yet, to the intermingling of races, with a predominance, among modifying agencies, of a complex of climatic causes subordinate to ethnographic and anthropological influences. This view is similar to that of Pagliani ("Giornale della Società italiana d'igiene," 1869), who states also that there are found in Turin two races, the taller of which is the stronger, more intelligent, and more enterprising. From the data of our American civil war, it appears that residence in the Western States during the years of growth tends to produce an increase of stature. From the foregoing we may deduce that, while climatic action and other local conditions, such as food, raiment, occupation, and social status, may bring about variations of function and alter some organs, the greater part of such change is owing rather to causes over which man has hitherto exercised little, if any, voluntary control, but which, like the regulation of marriage, are amenable to a sort of control that would favor the growth, development, and long life of the strong and the more perfect. The continuation of Professor Spatuzzi's articles will be waited for with interest by hygienists.

PASTEUR'S METHOD OF PREVENTING RABIES.

THE editor of the "British Medical Journal" having written to M. Pasteur inquiring as to the case of Lord Doneraile, who had died of rabies after having undergone the preventive treatment in Paris, the journal mentioned publishes M. Pasteur's reply. It appears that Lord Doneraile was bitten on the 13th of January, at a time when M. Pasteur was absent from Paris on account of the state of his health, and when, as he says, he was much distressed at the prominence given by the press to the accusations that had been brought against his method in the discussions at the Paris Academy of Medicine—not that he felt any anxiety for the future of the method, but because of the mental agony that he knew must be endured by the patients who had already undergone the treatment, and the hesitation that would spring up in the minds of those who were on the point of visiting Paris for the purpose of subjecting themselves to it. It was this hesitation, he thinks, that induced Lord Doneraile to allow an interval of eleven days to elapse before the treatment was begun, and to the passionate attacks of his opponents he imputes it that Lady Doneraile and her medical adviser insisted that only the simple method should be employed, and not the modified method which he had been led to adopt, especially in the case of severe bites. Several inoculations were practiced, but without using medullæ of more [? less] than five days' drying. Under these conditions, says M. Pasteur, it was possible only to delay the development of the rabie virus for four or five months. The lesson to be learned from the final fatal result is that persons who have been bitten by rabid animals should resort to the preventive treatment without loss of time, for instances are not very uncommon in which the period of incubation is short, and it is necessary that the preventive inoculations should have a certain start of the development of the virus casually implanted.

But it is not alone with Lord Doneraile's case, or with other cases like it, that M. Pasteur deals, and he does not seek to account for all the failures of the method by attributing them to delay. He simply urges that that is one cause of failure, and one that can usually be obviated. He frankly admits that there have been failures in cases where there was no delay, but he adds that they have been extremely rare, and he asks if it is a matter for wonder that in such a subject there should still be unknown points that defy the explanations of science. The isolated failures are loudly announced, but this is not a matter to be regretted, for it tends to greater statistical accuracy. On the other hand, it seems to be forgotten how many among the hundreds who undergo the treatment escape the disease, although their wounds are often very severe. The method should not be expected to work miracles, and to judge of it only by its occasional failures shows an absolute want of good faith.

It seems to us that M. Pasteur is fully justified in all these statements, and we are glad to observe that the "British Medical Journal," commenting on his letter, takes a decidedly fair and hopeful view of its subject. The question arises as to how long the medical profession, having itself done next to nothing toward unraveling the mystery of rabies, can afford to occupy the position of appearing to tolerate unfair and unscientific obstruction of M. Pasteur's work.

MINOR PARAGRAPHS.

IODOFORM POISONING.

So far as we remember, there has been no previous publication of so comprehensive and systematic a study of the poisonous effects of iodoform as is to be found in Dr. Taylor's article, which we publish in this issue; and we feel quite sure that there has been none in which the author's own observation bore so great a share. Although Dr. Taylor read his paper before a society devoted to dermatology, his treatment of the subject is of a sort to make what he has written of value to the general surgeon.

THE EIGHTH VOLUME OF THE INDEX-CATALOGUE.

The eighth volume of the "Index-Catalogue of the Library of the Surgeon-General's Office, United States Army," including headings from "Lezies" to "Medicine (Naval)," has recently been issued from the Government Printing Office. It contains 10 pages of preliminary matter and 1,078 pages of references. We have so often expressed our admiration of this great work that we need not now say more than that the new volume is quite on a par with those that preceded it.

THE STATE MEDICAL ASSOCIATION.

The fourth annual meeting of the New York State Medical Association, which was held at the Hotel Brunswick this week, was the occasion of the reading of a number of very interesting papers, as was to be foreseen from the programme which we published in a recent issue. The meeting occurred several weeks earlier this year than before, and perhaps that fact may account for an apparent diminution in the attendance, as doubtless many of the members had taken up all the time they could well spare at this season in attending the International Medi-

cal Congress. We shall shortly publish a summary of the proceedings.

ENTOZOA IN DENMARK.

Dr. H. KRABBE has contributed to the "Nordiskt medicinskt Arkiv" an interesting account of his observation of three hundred cases of cestoids in Denmark, more than half of them in Copenhagen. Eighty-five of the affected persons were males, and two hundred and fifteen were females. The *Tenia saginata* was the parasite in 190 cases (solitary in every instance), the *Tenia solium* in 77 (multiple in 13), the *Tenia cucumerina* in 9 (double in 3), and the *Bothriocephalus latus* in 25 (multiple in 5). In one patient the *Tenia solium* and the *Bothriocephalus latus* were found together.

ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Fourth Division of the Health Department for the following statement of cases and deaths reported during the two weeks ending September 27, 1887:

DISEASES.	Week ending Sept. 20.		Week ending Sept. 27.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever.....	52	12	43	14
Scarlet fever.....	23	3	39	6
Cerebro-spinal meningitis.....	2	2	5	3
Measles.....	5	1	11	2
Diphtheria.....	70	29	106	41
Small-pox.....	4	2	3	0

The College of Physicians and Surgeons.—The new building in West Fifty-ninth Street was inaugurated on Thursday of this week. The exercises included a prayer by the chaplain, the Rev. Dr. Weston; an historical sketch of the college by the president, Dr. John C. Dalton; an inaugural address by Mr. Joseph H. Choate, of the board of trustees; and the presentation of portrait busts by Dr. William H. Draper, of the board of trustees. The dinner of the Alumni Association was given at Delmonico's in the evening.

The Townsend Pavilion, erected on the grounds of Bellevue Hospital, was formally presented to the city on Tuesday of this week. It is to be devoted to the treatment of women requiring laparotomy, and is a thank-offering by Mrs. R. H. L. Townsend.

The Therapeutic Society of Cortlandt, N. Y.—At a meeting to be held at the Dexter House on Tuesday, the 4th inst., at 2 p. m., Dr. White will read a paper on "Intelligent Prescribing."

Roosa on the Ear.—We learn that Dr. D. B. St. John Roosa's treatise on the ear has been translated into German by Dr. Ludwig Weiss, and is to be published by Hirschwald, of Berlin, early in the coming year.

The Post-graduate Medical School and Hospital.—Dr. Mary T. Bissell has been appointed attending physician to the babies' ward.

Professor Nothnagel.—A contributor to the "Lancet" describes Professor Nothnagel's recent narrow escape from death on his return home from a professional visit to Moscow. He fell from a sleeping-car, but fortunately sustained no serious injury, although he experienced great difficulty and discomfort, in the midst of a storm, before he reached a place of shelter.

An Honor to M. Pasteur.—Our French contemporaries announce that the Emperor of Austria has conferred the order of the Iron Crown on M. Pasteur.

The late Dr. Alonzo Clark and the late Dr. Jared Linsly.

—At a meeting of the Board of Managers of the New York Society for the Relief of the Widows and Orphans of Medical Men, held September 21, 1887, Dr. Gouverneur M. Smith presiding, the death of Dr. Alonzo Clark, a late associate and benefactor, having been announced, it was

Resolved, That this board has heard with sincere sorrow of the death of Alonzo Clark, M. D., LL. D., and, in view of his eminent service to the medical profession as scholar, instructor, and counselor, deems it fitting to place on record an expression of its appreciation of his eminent ability, of his singularly upright professional and private life, and of his zeal and ability as an investigator and lecturer.

Resolved, That the medical profession owes to him much of value in the advancement of medical science, while his ever loyal devotion to those needing his help and advice makes his name one to be honored by both personal and professional friends.

Resolved, That, while there is in his death a sense of bereavement to those who knew him best, there is also the satisfaction of a long and honorable life, filled with results capable of accomplishing much of good to his fellow-men.

Resolved, That a copy of these resolutions be sent to the family of Dr. Clark, and that they also be inscribed in full upon the minutes of this board, and be published in the medical journals.

[Signed.] WILLARD PARKER, M. D.,
JOHN H. HINTON, M. D., } Committee.
ELLSWORTH ELIOT, M. D., }

Whereas, The New York Society for the Relief of the Widows and Orphans of Medical Men has recently been bereaved by the death of one of its benefactors and its former president, Dr. Jared Linsly,

Resolved, That the Board of Managers desires to place on permanent record its appreciation of his private and public virtues, of his distinguished medical career, and of his exemplary Christian character.

Resolved, That by his pecuniary contributions, as well as by his counsels, he has ever shown such a liberal spirit that he has been among the foremost in promoting the benevolent objects of the society.

Resolved, That a copy of this preamble and resolutions be entered upon our minutes, and be sent to the family of the deceased with an expression of our sympathy in their great bereavement, and be sent to the medical journals.

[Signed.] ISAAC E. TAYLOR, M. D.,
W. N. BLAKEMAN, M. D.,
W. C. LIVINGSTON, M. D.

The late Dr. Joseph C. Hutchison.—At a meeting of the medical staff of the Brooklyn Hospital, September 24, 1887, the following minute was adopted:

The long and active connection of our friend and associate, the late Dr. Joseph C. Hutchison, with the Brooklyn Hospital was characterized by earnest and unfaltering devotion to its interests. His pre-eminent professional skill, his large and varied experience, his conservative and accurate judgment, his genial manner, and the inspiration of his native kindness and Christian manhood were ever ready for his professional associates, as well as for those who sought the shelter of this institution for help, and were ever intent on all suggestions that served to keep the Brooklyn Hospital first and most liberal among the charitable institutions of the city. Contributing, as he did, by his dignified presence and his many graceful accomplishments, to the adornment and advantage of the enterprise, culture, and benevolence of the city, the Brooklyn Hospital was nearer

to his heart than any other, and to it were given his utmost care and the best of his gifts.

[Signed.]

D. E. KISSAM, President,
ARTHUR R. PAINE, Secretary.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from September 18, 1887, to September 24, 1887:*

CABELL, JULIAN M., First Lieutenant and Assistant Surgeon. Relieved from duty in connection with the Annual Department Rifle Competition at Bellevue Rifle Range, Nebraska, and ordered for duty as Medical Officer at the "Rifle Camp for Team of Distinguished Marksmen," Bellevue Rifle Range. S. O. 89, Department of the Platte, September 10, 1887.

Marine-Hospital Service.—*Official List of Changes of Stations and Duties of Medical Officers of the United States Marine-Hospital Service for the two weeks ending September 24, 1887:*

HUTTON, W. H. H., Surgeon. Granted leave of absence for thirty days. September 15, 1887.

PURVIANCE, GEORGE, Surgeon. Granted leave of absence for thirty days. September 13, 1887.

ARMSTRONG, S. T., Passed Assistant Surgeon. Granted leave of absence for thirty days. September 13, 1887.

GLENNAN, A. H., Passed Assistant Surgeon. To proceed to Charleston, S. C., for temporary duty. September 15, 1887.

WHITE, J. H., Assistant Surgeon. Granted leave of absence for twenty-seven days. September 13, 1887.

NORMAN, SEATON, Assistant Surgeon. Granted leave of absence for twenty days. September 16, 1887.

HEATH, F. C., Assistant Surgeon. To proceed to Mobile, Ala., for temporary duty. September 15, 1887.

WHITE, J. H., Passed Assistant Surgeon. Promoted and appointed Passed Assistant Surgeon from October 1, 1887. September 19, 1887.

PETTUS, W. J., Assistant Surgeon. To proceed to Savannah, Ga., for temporary duty. September 20, 1887.

GOODWIN, H. T., Assistant Surgeon. Appointed an Assistant Surgeon, September 22, 1887. Assigned to temporary duty at Norfolk, Va. September 23, 1887.

Society Meetings for the Coming Week:

MONDAY, *October 3d*: New York Academy of Sciences (Section in Biology); Medico-surgical Society of German Physicians; Morrisania Medical Society (private); Brooklyn Anatomical and Surgical Society (private); Utica, N. Y., Medical Library Association; Boston Society for Medical Observation; St. Alban's, Vt., Medical Association; Providence, R. I., Medical Association; Hartford, Conn., City Medical Association; Monmouth, N. J., County Medical Society (Freehold); Chicago Medical Society.

TUESDAY, *October 4th*: New York Obstetrical Society (private); New York Neurological Society; Elmira, N. Y., Academy of Medicine; Buffalo, N. Y., Medical and Surgical Association; Ogdensburg, N. Y., Medical Association; Medical Societies of the Counties of Broome (annual), Columbia (annual—Hudson), Orange (semi-annual—Goshen), and Schoharie (semi-annual), N. Y.; Therapeutic Society of Cortlandt, N. Y.; Hudson (Jersey City), N. J., and Union (quarterly), N. J., County Medical Societies; Androscoggin, Me., County Medical Association (Lewiston); Clarendon, Vt., County Medical Society.

WEDNESDAY, *October 5th*: Harlem Medical Association of the City of New York; Medical Society of the County of Richmond (Stapleton), N. Y.; Penobscot, Me., County Medical

Society (Bangor); Philadelphia County Medical Society (regular); Bridgeport, Conn., Medical Association.

THURSDAY, *October 6th*: New York Academy of Medicine; Society of Physicians of the Village of Canandaigua, N. Y.; Boston Medico-psychological Association; Obstetrical Society of Philadelphia; U. S. Naval Medical Society (Washington); Washington, Vt., County Medical Society.

FRIDAY, *October 7th*: Practitioners' Society of New York (private).

SATURDAY, *October 8th*: Obstetrical Society of Boston (private).

OBITUARY NOTES.

Abraham Gardiner Thompson, M. D., of Islip, N. Y., died on Monday, September 26th, in the seventy-second year of his age. The deceased was a graduate of the College of Physicians and Surgeons, of New York, of the class of 1837.

Proceedings of Societies.

AMERICAN GYNÆCOLOGICAL SOCIETY.

(Continued from page 359.)

Alexander's Operation.—Dr. A. DOLÉRIE, of Paris, present by invitation, read a paper on this subject in French. The object in shortening the round ligaments, he said, was not to give support to the uterus, but to keep it from falling backward. Retroversion might be simple, or it might be complicated with other abnormal conditions. If there was an elongated diseased cervix, he first restored this; if there were adhesions, he employed uterine gymnastics. In some cases there was only apparent retroversion; when the patient was instructed to bear down, prolapsus was revealed. Anterior colporrhaphy and posterior colporrhaphy should be done when called for. As to the difficulties of Alexander's operation, they could easily be overcome. The ligaments were less difficult to find in the living than in the dead subject. Since he had ceased to employ drainage and used a bichloride solution, he had not seen pus after the operation. He had passed the finger through the internal abdominal ring without bad result.

Dr. CORDES, of Geneva, present by invitation, being requested to give the results of the operation in Switzerland, said he did not know that the operation had been performed there.

Dr. REID, of Glasgow, present by invitation, said he did not doubt the value of the operation in properly selected cases.

Dr. A. MARTIN, of Berlin, present by invitation, had not performed it; his *confrères* had done it in only a few cases.

Dr. W. T. Lusk, of New York, had formerly been a skeptic, but the results obtained by Dr. Polk had led him to perform the operation in several cases, and he had become a complete convert to its value in properly selected cases—those in which other methods had failed to mitigate the distressing symptoms. Necessary preliminary measures should first be resorted to.

Dr. C. C. LEE, of New York, had done the operation nineteen times, and could testify to its utility in properly selected cases.

Dr. HOWARD KELLY, of Philadelphia, present by invitation, preferred to suture the uterus to the pelvic walls—an operation which there was not time to fully describe.

The President's Address.—In his address, the president, Dr. A. J. C. SKENE, of Brooklyn, touched upon the usefulness of medical societies; upon the initiative taken by this country

in establishing a local, and afterward a national, gynæcological society; upon the question of special and general practice; and upon the great advance made in this department, although some impurities remained to be washed from the pure gold. He suggested that it would be well for gynæcologists, while pressing so vigorously forward, to look back upon the work accomplished, and pass judgment upon the bad and the good. The success which had attended surgical means had enabled the latter to overshadow other equally necessary means for the relief of suffering. There was also need of an improved nomenclature. Nor had preventive medicine as it related to gynæcology received the full relative attention to which it was justly entitled. For example, much had been done in the way of relieving anteversion of the uterus, but less in preventing habits of life which led to anteversion. Honored should be the surgeon who relieved disease, but he who prevented disease should be looked upon as the greater hero. Another field for improvement was that of medical journalism. How different would many published articles appear if they were first passed upon by a supreme court of medical experts!

On the Treatment of the Pedicle in Supravaginal Hysterectomy.—Dr. GEORGE GRANVILLE BANTOCK, of London, an honorary member, read a paper on this subject. He recited that part of his personal experience which had led him to adopt certain measures and to reject others in the treatment of the pedicle in supravaginal hysterectomy. In one case the actual cautery was applied to the stump to check hæmorrhage, but, on removing the ligature, hæmorrhage took place as if from a wound made with a knife. In another case copper wire was drawn around the pedicle, but he learned that wire made of copper was not able to bear the strain. Steel wire was too difficult to manipulate. Iron was then employed. A further step was to trim the stump, and stitch the peritoneal tissue over its surface. He further learned never to cut away the tumor until the pedicle had been transfixed with supporting pins. In his eighty-fifth case he introduced another important modification. The *serre-nœud* was put on just below the level of the ovaries, the broad ligament being seized between the ovaries and the uterus. The peritonæum and tumor were divided all round a short distance from the wire loop, the instrument was now screwed up, tension was removed from the uterine aspect (no difficulty was experienced in holding it), pins were put in, a *serre-nœud* was put on behind the pins, and the first was then removed, enabling him in this way to gain about half an inch on the pedicle. One should seek to get a long pedicle, and relieve the strain on the broad ligaments and dragging on the supporting pins. If the broad ligaments or the peritoneal covering appeared to be redundant, the operator should remember not to cut away until he was ready to stitch it over the stump. The intraperitoneal method of treating the stump had been held up as the ideal method, but as a matter of fact we were not yet able practically to adopt an ideal method. Dropping the stump had in his hands proved about as uniformly disastrous as the extraperitoneal method of treating it had proved successful. He had employed the former method in two cases, both of which proved fatal. In some cases the broad ligaments were so long and the ovaries so easily lifted out of the pelvis that it was a simple matter to include the whole in a loop. Or one ovary might be included in the loop, while the other had to be secured separately. Or both might have to be secured separately. The tumor might be situated so low as to render it necessary to separate it from the peritoneal envelope before sufficient pedicle could be obtained. As to the after-treatment of the pedicle, it should be thoroughly protected with gauze, and then the less it was interfered with the better. The prime object was to get the stump dry. As soon as the dressings be-

came moist they should be changed. Perchloride of iron should not be applied; it was unnecessary, and might be injurious. In regard to tightening of the instrument, very little interference would be required. If the pedicle was very thick, it would probably be necessary to tighten the instrument. There should be no hurry to get rid of the stump so long as it remained dry. If pus appeared, measures should be taken to give it free discharge. He had performed supravaginal hysterectomy fifty-seven times, with forty-five recoveries and twelve deaths. In only two of the twelve was the death due to peritonitis and septicæmia. Of hysterectomies for the removal of pedunculated fibroid, thirteen cases had been treated by the extraperitoneal method, all of which had ended in recovery. Two cases in which enucleation was practiced and the extraperitoneal method carried out, had both ended in recovery. In five cases treated by the intraperitoneal method, one patient had recovered and four had died. The discussion on this paper was postponed.

A Case of Acute Dilatation of the Stomach following Laparotomy.—DR. JAMES B. HUNTER, of New York, described the case and reviewed the literature of acute dilatation of the stomach. His case was one of removal of the ovaries and tubes. Prior to the operation the other organs were examined, and nothing abnormal was found. The operation was performed in the usual manner; nothing abnormal was noticed about the stomach. A drainage-tube was not used. On the second day there was in the morning a good deal of vomiting, and in the evening the temperature was 105° F. On the fourth day the vomiting continued, gas escaped freely by the mouth and rectum, there was severe pain in the region of the abdomen, and some distension. On the eighth day the patient continued to vomit apparently a larger quantity than she ingested. She was supposed to have a low grade of septic peritonitis. She died on the eighth day, of exhaustion. At the autopsy the abdomen was found almost completely occupied by the distended stomach, which had displaced the small intestine, the transverse colon, and the omentum. There was no evidence of peritonitis. The stomach contained a gallon of bluish, sour fluid; the mucous membrane showed evidence of chronic catarrhal inflammation; there was marked general atrophy of the coats, especially of the muscular. The inference was that death was due to exhaustion from lack of power to assimilate food. This patient had a right inguinal omental hernia. The author thought the diagnosis would have been difficult to make, and it was doubtful whether the patient could have been saved. Early, the stomach-tube might have been used, but subsequently the thinness of the walls was such that its use would have been very dangerous. The practical lesson was that gynecologists should pay attention to other organs as well as those of the pelvis.

The Intra-uterine Stem in the Treatment of Flexures.

—DR. A. REEVES JACKSON, of Chicago, said that in this paper he did not intend to consider all of the many questions which might arise in connection with the subject of uterine flexions. His object was to present the results which he had observed to follow a certain plan of treatment when applied in a selected class of cases, and to explain the details of the method used. The single indication for treatment considered by him was dysmenorrhœa; the removal of barrenness was only a secondary consideration. He first endeavored to pass a flexible olive-tipped bougie through to the fundus, and repeated this procedure once a day or once in three days, according to the amount of irritation or pain. Larger bougies were successively used. Then, when no pain was present, and at the end of a menstrual period, he inserted a soft rubber stem which was shorter than the canal. It was kept in place by a cotton tampon placed against the neck. The stem was followed by a larger one at

the end of from two to six weeks. As soon as the uterus was quite or nearly straight, a more permanent stem of hard rubber could be used. At first he had expected from the soft stem only to prepare the uterus for the stiffer one, but in practice he had found the latter sometimes uncalled for. The hard stem was worn continuously not less than three months, to be replaced in a few days if the cure was not permanent. The virtue of the treatment was that it acted slowly. The uterus had to be coaxed, not forced, into proper shape. He had treated sixty-seven cases; in forty-one there was cure of the flexure; in twenty the result was unknown; in five the dysmenorrhœa was relieved. He thought a larger number of cases could be cured by this method than by any other.

Dr. OGDEN, of Toronto, present by invitation, was perfectly in accord with the spirit of Dr. Jackson's paper. We should not attempt to straighten the uterus suddenly. He preferred dry to moist cotton to retain the soft stem.

Dr. AUST-LAWRENCE, of England, present by invitation, said that in his country intra-uterine stems had met with disfavor, but his own plan of treatment of uterine flexions was similar to that of Dr. Jackson, treating selected cases, and correcting the deformity slowly.

The Treatment of Uterine Fibromata by Electrolysis.

Dr. G. APOSTOLI, of Paris, present by invitation, read a paper in French on this subject. In using an electrode, positive or negative, within the uterus, we had a double object in view: the first, to treat the mucous membrane, which was always diseased in endometritis, applying thereto a current which was antiseptic and curative at the same time; second, to get the trophic action of the current to combat at the same time the lesions of the parenchyma which were nearly always concomitant. His experiments in the treatment of uterine fibromata had been begun in 1882. In all cases of uterine hæmorrhage he invariably applied the positive pole within the uterus, reserving the negative pole for other cases. He had employed this therapeutic measure, which he characterized as rational, inoffensive, and precise, in nearly three hundred cases. When uterine fibromata were present they were almost invariably diminished in size, but they never totally disappeared. The treatment was continued on an average from three to nine months. There resulted rapid and lasting arrest of hæmorrhage, and relief from symptoms.

Dr. J. R. CHADWICK, of Boston, had tried Dr. Apostoli's method during the past six months, but the results had been unsatisfactory. It was only fair to say that the current had not been applied in some cases as many times as Dr. Apostoli said was necessary in order to obtain positive results. Out of fifteen patients, six or eight had received seven or eight applications each; one received eighteen applications, and the others the smaller number. In one case a small fibroid was reduced after a few applications; in one, fever and symptoms of metroperitonitis developed; in two, death took place.

Ventral Hernia after Laparotomy, and its Surgical Treatment.

—DR. CHADWICK read a paper on this subject. The hernia usually occurred some months after the laparotomy, and was progressive, and in most cases means for retaining it were ineffective and a source of trouble to the patient. It gave rise to a dragging sensation, meteorism, constipation, and indigestion. There was a constant tendency for the tumor to increase in size, and strangulation was threatened, although he was not informed that it had supervened in hernia following laparotomy. As to the prevention of hernia after laparotomy, as yet we were unable to say positively what method of uniting the wound was most likely to prevent its development. Dr. Gill Wylie had very properly laid stress upon uniting fascia to fascia, and other like tissues with each other, when closing the ab-

dominal wound. The sutures should be inserted sufficiently close together, and intra-abdominal tension should be avoided by proper feeding and early resort to enemata or laxatives. Simon's method of treating the abdominal wound was also considered. The presence of cicatricial tissue from the laparotomy should not stand in the way of a radical operation for the cure of the hernia. The operation was really an exploratory one, and did not differ from an exploratory abdominal incision in other cases except that one knew not whether the peritonæum was intact or not. If it was intact and was returned to the abdominal cavity, and the wound closed, there would be some danger of pushing the needle through the serous covering. In one case of large ventral hernia following laparotomy, the author had opened the sac and found that the incision in the peritonæum had not united. He brought the peritoneal surfaces together with raw-silk sutures. The intestines were released from the sac with tediousness and returned to the abdominal cavity with difficulty. The operation lasted two hours. Convalescence was uneventful. Some time after the operation he could find no weakness in the line of the cicatrix.

(To be concluded.)

PHILADELPHIA PATHOLOGICAL SOCIETY.

Meeting of September 22, 1887.

The President, Dr. J. C. WILSON, in the Chair;

Dr. W. E. HUGHES, Recorder.

Thrombosis of the Portal Vein.—Dr. W. OSLER presented a specimen of thrombosis of the portal vein. Chronic obstruction to the blood-flow in the branches of the vena portæ within the liver, such as occurred in cirrhosis, was probably, he remarked, the most common cause of this rare condition. We not infrequently met with atheroma in the portal vein and its branches in cirrhosis, one factor in the production of which, as in the pulmonary artery in mitral stenosis, was the heightened blood-pressure; and to this change the thrombus formation was closely related. At first, and possibly for a long time, mural, it gradually became obliterating, and, if the collateral circulation was established, the patient might live some time, as in a case which he had reported in 1882 (*Journal of Anatomy and Physiology*), in which the vein was represented by a firm fibrous cord. The specimen now shown had been taken from a Swede, aged about forty-five, who was admitted into the University Hospital on May 7th with ascites. As he could not speak English, it was difficult to obtain a history, but it was ascertained that he had been in failing health for some time and that latterly his abdomen had become swollen. The swelling did not appear to have come on suddenly. The liver dullness was reduced, the superficial abdominal veins were moderately distinct, and the case was regarded as one of ordinary cirrhosis. The man was tapped five times between May 20th and July 14th, and from twelve to fifteen pints of serous fluid were removed on every occasion. He was able to be up and about after each tapping, but he gradually became emaciated, weak, and finally comatose, and he died July 20th. There were no hæmorrhages, and it might be stated that the abdominal veins were at no time more distended than was common in atrophic cirrhosis. The condition post mortem was as follows: Fibrous adhesion in the peritonæum; atrophic cirrhosis of the liver, with thickened capsule; an old firm thrombus in the vena portæ, extending into the splenic and mesenteric veins; thickening and patchy calcification of the walls of the portal vessels; great enlargement and induration of the spleen; kidneys indurated; no special changes in the thoracic organs. A careful dissection of the abdominal veins was not made, but the speaker had been told

by Dr. Miall, who made the autopsy, that the peritonæum was very dark and the veins behind the liver were very large. The collateral channels were no doubt largely those of the anastomosis which existed between the peritoneal, mesenteric, and lumbar veins and the gastric, diaphragmatic, and œsophageal vessels. As in the case of fibroid obliteration referred to, a perfect collateral circulation might be established in cases of occlusion of the portal vein, and the patient live for months or years. In this instance the thrombus was evidently old, as in places there were calcareous changes. The branches in the liver were filled with soft clots. The gall-bladder was full of normal bile. In two other cases of cirrhosis the speaker had met with thrombi in the portal vein, in both instances with thickening and atheromatous changes in the vessel walls, but the thrombi had not undergone such degenerative changes as in this specimen.

Chronic Hypertrophic Cirrhosis of the Stomach, with Gastric Ulcer and Colloid Change of the Mucous Membrane.—Dr. H. F. FORMAD presented a specimen from a sailor, aged thirty-eight, a German, who was admitted into the Naval Hospital ten months before, with the symptoms of dyspepsia and occasional vomiting. There had been absolutely no pain at any time and no vomiting of blood. Three months before his death he began to have serious difficulty in swallowing, with œsophageal regurgitation, and, though a stricture was sought for, none was found. Very curiously, for a few days immediately preceding death he swallowed well. Death resulted from starvation. At the autopsy the abdominal cavity was found to contain fifty-two ounces of straw-colored fluid and showed evidences of old peritoneal inflammation, especially at the upper part, where the organs were matted together into one mass. The stomach was quite contracted, having a capacity of from four to five ounces. Its walls were from one half to one inch thick, the thickness being greatest at the cardia and gradually decreasing to within two inches of the pylorus, when the wall abruptly resumed its normal condition. The first impression given was that it was a case of cancer, but closer examination showed it to be simply one of great thickening of the wall with polypoid elevations of the mucous membrane and secondary colloid change. The ulcer was situated in the posterior wall near the cardia; its bottom was formed by scar tissue in the spleen and the peritoneal coat of the transverse colon. Communication with the abdominal cavity had been prevented by firm adhesions. The omentum contained a number of colloid granules as large as peas. The abdominal lymph glands appeared to be amyloid. The case was remarkable: 1. In the complication of hypertrophy with gastric ulcer, a condition which the reporter had never before seen. 2. In that the hypertrophy should have commenced at the cardia instead of at the pylorus.

Stab-wound of the Abdomen.—Dr. FORMAD also reported this case. Laparotomy had been performed, and a wound of the intestine found, which was sutured. The man died suddenly sixty hours after the operation. At the autopsy there was only a very slight amount of peritonitis found, and the wound in the intestine had firmly united. The abdominal condition not being sufficient to account for death, the brain was examined, and a very distinct embolus found on the floor of the fourth ventricle. The stomach had not been touched, but on its peritoneal surface there were some slight tears, and opposite them in the mucous membrane, but not corresponding exactly with them, were several distinct, small linear ulcers, which appeared like ulcers due to some injury. They did not look at all like ordinary ulcers, but still had evidently formed before death. There was an old hæmorrhagic infarct of the kidney.

Dr. OSLER had been particularly interested in the specimen, and had hoped that possibly it might prove to be related to the

formation of gastric ulcer in the way pointed out by Dr. Baumgarten, to which he wished to call attention—namely, that the movement of the stomach against the costal edges produced distinct localized thickenings, and that in corresponding points of the mucous membrane ulcers formed.

Gunshot Wound of the Heart.—Dr. FORMAN also reported this case. The ball had entered the chest between the fourth and fifth ribs on the left side, and passed through the left ventricle, and was found imbedded in the spinal column. Death was instantaneous. The principal point of interest lay in the fact that the ball had traversed the cavity of the left ventricle near its base without injuring the chordæ tendineæ or the leaflets of the mitral valve.

A Mediastinal Tumor was presented by Dr. WESCOTT. It had been removed from a man, aged twenty-eight, who had entered the University Hospital a week before. He was a brakeman, with a good family history and personal habits, and no venereal history. He had been in good health and at his work till last July, when dyspnoea developed, and he quit work. About the same time he noticed a tumor in his neck. There was no pain nor difficulty of swallowing. On admission he was in a condition of orthopnoea. Over the left side of the chest there was complete dullness, extending to the right edge of the sternum, with absence of respiratory murmur. The apex-beat of the heart could not be seen or felt. The tumor of the neck involved the superficial lymph glands, and could be traced behind the sterno-cleido-mastoid muscle and down into the chest. There was no inequality of the pupils nor any œdema. At the autopsy, on opening the chest, nothing but a large fleshy mass and the edge of the right lung could be seen. The mass penetrated the chest-wall between the first and second ribs, and became continuous with the tumor in the neck. It was closely attached to the bodies of the dorsal vertebræ from the first to the fourth, filled all the upper part of the left chest, and completely enveloped the great vessels. The œsophagus was pushed to one side, but not compressed. The left lung was completely collapsed, and contained numerous secondary nodules. The heart was pushed down and back, but was normal. The mesenteric glands were enlarged. A section of the tumor showed largely fibrous tissue. The reporter asked whether, in the case of such a large mass, the absence of pressure symptoms was not remarkable.

Dr. J. B. WALKER said that, in the absence of pressure symptoms, such a large tumor was in his experience unique, generally very much smaller ones giving rise to marked symptoms.

NINTH INTERNATIONAL MEDICAL CONGRESS.

SECTION IN GYNÆCOLOGY.

The President, Dr. HENRY O. MARCY, of Boston, in the Chair.

AFTER calling the section to order, the PRESIDENT made a brief opening address, referring to the eminent services of the late Dr. J. Marion Sims.

Drainage of the Bladder, Kidneys, and Uterus through the Vagina, with and without Graduated Pressure.—A paper on this subject was read by Dr. NATHAN BOZEMAN, of New York (see page 372).

Dr. GRAYLY HEWITT, of London, thought the operation described in the paper promised to be of much value, and would probably lead to important changes in our methods of treating cystitis and affections of the kidney. The ingenuity the author had brought to bear in getting rid of contractions and adhesions by constant pressure was remarkable, but the new operation for the treatment of pyelitis was most original and appeared to promise great results. Hitherto extirpation of the kidney had

seemed to be the only treatment available in certain cases. Conservative surgery here stepped in, and in Dr. Bozeman's snake-like sound we seemed to have a very important assistance in carrying out a conservative treatment in appropriate cases.

Dr. A. HEWSON, of Philadelphia, had effected much good in the class of cases referred to by Dr. Bozeman by dilating the vagina for twenty minutes daily with air-pressure. He had applied gases—carbon dioxide and hydrogen sulphide—directly to the location of the morbid parts through such instruments, keeping up the application of these gases for at least twenty minutes daily, the yielding and dissipating being apparent in the relief and comfort after the first application.

Rapid Dilatation of the Cervix Uteri was the title of a paper by Dr. W. H. WATHEN, of Louisville. The author stated that he would use an anæsthetic in any case of dilatation to a diameter above a third or half an inch.

The Causes and Treatment of Barrenness.—A paper on this subject by Dr. T. MORE MADDEN, of Dublin, was read by the secretary. Few gynæcological questions, the author said, came so constantly before us, and none probably were of greater practical importance than those connected with sterility, not only involving, as they did, the physical health of patients, but also in many instances intimately affecting the happiness and welfare of married life. For, at least in his country, child-bearing was held to be one of the chief functions of a woman's conjugal life; while to be sterile was commonly regarded as the protean source of marital troubles. In the paper, in tabular form, there was a statement of the causes of sterility in five hundred and twenty-eight of the cases of infecundity occurring in married women within the child-bearing period of life that had come under observation in the gynæcological department of the author's hospital. The cases might be roughly divided into two classes, viz.: 1. Those in which barrenness was occasioned by sexual impotence or some physical impediment in the passages from the vulvar orifice to the ovaries. 2. Cases of true sterility, or conceptive incapacity from deficiency, congenital or acquired, structural disease, arrest of development, superinvolution, etc., of the uterus, or from analogous morbid conditions of its appendages. 3. Cases of barrenness from constitutional causes. 4. Cases in which the causes of infecundity were apparently moral rather than physical, such as sexual incongruity, etc. According to the table, the most frequent of these causes of sterility was stenosis of the cervical canal. And, as the author believed that the operative treatment of such cases, simple as it was deemed by some, required more consideration than it generally received, and frequently proved worse than useless from the disregard of certain details and precautions which he considered essential, he ventured to recommend the adoption of a method of procedure and the use of instruments which he had found advantageous in the curative treatment of stenosis in three hundred and eighty cases of obstructive dysmenorrhœa and sterility traceable to this cause. The essential feature of the method was the separation by cutting and simultaneous forcible expansion of the affected parts, followed by dilatation during the period of cicatrization, so as to prevent their subsequent contraction, and thus to secure the permanent patency of the occluded passage. To attain this result he employed three instruments—namely: a special form of uterine director, which could, generally speaking, be introduced into any cervical canal, however narrow, and along which a serrated triangular, guarded knife was made to travel up through the os internum; and a uterine dilator of great power, by which any required degree of cervical expansion could be effectually secured and accurately gauged. The influence of uterine flexions in the prevention of pregnancy and the treatment he adopted in such cases were next described, together with the management of aplasia when it

resulted, as was frequently the case, from chronic endometritis. In like manner, the methods found most serviceable in cases of infecundity due to other causes commonly met with, vaginal, uterine, and ovarian, were briefly reviewed. The author dwelt more fully on the subject of conceptive incapacity from morbid conditions of the Fallopian tubes, as he regarded stenosis, as well as occlusion of these ducts by elytritis and its results, such as hydro- and pyo-salpinx, as far more common causes of sterility than was generally recognized. Moreover, he also held that such tubal diseases might, in many instances, be efficiently dealt with without resort to the serious operative procedures, *i. e.*, the removal of the uterine appendages, which, by some surgeons, were considered invariably necessary, and were by them so freely employed in such cases. He referred at some length to those less heroic alternative measures, such as aspiration and catheterization of the Fallopian tubes, the feasibility and the successful results of which, in appropriate cases, he had demonstrated clinically. Finally, the question of sterility arising from constitutional disorders, and in some instances even apparently irrespective of any physical cause, and the method of dealing with such cases, were also discussed in the paper.

Dr. S. C. GORDON, of Portland, Me., thought that impenetrability of the cervical canal to the semen was seldom a cause of sterility. One very common cause was vaginismus; other causes were abnormal conditions in and about the uterus rendering the organ a poor soil for reproduction.

Dr. C. R. REED, of Middleport, O., mentioned the fact that the use of Hodge's or Hewitt's pessary was often followed by impregnation in cases where there had been sterility.

Dr. HEWITT thought that the good effects of pessaries in this respect were due largely to their straightening the uterine canal.

Other speakers mentioned barrenness in the husband and excessive sexual indulgence as occasional causes of infecundity.

Pregnancy complicated with Uterine Fibroids was the subject of a paper by Dr. STEPHEN H. WEEKS, of Portland, Me., in which special consideration was given to the following question: When pregnancy is complicated with a large interstitial uterine fibroid, occupying and well-nigh filling the pelvic cavity is it better to induce abortion or premature labor, or to allow gestation to go on to full term, and then deliver by abdominal section? Guided by the light of abdominal surgery, he maintained that in the vast majority of cases it was better to allow pregnancy to go to term, and then, if it was found that delivery was impossible *per vias naturales*, to resort to abdominal section, without waiting until the patient's strength was exhausted by protracted labor. The operation best suited to such cases was the Cæsarean section by Säger's method, or the removal of the ovaries, and, if possible, the Fallopian tubes.

The Treatment of Uterine Myoma with Ergot.—Dr. DANIEL T. NELSON, of Chicago, read an abstract of a paper on this subject, embodying data which had been furnished to him by a number of physicians to whom he had sent letters of inquiry in 1886. The author divided such tumors into the subserous, the interstitial, and the submucous. In their reports his correspondents had included cases of myoma, fibro-myoma, fibroma, and fibro-cystoma. The investigation justified the conclusion that great advantage was to be derived from the use of ergot; but, except in the submucous variety, it should not be used in doses sufficient to cause painful contractions of the uterus for any considerable length of time, and in the submucous variety only when the os uteri was dilating. In one case it had been shown that large and long-continued doses of ergot did not cause gangrene of any part of the body.

(To be continued.)

Book Notices.

A Reference Hand-book of the Medical Sciences, embracing the Entire Range of Scientific and Practical Medicine and Allied Science. By Various Writers. Illustrated by Chromolithographs and Fine Wood Engravings. Edited by ALBERT H. BUCK, M. D. Vols. III, IV, and V. New York: William Wood & Co., 1886, 1887. Pp. 813-816-813.

WITH these three volumes Dr. Buck's great undertaking is well advanced toward completion; the last article, the alphabetical order being followed, is on "Pott's Disease." The most noteworthy articles in the three volumes are entitled "Face," by Dr. Frank Baker; "Fallopian Tubes," by Dr. W. Gill Wylie; "Fever," by Dr. Frank W. Chapin; "Field Surgeons," by Dr. Joseph R. Smith; "Fœtus," by Dr. Charles Sedgwick Minot; "Forceps (Obstetrical)," by Dr. Theophilus Parvin; "Fractures," by Dr. Lewis A. Stimson; "Fungi," by Dr. F. Peyre Porcher; "Gangrene," by Dr. John B. Hamilton; "Genital Organs," by Dr. Edmund Andrews; "Glaucoma," by Dr. Adolf Alt; "Gonorrhœa," by Dr. Abner Post; "Gout," by Dr. Walter Mendelson; "Gynecological Examination," by Dr. Henry C. Coe; "Habitations," by Dr. J. Pickering Putnam; "Hæmorrhage," by Dr. Charles B. Nancrede; "Hand," by Dr. Thomas L. Stedman; "Headache," by Dr. Norman Bridge; "Head (Wounds of the)," by Dr. Roswell Park; "Health Resorts," by Dr. Huntington Richards; "Hearing," by Dr. William Gilman Thompson; "Heart," by Dr. Mary Putnam Jacobi, Dr. Frederick C. Shattuck, Dr. Alfred L. Loomis, Dr. F. Peyre Porcher, Dr. Henry N. Heineman, Dr. William Gilman Thompson, and Dr. Morse K. Taylor; "Heat (Animal)," by Dr. Henry Herbert Donaldson; "Hernia," by Dr. H. H. Mudd and Dr. Middleton Michel; "Hip Joint," by Dr. Frank Baker and Dr. Thomas L. Stedman; "Histological Technique," by Dr. George Cornell Freeborn; "Hospitals," by Dr. Edward Cowles; "Hydrocele," by Dr. N. Senn; "Hydrocyanic Acid," by Dr. Edward Curtis and Dr. R. A. Witthaus; "Hygiene," by Dr. Alfred A. Woodhull and Dr. Albert L. Gihon; "Hypermetropia," by Dr. John Green; "Hysterectomy," by Dr. Andrew F. Currier; "Impregnation," by Dr. Charles Sedgwick Minot; "Infancy," by Dr. A. D. Blackader; "Inflammation," by Dr. W. T. Councilman; "Insanity," by Dr. Theodore H. Kellogg, Dr. Henry R. Stedman, Dr. Edward N. Brush, Dr. William B. Goldsmith, Dr. N. S. Davis, and Dr. James H. Etheridge; "Intermittent Fever," by Dr. Edward W. Schauffler; "Intestinal Obstruction," by Dr. George Ross and Dr. Francis J. Shepherd; "Intestine," by Dr. William Gilman Thompson, Dr. T. L. S., Dr. James Bell, Dr. Israel T. Dana, Dr. W. S. Cheesman, and Dr. Joseph D. Bryant; "Iritis," by Dr. Samuel Theobald; "Iron," by Dr. Edward Curtis; "Jaundice," by Dr. Reginald H. Fitz; "Jaws," by Dr. Charles S. Briggs; "Joints," by Dr. Joseph D. Bryant; "Kidney," by Dr. J. West Roosevelt, Dr. Walter Mendelson, Dr. G. Baumgarten, Dr. Hermann M. Biggs, Dr. Charles E. Hackley, and Dr. Joseph Ransohoff; "Labor," by Dr. Charles Francis Withington; "Lacrymal Apparatus," by Dr. Samuel Theobald; "Laryngectomy," by Dr. Roswell Park; "Laryngoscope," by Dr. D. Bryson Delavan; "Larynx," by Dr. Benjamin F. Westbrook, Dr. George M. Lefferts, Dr. D. Bryson Delavan, Dr. John Noland Mackenzie, Dr. Joseph O'Dwyer, Dr. Francke H. Bosworth, Dr. Ethelbert Carroll Morgan, and Dr. Morris J. Asch; "Leucoeythæmia," by Dr. Frederick P. Henry; "Ligation," by Dr. N. Senn; "Litholapaxy" and "Lithotomy," by Dr. Arthur T. Cabot; "Lithotripsy," by Dr. W. H. Hingston; "Liver," by Dr. Thomas E. Satterthwaite, Dr. John H. Musser,

Dr. James M. French, Dr. Edmund C. Wendt, Dr. Charles W. Allen, Dr. L. L. McArthur, and Dr. Hermann M. Biggs; "Lungs," by Dr. Donald M. Cammann, Dr. Charles E. Quimby, Dr. S. S. Herrick, and Dr. F. A. Manning; "Lupus," by Dr. Arthur Van Harlingen; "Malaria," by Dr. Charles Smart and Dr. Thomas D. Swift; "Malpractice," by Dr. Henry Childs Merwin; "Massage," by Dr. Douglas Graham; "Mastoid Operations," by Dr. Albert H. Buck; "Measles," by Dr. I. E. Atkinson; "Melanosis," by Dr. James M. French; "Menstruation," by Dr. William Gilman Thompson; "Mercury," by Dr. Edward Curtis and Dr. William B. Hills; "Miasm," by Dr. Charles Smart; "Micro-organisms," by Dr. George Cornell Freeborn; "Microscopy," by Dr. George Wilkins; "Milk," by Dr. William Gilman Thompson and Dr. T. Wesley Mills; "Muscles," by Dr. Francis J. Shepherd and Dr. Samuel B. Woodward; "Muscular Tissue," by Mr. Simon H. Gage; "Myopia," by Dr. H. Gradle; "Neck," by Dr. Francis J. Shepherd; "Necrosis," by Dr. Thomas M. Markoe; "Nerves," by Dr. James K. Thatcher and Dr. Edward T. Reichert; "Nerve Tissue," by Dr. Henry Koplik; "Neuralgia" and "Neurasthenia," by Dr. James J. Putnam; "Neuritis," by Dr. James Stewart; "Nomenclature," by Dr. J. F. Baldwin; "Nose," by Dr. D. Bryson Delavan and Dr. John Noland Mackenzie; "Nutrition," by Dr. R. H. Chittenden; "Occupation," by Dr. R. L. MacDonnell; "Oesophagus," by Dr. F. A. Manning; "Ophthalmoscope," by Dr. John Green and Dr. William Oliver Moore; "Opium," by Dr. W. P. Bolles and Dr. Charles P. Bancroft; "Optic Nerve and Retina," by Dr. Adolf Alt; "Optometry," by Dr. John Green; "Orbit," by Dr. George C. Harlan; "Orthopædic Surgery," by Dr. V. P. Gibney; "Osteotomy," by Dr. Charles Talbot Poore; "Ovaries," by Dr. H. C. Coe; "Ovariectomy," by Dr. James B. Hunter; "Ovum," by Dr. Charles Sedgwick Minot; "Ozæna," by Dr. Ethelbert Carroll Morgan; "Pancreas," by Dr. N. Senn; "Paralysis," by Dr. Leopold Putzel, Dr. Frederick P. Henry, and Dr. Henry W. Berg; "Paraplegia," by Dr. W. R. Birdsall; "Patella," by Dr. George B. Fowler; "Pelvic Cellulitis" and "Pelvipерitonitis," by Dr. W. W. Jaggard; "Pelvis," by Dr. Frank Baker; "Penis," by Dr. Abner Post; "Pericardium," by Dr. Edward Tunis Bruen; "Perineorrhaphy," by Dr. T. Johnson Alloway; "Perinæum," by Dr. T. Johnson Alloway and Dr. Francis J. Shepherd; "Periodicity," by Dr. Rudolph Matas; "Peritonæum," by Dr. Frank Baker; "Peritonitis," by Dr. George Ross; "Pessaries," by Dr. Horace T. Hanks; "Pharmacopœia," by Dr. Charles Rice; "Pharynx," by Dr. John N. Mackenzie, Dr. Benjamin F. Westbrook, and Dr. D. Bryson Delavan; "Phosphorus," by Dr. Edward Curtis and Dr. William B. Hills; "Photomicrography," by Dr. George M. Sternberg; "Phthisis," by Dr. E. W. S. and Dr. Edward W. Schauffer; "Physiognomy," by Dr. Dallas Bache; "Placenta," by Dr. Charles Sedgwick Minot; "Plastic Surgery," by Dr. Joseph Ransohoff; "Pleurisy," by Dr. Frederick C. Shattuck; "Pneumonia in Children," by Dr. William P. Northrup; "Poisonous Insects," by Dr. Charles Valentine Riley; "Poisons," by Dr. Charles Harrington and Dr. R. H. Chittenden; "Pons Varolii," by Dr. M. Allen Starr; "Post-mortem Examinations," by Dr. W. W. Gannett and Mr. Henry A. Riley; "Potassium," by Dr. Edward Curtis; and "Pott's Disease," by Dr. Edward H. Bradford.

In this list, which on account of its importance we have thought best to make pretty full, we have included only major headings; the articles in connection with which more than one author is mentioned are composed of separate essays on subjects grouped under those headings. In the case of the organs and regions of the body, such subdivisions relate to the anatomy, the physiology, the diseases, and the surgery of the part. This arrangement we think judicious, and it must be said that the

various authors have been well chosen and that they have handled the subjects committed to them very satisfactorily. The colored illustrations seem to us distinctly better than some of those that were contained in the preceding volumes of the work. The woodcuts are for the most part quite appropriate and well executed.

The Student's Guide to Diseases of the Eye. By EDWARD NETTLESHIP, F. R. C. S., Ophthalmic Surgeon to St. Thomas's Hospital, Assistant Surgeon to the Royal London (Moorfields) Ophthalmic Hospital, etc. Third American from the Fourth English Edition. With a chapter on Examination for Color Perception. By WILLIAM THOMSON, M. D., Professor of Ophthalmology in the Jefferson Medical College of Philadelphia. Philadelphia: Lea Brothers & Co., 1887. Pp. xx-13 to 475. [Price, \$2.]

The third American edition of Nettleship's hand-book for students in diseases of the eye preserves the reputation which the first edition gained for itself as among the best monographs upon the subject in any language. The author has incorporated into this issue all the essential advances in ophthalmology that have been made since the last English edition was published. These additions consist of a brief but satisfactory discussion of the subject of retinoscopy, or the shadow test; the systemic prevention of ophthalmia neonatorum; the treatment of trachoma with jequirity; some facts relating to affections of the internal muscles of the eye; Dianoux's and Watson's operations for the relief of entropium; and some facts in regard to ophthalmoplegia externa. The chapters on diseases of the cornea, cataract, and glaucoma have been largely rewritten. We think the author is in error when he says that "opacities in the lens never clear up except sometimes in diabetes," for cases have been reported in which the opacity undoubtedly disappeared, and the reviewer has seen two such cases. There are a number of new woodcuts in this edition, and some of the old ones have been replaced by better ones, much to the advantage of the text. The book is essentially adapted to the wants of the beginner in clinical ophthalmology, and as such is meeting with deserved success.

The Treatment of Hemorrhoids by Injections of Carbolic Acid and other Substances. By SILAS T. YOUNT, M. D., Physician to St. Elizabeth's Hospital, etc. The Echo Music Co.: Lafayette, Ind., 1887. Pp. 9 to 63.

In this little book the author has described the treatment of hemorrhoids by injection, and stated nearly all its advantages. The only things he has omitted are its disadvantages, the accidents attending it, and the liability to recurrence after what often seems a perfect cure. The book contains nothing new.

GENERAL LITERARY NOTES.

DR. JOHANN SCHNITZLER's new series of essays, entitled "Klinische Zeit- und Streitfragen," so far as it has thus far been published, includes the following: "On the Present Status of Bacteriology, and its Relations to Practical Medicine," by Dr. A. Weichselbaum; "Hypnotism, with special reference to its Clinical and Medico-legal Significance," by Dr. Obersteiner; "Cardiac Dyspnoea and Cardiac Asthma," by Dr. von Basch; and "The Present State of the Therapeutics of Syphilis," by Dr. M. von Zeissl. The following are announced for succeeding parts: "New Therapeutic Methods in Skin Diseases," by Dr. Grunfeld; "Atony of the Stomach," by Dr. von Pfungen; "Nemoses of the Stomach," by Dr. Glax; "Recent Methods of Investigation and Treatment in Intestinal Diseases," by Dr. Oser; "The Surgical Treatment of Intestinal Diseases," by Dr. K. Maydl; and "Bronchial Asthma," by Dr. Schnitzler.

Among recent foreign publications we note the following:

F. ALCAN, Paris.—A. Tartenson, "Traite clinique des fièvres larvées." Preface by G. Barral. (*Grise*.)

J. B. BAILLIÈRE & CIE., Paris.—E. Cohen, "Orteil en marteau. Nouveau traitement par ostéotomie cunéiforme." (2*fr.*)

F. VALLARDI, Rome.—G. Chiarleoni, "Malaria e funzioni della riproduzione nella donna." (1*l.* 25.) — G. Turazza, "Antisepsi ed antisettici nelle medicazioni chirurgiche, con appendice sull' impiego di alcuni antisettici nella medicina interna." (4*l.*)

P. AGUILAR, Valencia.—Aguilar y Lara, "La Nueva Cirugía Anti-séptica." (28 *reales.*)

BOOKS AND PAMPHLETS RECEIVED.

A Study of the Phenylhydrazin Test for Sugar in Urine, as applied by Ultzmann. By A. R. Bond, M. D., of Baltimore, Md. [Reprinted from the "Medical News."]

Maryland State Board of Health, 1887. The Sanitation of Cities and Towns and the Agricultural Utilization of Excretal Matters. Report on Improved Methods of Sewage Disposal and Water Supplies. By C. W. Chancellor, M. D., Secretary of the State Board of Health of Maryland, etc.

Index-Catalogue of the Library of the Surgeon-General's Office, United States Army. Authors and Subjects. Vol. VIII. Legier-Medicine (Naval). Washington: Government Printing Office, 1887. Pp. 1078.

Hand-book of Gynæcological Operations. By Alban H. G. Doran, F. R. C. S., Surgeon to Out-patients Samaritan Free Hospital for Women and Children, London. With Illustrations. Philadelphia: P. Blakiston, Son, & Co., 1887. Pp. xii-485. [Price, \$4.50.]

Surgery: its Theory and Practice. By William Johnson Walsham, F. R. C. S., Assistant Surgeon to St. Bartholomew's Hospital, etc., London. With Two Hundred and Thirty-six Illustrations. Philadelphia: P. Blakiston, Son, & Co., 1887. Pp. ix-9 to 655. [Price, \$3.]

Vaso-renal Change *versus* Bright's Disease. By J. Milner Fothergill, M. D., Edin., Physician to the City of London Hospital for Diseases of the Chest (Victoria Park), etc. New York: G. P. Putnam's Sons; London: Baillière, Tindall, & Cox, 1887. Pp. xii-218. [Price, \$2.50.]

Differential Diagnosis of the Diseases of the Skin, for Students and Practitioners. By Condict W. Cutler, M. S., M. D., etc. New York and London: G. P. Putnam's Sons, 1887. Pp. vi-139. [Price, \$1.25.]

Diarrhœa and Dysentery. Modern Views of their Pathology and Treatment. By Prof. Alonzo B. Palmer, M. D., LL. D., etc. Detroit: George S. Davis, 1887. [Physician's Leisure Library.]

Transactions of the Texas State Medical Association. Nineteenth Annual Session, held at Austin, Texas, April 26, 27, 28, and 29, 1887.

Hygiène infantile. Causes de la morbidité et de la mortalité de la première enfance à Buénos Ayres. Par le Docteur Emile R. Coni, Membre honoraire de l'Association Médica Bonaerense du Círculo Médico Argentino, etc. Ouvrage couronné au concours Rawson par la Faculté des Sciences Médicales de Buénos Ayres. Buénos Ayres: Paul, 1886. Pp. xix-228.

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Transactions of the Colorado State Medical Society. Seventeenth Annual Convention, Denver, June, 1887.

Reports on the Progress of Medicine.

DISEASES OF CHILDREN.

By L. EMMET HOLT, M. D.

The Specific Contagium of Scarlet Fever (Jamieson and Edington, "Brit. Med. Journal," June 8, 1887; George Thin, "Brit. Med. Journal," August 20, 1887).—The bacteriological part of the first paper is a record of experiments by Dr. Edington, of Edinburgh, made at the suggestion of Dr. Jamieson, who for several years has advocated the free use of disinfectants about the throat in the early part of scarlet fever,

and antiseptic inunctions during desquamation as an effectual means of preventing the spreading of the disease. Many cultivation experiments were carried on with bacteria obtained from the blood and organs, and also with those obtained from the skin in different stages of the disease. One bacillus was found constantly present in the blood if taken before the third day of the fever, and the same one was found constantly present in the desquamating scales if taken after the twenty-first day. This he concludes is the contagium of the disease. Inoculations were practiced upon rabbits and guinea-pigs, and caused an erythema followed by desquamation. In young calves they caused a febrile condition and a red, dry rash, followed by desquamation. Experiments were made with scales from seven persons who were being treated by Jamieson's plan of baths and inunction during desquamation. In only two was the bacillus found, and in these six days were required for the development of the bacillary pellicle, while usually only twenty-four or thirty-six hours were required for a profuse growth.

In the second paper the whole subject is critically reviewed, beginning with the epidemic connected with the Hendon cow disease and the experiments by Dr. Klein upon those animals. The facts that three dairies were affected by a disease which all the evidence goes to show was in all cases the same, and that no cases of scarlatina originated from the milk of two of them, militate strongly against the cow disease being the cause of the outbreak of the epidemic. Further, the milkers who were inoculated by their hands had in no case anything resembling scarlet fever, but local sores usually, with only a slight constitutional reaction, such as might be produced by any septic infection. While there is no doubt expressed that the streptococcus which Dr. Klein isolated from the eruption on the udders and the one found in the blood in cases of human scarlatina are identical, still this is very far from establishing the fact that the streptococcus is the cause of scarlatina. The symptoms which followed inoculation of animals with this organism and the lesions found in fatal cases are by no means peculiar to scarlatina, but are equally well explained by septic inflammation or blood poisoning. Edington's bacillus is regarded with more favor. There are still lacking, however, sufficient test experiments with the microbes of the skin in health and in other diseases than scarlatina, without which it will be impossible to accept his conclusions. Thus far they seem the best that have been offered.

Diphtheria in Animals (Turner's Report to the Local Government Board, "Brit. Med. Journal," August 20, 1887).—The report of which the article referred to is an abstract has collected our knowledge on the subject. An instance is related of the disease in a pigeon, inoculation of other pigeons with the membrane reproducing the affection. Epidemics occurred in Braughing and other villages, where diphtheria caused many deaths among fowls before any cases occurred in the families. Swine and horses are also known to suffer from this disease. Instances are related in which cats have become infected from man, and an example of the opposite is related. Successful inoculation of cats has been repeatedly practiced. A shepherd's family suffered from diphtheria after the disease had been prevailing among the sheep. Loeffler's bacteriological studies in diphtheria have led him to the conclusion that the bacillus is different in the calf and in the fowl, and that the one found in man differs from both of them. These facts militate against the doctrine of the identity of the disease in these different animals with that in man. It seems, however, quite possible that the lower animals may be infected with human diphtheria.

Bacteriological Observations in Summer Diarrhœa (Tompkins, "Lancet," August 20, 1887).—All the observations were made upon organs taken from the body within six hours after death. Conclusions drawn from bacteria found at a later period the writer regards as untrustworthy. No satisfactory cultivations could be made with blood from the heart, nor from the spleen. Cultivations were obtained from the mesenteric glands in three cases out of five, and from the kidneys in every case. The most abundant, of course, were those from the walls of the intestine and intestinal ulcers. These were so rapid in development that in three days the nutrient jelly was liquefied; it also became alkaline in every instance, and the most powerful odor of decomposition was present even to the fifth generation. The chief bacillus is described as somewhat resembling that of Asiatic cholera, but shorter and thicker. The air coming from sewer ventilators in the worst parts of

the towns was found to contain from 2,000 to 6,000 micro-organisms to the cubic metre; in the best districts, from 60 to 900. Cultivations were obtained from these germs and resembled those made from the organs, but were much slower in their growth. Some experiments were made and diarrhoeal attacks produced by inoculation. The writer thinks sufficient evidence has been adduced to show some connection between the organisms and the disease, but the exact relation is not yet proved.

Fibrinous Deposits within the Heart in Diphtheria and Some other Diseases of Children (Chaffey, "Brit. Med. Journal," July 16, 1887).—The facts of this paper were collected from two hundred autopsies, and the deposits were such as to indicate ante-mortem formation. They were present to a marked degree in four out of fourteen cases of phthisis, in three out of thirty-three cases of tuberculosis (other than phthisis), and in over one half of twenty-three cases of diphtheria. In all the cases of diphtheria, except one ending in death by paralysis, some deposits existed. In seventeen of these cases the heart muscle was examined, and more or less general fatty degeneration found in every instance. The same change was found in two of the cases of tuberculosis. Hypostatic pneumonia or congestion was associated in most cases with deposits on both sides of the heart; collapse and emphysema were present in nearly all the cases of diphtheria. When the deposits were only on the right side of the heart (three cases) there was collapse at the bases and posterior parts of the lungs, but no pneumonia or congestion. This supports the view that excessive deposits in the right heart lead to collapse of lung; there is, however, post-mortem evidence that the pneumonia and congestion are secondary to the collapse.

Spina Bifida Occulta and its Relation to Ulcus Perforans and Talipes Varus (Bland Sutton, "Lancet," July 2, 1887).—This deformity is defined as a defect in the arches of the vertebræ, but without any tumor appearing externally. Four cases, previously reported by Virchow, Recklinghausen, and others, are collected, and one is added by the writer. In every case the deformity has been accompanied by a luxuriant growth of hair, usually limited to the lumbar region over the vertebral fissure, but in one case the growth covered the body. Virchow has compared this hairy growth to the tuft of feathers on the head of the Polish fowl and the accompanying cranial defect beneath.

Congenital club-foot was associated in several cases, and in three "perforating ulcer" of the foot existed, these persons being usually seen in adult life. Recklinghausen examined the nerves of one of these patients after amputation, and found no changes; there was, however, a considerable degree of hypertrophy of the muscular coats of the arteries. Sutton made a similar observation in his own case.

Notching of the Incisor Teeth not due to Syphilis (J. Hutchin-

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Copy of Card.

"NEW YORK, , 188 .

"Name of Patient. Age.

Congenital sarcoma of the Parotid and the Neck (Tsoner, "Centralbl. für Kinderh.," 1887, No. 9).—These neoplasms are very rare. The author has been able to find only two recorded in literature. A child of three months was seen which had presented since it was two weeks old a parotid swelling. It rapidly increased, involving the buccal cavity, and pressing upon the larynx and spine. It was removed by operation, but the child survived only a few days. Microscopically, the tumor was made up of small round and fusiform cells.

Antifebrine in Febrile Diseases of Children (Widowitz, "Revue mensuelle des mal. de l'enfance," from "Wiener med. Wochenschrift," 1887, Nos. 17 and 18).—The author's observations were made upon fifty-four cases, made up as follows: Scarlatina, 4; measles, 11; measles and pneumonia, 11; the remainder being tuberculosis, erysipelas, pneumonia, bronchitis, amygdalitis, gastritis, and enteritis. In all cases the temperature began to fall within ten to twenty minutes after the dose. The rapidity of the decline depended less upon the dose than upon the disease and idiosyncrasy. The amount of fall in all cases was

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The Health of San Francisco.—According to the Health Department's "Condensed Statement of Mortality," for the month of August, the whole number of deaths during the month was 409, including 5 from cholera infantum, 6 from cerebro-spinal meningitis, 19 from croup and diphtheria, 2 from diarrhoea, 2 from dysentery, 9 from typhoid fever, 1 from remittent fever, 1 from measles, 1 from whooping-cough, and 1 from small-pox.

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Scotland.—The deaths registered in eight principal towns during the week ending September 3d corresponded to an annual rate of 18.5 in a thousand of the population, which is estimated at 1,299,000. The lowest mortality was recorded in Aberdeen, viz., 12.9, and the highest in Paisley, viz., 26.5 in a thousand. The aggregate number of deaths registered from all causes was 463, including 18 from scarlet fever, 2 from diphtheria, 31 from whooping-cough, 12 from fever, and 39 from diarrhoea.

Germany.—The deaths registered in fifty-two cities of Germany,

J. B. BAILLIÈRE & CIE., Paris.—E. Cohen, "Orteil en marteau. Nouveau traitement par ostéotomie cunéiforme." (27r.)

F. VALLARDI, Rome.—G. Chiarleoni, "Malaria e funzioni della riproduzione nella donna." (11. 25.) — G. Turazza, "Antisepsi ed antisettici nelle medicazioni chirurgiche, con appendice sull' impiego di alcuni antisettici nella medicina interna." (41.)

P. AGUILAR, Valencia.—Aguilar y Lara, "La Nueva Cirugía Anti-séptica." (28 reales.)

BOOKS AND PAMPHLETS RECEIVED.

A Study of the Phenylhydrazin Test for Sugar in Urine, as applied by Ultzmann. By A. R. Bond, M. D., of Baltimore, Md. [Reprinted from the "Medical News."]

Maryland State Board of Health, 1887. The Sanitation of Cities and Towns and the Agricultural Utilization of Excretal Matters. Report on Improved Methods of Sewage Disposal and Water Supplies. By C. W. Chancellor, M. D., Secretary of the State Board of Health of Maryland, etc.

Index-Catalogue of the Library of the Surgeon-General's Office, United States Army. Authors and Subjects. Vol. VIII. Legier-Medicine (Naval). Washington: Government Printing Office, 1887. Pp. 1078.

Hand-book of Gynecological Operations. By Alban H. G. Doran, F. R. C. S., Surgeon to Out-patients Samaritan Free Hospital for Women and Children, London. With Illustrations. Philadelphia: P. Blakiston, Son, & Co., 1887. Pp. xii-485. [Price, \$4.50.]

Surgery: its Theory and Practice. By William Johnson Walsham, F. R. C. S., Assistant Surgeon to St. Bartholomew's Hospital, etc., London. With Two Hundred and Thirty-six Illustrations. Philadelphia: P. Blakiston, Son, & Co., 1887. Pp. ix-9 to 655. [Price, \$3.]

Vaso-renal Change versus Bright's Disease. By J. Milner Fothergill, M. D., Edin., Physician to the City of London Hospital for Diseases of the Chest (Victoria Park), etc. New York: G. P. Putnam's Sons; London: Baillière, Tindall, & Cox, 1887. Pp. xii-218. [Price, \$2.50.]

Differential Diagnosis of the Diseases of the Skin, for Students and Practitioners. By Condict W. Cutler, M. S., M. D., etc. New York and London: G. P. Putnam's Sons, 1887. Pp. vi-139. [Price, \$1.25.]

Diarrhoea and Dysentery. Modern Views of their Pathology and Treatment. By Prof. Alonzo B. Palmer, M. D., LL. D., etc. Detroit: George S. Davis, 1887. [Physician's Leisure Library.]

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it is true, is small, and does not contain many remarkable exhibits. The enterprise has certainly not received the support it merited at the hands of American manufacturers. There seemed, at first, to have existed some lack of confidence, which must now be the subject of very keen regret on the part of those who failed to respond. 'Buffalo Bill,' however, has proved a host in himself, and we can not regard his entertainment as altogether devoid of any bearing on questions relating to health. On the contrary, the vigor and physical agility of the entire troop must stimulate the love of wholesome outdoor exercises. Such exhibitions are, therefore, likely to help those who by every means seek to improve the strength and endurance of the people.

"Within the building of the exhibition itself, one of the most striking features is the plentiful supply of temperance drinks. Evidently this is a great problem. How can we provide a drink that shall be really palatable and yet free from alcohol; that shall consist in the main of water, and yet shall not contain the germs of disease too often present in what is called potable water? Messrs. John Matthews, of New York, seem in all but one important particular to have solved this problem. They have a magnificent marble fountain, standing some thirty feet high, where iced carbonated beverages are served from an apparatus carefully made so as to be free from all base metals that might affect the water. This water, further, is distilled in a special engine-house just outside the main building, and then aerated with compressed carbonic-acid gas. Thus the water is perfectly safe, the pure syrups added give it a very pleasant flavor, and the only fault to find is the high price. While fourpence is charged per glass, this can not become a popular temperance beverage. Should some temperance stimulant be required, these waters can be mixed with the acid phosphate liquid prepared by Professor E. N. Horsford, which has a great sale in America. This consists of a solution of phosphates of lime, magnesia, potash, and iron, with phosphoric acid.

"Close to the soda-water fountain will be found the interesting exhibits of Messrs. William R. Warner & Co., American chemists. They exhibit a preparation called 'bromo-soda,' each dose of which consists of twenty grains of bromide of potassium and one grain of caffeine, made up in effervescing granules. The same firm show a great variety of soluble coated pills and granules that are elegantly prepared and conveniently packed into very small compass. Their 'ingluvin' powder is at least a historical curiosity. From time immemorial the Chinese and the Caucasians have mixed the gizzards of fowls with a variety of dishes, and this has been considered as a wonderful remedy for indigestion. In China chicken gizzards are placed in hot water, reduced to pulp, and mixed with spices, a spoonful being given at meal-times. Experiments have now shown that the gizzard contains a powerful nitrogenous radical that possesses the qualities of pepsin, and is families. Swine and horses are also known to suffer from this disease. Instances are related in which cats have become infected from man, and an example of the opposite is related. Successful inoculation of cats has been repeatedly practiced. A shepherd's family suffered from diphtheria after the disease had been prevailing among the sheep. Loeffler's bacteriological studies in diphtheria have led him to the conclusion that the bacillus is different in the calf and in the fowl, and that the one found in man differs from both of them. These facts Seabury and Johnson now place before you, and they have acquired a wide reputation throughout the United States. Messrs. Frank Giles and Sons exhibit a patent felt paper which is very well adapted to packing medicine bottles so as to prevent their breaking, and only costs sixpence the square yard.

"An American Exhibition naturally contains alimentary products, and these, as tending to reduce the price of food, are of assistance in maintaining the health of the poorer classes. Among this class of exhibits will be found the Fairbank Canning Company and the Armour Canning Company of Chicago. Close by, the Johnson Fluid Beef Company distributes beef-tea to all the visitors, and thus seeks to increase the popularity of its useful and nutritious extract. Perhaps among the food exhibits the most remarkable are those of Messrs. Gordon and Dilworth, of New York. Apart from a most luxurious display of preserved fruits, we have some calf's-foot-jelly mixed with port or sherry. The glass jars are closed in a patent manner, and the opening is large enough to allow the jelly to be taken out with a spoon, so that it need

not be melted as when in bottles. All the preserves are in glass, and this helps to keep the flavor; nor can any chemical action occur, as is sometimes the case with tinned fruits, etc. Finally, we should not omit to mention that in the grounds there is a medical station with a physician in attendance, and that the Exhibition also possesses several ambulances. Thus it will be seen that there are at least a few points of special interest to medical visitors, though these are not numerous."

An Institution for the Weir Mitchell Treatment has been opened in Burlington, Vt., by Dr. A. J. Willard, late superintendent and resident physician of the Mary Fletcher Hospital. There seems to be a need for such an institution, and the auspices under which Dr. Willard's has been opened are such that we do not doubt that it will be well supported.

The New Surgeon-General of the State of North Carolina.—Dr. Hubert Haywood, of Raleigh, has been appointed to fill the vacancy caused by the resignation of Dr. Eugene Grissom. Dr. Haywood, who was graduated from Bellevue Hospital Medical College in 1879, has served for a number of years as Assistant Surgeon-General, in which capacity he has given great satisfaction in the administration of the affairs of the office, and his promotion is a deserved one.

The City Board of Health.—The following action has recently been taken by the board:

Whereas, Dr. E. G. Janeway, Dr. A. Jacobi, Dr. C. R. Agnew, Dr. Stephen Smith, Dr. D. M. Stimson, Dr. George F. Shrady, and Dr. J. O'Dwyer, have been invited by this board to act as consulting physicians and surgeons of the Willard Parker Hospital and of other hospitals of this department in East Sixteenth Street, and

Whereas, They have all willingly accepted the trust; be it therefore *Resolved*, That Dr. E. G. Janeway, Dr. A. Jacobi, Dr. C. R. Agnew, Dr. Stephen Smith, Dr. D. M. Stimson, Dr. George F. Shrady, and Dr. J. O'Dwyer be and are hereby appointed consulting physicians and surgeons of the Willard Parker Hospital and other hospitals of this department on East Sixteenth Street, without compensation, and that they be requested to meet and organize at their earliest convenience, and to submit to this board for its approval a plan contemplating the best interests of the sick in these hospitals.

Resolved, That Dr. T. M. Prudden and Dr. H. M. Biggs be and are hereby appointed pathologists of the Health Department and of the hospitals under its control, without compensation.

Resolved, That postal cards properly inscribed be provided by this board for the reporting of contagious disease by the medical profession of this city, and that they be furnished the profession for this purpose on application to the office for contagious diseases, 309 Mulberry Street.

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Copy of Card.

"NEW YORK, , 188 .

"Name of Patient. Age.
 "Residence.
 "Disease. No. of Families in House.
 "How contracted.
 " M. D.
 "Residence.

"*Note.*—Whenever the immediate attention of this department is required, please telegraph from the nearest police station-house by day or night, or telephone directly to this office, which is *always* open.

"Telephone No., 251 Spring."

Resolved, That on and after January 1, 1888, the lay sanitary inspectors be graded as follows:

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Germany.—The deaths registered in fifty-two cities of Germany,

having an aggregate population of 6,821,222, during the week ending August 27th, corresponded to an annual rate of 25.9 in a thousand. The lowest rate was recorded in Wiesbaden, viz., 9.1, and the highest in Görlitz, viz., 43.5.

Netherlands.—The deaths registered in the principal cities of the Netherlands, having an aggregate population of 1,102,200, corresponded to an annual rate of 21.9 in a thousand. The lowest rate was recorded in the Hague, viz., 16, and the highest in Hertogenbosch, viz., 27.7.

Marseilles.—One thousand and thirty-seven deaths were registered in Marseilles during the month of August, 1887, including 1 from cholera, 71 from enteric fever, 3 from scarlet fever, 28 from diphtheria, 21 from measles, and 197 from diarrhoea and enteritis.

Rome.—The United States consul, in his dispatch under date of August 25th, and in confirmation of his telegram of same date, states that "on the 16th instant a brick-maker in Rome, who had been associating with a family from Catania, Sicily, where cholera is now prevailing, was attacked at 9 A. M. and died at 11 P. M. from a malady, denied at the time, but now admitted to have been Asiatic cholera. From that date to the 24th instant, inclusive, there have been 14 new cases, with 4 deaths, making 5 deaths in all. On the 16th instant several cases of cholera occurred at Tivoli, a town of 7,500 inhabitants, on the slopes of the Sabine Mountains, 18 miles from Rome. The infection is claimed to have been carried there in old rags destined for the paper-mills, Tivoli being the seat of important paper manufactures. From the 16th to the 24th, inclusive, there have been 30 cases altogether at Tivoli. The precise number of deaths there is withheld by the authorities, but the mortality is said to be slightly over 60 per cent. The authorities have displayed the greatest energy in enforcing sanitary measures for the prevention and extermination of the disease, and I am happy to report that at present it appears to have no tendency to spread or increase in Rome. The general health of the city is excellent, the weekly mortality being even slightly below the average at this season."

Palermo.—The United States consul, in his dispatch dated August 29th, reports "126 cases of cholera and 72 deaths from that disease during the seven days ending August 28th. . . . The weather during the week was generally dry and cool compared with that for some time previous, and it is generally believed that while the cholera may remain for some time, it will not become epidemic. . . . The cholera is not confined this year, as it was generally during the last epidemics, to the poor and filthy class, but has invaded the palaces of princes, dukes, and the houses of others who on former occasions were, as a rule, exempt from it. Few cases, however, among the class referred to have proved fatal."

Messina.—The United States consul, in his telegram under date of September 12, 1887, states: "Cholera declared epidemic in Messina by authorities."

MORTALITY TABLE, FOREIGN CITIES.

CITIES.	Week ending.	Estimated popu- lation.	Total deaths from all causes.	DEATHS FROM—						
				Cholera.	Yellow fever.	Small- pox.	Typhus fever.	Enteric fever.	Sanitary fever.	Diphtheria.
Paris	August 27.	2,260,045	946	..	..	7	..	23	..	21
Glasgow	September 3.	545,678	193	..	..	..	..	5	8	..
Calcutta	July 30.	433,219	189	16	..	..	..	..	..	1
Calcutta	August 6.	433,219	180	19	..	..	..	..	..	..
Rome	July 9.	372,779	163	..	..	5	..	2	3	1
Palermo	August 28.	250,000	123	72	..	..	1	2	6	4
Palermo	September 4.	250,000	196	52	..	..	..	4	6	2
Bristol	September 3.	223,605	66	..	..	..	..	..	3	1
Havana	September 8.	298,000	215	14	63	..	..	2	..	..
Genoa	August 27.	179,379	86	..	1	3	..	..	..	5
Genoa	September 3.	179,379	77	..	2	..	..	..	..	..
Leipsic	September 3.	170,000	69	..	..	..	..	2	2	..
Stuttgart	September 3.	125,510	46	..	..	..	..	..	..	1
Toronto	September 14.	120,000	33	..	..	..	..	..	..	4
Bremen	August 27.	119,000	30	..	..	..	..	..	..	1
Havre	August 27.	112,074	117	..	..	2	..	30	..	..
Marseilles	August 27.	65,791	28	..	..	..	..	..	2	1
Guayaquil	August 25.	30,000	57	..	..	11	..	..	..	..
Gibraltar	August 28.	23,631	15	..	..	..	..	1	..	1

UNITED STATES.

Key West, Fla.—*Yellow Fever.*—No new cases and only one death from yellow fever during past week.

New York.—The steamship *Alesia*, from Naples, Italy, arrived on the night of the 22d instant at the New York quarantine with four cases of Asiatic cholera on board. Eight deaths from the same disease occurred on the voyage.

ANSWERS TO CORRESPONDENTS.

No. 48.—The proper expression is *Littre's* operation (not *Littre's*). *Littre*, the surgeon, is to be distinguished from *Littre*, the physician and lexicographer.

No. 49.—The black-and-white-ligature method of tying off elongated growths is figured and described in *Erichsen's "Surgery."*

No. 50.—This correspondent asks for a definition of the term "Christian science." We think it an undesirable expression and one hardly susceptible of a satisfactory definition, because it is to a great extent illogical and used by different persons in various senses. It may mean: (1) theology considered as a science; (2) science treated with a view to subjecting it to or harmonizing it with the doctrines of Christianity; (3) science considered as favored in its development by Christianity, as opposed to its lack of growth among other than Christian peoples. There may be other meanings quite as admissible as those we have indicated.

To Contributors and Correspondents.—*The attention of all who purpose favoring us with communications is respectfully called to the following:*

Authors of articles intended for publication under the head of "original contributions" are respectfully informed that, in accepting such articles, we always do so with the understanding that the following conditions are to be observed: (1) when a manuscript is sent to this journal, a similar manuscript or any abstract thereof must not be or have been sent to any other periodical, unless we are specially notified of the fact at the time the article is sent to us; (2) accepted articles are subject to the customary rules of editorial revision, and will be published as promptly as our other engagements will admit of—we can not engage to publish an article in any specified issue; (3) any conditions which an author wishes complied with must be distinctly stated in a communication accompanying the manuscript, and no new conditions can be considered after the manuscript has been put into the type-setters' hands. We are often constrained to decline articles which, although they may be creditable to their authors, are not suitable for publication in this journal, either because they are too long, or are loaded with tabular matter or prolix histories of cases, or deal with subjects of little interest to the medical profession at large. We can not enter into any correspondence concerning our reasons for declining an article.

All letters, whether intended for publication or not, must contain the writer's name and address, not necessarily for publication. No attention will be paid to anonymous communications. Hereafter, correspondents asking for information that we are capable of giving, and that can properly be given in this journal, will be answered by number, a private communication being previously sent to each correspondent informing him under what number the answer to his note is to be looked for. All communications not intended for publication under the author's name are treated as strictly confidential. We can not give advice to laymen as to particular cases or recommend individual practitioners.

Secretaries of medical societies will confer a favor by keeping us informed of the dates of their societies' regular meetings. Brief notifications of matters that are expected to come up at particular meetings will be inserted when they are received in time.

Newspapers and other publications containing matter which the person sending them desires to bring to our notice should be marked. Members of the profession who send us information of matters of interest to our readers will be considered as doing them and us a favor, and, if the space at our command admits of it, we shall take pleasure in inserting the substance of such communications.

All communications intended for the editor should be addressed to him in care of the publishers.

All communications relating to the business of the journal should be addressed to the publishers.

Original Communications.

ON THE OCCURRENCE OF
ULCERS RESULTING FROM SPONTANEOUS
GANGRENE OF THE SKIN

DURING THE LATER STAGES OF SYPHILIS,
AND THEIR RELATION TO SYPHILIS.*

By HERMANN G. KLOTZ, M. D.,

ATTENDING PHYSICIAN TO THE GERMAN HOSPITAL AND DISPENSARY OF
NEW YORK.

WHENEVER we find an ulcer of round or oval shape, sharply cut as if punched out, with somewhat thickened abrupt edges, extending deeply into or through the entire thickness of the skin, with an uneven floor of a dark-green or yellow, dirty color, in a person known to be under the influence of syphilis in its later stages, such an ulcer we generally consider to be a syphilitic one—that is to say, to owe its origin to necrosis of some previously formed specific tissue, most frequently to the breaking down of a gummatous infiltration. An observation made several years ago rendered it more than probable to me that similar ulcers in syphilitic persons might directly result from circumscribed spontaneous gangrene of the skin, due to syphilitic arteritis or endarteritis obliterans.

Among the patients who came under my care when, on July 1, 1879, I took charge of the out-door poor service of the German Society of New York, was Mrs. S., fifty-eight years of age, who, while otherwise in good health and strength and able to attend to her household duties, was, owing to a sore leg, prevented from leaving the house. Beginning directly below the knee, the right leg was considerably enlarged; on its upper two thirds the skin was congested and shining, showing numerous dilated blood-vessels, but was otherwise in good condition. From about the lower third of the leg to the middle of the dorsal aspect of the foot, ulcers of irregular shape, at least one centimetre deep, with sharply cut, indurated edges, occupied nearly the entire circumference of the ankle. The floor of the ulcers showed an uneven surface of a dirty-green color, furnishing a copious watery discharge of very offensive odor. The foot, with the exception of the toes, was enormously enlarged in consequence of swelling of the soft parts, principally of the skin, which was partly smooth and glistening, partly uneven, owing to the formation of numerous aggregated wart-like elevations, and was constantly moist by a watery secretion. At first sight the case seemed to be one of simple chronic ulcers with elephantiasis of the leg; closer examination of the patient, however, made it more than probable that syphilis was at the bottom of the disease.

The patient being almost deaf and not of very bright intellect, it was with some difficulty that the following history was extracted: Her husband is living, and does not show any signs of disease; she has two grown-up sons, both in good health; she herself was strong and healthy until eight years ago, when a tumor formed over the sternum, which, without ever causing much pain, broke and left an extensive ulcer, which finally healed. Soon after similar ulcers developed on the dorsal side of the right forearm, which likewise healed. Only a few weeks later ulcers made their appearance on the back of the right

foot, laying bare the bones but gradually filling up again to about the present state, never healing, but attaining by degrees their present size. Extensive white, sharply defined scars, adherent on the sternum, confirmed the patient's report and left little doubt as to the syphilitic character, particularly of that over the sternal region, so favored a location of syphilis.

Under appropriate, mostly specific treatment the swelling of the extremity was gradually reduced, the ulcers themselves presented a cleaner, healthier aspect, now and then good granulations cropped up, the edges had flattened down and softened visibly, when on one of my visits in November I was surprised to find the skin above the ankle affected at several new places, which before had been smooth and but little infiltrated. Being interested in the patient, I had visited her at least once a week, and had watched the progress closely. I felt confident that on the localities of the recent affections no swelling, not even any discoloration, had previously existed. Now there appeared on several places dark-green, oval-shaped sloughs, of about the size of a small hen's egg, surrounded by well-defined borders, which were not more congested or swollen than the rest of the skin; their appearance was accompanied by considerable sharp pains. Gradually the tough, dry eschars began to separate from the surrounding tissues without losing their totality, showing an uneven floor throughout, the lower third of which was of semilunar shape, level and slightly elevated, and, like the rest, coated by a thin layer of yellowish detritus. After a while the ulcers thus formed took on the same appearance as the old ones, making but very slight progress toward improvement, without, however, evincing a tendency to increase in circumference.

In September, 1880, the patient's left leg, which so far had remained intact, began to swell quite rapidly, exhibiting œdema of the soft parts with but slight congestion, when an injudiciously applied liniment caused a dermatitis or artificial eczema. This had subsided when, in October, without any previous induration or circumscribed swelling, similar sloughs as above described were formed on the back of the foot, followed in November by more extensive sloughing of the skin above the left ankle. Soon after, symptoms of blood-poisoning set in, which early in December terminated in death.

Here I had a patient of whose syphilitic taint there could be no doubt, with ulcers closely resembling the typical so-called gummatous ulcer of syphilis; still I felt absolutely certain that in those localities where I had been able to watch their development there had been no symptoms of previous gummatous infiltration. There had been no reddening of the surface, no spontaneous opening of a single aperture nor ulceration at several distinct points, no formation of a small deep ulcer with a core underneath, and final extension until the entire neoplasm was destroyed; no thickened edges and no hyperæmic areola. The blackish-green eschars had appeared at once, uniformly covering the whole area; they were closely adherent at first to the surrounding skin, which itself did not exhibit any changes from its former condition; they gradually separated in their totality—clearly spontaneous gangrene of the skin. In looking for the cause of the gangrene, there was no evidence of trauma, none of the influence of heat or cold or of caustic or irritating chemical action, none of a diathesis like diabetes or of an infectious disease, none of neurotic influences, none of ergotism, or any other cause except obstruction to the circulation. The patient exhibited no signs of endocarditis,

* Read before the section in Dermatology and Syphilography of the Ninth International Medical Congress.

no sclerosis of the arteries in other parts where it usually manifests itself; therefore it seemed probable that syphilitic arteritis or endarteritis obliterans had led to the interruption of circulation. This I stated to be my opinion when I presented the patient at a meeting of German physicians of New York in January, 1880. I shall try to show later on that such an assumption seems justified, even without direct anatomical proof. Still, I confess the case was not entirely convincing, especially in regard to the right extremity, which was first affected. Here the whole leg was in such a condition that the obstruction of a blood-vessel could easily take place from various causes; not so, however, on the left leg, which had previously been in a normal state. Certainly my attention was sufficiently aroused to keep me on a sharp lookout for similar cases. Several years, however, passed without furnishing farther confirmation of my suspicion. A number of cases came under my observation which, indeed, somewhat resembled that of Mrs. S. In several instances I found the same dark-green sloughs, firmly adherent to their base and their periphery, occurring mostly at the malleolar region; sometimes I could watch the separation of these sloughs and the appearance of the deep, dirty, sharply cut ulcers, surrounded, at least at first, by rather normal skin, in persons known to be, or highly suspected of being, subjects of syphilis. At other times ulcers were seen, under similar conditions and in the same localities, which I felt convinced had been originated by the separation of the same escharotic sloughs. They were generally of oval shape, uneven, very often deeper at one side than at the other, showing a flat semilunar elevation like the round ulcer of the stomach, with hard but sometimes inverted edges, furnishing a thin watery secretion and either exhibiting very little tendency to extend or to heal, or, after a very slow progress of healing, leaving a depressed scar that firmly adhered to the underlying tissue, even when not situated directly over a bone. *Per contra*, gummatous ulcers as a rule show a great tendency to heal under proper treatment with a slightly depressed, movable, and thin parchment-like scar. Naturally, such ulcers at first sight do not differ much from the common chronic ulcer of the leg, especially if left to themselves for some time, but on close observation some peculiarities can indeed be found. I have observed these so regularly in ulcers of the malleolar region that I always consider those as suspicious of syphilis, and but exceptionally has the suspicion failed of confirmation by the absence of a history or other manifestations of syphilis. All such cases, however, which I have seen, unfortunately belonged to dispensary practice, so that I was not able to trace their history and development with sufficient accuracy. One case, however, occurring in private practice, offered a better opportunity.

Mrs. B., then about fifty years of age, had contracted syphilis in August, 1880. Although rationally treated from the start by her physician, the disease soon developed a very malignant character, partly in consequence of irregularity of treatment owing to the miserable state of the patient's digestion, partly of constant family trouble and excitement. I first saw her about a year after the infection, when she presented superficial ulcerations of the forehead, scars of ulcers on the legs, and gummata

of the thighs and arms, and ever since have had her under observation. During these six years Mrs. B. hardly ever has been entirely free from symptoms of syphilis, consisting mostly of ulcers of different parts of the body. In March, 1884, two gummata of the size of a small walnut made their appearance on the lower third of the right leg, breaking down in the usual way and leaving two deep ulcers in an area of considerably infiltrated and congested skin. These ulcers, after various periods of improvement and aggravation, presented about the end of June a clean granulating surface, giving promise of a speedy healing. Early in September I found these ulcers healed with a smooth, thin scar; the leg, which had repeatedly shown different degrees of oedema, was of natural size, but below the malleolus internus two dark-green, firmly adherent sloughs, about the size and shape of peach-stones, were visible, separated by a band of slightly oedematous skin and causing no particular inconvenience. Four weeks later the sloughs had come off, leaving tolerably clean, shallow defects, with sharply cut, uninfiltated edges. These two ulcers have never entirely healed since; they have not materially increased in size, but have been constantly changing in depth. At one time in January, 1885, the greater part of them had been transformed into a depressed adherent scar, showing several transverse, ridge-like elevations and causing then considerable pain, but since that time the ulcers have increased in depth again and do not undergo much change, neither healing nor extending, although the patient is keeping very quiet and is not obliged to use her legs much.

So far my own experience. In literature not much is to be found. Some of the features of syphilitic ulcers in the chronic state are found described in the hand-books, for instance, by Bumstead and Taylor,* where the chronic swelling resembling elephantiasis Arabum, as in my first case, is especially mentioned, but the original formation of a slough without previous gummatous infiltration I have not found distinctly recognized. Some of the malignant precocious syphilides, described originally by French authors, often rapidly lead to sloughing, but never without a neoplasm being previously visible, differing from my cases by their early appearance. We find the closest resemblance to spontaneous gangrene, however, in a description recently given by Fournier† of what he calls *gangrène primitive*, and to which, he says, Bazin has given the name of tuberculo-gangrenous syphilide. I have tried to find the original of Bazin, which Fournier has not indicated, but have not succeeded, so that I cite the latter author:

"Here the tuberculous infiltration, as soon as it has been formed, takes a livid color in the center and a chocolate color in the peripheral portions, with insensibility of the diseased part; for in reality the formation of an eschar takes place under which the mortified, insensible, sloughy tissues are found, no external occasional cause being recognizable. The mortified parts take on the appearance of gangrene, they become detached, and underneath the syphilitic ulcer is found at last. The symptoms perfectly bear the character of spontaneous primary gangrene."

Here you have an exact description of what I have stated to have observed, only that Bazin insists on the previous formation of a neoplasm that begins to disintegrate as soon as it is formed. It is true, the syphilitic newly formed

* Bumstead and Taylor, "Venereal Diseases," fifth ed., p. 601.

† "Gaz. d. hôpitaux," 1887, Nos. 37 and 40.

tissue is perhaps the most short lived, but not so ephemeral as Bazin's description would lead us to believe; only in phagedenism do we meet with so rapid a decay, yet Bazin does not identify his tuberculo-gangrenous syphilide with phagedenism. Has this new formation not been assumed perhaps in conformity with the usual experience that syphilitic ulcers always result from the disintegration of a specific product? And has not the *bona fide* acceptance of such a new formation been the cause that the gangrenous ulcer has never been distinguished from the gummatous one? It seems to me that it is not necessary to resort to such an explanation; the sudden occlusion of a small terminal branch of an artery would more satisfactorily account for the almost instantaneous appearance of such a spontaneous gangrene. It has been satisfactorily shown that in every stage of syphilis its virus exerts its action most constantly on and around the blood-vessels. To changes in the blood-vessels, therefore, particularly to endarteritis obliterans, we must look for an explanation, if we can exclude other external or internal causes of gangrene. Endarteritis in syphilitic persons is an established fact; it does not detract from its importance that this arteritis is really not a specifically syphilitic process; that it owes its origin to syphilis in a great many cases is generally conceded. Such an origin would at the same time explain the inefficacy of antisiphilitic treatment in such cases. The product of endarteritis of the skin will no more be influenced by the same than the nerve or ganglion that was destroyed by cerebral hæmorrhage due to specific endarteritis. The mischief is done by syphilis, but its result ceases to be syphilis. Lang, who, in his lectures on the pathology and treatment of syphilis,* has devoted an entire lecture to the syphilitic affections of the circulatory system, has paid more attention to this question than other authors. He speaks first of arteritis of the larger blood-vessels, leading in some cases to gangrene of entire extremities or portions thereof. Besides an observation of his own, he cites cases of Zeissl and Lomikowsky, to which others of Nicoladoni,† Billroth,‡ Podres* (cited by Bumstead and Taylor), and Cabot and Warren|| might be added. The latter report gangrene of the two lower thirds of the right leg, and a gangrenous spot three to four inches in diameter on the inner side of the right thigh. I observed the following case of endarteritis of the popliteal artery or one of its branches, which, like Lang's case, took a favorable course under specific treatment.

Mr. R., who had contracted syphilis in 1874, consulted me in June, 1882, for a thickening of the epidermis between the toes and on the sole of the left foot. On August 16th this thickened epidermis was found to be detached, covering a superficial, irregularly shaped, serpiginous ulcer, which under local applications and mixed treatment had healed about September 3d. After continued treatment, on October 13th the sole appeared smooth but for several small scaling spots beneath the first phalanges of the toes, but the whole leg, which had

been slightly œdematous before, appeared considerably swollen from the knee downward to the toes; the skin was pale, cool to the touch, and not sensitive on pressure except at the lower part of the tibia. Under the use of iodide of sodium within the next days the swelling somewhat subsided; on removal, however, of the scales from the sole, ulcers were again found. On October 19th the treatment was changed to hypodermic injections of a one-per-cent. solution of the bichloride of mercury, and soon the swelling began to diminish steadily; on the 25th the toes were smaller, and on the 28th, when nine injections had been administered, the ulcers of the sole had healed, the fourth and fifth toes were of normal size, while the second and third and the inner half of the great toe were still enlarged, and on the sole the interdigital spaces between the first, second, and third toes were nearly obliterated by a pad-like protuberance of the soft parts. The dorsal aspect of the foot still showed moderate swelling over the tibio-tarsal joint; on the leg the outlines of the tibia were still concealed by œdema of the soft parts, which on both sides of the bone gave a peculiar elastic sensation; the front aspect of the tibia seemed to be thickened by periosteal new formation, but was not sensitive. On November 13th the swelling had still more subsided, but, owing to my protracted sickness, I did not see the patient again until the following May, when the leg was in perfectly normal condition except slight periosteal thickening of the upper and lower third of the tibia. The extremity at all times had been cool, pale, and almost free from pain; at no time could I detect a thickened, hard, or enlarged blood-vessel, like in Lang's case, still I can not think of another cause for the apparent obstruction of the circulation but of endarteritis obliterans.

To return to Lang, he then proceeds to the consideration of the affections of the medium-sized and small arteries, dwelling particularly on the importance of the endarteritis of the smaller cerebral vessels, which was first studied by Heubner and confirmed by other authors; Birch-Hirschfeld's and Schuetz's observations of endarteritis in hereditary syphilis, and Huber's of calcification of blood-vessels, are then mentioned. I here wish to call your attention to the publication of Galliard* on the occurrence in syphilitic persons of the round ulcer of the stomach, to the similarity of which with the gangrenous ulcers of the skin I have repeatedly alluded, and on the probable connection of the same with endarteritis.

Lang then continues:†

"Naturally, the symptoms which follow an affection of the blood-vessels will vary a good deal according to the nature and extent of the pathological process, to the size of the affected vessel, and in smaller ones according to the dignity of the organ the vascular supply of which is the seat of the affection. Either dilatation or narrowing and obliteration may result; therefore we must expect in due time either an aneurysm or such phenomena as usually follow obliteration of blood-vessels. The constricting and obliterating arteritis will be the less pronounced the smaller the area supplied by the affected vessel, the less important its physiological function, and the more favorable the circumstances for the establishment of a collateral circulation, which in the slow development of the arteritis may be effected with hardly any disturbance. But if territory or a larger number of blood-vessels are the seat of the affection, an

* Wiesbaden, 1884-'86.

† "Wiener med. Wochenschrift," 1881, p. 231, No. 8.

‡ "Wiener med. Woch., 1879, No. 51.

* "Centralblatt f. Chirurgie," 1876, No. 33.

|| "Boston Med. Journal," 1880, ii, No. 7.

* "Archives générales de médecine," janvier 1886. "Syphilis gastrique et ulcère simple de l'estomac."

† *Loc. cit.*, p. 395.

insufficient or entirely interrupted circulation and consequent diminished nutrition and necrobiosis are inevitable. Death of the fetus in consequence of affections of the umbilical or placental vessels, circumscribed softening of the brain or of the heart, ulcerations of the skin and of the mucous membranes, have to be looked for as the natural consequences of arteritis."

The probability that arteritis may begin in small peripheral vessels and spread to larger trunks has been distinctly insisted upon by Jonathan Hutchinson in a paper published in 1884,* which seems to have escaped Lang; its title is "A Case of Syphilis in which the Fingers of One Hand became Cold and Livid—Suspected Arteritis."

The case had been under Hutchinson's observation twenty years ago, but had not been published because no satisfactory conjecture as regards diagnosis could then be offered. "Only in reading over the notes again, it occurred to me," Hutchinson says, "that the cause of the symptoms must have been inflammatory occlusion of the arteries of the hand. Lividity, coldness, and pain were indicative rather of disturbance of nutrition and circulation than of nervous influence. It will be seen," further on Mr. Hutchinson says, "that, although the finger-tips never actually went into gangrene, they were very near it. Since this occurrence I have seen several cases favoring the belief that arteritis may begin in the small peripheral vessels and may travel to large trunks."

I am well aware that it will require the anatomical proof that changes in an artery leading to a gangrenous portion of the skin must actually be shown to exist to establish as an irrefutable fact what I have maintained. This, I confess, I have not been able to do thus far, nor can I hope to find the opportunity myself in the future. To awaken the interest of those who are better situated for the prosecution of such an investigation, I have taken leave to bring my observations before this assembly and to submit to your present and future consideration the following conclusions:

1. Ulcers resembling the so-called gummatous syphilitic ulcer may occasionally result from circumscribed spontaneous gangrene of the skin without the previous formation of a syphilitic neoplasm.
2. Such ulcers may be distinguished by several peculiarities in shape, formation of the floor, and course.
3. They are not at all or but very little affected by anti-syphilitic treatment.
4. The spontaneous gangrene in such cases is probably due to endarteritis obliterans.

222 EAST NINETEENTH STREET, NEW YORK.

A CASE OF COLPOHYSTERECTOMY FOR CARCINOMA,

WITH REMARKS UPON ANTISEPTIC SURGERY
IN PRIVATE PRACTICE.

By GEORGE WACKERHAGEN, M. D.,
BROOKLYN.

The propriety and feasibility of the operation of colpo-hysterectomy are at the present time so satisfactorily proved to the majority of surgeons in this country and in Europe that it is considered as justifiable as any operative proced-

ure for malignant disease in any part of the body, and when we consider the results which follow non-interference in these cases, it is not surprising that even timid patients are willing to incur the risks of so formidable an operation.

It is not my purpose to write a formal treatise on the subject of hysterectomy, therefore I have not prepared any classified collection of facts, believing that at the present time an attempt to compare total with partial extirpation must necessarily be very unsatisfactory. Those who have endeavored to prove by statistics that a return of the disease takes place as often after entire extirpation as after amputation of the neck, have not taken into account the fact that total extirpation has generally been performed in those cases in which the disease principally involved the body of the uterus, and more or less of the surrounding tissues. With regard to the choice between total extirpation and supravaginal excision, it would seem that the latter method must be almost, if not quite, as difficult as the first, and it has been reported that in some cases the peritoneal cavity has been unintentionally opened.

It appears to me probable that in the future the operation of entire removal of the uterus will find its proper place only in those cases where the cancer is confined to the cervical portion, as we here have some incentive to incur its perils.

The following case of carcinoma uteri came under my observation in consultation with Dr. J. E. Gregory, of Brooklyn, on the 26th of March, 1887:

Mrs. H., thirty-five years of age, a native of the United States, a housewife and the mother of two children, had been suffering from pains and hemorrhage, with offensive and irritating discharge, since last December. Her general health had become considerably impaired from loss of sleep and appetite, and she was anxious to take the risk of an operation for extirpation of the diseased uterus, although the dangers were fully explained to her by Dr. Gregory as well as by myself. This operation was performed under the most discouraging conditions. The house was located within half a block of a filthy canal, and next door to a large tobacco factory, the machinery of which was in almost constant motion. The following antiseptic measures preceded the operation, which was performed on the 12th of last April: A table large enough to hold dressings and instruments was procured and covered with a clean white sheet, over which were spread carbolized towels. Another table suitable for operating was prepared by covering with blankets; over these rubber sheeting was placed, and over all a white sheet. A five-gallon demijohn, previously washed with a five-per-cent. solution of carbolic acid, was filled with water which had been boiled. The hands and arms of the person making the preparations were then thoroughly scrubbed with soap and water, and finally washed in a solution of bichloride, 1-1,000. Two dozen clean towels were then prepared by soaking in a three-per-cent. solution of carbolic acid, and the vessels to contain sponges, instruments, and dressings washed with a five-per-cent. carbolic-acid solution. The prepared sponges, preserved in carbolic-acid solution, were now washed in plain water (which had been previously boiled) and put in one of the carbolized basins, and covered with a carbolized towel.

The rubber bags for irrigation were filled, one with a solution of sublimate, 1-1,000, another with a solution of 1-2,000, and a third with boro-salicylic solution, and the upper openings stopped with carbolized cotton. The instruments were put

* "Med. Times and Gazette," 1884, i, p. 374.

into a five-per-cent. solution of carbolic acid, and when ready for the operation were removed from this and immersed in a solution of the strength of 2 per cent. The large silk ligatures, which had been previously boiled for half an hour in a two-per-cent. solution of carbolic acid and kept in alcohol, were now immersed in bichloride solution, 1-1,000, and all sutures, sponges, instruments, and dressings were placed in charge of one assistant. Three basins of bichloride solution, 1-2,000, were placed in convenient localities in order that the hands of operator and assistants should be washed from time to time, and every step of the operation was performed under the strictest antiseptic precautions.

The assistants were instructed to scrub their hands and arms thoroughly with soap and water, special care being taken to cleanse the finger-nails, and to avoid touching any article not aseptic. The patient having been anæsthetized, the parts adjoining the field of operation were thoroughly scrubbed with soap and water, shaved, and then washed with a solution of bichloride, 1-1,000. The vagina and uterus were also thoroughly irrigated with the same solution.

The uterus was now well drawn down with volsella forceps in each cervical lip. Two stout silk ligatures were then passed, by means of metallic spindles, through the left and right vault of the vaginal wall, for the purpose of including the uterine vessels. An opening into Douglas's *cul-de-sac*, which was made with scissors (blunt), permitted the introduction of a finger into the peritoneal cavity, for the proper placing of the succeeding ligatures; but before these were applied the general peritoneal cavity was protected by an antiseptic sponge, and the mucous membrane and peritonæum covering the distal portion of the stump were sewn together by a continuous catgut suture, this last manœuvre effectually controlling hæmorrhage. With a sound introduced into the bladder, a similar opening was made anteriorly. Here, also, the peritonæum was everted by a tenaculum, and united to the vaginal wall by a continuous suture.

The left index-finger being now carried across and behind the left lateral mass, between the two openings penetrating the peritonæum, this tissue was tied off in five sections; attempting to carry out the same plan on the right side, it was found that the anterior incision had been too short and the finger could not pass so large a mass, to guide the ligating of this right vaginal wall, and consequently the ligation was made from both extremities toward a common point. This accomplished, the whole vaginal vault had been securely ligated and separated from its uterine attachments, and hæmorrhage stopped without the loss of more than an ounce of blood.

The fundus uteri was now turned out and the ovaries were brought down. There remained attached a portion of both broad ligaments on each side. These were tied off with silk, cut, and the uterus and its appendages laid aside. A portion of one broad ligament and a small mass of the posterior stump oozed a little blood and demanded a secondary ligature. The stumps were then stitched to the vaginal wall in several places to prevent their retracting and becoming inaccessible in the event of secondary hæmorrhage. After thorough cleansing internally and externally, and removing the sponges which had very effectually shielded the peritoneal cavity (for their innermost surfaces were scarcely discolored), the vagina was loosely packed with iodoform gauze, and the patient placed in bed. Her pulse was remarkably quiet and natural, and consciousness was restored within a short time; no vomiting and no shock followed the operation. The highest temperature reached was 101° F. on the second night, and this lasted only four hours. On the second day after the operation she asked for beefsteak, and continued to improve from day to day, making a complete and speedy recovery without an untoward symptom, which I

attribute especially to the careful antisepsis during and after the operation.

The specimen showed that the disease was entirely confined to the cervical portion of the neck of the uterus. The major portion of the enlargement was in the right half of the anterior lip. The mucous membrane was hyperæmic and thickened. The right ovary was cystic.

My excuse for giving a detailed account of the preparatory antiseptic methods in this case is the growing tendency to believe that, in order to perform capital operations antiseptically, the patient must necessarily be transported to a hospital. A prominent surgeon has made the statement that he considered antiseptic surgery in private practice always a sort of make-shift, and that it was impossible to correctly carry out the principles. He therefore thought that all operations of any importance should be performed in a well-appointed hospital. There are many cases modified by special circumstances which will render such change seriously objectionable to the patient, but, when the convenience of the surgeon is considered, it is certainly more satisfactory to operate with a corps of conscientious assistants in a hospital. I maintain, however, that if one is willing to give the time necessary to a thorough preparation, which can only be done by those who practice surgery almost exclusively, the results may be just as satisfactory, especially when the surroundings are favorable. This has been my experience over and over again after performing capital operations in private practice.

The greatest essential in antiseptic surgery, which was at one time nearly lost sight of in the search for new antiseptics, is habitual cleanness on the part of the surgeon and his assistants; and those surgeons who have acquired the custom of thorough cleansing of finger-nails and instruments, as well as the person of the patient, even in the most insignificant operations and examinations, are rewarded with the most satisfactory results. He who is indifferent to these principles (for there are many even now who ridicule a rigorous system) comes to the conclusion that the antiseptic treatment of wounds is a delusion; he not only deceives himself, but puts into the hands of those who have not had thorough training in antiseptic surgery an instrument for increasing mortality, and brings modern scientific surgery into disrepute. By a systematic arrangement of appliances, antiseptics has become to me an easy matter, and the results attained are ample reward for more time and trouble in preparation. By its thorough application we can now freely lay open diseased joints, and explore any of the cavities of the body almost with impunity.

It is of the greatest importance that wounds should be treated antiseptically from the very first. Ambulance surgeons should be instructed that the treatment of wounds by this method in cases of emergency is just as necessary as the ligation of a severed artery. By this means the patient is placed in a condition which offers him the best prospect of ultimate recovery. This should be considered at the present day as the essential of "ordinary care and diligence."

In operations involving the peritonæum it has been shown that antiseptics are not so generally necessary, pro-

vided absolute cleanliness is observed. The reason given for this is that the absorbing power of this membrane is so great that it is not readily affected by bacilli, unless introduced in great quantities, as they are readily carried into the general circulation where they are surrounded by leucocytes, and in this way prevented from multiplying, their products being finally discharged with other excretions.

In order to be prepared at a moment's notice in cases of emergency, I have arranged in a leather case, which measures fourteen inches long, eight inches wide, and eleven inches high, the following appliances for antiseptic surgery :

- 1 agate quart measure.
- 1 2 ounce graduated minim glass.
- 2 agate pans for instruments.
- 1 nail-brush.
- 1 brush for scrubbing the patient.
- 2 1-gallon fountain syringes.
- 1 razor.
- 2 spirit lamps.
- 2 yards of rubber cloth.
- 1 rubber apron.
- 1 3-ounce bottle of carbolic acid.
- 1 $\frac{1}{2}$ -ounce bottle of sublimate solution.
- 1 can of boro-salicylic acid.
- 1 2-ounce bottle of iodoformized ether.
- 1 $\frac{1}{2}$ -ounce bottle of solution of hydrochloride of cocaine.
- 1 3-ounce bottle of chloroform.
- 1 2-drachm bottle of aromatic spirits of ammonia.
- 1 1-drachm bottle of nitrite of amyl.
- 1 jar of prepared sponges.
- 1 jar of drainage-tubes.
- 1 jar of prepared silk ligatures.
- 1 jar of No. 11 silk ligatures.
- 1 jar of catgut ligatures, prepared.
- 2 bottles of silk-worm gut.
- 1 bottle of prepared protective.
- 1 bottle of bichromatized catgut ligatures.
- 5 yards of bichloride gauze.
- 8 yards of iodoform gauze.
- 1 Gerster's box for iodoform.
- 1 box for bismuth.
- 1 large pine-wool cushion.

In conclusion, I would state that it is my custom to thoroughly brush the instruments with soap and hot water, and then to immerse them in a five-per-cent. solution of carbolic acid, when they are thoroughly dried and returned to the case.

I have not referred to the diversity of opinion which prevails as to the form, strength, and length of time to use the antiseptic solutions, the different methods of applying the sutures, and the relative merits of the various dressings.

The differences in carrying out these details are, however, simply different roads, all leading to the same goal, which is the prevention of access and the destruction of septic germs.

The Montreal School of Medicine and Surgery.—The opening address of the course at the École de médecine et de chirurgie was given by Dr. Hingston, on Monday, the 3d inst., in the new operating theatre of the Hôtel Dieu.

DISARTICULATION OF THE RIGHT HALF OF THE LOWER JAW FOR ENCHONDROMA.

By W. D. HAMILTON, M.D.,
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THE patient, a Mrs. E. T., came from Steubenville, Ohio, through the courtesy of Dr. Floyd, Dr. Nelson, and Dr. Frisell. She is twenty-one years old, and her family is free from the taint of malignant disease. In November, 1883, a lump of the size of a large filbert appeared on the outer surface of the body of the jaw, midway between the angle and symphysis. A year later a dusky enlargement, enveloping the lower right third molar, was seen in the mouth. A dentist extracted the tooth, and the bulk of the growth has been attained within the past year. Little pain was felt from first to last, and three profuse oral hæmorrhages occurred. When the writer first saw her she was somewhat exsanguinated. From a point one inch above the right zygoma to within half an inch of the symphysis the face was enlarged. The right cheek and the front and side of the face were only moderately prominent.



FIG. 1.

Fig. 1 gives an inadequate idea of the extent of the disease. As the growth enlarged it went as far as possible in the direction of least resistance. It nearly filled the mouth, destroying the right floor, and lifting the roof. It then pushed backward toward the pharynx, so that the right tonsil seemed to be a part of it. The most formidable feature of the disease was that which crowded up toward the base of the skull, above the zygoma, and backward into the neck.

Surgeons agree that these operations increase in gravity in proportion to the extent of involvement of the angle and ramus. It is hard to understand how any greater involvement of these parts would have permitted of the successful removal of the jaw.

The mouth was pushed toward the sound side, the right angle being slightly elevated. The closure of the lips required an evident effort. Examination of the oral cavity revealed an irregular mass extending beyond the median line. Most of the teeth on the right side were buried in the diseased jaw, and mastication had become difficult on account of the resistance which the enlarged articulation offered. She was continually annoyed by the foul secretion from a large ulcer in the mouth, caused by application of nitrate of silver. The diagnosis of

enchondroma was made, and the operation for its removal performed at Mt. Carmel Hospital, May 10, 1887. The tongue was first transixed with a ligature, and held by an assistant. The usual incision was made. The facial artery and vein were promptly divided and secured. Following the tumor closely, a careful dissection was made with blunt scissors, until, the cheek having been lifted, the mass was partially exposed. The cavity of the mouth was not entered until later. The bleeding points were ligated as soon as divided. An incisor having been extracted, the bone was easily cut in two with the saw.

Here began the difficult work of the operation, viz., the completion of the deep upper and posterior dissection, and the disarticulation. The external and internal carotid and internal maxillary arteries, Stenson's duct, and the facial nerve were all in close proximity to it. Both the condyloid and coronoid processes were enlarged, particularly the latter, which had extended behind and above the zygoma, lifting it and making it more prominent. Bleeding was very free at every stage of the deep dissection. The division of the jaw allowed it to be lowered, rotated, and everted. Four of the vessels were so deeply situated that all attempts to tie them failed, and as many hæmostatic clamps were left *in situ* at the upper end of the wound. Catgut was employed for the smaller vessels, and about six silk ligatures were used on larger ones. The wound was closed with silk inside, and continuous gut sutures held the skin flaps in neat coaptation, save at the upper angle, where the clamps were dependent. A drain was left in for a few hours, at the lowest point, and absolute cleanliness was observed. A gauze dressing was adapted. Great shock followed the operation, and for a time it seemed doubtful whether the patient would react. The forceps were removed the next day, and a few stitches were introduced. There was but little fever. The silk ligatures excited some swelling and irritation, which ceased after they had come away. For a time sinuses persisted beneath the chin and in front of the ear; but these have entirely healed. The tendency to retraction and lateral displacement was obviated by persistent daily exercise. The lower jaw was locked outside of its opponent for minutes at a time.

She now has no trouble in masticating her food. The cheek is almost natural in appearance. A slight depression



FIG. 2.

exists where the clamps were attached. The cicatrix is gradually becoming less distinct. The photograph from

which Fig. 1 was drawn was taken a few days prior to the operation. The two others show the result ten weeks afterward. Fig. 2 indicates very fairly the contour of the face and the dimple-like end of the cicatrix. Fig. 3 shows the line of incision, which was so located that the carotid pul-



FIG. 3.

sations may now be seen beneath the vertical part of the scar. There is less distortion of the mouth than formerly. Little if any harm was done to the facial nerve or Stenson's duct.

In fact, neither the nerve nor the parotid gland could be isolated and recognized. Eighteen artery forceps were constantly employed, and in the aggregate there was very little hæmorrhage, although it is supposed that thirty vessels were tied. Many of them were of considerable size, but were so distorted by the growth that it would be well-nigh impossible to assign their proper anatomical names. The dissection was accomplished almost entirely with strong blunt scissors. The tumor weighed twelve ounces, and two hours were required for its removal. She has gained several pounds in flesh, and is enjoying excellent health.

THE ABORTIVE TREATMENT OF GONORRHEA.*

By O. T. OSBORNE, M. D.,
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In considering this subject, the first question that presents itself is, What is meant by an abortion of a gonorrhœa? In relation to gonorrhœa, the abortive treatment seems to have two ends, as understood by the various writers. The first is to shorten or abridge an attack—a true abortion. The second, a so-called "abortion," is to substitute a simple inflammation not tending to chronicity or to ulterior results (if this is the fact) for a true gonorrhœal inflammation which does tend to chronicity and ulterior results—*i. e.*, gleet, stricture, infection, etc.

* Read before the New Haven Medical Association, September 7, 1887.

The latter, a substitution of a *simple* urethritis for a virulent urethritis, is the most generally accepted object of the abortive treatment, and such a result is called a success.

As the so-called abortive treatment is by injection of caustic fluids, which must necessarily cause an increase of inflammation upon the already inflamed membrane, the treatment itself and the object of the treatment would be absurd were the urethritis the same after as before treatment. Hence *something* must be different; the inflammation before and after the cauterization must differ, and that widely.

The upholders of the abortive treatment maintain that the inflammation before the injection was virulent, while the inflammation after the injection is simple. It follows from the foregoing that the injection must kill or counteract some poison, and that is the whole theory of the abortive treatment. This treatment by cauterization thus supposes a specific urethritis as distinct from simple inflammations of the urethra.

Some one now says: "If I believed in a specific urethritis, I could easily see the object of the caustic injection"—in other words, is gonorrhœa a specific urethritis?

By far the greater number of writers answer the question in the affirmative, and their belief is well set forth by Keyes. He writes: "Gonorrhœa in the male is an intense urethral inflammation, characterized by a period of incubation and by a profuse discharge of pus which possesses virulent qualities." He also says: "Though the virulence of gonorrhœa is disputed by many high authorities who believe it to be a simple inflammation, it is impossible to see why it should not be called virulent. . . . It has a period of incubation, runs a course of varied length, possesses its virulence to the very end, and is in the highest degree contagious. . . . These are the qualities to which syphilis and chancroid owe their claim to virulence, and why should it be denied to gonorrhœa?"

Under the subject of causation, Keyes says: "The cause of true virulent gonorrhœa is single—namely, contact of the affected person with gonorrhœal pus from another person."

Fritsch, in his book on "Gynæcology," speaks of elytritis or kolpitis, and of the *Tripper* (gonorrhœal) infection, showing that he makes a distinction between them. For instance, he says that the pain on passing urine is almost characteristic of gonorrhœa-infection.

Schroeder, in his book on "Diseases of Women," mentions in several places the gonorrhœa-infection as a separate and distinct disease. In his differential diagnosis he says: "The question which has the greatest practical importance is whether the disease is gonorrhœa or a simple kolpitis." I still quote: "From our present knowledge of the gonococcus we can not always with positiveness answer the question. . . . The symptoms characteristic of gonorrhœa, as pointed condylomata, purulent urethritis" (he speaks of the female), "and abscesses of the glands of Bartholin, are generally absent, and there is no characteristic form of the gonorrhœal kolpitis."

Thomas, in his "Diseases of Women," affirms his belief

in a one specific cause of gonorrhœa, and believes a gonorrhœal vaginitis to differ from a simple vaginitis. He does not think the presence of an urethral inflammation in the female is absolutely diagnostic of gonorrhœa, although it is strong evidence.

Bryant, in his "Surgery," does not attach himself to either side of the question, but quotes the opinion of Lee and Simon. The latter say that "urethritis may be caused by contact with a gonorrhœal discharge, by menstrual fluid, by leucorrhœal discharges, by chemical irritants, and by some constitutional causes, as gout and rheumatism," but neither Bryant nor his quoted authors say whether in every case the occasioned inflammation is a gonorrhœa, but hedge by calling it a *urethritis*.

Wyeth, in his new book on "Surgery," says "there is a specific form of urethritis which is very contagious, and not as amenable to treatment as are other forms."

Ziegler, in his "Pathology," says "the most important inflammation of the urethra is the gonorrhœal."

With these few quotations from writers who believe gonorrhœa to be specific, we will now give a hearing to a few of those who believe gonorrhœa to be nothing more than a simple urethritis. These writers believe the urethritic inflammations to differ only in degree, and as the inflammation approaches the severer degree it becomes the "so-called" specific gonorrhœa of other writers.

The views of the non-specific believers are well set forth by J. W. White, of the University of Pennsylvania, in his article on gonorrhœa in the "Encyclopædia of Surgery." I have not space to quote the whole of his argument against gonorrhœa as a specific disease, but he sums up as follows:

"GONORRHOEA.

"1. No period of incubation.

"2. Caused by a variety of agencies, chemical, traumatic, and infectious.

"3. Predisposes to a second attack.

"4. Associated only with ordinary processes of inflammation.

"5. May be reawakened or reproduced at will and indefinitely.

"SPECIFIC DISEASES.

"1. Definite period of incubation.

"2. Caused always by the absorption of a definite virus or morbid product.

"3. Protect from a second attack.

"4. Have distinct and almost unvarying peculiarities as regards their pathology.

"5. Run a definite course, and can not be made to return after their completion."

He believes that all inflammations of the urethra differ from each other only in intensity, not in any germ, and that various causes may produce severe symptoms, although he acknowledges that untoward symptoms are most apt to follow direct contagion with a purulent vaginal discharge.

Taking up his first point—that there is no period of incubation—it seems unfair to assume that, because gonorrhœa may show itself any time after the first twenty-four hours after infection, there is no period of incubation. Why can not the period of incubation be short, varying from twenty-four hours to several days, as well as the accepted

specific diseases with longer periods of incubation vary by a much greater number of days? The shortness of the period of incubation is easily accounted for when we remember that this poison is applied in concentrated form directly to the part which is most affected in this disease, and in that form which we believe to be ready for action without any change whatever, morphological or other. Keyes says "the incubation period of gonorrhœa is usually from five to eight days," thus expressing his belief in a distinct incubation period. Keyes further says that "when the cause of the urethritis is not gonorrhœa, the evidence of a commencing inflammation appears generally on the second day."

The second point that Dr. White makes—that gonorrhœa is caused by a variety of agents, and a specific disease by but one cause—can not be accepted in argument, as it asserts that a urethritis caused by contact with virulent pus from a vagina is the same as a urethritis caused by a chemical agent, and White himself acknowledges that the former is more likely to develop untoward symptoms.

His third point—that one attack of gonorrhœa predisposes to a second, contrary to the specific diseases—is, perhaps, his strongest argument.

But have we not an analogue in diphtheria, which we all believe to be a contagious disease with a specific cause?

And if Sânger, Oppenheimer, and others are right, that there is a "latent gonorrhœa," then we can easily see how such a gonorrhœa could again become acute by a renewal of the cause. Hence the purulent discharges after the first attack would be only a reappearance of the disease, as we have in syphilis.

His fourth point—that "the pathological manifestations of gonorrhœa are those of an ordinary inflammation, while the specific inflammations have distinct and almost unvarying peculiarities as regards their pathology"—can be easily answered if we believe that the gonococcus is the cause of gonorrhœa.

If we do not believe in the gonococcus, then the marked virulence of the urethritis caused by contact with gonorrhœal pus, and the fact that a few drops of gonorrhœal pus placed in a healthy urethra or into a healthy eye will positively set up an inflammation, while equal quantities of pus from other sources will not cause inflammation in these parts, certainly shows a distinct pathology. Were all inflammations of the urethra the same, one drop of pus, whether from a case caused by a chemical irritant or from a case caused by contact with a gonorrhœal elytritis, would have the same power of infection. This is not the fact; hence the drop of gonorrhœal pus must contain some specific element, although we may not have discovered it.

Also, in the female, the great tendency of gonorrhœa to set up severe uterine and tubal inflammation, while a leucorrhœa may go on for years without causing severe symptoms, certainly points to a pathology other than that of a simple inflammation.

His sixth point—that "gonorrhœa, contrary to specific diseases, can be reawakened and reproduced at will and indefinitely"—is another strong argument unless we believe in the "latent gonorrhœa." If there is a "latent gonorrhœa,"

we could easily understand how it could be reawakened, and we have a perfect analogue in the exacerbations of a sleeping syphilis.

The discussion for and against a "latent gonorrhœa" would take more space than the scope of this paper will allow, so I pass it by with only this brief mention.

Otis agrees with Van Buren and Keyes that genuine gonorrhœa can not be recovered from in less than four weeks. "If a urethritis is aborted, it was not gonorrhœa." But he still calls gonorrhœa a *simple* inflammation and denies its specific character. Now *simple* inflammations can be aborted, and it would seem that, like other simple inflammations, gonorrhœa might be aborted.

Thus Otis appears to contradict himself.

Sturgis also does not believe in a special virus. He says "gonorrhœa in the male may be produced by gonorrhœal, leucorrhœal, and menstrual discharges." Assuming, for the sake of argument, that the urethritis set up by any of these three causes is one and the same disease, he must acknowledge that a gonorrhœal vaginal discharge is by far the most frequent cause of urethritis in the male, while he must also acknowledge that leucorrhœa is very frequent among all women, and especially married women (Thomas says "no woman goes through life without a leucorrhœa at some time"). Hence, theoretically, leucorrhœa should be the most common cause of gonorrhœa. It might be said that the husband of a woman with a leucorrhœal discharge becomes, so to speak, acclimated to that particular discharge. Then if leucorrhœa produces gonorrhœa, such a husband, having had one attack of gonorrhœa, becomes *protected*, and we have an answer for one of Dr. White's arguments against a specific gonorrhœa.

Again, can it be denied that a man with gonorrhœa can produce a gonorrhœa in a woman who already has a leucorrhœal discharge?

Now what is vaginal leucorrhœa?

According to Thomas, "it is a discharge of mucus or muco-pus as a symptom of inflammation of the vagina."

Then if gonorrhœa is a simple inflammation, in the female it is a simple elytritis, and the discharge must necessarily be leucorrhœa. Then why speak of gonorrhœa as being caused by a "gonorrhœal" and by a "leucorrhœal" discharge? Why not speak of gonorrhœa in the male, and of leucorrhœa in the female?

And yet every writer who does not believe in the specific nature of gonorrhœa will describe leucorrhœa and gonorrhœa as two separate and distinct diseases in the female.

It might be suggested that gonorrhœa was the name given to the acute form of elytritis, and leucorrhœa to the chronic form; in other words, that they were different stages of the same disease. Then the whole argument is gone, for they are trying to prove to us that gonorrhœa in the male is *not* specific, as it is caused by two different discharges—namely, by the *gonorrhœal* and by the *leucorrhœal*.

Once more, if there is no such thing as a specific elytritis, then the elytritis caused by infection with gonorrhœal pus, which will give the gonorrhœal vaginal discharge, must be the same as the elytritis caused by endometritis, which

will give the leucorrhœal vaginal discharge, which again overthrows the argument.

It would thus seem, gentlemen, that by far the most tenable ground is that occupied by the greatest number of learned writers, and that occupied by the majority of the profession—namely, that gonorrhœa is a specific and distinct disease.

Now, a specific disease must have a special cause, and for that cause, in this day of germ theories, we look to the bacteriologist. What has he done for us?

In 1879 Neisser discovered a coccus in gonorrhœal pus which he believed to be peculiar to that disease and its specific cause. He named this microbe the gonococcus. Neisser, Haab, Martin, Bumm, Kroner, Oppenheimer, and others have since, by extensive and multiple experiments, proved the gonococcus to be a distinct variety of coccus, and alone able to reproduce true gonorrhœa. I will not go into the experiments of these observers, but suffice it to say that the gonococcus was found to meet the three demands of Koch to prove that a given infective disease is caused by a given micro-organism.

These demands are: 1. "That one and the same spore be always found in a given disease." 2. "That the same be easily recognized morphologically, or by its chemical relation as well as by its behavior to coloring materials." 3. "That the disease may be artificially produced in a healthy individual by inoculation with pure cultivations of spores."

Gonococci are found in the ophthalmic blenorrhœa of new-born infants whenever inoculation with gonorrhœal virus has taken place, although a purulent catarrh of the eyes may occur in the new-born with no gonococci.

Kroner stated that in ninety-two cases of ophthalmia neonatorum the gonococci were found in sixty-three. Twenty-one mothers of the children with gonococci, and eighteen mothers of the children free from the gonococci, were examined as to their vaginal secretions, and in every case the gonococci were found in the twenty-one, and never in the eighteen.

In September, 1885, Dr. Hall, in the New York Clinical Society, reported a case of acute gonorrhœa of five weeks' standing, with inflammation of the knee joint. He aspirated the joint, examined the fluid, and found gonococci.

Westermarck, of Stockholm, reported a case of salpingitis in which, after operation, examination of the pus in the tube positively discovered gonococci. I will, however, not weary you by multiplying these instances.

Many observers and experimenters have tried to disprove the doctrine of the gonococcus as the cause of gonorrhœa, but their arguments and results are all weaker than those of the positive side.

Friedländer thus describes the gonococcus: "The micrococci of gonorrhœa build small mounds, and these mounds or heaps are always arranged in a characteristic manner. . . . They lie often upon the surface and in the protoplasm of the pus-corpuscles." He says "they can not always be discovered in the discharge, especially when a large number of other micrococci are present."

The manner in which the gonococci give rise to specific urethritis is ably described by Dr. Bockhart as follows: "The gonococci first land upon the pavement epithelium of the fossa navicularis, where they thrive and increase. They then rapidly work downward between the epithelial cells toward the papillæ of the mucous membrane, loosening the epithelial layer on their way through it, destroying some of its cells, and causing many of them to be shed, thus producing little apertures.

"Within eighteen hours, at most, the gonococci reach the papillary portion of the mucous membrane. During this process the secretion from the urethra is clear and contains epithelium and a few gonococci, either isolated or seated upon an epithelial cell. But now the gonococci, by their presence upon the papillary portion of the mucous membrane, induce a reaction on the part of the blood-vessels; white blood-corpuscles escape from them in which the gonococci increase and form little round heaps.

"The urethral discharge is now sero-purulent and consists of pus-cells, epithelium, and gonococci. Now the gonococci enter the lymph-spaces of the mucous membrane and press into its deeper layers, increasing rapidly. With this there is a great increase in pus-cells, and the discharge is composed chiefly of them, the gonococci being few and only in the pus-cells in the form of heaps.

"The constitution of the mucous membrane is slowly very much altered by the migration of the pus-cells. These take up more and more of the gonococci and carry them out in the secretion, which then consists only of pus-cells with heaps of gonococci, the loss of epithelium having ceased." Such is the description of the development of gonorrhœa by Bockhart. Now, if we are convinced that gonorrhœa is a specific disease, and especially if we accept the gonococcus, we can plainly see the object of an abortive treatment—a treatment that will kill the germ even at the risk of setting up an inflammation by our germicide.

Before discussing the methods of aborting, it might be well to ask how shall we know that a gonorrhœa has been aborted?

If we stop it in a few days, have we aborted it, or was it a very mild case of gonorrhœa?

If it continues, have we succeeded by substituting a healthy inflammation for an unhealthy one, as Bumstead and Taylor maintain the abortive treatment does, or is it an unsuccessful abortion and the inflammation a continued gonorrhœa? It seems to me that unless we believe in the gonococcus we can not decide.

Believing in the gonococcus, we have gonorrhœa until the gonococcus disappears from the pus, and all abortive treatment is unsuccessful which does not bring about that result.

As to the various abortive treatments and the belief in the utility of the same, I will quote from various authors.

Dr. Bockhart, who has so ably described the action of the gonococcus, does not believe in abortive treatment, as at the time the patient presents himself the infection has gone too far. Welander, on the other hand, a firm believer in the gonococcus, regards abortive treatment, if the patient is seen during the first few days, as the proper treatment.

His method is to first cleanse the anterior portion of the urethra, chiefly the fossa navicularis, with absorbent cotton, thus removing a quantity of epithelial cells which will show many gonococci in or upon them, and then to cauterize with a solution of nitrate of silver.

Bumstead and Taylor, who believe gonorrhœa to be a simple inflammation, highly recommend the abortive treatment in the first days of the disease. It is difficult to see, if gonorrhœa is a simple inflammation, what it is they propose to abort. If there is nothing to neutralize, counteract, or kill, why add a simple inflammation to one already existing, the inflammation being acute?

Who would recommend a nitrate-of-silver gargle or spray to an acute pharyngitis? Their abortive treatment, however, will do but little harm to the already existing simple (?) inflammation. Instead of a strong solution of nitrate of silver used once, they recommend a weak solution used several times. The strength of the solution recommended is one part of nitrate of silver to three thousand parts of water. How this solution could be much more than a cleansing solution I can not see.

Sturgis, who does not believe gonorrhœa to be a specific inflammation, rejects the abortive treatment with nitrate of silver as liable to cause untoward results, and as also unsuccessful in limiting the disease.

He believes dieting, rest, aconite, perhaps, and lead-and-opium wash to the parts to be the best treatment of the first stage.

Keyes, who, it will be remembered, believes gonorrhœa to be specific, says "the abortive treatment with corrosive injections is dangerous, and absolutely uncertain in its results."

"Those cases which get well," I quote, "are cases of urethritis, which, doubtless, would have recovered promptly under mild treatment, and, when it does not cure, it greatly increases the intensity of the inflammation, and leads with much certainty to stricture ultimately, and immediately, in many cases, to complications of the bladder and testicle."

J. W. White, the writer of the article on gonorrhœa in the "Encyclopædia of Surgery," is very consistent. Not believing in a specific germ, he does not believe in an abortive treatment.

He orders rest, elevation of testicles, skimmed-milk diet, or approximate that diet as near as possible, and stoppage of all alcoholic and malt drinks, but does not interdict tobacco.

He also gives an alkaline prescription, to be taken after meals, at which time he finds the alkalies to be most effective, and also orders large quantities of water drunk.

Otis, as before stated, believes genuine gonorrhœa can not be aborted, but must run its course of about four weeks. He says if it is aborted it was not gonorrhœa, but he fails to say what it then was.

Thus, although he believes gonorrhœa to be a simple inflammation, he tacitly acknowledges that all simple inflammations of the urethra are not gonorrhœa.

Wyeth, who believes gonorrhœa to be a specific inflammation, disapproves of all corrosive injections, and, in fact, all injections of any kind, during the first stage.

Currier, in his various articles on "Gonorrhœa in the Female," at first recommended strong corrosive injections of nitrate of silver—as strong as 60 per cent.—but in an article in the "New York Medical Journal" for October 24, 1885, he disapproves of strong injections altogether, and recommends an injection of bismuth and glycerin ($\frac{1}{2}$ j to $\frac{3}{4}$ j). He believes in the gonococcus, and says this bismuth injection does not kill the germs, but starves them. He afterward states that the glycerin and bismuth so deplete the mucous membrane that the germs have nothing on which to feed, and thus starve. This is certainly difficult to believe, although the treatment may be good.

Bryant says nothing of an abortive treatment for gonorrhœa.

Schroeder believes gonorrhœa to be specific, and recommends, in the female, an injection of a five-per-cent. solution of carbolic acid as a preliminary treatment.

Fritsch says nothing of an abortive treatment, but recommends antiseptic injections for gonorrhœa, and prefers carbolic acid.

Dr. Charles T. Mitchel, of Philadelphia, in a pamphlet on gonorrhœa, disapproves of the injection of the corrosive solution recommended to abort gonorrhœa, as tending to convert a mild attack into a severe one, and to cause stricture. But he does recommend the use of bougies of some germicide, to either neutralize or modify the action of the specific virus.

Dr. Grandin, a writer in the "New York Medical Journal," believes corrosive sublimate, creasote, and nitrate of silver to be alone deadly to the virus of gonorrhœa.

In the female, after cleansing the parts thoroughly, he injects a solution of nitrate of silver ($\frac{1}{2}$ ss. to $\frac{1}{2}$ j—about a six-per-cent. solution) into the vagina, and a solution (gr. x to $\frac{1}{2}$ j—about a two-per-cent. solution) into the urethra. He then "has a simple inflammation easy of treatment."

Munnich, of Amsterdam, recommends injections of resorcin (three-per-cent. solution) as abortive for gonorrhœa. He has the patient inject it every two hours during the day, and twice during the night. He finds under this treatment the symptoms speedily to ameliorate, and the discharge to become very slight by the seventh day, and almost invariably to have ceased by the fourteenth day. After the first day he reduces the frequency of the injections.

Professor Goll, of Zurich, has treated a number of cases of gonorrhœa with a two- to two-and-a-half-per-cent. solution of sulphate of thalline with very great success. It prevents all bad symptoms, and quickly changes the character of the discharge from a purulent to a milky or a sero-mucous discharge.

Dr. Trusewicz, of St. Petersburg, has observed that anykos, an antiseptic, consisting of boric acid and thymol, will shorten gonorrhœa. At first he uses a weak injection, and after two or three days he increases the strength. By this treatment he professes to cure ordinary cases in a week.

Castellan, a Frenchman, has found an alkaline injection—namely, a one-per-cent. solution of sodium bicarbonate in water—very useful in shortening gonorrhœa and preventing disagreeable symptoms. He injects this solution three or

four times a day. He finds the pus of acute gonorrhœa acid; hence he injects the above solution till the reaction is alkaline, which generally occurs in two or three days; then the gonorrhœa rapidly disappears.

Another French writer, Dr. Martineau, says that the gonorrhœal discharge from the vagina is always acid (as shown by litmus-paper), while the simple form of vaginal discharge is alkaline.

The suggestions of various writers as to the proper treatment of the first stage of acute gonorrhœa might be multiplied indefinitely, but, with this brief notice of a few authors and writers on this subject, I hope to have touched upon the varied opinions of the profession.

I have purposely not confined myself to the specialists on this subject, but have referred to a few only of the venereal surgeons, to a few general surgeons, to a few gynecologists, and to a few pathologists, hoping thus to get a more general view of the subject as it will interest us general practitioners.

In closing this paper I will give a *résumé* of the subject as I believe it now stands:

1. Gonorrhœa is a specific inflammation.
2. It is, in all probability, caused by a special microbe.
3. The gonococcus of Neisser is, almost beyond controversy, the specific cause of gonorrhœa.
4. The abortive treatment of gonorrhœa with corrosive injections is unjustifiable and unsatisfactory.
5. The only abortive treatment should be with weak antiseptic injections, combined with the constitutional treatment.

Sclerosis of the Heart.—According to Huchard, the causes of sclerosis of the arteries of the heart may be divided into three groups: the first being due to intoxications, or rather toxæmia, by alcohol, tobacco, malaria, and lead; the second group is formed of causes such as the diathetic states of arthritism, gout, and syphilis; while the last group, and one to which exception may with at least some reason be taken, is composed of causes such as physical, moral, and intellectual overpressure. The sclerosed heart may be either hypertrophied or dilated, but most often dilatation and hypertrophy are associated. Modifications of the form and size of the heart are the direct consequences of the initial vascular lesion, and not of the ensuing sclerosis. The common lesion is obliterating arteritis of the small coronary vessels, and it takes place slowly, so as to allow of time for compensating hypertrophy and for sclerotic lesions to develop. If the arteritis is of more rapid progress, dilatation of the heart and alterations of the heart-muscle fibers are the preponderant changes. Three histological varieties of cardiac sclerosis may be differentiated, following Weber: (1) perivascular sclerosis due to the propagation of inflammation; (2) the dystrophic sclerosis from regional ischæmia; and (3) mixed sclerosis. The changes in the muscle-fibers are but imperfectly known. Two of the principal alterations are simple atrophy and the vitreous degeneration of Zenker. Nosographically, cardiac sclerosis is one of the anatomical expressions of arterio-sclerosis of the heart. Weber regards arterio-sclerosis as the outcome of certain ætiological conditions, among which must be ranged heredity, certain hygienic habits, and various chronic intoxications.—*Lancet*.

The Georgetown Medical College.—The introductory lecture to the thirty-ninth session was delivered on Monday, the 3d instant, by Dr. Joseph Taber Johnson, whose subject was "Recent Advances in Abdominal Surgery."

The Baltimore Medical College.—The opening address of the autumn and winter session was delivered on Monday last, by Dr. C. W. Chancellor, on the subject of "Recent Theories in Sanitation."

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LAPARO-COLOTOMY AND LUMBAR COLOTOMY.

ALTHOUGH there can now be little doubt as to the relative merits of these two operations, a recent article on the subject, by Dr. Charles B. Ball, of Dublin, published in the "Dublin Journal of Medical Science," contains a number of noteworthy suggestions, not the least important of which is included in the opening sentence—that recent advances in rectal surgery have limited the cases in which colotomy is indicated, and that, where it is possible to perform them, ablation of the rectum, linear proctotomy, and resection of the colon are all to be preferred to the establishment of an artificial anus. While perhaps an exception might be taken as regards resection of the colon, the main point of the remark is certainly correct, and colotomy will be far less frequently seen in the future than it has been in the past. It is in itself a disgusting means of interfering with the natural course of a disease which is generally fatal in the end, and one loathsome alike to the patient and the surgeon, unless the latter looks more closely to the immediate results of a successful operation than to the ultimate good of the former. It is a brilliant thing to be able to arrest fatal disease absolutely for a few months, but it may be better to stand aside, unless some positive and definite advantage is to be gained other than the mere prolongation of useless life at such a cost.

There are cases, however, in which the formation of an artificial anus is decidedly indicated, and in which the surgeon would be criminal not to offer this last alternative to the sufferer; and in such cases he must decide between the operation in the loin and that in the groin. We know of but one supposed advantage of the former over the latter, the possibility of avoiding a wound of the peritonæum; and this advantage is much more theoretical than actual. In a few cases, of course, it is practicable to open the descending colon behind without opening the peritonæum; but, considering the depth of the wound and the consequent disadvantage at which the operator is placed, and considering also the frequency of a mesocolon in this part, we may ask of any practical colotomist what this anatomical possibility amounts to in actual practice. The lumbar operation was devised to avoid wounding the peritonæum at a time when a wound of that structure was considered fatal, and it has survived the belief and fear to which it owed its conception. The best way to reach the bowel is through the abdominal wall, other things being equal; and, thanks to modern surgery, other things are now equal. Had peritoneal surgery been as far advanced in Amussat's time as it is now, lumbar colotomy would never have been heard of.

The advantages of the inguinal operation lie, first, in the

ease of its performance and the consequent certainty of the result. The situation of the wound is such as to enable the patient to care for himself much better than when the opening is behind. In cases of uncertainty as to the seat of the disease, or even of mistake in diagnosis, the anterior incision allows of exploration of the entire abdomen; and, should excision of a part of the bowel or closure of the lower end be determined upon, either procedure can be carried out better in this situation. Finally, as pointed out by Dr. Ball, a shorter extent of bowel intervenes between the opening and the seat of the disease for which it is usually made, and, the abdominal wall being thinner in front, the wound is less extensive and the greater fineness of the skin allows of a much more accurate coaptation of the integument and the mucous membrane. The difficulty of performing the lumbar operation involves a certain element of risk, not so much to life as to the accomplishment of the end in view. With modern antiseptic precautions, the mere fact of opening or avoiding the peritonæum need hardly be considered in deciding between the two operations.

THE SIGNIFICANCE OF LEFT-HANDEDNESS.

An editorial writer in "*La Normandie médicale*" has taken the trouble to summarize and compare certain observations on this subject, and he thinks that it is not wholly elucidated by M. Galippe's generalization that we are right-handed by atavism and left-handed by morbid heredity. He implies also that it is not altogether to faulty education that left-handedness is to be attributed, and suggests that it might be useful to seek for a solution of the problem in comparative anatomy and pathology, by endeavoring to ascertain if the lower animals do not show a predominance of one side over the other. The writer first considers M. Debierre's investigations by comparative measurements of the bones of the right and left limbs in infants. These measurements show a slight excess in the average length of the left os brachii, but, curiously enough, in that of the right radius and femur; and there are persons, it seems, who, being right-handed, have the left lower limb somewhat more developed than the right, and those also who, being left-handed, have the right lower limb predominating over the left. But all these differences in the length of the bones are inconsiderable, and, in M. Debierre's opinion, they are not original, but created by habit, so that our primordial type was that of ambidexterity, and it is only by education that we become right-handed or left-handed.

M. Galippe considers left-handed persons as in a certain sense degenerate, and he seems to regard left-handedness, as well as squinting, mother's marks, supplementary fingers, hare-lip, prognathism, and other like blemishes, as implying a disposition to physical, moral, or intellectual deficiency. It is stated that many epileptics are left-handed, and figures are given showing that 4.13 per cent. of insane men and 4.27 per cent. of insane women are left-handed, but these percentages do not seem to vary strikingly from those found among healthy persons. Among criminals, however, according to Marro, the proportion

of the left-handed is much greater—13.9 per cent. in men and 22.7 per cent. in women. Anomalies in general are said to affect the left half of the body more frequently than the right, and the experience of dentists is brought forward by M. Galippe as showing a very common exemplification of the fact, dental caries being declared to be oftener met with on the left side than on the right, as well as the non-appearance of the wisdom teeth or the occurrence of derangement of the health at the time of their appearance. Moreover, it is alleged that the teeth of the right side are generally somewhat larger and harder than those of the left side. On the other hand, irregularity of the canines is set down as more common on the right side. The left half of the jaw itself is said to be somewhat less developed than its fellow as a rule.

It is evident from the facts brought out in these various inquiries that the question of the cause or causes of left-handedness is not a simple one, and it may be said, in particular, that the occasional coincidence of a predominant right arm and a more highly developed left leg, and *vice versa*, seems to vitiate the theory that refers the preponderance of one side to an encephalic inequality.

MINOR PARAGRAPHS.

PROFESSIONAL SECRECY.

THE sacredness of the confidential relations between physicians and their patients has lately received fresh recognition in Belgium. According to a brief account given of the affair in the "*Union médicale*," a physician was prosecuted and convicted, and the conviction was affirmed at a second trial, for having refused to reveal the mother's name in a birth certificate. What we interpret as a recognition of the inviolability of the confidence given by patients to their medical advisers is the reply made by the Minister of Justice to a question raised by the occurrence in the Chamber of Deputies, to the effect that there was no legal means of compelling a physician to betray his patients' secrets. It is said that the Belgian Society of Medicine has determined to make a thorough study of the whole question, which is one that is continually coming up in one shape or another. It is easy to see how private grief and humiliation may be greatly intensified by the public record of the parentage of an illegitimate child, and we think it is very much to be questioned if the assumed advantage to the community is great enough to warrant the infliction of such an amount of pain.

A NEW GYNÆCOLOGICAL JOURNAL.

THE first number of the "*Annals of Gynecology, a Monthly Review of Gynæcology, Obstetrics, and Abdominal Surgery*," comes to us from Boston, where it is edited by Dr. E. W. Cushing. It contains four original communications, an editorial article, a book review, a society report, and a hospital report, together with a number of reproductions of photographs of gross and microscopic objects, for the most part very clear and intelligible.

HYPNOTISM AS AN ANÆSTHETIC.

WE lately recounted a case in which a parturient woman was anesthetized by means of hypnotism. Now the "*Union médicale*" states that a Roman surgeon, Dr. P. Mascetti, of the San Giacomo Hospital, amputated the cervix uteri on the 29th of July, the patient having been rendered insensible in the

same way. It is said that she showed not the slightest sign of pain during the operation. It would be rash to infer from this occurrence that hypnotism could be made generally available as a surgical anæsthetic, for, apart from several other considerations that ought to be taken into account, operations on the neck of the uterus are frequently performed without the use of any anæsthetic, so slight is its sensibility to pain in many instances.

DR. RICHARD QUAIN.

WE learn from our English contemporaries that it was not Dr. Richard Quain, of London, the distinguished editor of the "Dictionary of Medicine," who recently died, but his cousin, Mr. Richard Quain, the well-known anatomist. The error of confounding the two men was hardly to be guarded against on this side of the Atlantic, especially as it was so generally fallen into in London that, as the "British Medical Journal" states, numerous letters of condolence have been received by Dr. Quain's wife, and several of his acquaintances have been startled to see her husband walking about in full health and spirits. This state of things must be our apology for having announced his death in a recent issue. We trust it will be long before such an announcement is warranted.

VEGETARIANISM FOR THE IRISH.

At the recent meeting of the British Medical Association, Dr. M. A. Boyd, of Dublin, read a paper on "Modern Diet and its Effects on Health" before the Section in Public Medicine. From the abstract that is published in the association's "Journal," it appears that the author said that "some check must be put on the importation of American and Australian live and dead meat, if the State desired a healthy population." Some of Dr. Boyd's remarks seem to indicate his dread of the effects of meat in general, but why he should particularly fear those of American and Australian meat is not very clear. The general impression is that the people of Ireland are in no imminent danger of the consequences of eating too much meat of any kind, and it is presumably among the Irish that Dr. Boyd has observed whatever facts may underlie his statements.

THE "AMERICAN JOURNAL OF THE MEDICAL SCIENCES."

This venerable and always creditable journal, it is announced, is to be made a monthly with the beginning of the new year. Thus the last of the great medical quarterlies will undergo a transformation of no little significance. It will be the final confirmation of the apparent tendency to allow quarterly journals of general medicine to become extinct. In saying this we do not overlook the vigorous life of the "Revue des sciences médicales," but that publication is hardly comparable with those that chiefly contain original communications. Many an old reader of the "American Journal of the Medical Sciences" may feel a sentimental regret at the change, but its utility seems to us beyond question.

A JOURNAL OF FOOD ADULTERATION.

WE have received the first number of the "Revue internationale scientifique et populaire des falsifications des denrées alimentaires," published in Amsterdam, and edited by Dr. P. F. van Hamel Roos, of that city, aided by a staff of collaborators and correspondents representing the leading countries of the world, including, for America, Dr. Willis G. Tucker, of the Albany Medical College. The greater portion of the contents is printed in French, but the excellent plan seems to be followed

of presenting quoted matter in the original language side by side with a translation into French.

ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Fourth Division of the Health Department for the following statement of cases and deaths reported during the two weeks ending October 4, 1887:

DISEASES.	Week ending Sept. 27.		Week ending Oct. 4.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever.....	43	14	48	10
Scarlet fever.....	39	6	56	15
Cerebro-spinal meningitis....	5	3	3	3
Measles.....	11	2	6	2
Diphtheria.....	106	41	95	37
Small-pox.....	3	0	0	1

The Health of Boston.—The following numbers of cases and deaths from infectious diseases were reported to the Board of Health during the week ending Saturday, October 1st: Diphtheria, 8 cases and 8 deaths; scarlet fever, 45 cases and 7 deaths; typhoid fever, 42 cases and 9 deaths. There were also 25 deaths from consumption, 11 from pneumonia, 4 from whooping-cough, 8 from heart disease, 5 from bronchitis, and 6 from marasmus. The total number of deaths was 176, against 181 in the corresponding week last year.

Professor von Nussbaum, according to the "Deutsche Medizinische Zeitung," was given an ovation by his pupils on the 2d of August, on the occasion of the performance of his five-hundredth laparotomy.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from September 25, 1887, to October 1, 1887:*

SMITH, A. K., Lieutenant-Colonel and Surgeon. Granted leave of absence for one month and fourteen days, to take effect upon his being relieved from duty at U. S. Military Academy. S. O. 223, A. G. O., September 24, 1887.

JOHNSON, R. W., Captain and Assistant Surgeon. Granted leave of absence for twenty-one days, to be taken advantage of so that he will return to his station at latest by the middle of October, 1887. S. O. 204, Division of the Atlantic, September 23, 1887.

DIETZ, W. D., First Lieutenant and Assistant Surgeon. Leave of absence extended one month. S. O. 223, A. G. O., September 24, 1887.

KNUDLER, WILLIAM L., First Lieutenant and Assistant Surgeon. Ordered to accompany Light Battery F, Fourth Artillery, from Fort Snelling, Minn., to the International Military Encampment at Chicago, Ill. S. O. 97, Department of Dakota, September 20, 1887.

Naval Intelligence.—*Official List of Changes in the Medical Corps of the United States Navy for two weeks ending October 1, 1887:*

HARVEY, H. P., Surgeon. Ordered to the Mohican.

COOKE, G. A., Surgeon. Detached from the Mohican and ordered home.

CLEBORNE, C. J., Medical Inspector. Promoted to Medical Director. September 18, 1887.

WALTON, T. C., Surgeon. Promoted to Medical Inspector. September 18, 1887.

BOYD, J. C., Passed Assistant Surgeon. Promoted to Surgeon. September 18, 1887.

TRYON, J. R., Surgeon. Ordered to Marine Rendezvous, N. Y. October 1, 1887.

FIELD, J. G., Assistant Surgeon. Detached from Marine Rendezvous, N. Y., and ordered to the Vermont.

MEANS, V. C. B., Assistant Surgeon. Ordered for examination preliminary to promotion.

DEER, E. Z., Passed Assistant Surgeon. Detached from navy-yard, New York, and ordered to the Nipsic.

ASHBRIDGE, RICHARD, Passed Assistant Surgeon. Detached from Naval Academy, Annapolis, Md., and to wait orders.

RUSSELL, A. H., Passed Assistant Surgeon. Ordered to the Naval Academy, Annapolis, Md.

HERNDON, C. G., Passed Assistant Surgeon. Detached from Naval Dispensary, Washington, D. C., and ordered to the Enterprise.

ARTHUR, GEORGE, Passed Assistant Surgeon. Detached from the Museum of Hygiene, Washington, D. C., and ordered to the Naval Dispensary.

GRIFFITHS, S. H., Passed Assistant Surgeon. Ordered to the Museum of Hygiene, Washington, D. C.

SPEAR, J. C., Medical Inspector. Leave of absence granted until July 1, 1888, with permission to leave the United States.

Society Meetings for the Coming Week:

MONDAY, *October 10th*: New York Academy of Medicine (Section in Surgery); New York Ophthalmological Society (private); New York Medico-historical Society (private); New York Academy of Sciences (Section in Chemistry and Technology); Lenox Medical and Surgical Society (private); Boston Society for Medical Improvement; Gynecological Society of Boston; Burlington, Vt., Medical and Surgical Club; Norwalk, Conn., Medical Society.

TUESDAY, *October 11th*: New York Medical Union (private); Medical Societies of the Counties of Albany (annual), Chango (triennial), Greene (semi-annual—Cairo), Oneida (quarterly—Utica), Ontario (quarterly), Rensselaer, Schoharie (semi-annual), Tioga (quarterly—Owego), and Wayne (semi-annual), N. Y.; Medical Association of Northern New York (annual—Malone); Newark, N. J., and Trenton, N. J., Medical Associations (private); Medical Societies of Bergen and Cumberland (semi-annual) Counties, N. J.; Litchfield, Conn., County Medical Society (annual); Alabama Surgical and Gynecological Association (first day—Birmingham).

WEDNESDAY, *October 12th*: New York Surgical Society; New York Pathological Society; American Microscopical Society of the City of New York; Medico-legal Society; Tri-States Medical Association (Port Jervis, N. Y.); Pittsfield, Mass., Medical Association (private); Franklin, Mass. (quarterly—Greenfield), Hampshire, Mass. (quarterly—Northampton), Middlesex, Mass., South (Cambridge), and Plymouth (special), Mass., District Medical Societies; Vermont State Medical Society (annual—Montpelier); Philadelphia County Medical Society; Alabama Surgical and Gynecological Association (second day).

THURSDAY, *October 13th*: Society of Medical Jurisprudence and State Medicine; New York Laryngological Society; Medical Society of the County of Cayuga, N. Y.; Brooklyn Pathological Society; South Boston, Mass., Medical Club (private); Pathological Society of Philadelphia; Alabama Surgical and Gynecological Association (third day).

FRIDAY, *October 14th*: New York Academy of Medicine (Section in Neurology); Yorkville Medical Association (private); Medical Society of the Town of Saugerties (anniversary).

SATURDAY, *October 15th*: Clinical Society of the New York Post-graduate Medical School and Hospital.

OBITUARY NOTES.

Edward D. Kittoe, M. D., of Galena, Ill., died on Friday, September 29th, in the seventy-fourth year of his age. * The deceased was a native of England and was graduated in 1841 from the Pennsylvania Medical College, an institution that was closed in 1861. After practicing his profession for several years in Muncy, Pa., he moved, in 1851, to Galena. In 1862 he was appointed surgeon in the Forty-fifth Regiment of Illinois Volunteers, and in the same year was commissioned a surgeon in the United States Volunteers and served on the staff of General Sherman until 1864. He was subsequently on the staff of General Grant until appointed a medical inspector and reassigned to General Sherman's staff. After the fall of Atlanta he was appointed medical inspector to the Department of the Northwest, and in December, 1865, was mustered out of the service with the brevet rank of Colonel of United States Volunteers. During his residence in Pennsylvania he was a member of the State Medical Society, and one of its vice-presidents in 1850-'51.

Letters to the Editor.

A COCAINE PECULIARITY.

109 WEST FORTY-FIFTH STREET.

To the Editor of the New York Medical Journal:

SIR: I think one peculiarity of cocaine has never been written about in the journals, although it may often have been observed by individual practitioners, and that is its tendency to lose its strength (in solution) after a day or so. I have never taken care to measure the time accurately when it begins to do so (after being made into a solution), but I have noticed for some months back that, unless I get a very small supply of the solution at a time, of the strength which I make use of (four or twenty per cent.), I can not produce with it the full anæsthetic effect after using the same solution three or four days. The idea suggests itself to me that this is the reason why, when cocaine is accomplishing such brilliant results for some who use it, others find its results often negative, and are therefore inclined to depreciate its good qualities. I make it a practice to get the solution put up in rubber-stoppered bottles, but even then I notice the same tendency of the solutions to lose their strength on standing a few days; so that I confine myself to getting the smallest requisite quantity at a time. When the four-per-cent. solution is combined with Dobell's solution, it also shows the same peculiarity.

AMORY CHAPIN.

LEGOUEST'S PERIOSTEOTOME.

5 WEST THIRTIETH STREET, *October 4, 1887.*

To the Editor of the New York Medical Journal:

SIR: In your issue for October 1st Dr. W. W. Van Arsdale draws attention to a "novel periosteal elevator" which he has devised, and publishes with his communication some sketches illustrating it. For the past twelve years I have had in my possession, and in use, an instrument identical in all respects with the larger one figured, except that its handle is flatter. I can speak from experience as to the usefulness and the many advantages of this instrument over any other form of elevator that I have used. The instrument I own was made by Robin & Colin, Paris. It has been figured in catalogues, and is known as Legouest's periosteotome.

Respectfully,

CHARLES T. POORE.

Proceedings of Societies.

AMERICAN GYNÆCOLOGICAL SOCIETY.

(Concluded from page 386.)

The Treatment of the Pedicle in Supravaginal Hysterectomy.—Dr. MARTIN, of Berlin, opened the discussion on Dr. Bantock's paper. He had been the first to apply the India-rubber tube around the pedicle while operating, and he dared say that in this way he had avoided the loss of more blood than what was contained in the tumor itself. He obtained security against hæmorrhage after the operation by uniting the stump in a conical manner. In reply to his own question, Of what did patients die? he said a certain number died of sepsis, and to this they were exposed whether the pedicle was treated by the internal or by the external method. As the normal place for the pedicle was within the abdomen, we should return to the internal method.

Dr. A. R. SIMPSON, of Edinburgh, present by invitation, did not profess to be an advocate of supravaginal hysterectomy, but he thought the treatment of the pedicle when the operation was done must be according to the individual case, and not according to any ideal method. He thought the clamp was likely to hold its ground in any case of removal of fibroid tumor. The procedure was shorter than that described by Dr. Martin, and time was important in these operations. He had powdered the stump with persulphate of iron, which dried and withered it, and proved safe and satisfactory.

Dr. GARDNER, of Montreal, present by invitation, thought, from his limited experience, that he would not discard the clamp.

Dr. H. MARION-SIMS, of New York, had used the external method alone, applying the rubber ligature and clamp. Of eight patients treated during the past three years, six had recovered, and two had died.

Dr. M. D. MANN, of Buffalo, had in his first case ligated the pedicle *en masse* and dropped it. He was summoned afterward, and found the patient in collapse from loss of blood, the ligature having slipped. He then treated the stump by the extraperitoneal method, and the patient recovered. In his other cases the extraperitoneal method had been employed. Regarding the stump, he simply rubbed iodoform into it and left it exposed.

Dr. E. VAN DE WARKER, of Syracuse, had operated in four cases, employing the external method in two cases and the internal in two; one of the latter ended fatally, but the tumor removed was very large and recovery was hardly expected.

Dr. BANTOCK thought the ideal method had not yet been attained. Until Dr. Martin could give better statistics than his own, he thought he should die impenitent, continuing to employ the external method. Regarding the stump, no drying material should be dusted on it. Absorbent cotton was sufficient. When trouble arose it was from below the level of the wire. The peritoneal surfaces should be accurately coaptated to prevent any matter entering the cavity.

Batley's Operation; its Matured Results.—Dr. ROBERT BATLEY, of Rome, Ga., said that in the title of this paper he employed the term Batley's operation as best expressing the importance of an artificial change of life as a remedy for disease. It was necessary, in order to judge of the value of the operation, to note carefully the results a long period after it was performed. His own practice being private, he had been able to obtain the continued history of a large number of the cases. Of the tabulated cases there were fifty-four; thirty-three patients

had been cured, eight much improved, five little improved, and eight not at all improved. In fifty the menopause had been complete; pseudo-menses continued in four. The change of life was the most important factor in securing complete results from this operation. In certain cases the cure took place almost at once, but in the vast majority of cases the patient had to first pass through the varying symptoms pertaining to the natural change of life before complete restoration. This time might be a year, three years, or even five. Of the patients whose cases he had reported, doubtless a few had been badly selected, and should not have been operated upon, but the proper selection of cases was yet an unsolved problem. Patients addicted to the morphine, chloral, or alcoholic habit could not be restored until this habit was abandoned. Proper subjects for this operation, if allowed to go on year after year, would finally reach a stage where it would be absolutely impossible to cure them by any known means.

The discussion of Dr. Batley's paper took place in connection with that of the succeeding paper.

The Infantile Uterus.—Dr. A. W. JOHNSTONE, of Danville, Ky., read a paper embodying the following conclusions: 1. The uterus is not only an entirely independent organ, but it embraces two parts the functions of which are entirely separate, and there may be arrest in either or both. 2. From its exposed position, the growth of the cervix is much oftener interfered with than that of the body. 3. Congenital flexions are largely due to this arrest. 4. The arrested growth of the body nearly always means an interference with the proper development of the endometrium. 5. This immaturity of the endometrium prevents its progress to a myeloid state necessary to the formation of the placenta, which means permanent sterility. 6. This interference is most probably due to some damage to the pudic sympathetic. 7. Where there is marked diminution in the body, the stretching of the neck is apt to result in little if any good. 8. When life has become a burden that is clearly due to the arrested development, the menopause should be hastened, but not until we are sure nothing else can relieve. These, the author said, were not altogether novel opinions, but he would say that, if we wished to have a clear idea of the true physiological positions of the uterus, we must emancipate it from the thralldom of the ovary, in the grasp of which it had been firmly held for the past fifty years.

Dr. BATLEY, in reply to questions, said that removal of the ovaries was not really necessary to Batley's operation. Had Professor Simpson carried out his suggestion to ligate the ovary, and had he brought about the change of life thereby, he would have done Batley's operation. It was the change of life that he was seeking. Removal of the ovaries did not invariably produce the menopause; still further, removal of the ovaries *plus* the tubes did not invariably secure the menopause; indeed, removal of the ovaries *plus* the tubes, *plus* the uterus, did not invariably secure the menopause. There he would rest the question. In his experience, the ovaries were invariably diseased. He removed the tubes whenever they were diseased, but, on looking over his cases, he had found that in only a relatively small number had the tubes been diseased, the seat of pyo-salpinx or hydro-salpinx. He did not operate for disease of the ovaries, but to stop their function. He had never insisted upon visible evidence of disease of the ovaries to justify the operation. It was the urgent necessity of doing something, other measures having failed, that led him to operate. Visible disease of the ovaries was only a collateral fact. He had utterly repudiated normal ovariectomy years ago. His object was to secure the change of life, and he cared not how it was obtained.

The Use of Antiseptics in Private Obstetric Practice.—Dr. THEOPHILUS PARVIN, of Philadelphia, read a note on this

subject. He thought the reasons for the use of antiseptics in maternity hospitals also held good in private obstetric practice. The fact that without them one had attended many confinement cases without a death did not prove that such a practice had done no evil short of destroying life. The author then presented a conveniently portable case in which one could place corrosive-sublimate tablets, also tablets of carbolic acid and persulphate of iron, needles and thread, etc.

Extra-uterine Pregnancy and its Treatment by Electricity.—Dr. ELY VAN DE WARKER, of Syracuse, read a paper in which, after pointing out the need of wider experience and more definite observation and practice, he gave a description of two cases. In the first he used faradaic electricity, but, being dissatisfied with it, in the next case he employed the galvanic current. It was a week before it could be said that the mass was shrinking, but before that it had become softer to the feel. One writer maintained that a fœtus of five months had been absorbed within three weeks after its death caused by the electrical current. The author thought the facts must have been observed obliquely; months were required in his case before the tumor had disappeared.

Remarks, based upon cases seen and reported by them respectively, were made by Dr. J. C. REEVE, of Dayton, O., Dr. H. MARION-SIMS, of New York, Dr. J. R. CHADWICK, of Boston, Dr. M. D. MANN, of Buffalo, and Dr. J. E. JANVIER, of New York.

Dr. MARTIN, of Berlin, had not employed the electrical current, but he had removed the fœtus by laparotomy in sixteen cases, and had seen it done many more times. In Germany they preferred not to wait, trying measures to kill the fœtus within the body, but to operate before a possible danger arose. He had lost but one patient out of nine operated upon for tubal pregnancy, and in that case the tumor had ruptured, and the patient was dying when he operated.

Dr. APOSTOLI, of Paris, thought electricity should first be tried. The faradaic current, when employed about the gravid uterus, had caused no ill effect. The constant current was the one to use, as one could depend upon it to produce absorption or miscarriage.

Vaginal Injections in Sims's Posture.—Dr. FRANK P. FOSTER, of New York, read a brief paper with this title. The object he had aimed at in administering hot-water vaginal injections with the patient in Sims's posture, or rather in a posture somewhat more prone than Sims's, was to secure deeper penetration of the water than was ordinarily possible in the dorsal posture. For this purpose, he used the cup douche of his own contrivance, which was figured and described in Emmet's "Gynecology," but reversed the cup, so that the entrance to the outflow pipe corresponded to the anterior commissure of the vulva.

Veratrum Viride in the Treatment of Puerperal Eclampsia.—Dr. CHARLES JEWETT, of Brooklyn, read a paper on this subject. He had used Squibb's fluid extract of green hellebore. The only method of bringing the circulation rapidly under its influence was by the hypodermic syringe. The average dose was ten to twenty minims. It was seldom necessary to employ more than thirty to control the convulsions. Small doses repeated every half-hour might be used, but he preferred a larger dose, which brought the patient more rapidly under the influence of the drug. He had so treated twenty-two cases; in sixteen the labor was completed by the forceps or version. There were six deaths—three from complications and three from eclampsia. The beneficial effects of the drug were seen in its power to arrest the convulsions and lower the pulse. Carefully employed, it should be harmless. Other measures were not neglected.

Dr. A. F. A. KING, of Washington, said that twenty years ago he had published a paper in the "New York Medical Journal," in which he took the ground that eclampsia was due to disturbed circulation from early descent of the fœtal head into the pelvis, which was the rule in primiparæ, and pressing upon the vessels. Theoretically, he thought veratrum would be beneficial, and because of its effects upon the circulation.

Dr. BARKER, of New York, referred to his use of a decoction of hellebore obtained in Connecticut forty years ago, before it could be obtained in New York, and to the gradual introduction of the drug.

PHILADELPHIA COUNTY MEDICAL SOCIETY.

Meeting of September 14, 1887.

The President, Dr. J. SOLIS-COHEN, in the Chair.

Simple Fracture of the Distal Phalanx of the Index-finger.—Dr. A. C. W. BEECHER reported a case. This apparently trifling accident, he said, was so infrequent that until three years before he had never seen a case either in hospital or in private practice, and then it occurred in the person of his father. While upon a balcony, desiring to re-enter the room from which he had emerged, he raised the window-sash, and by neglect the point of the index-finger was caught between the muntin of the lower sash and the frame of the upper one, causing intense pain and almost producing a faint. Upon examination of the part, the gentleman found no ecchymosis under the nail, but feared that the injury was such as to cause its loss. Pain continued for some time, particularly when pressure was made upon the point and palmar surface of the finger; this was attributed to the bruise. After some days, the speaker's attention was particularly called to the finger by the statement that, by pressing upon the point of the finger and attempting motion, there seemed to be a roughness and motion which did not belong to the joint. An examination confirmed this, and showed that there existed a transverse fracture of the shaft of the phalanx. As the patient's business required considerable use of the member, the speaker was for a moment puzzled as to a dressing that would be efficient and at the same time neat and not bulky. He applied a narrow bandage from the end of the finger to the second phalangeal joint, making two layers; this he then coated thickly with collodion, which was of a syrupy consistence, the result of the slow evaporation of the ether. Drying and hardening quickly, this made a neat, smooth, and stiff waterproof casing, which was worn with but one change until the fracture was cured.

For a neat, clean, and efficient dressing in the simple fractures of the distal and second phalanges he could not imagine a form superior to this, though the solution of sodium silicate or gutta-percha would answer as well as the collodion. The usual care in not making the bandage too tight before applying the solution must not be overlooked here. Fractures of the phalanges were usually the result of direct violence, often very great, producing compound fractures and requiring amputation, and for this reason simple fractures received but little notice in the various works on surgery.

Dr. A. B. HIRSH said that, some three years before, a gentleman had come to his office for an injury to the distal phalanx of his right index-finger; he had within the previous half hour caught it in closing a safe-door. Crepitus showed a simple fracture, and he applied a light dressing similar to the one described by Dr. Beecher, but the exact material he did not now remember. The patient spoke of how conveniently small and light the "splint" seemed—in fact, it scarcely interfered with his book-keeping. There was no deformity.

Special Meeting of September 19, 1887.

The President, DR. J. SOLIS-COHEN, in the Chair.

Some Morbid Conditions of the Urine.—DR. F. W. PAYY, F. R. S., of London, read the following paper: I must, first of all, express the honor I feel in being invited to meet with you this evening, and next to apologize for impairment of voice due to cold, and for being under the influence of fatigue from travel. I am before you to say a few words upon certain morbid conditions of the urine, and my hope is that we may compare notes of observations in the Old World with observations in the New World. I shall first of all refer to albumin. Albumin in the urine with us was formerly regarded as a matter of the most serious import, but we are now beginning to recognize that a certain amount of albumin in the urine is not always of grave import. My own practice lies very largely with urinary diseases, and patients coming under my care always have the urine examined by an analyst; and I am frequently meeting with a certain amount of albumin in the urine, without its presence being attended with anything that would lead me to suspect that a grave condition exists. In association with diabetes, it is not at all uncommon to find, when the patient first comes under observation, a certain amount of albumin in the urine; but when the patient is put under treatment for the diabetes, it is not infrequently found that the albumin disappears in the course of a few weeks. In these cases of albumin in the urine, we must look to the general condition of the patient to see whether or not there are other indications of the existence of grave renal disease.

There is another condition which I presume has been brought before the profession in America, in which albumin exists at a certain time of the day, and not at others. I have suggested for this condition the term *cyclic albuminuria*. I have studied these cases for some years past, and I should think that they occurred in this country as well as in the Old World. I know that they occur in Germany, for the matter has been taken up there and followed out. This condition is observed in persons who are excitable and of a nervous disposition, and, as a rule, in young persons, although I have met with some cases in the middle-aged. The albumin is to be met with at one time of the day and not at others. These cases are recognized, as it were, only by accident. Sometimes the urine is examined on account of some pain in the loins, but most frequently these cases are discovered through examinations for life-insurance purposes, or for some branch of the civil service, as is required by the Bank of England. So long as the individual maintains the recumbent posture, no albumin will be detected, but in an hour and a half or two hours after rising the maximum quantity of albumin will be found. As a rule, the quantity of albumin declines toward evening, and on going to bed it has entirely disappeared. Sometimes a trace of albumin is to be found in the afternoon and evening, but the first urine passed on rising in the morning contains no albumin whatever. These cases seem to be of no serious import. I suppose that the presence of albumin depends on the condition of the vessels. I suppose so, but certain it is that these cases are not associated with any constitutional condition. I now come across quite a large number of them.

I shall next refer to *sugar in the urine*. This is another morbid element which has varying degrees of importance. In young persons it is of the gravest import, while in elderly persons it is not so serious. In early life I have known cases to go on for years, but this is the exception; the usual duration is about two years. Ultimately they all terminate unsatisfactorily. After the middle period of life, however, sugar in the urine has a very different significance. In young subjects we have a dis-

ease which seems to be of a progressive nature. Notwithstanding whatever we may do for it, there is something which insidiously progresses in the system and leads ultimately to a fatal termination. But after the middle period of life a good deal depends upon the patient himself. Under proper management the disease may, as a rule, be held under control and the patient live for years in a satisfactory condition, but, to accomplish this, rigid measures of treatment must be carried out.

One may express in a very few words, and without advocating any idea or theory, the precise nature of *diabetes mellitus*, or sugar in the urine. I should speak of it as a defective or faulty assimilative action—a faulty chemistry. The elements of the food which we take undergo chemical change in the system, by which they are rendered useful. A certain group of principles entering largely into the composition of our food are the carbohydrates. These principles in diabetes do not undergo their proper chemical change and thus become eliminated from the system. What do we observe in a state of health? A person takes one of the carbohydrate group, it makes no difference which—starch, grape-sugar, cane-sugar, dextrin, or sugar of milk; they all behave alike in the system—and it is so changed as to be rendered subservient to the requirements of the system. In a state of health we see nothing more of them. Not so in diabetes. In the diabetic these carbohydrates are no longer consumed. There is a faulty disposal of them. Received into the alimentary canal and afterward absorbed, they do not undergo their proper transformation, but pass off from the system in the form of sugar in the urine; so that I say, looking at these two conditions, a condition of health and a condition of diabetes, we may describe diabetes as a faulty disposal—a faulty transformation or assimilation of the carbohydrate elements of our food. In diabetes, in proportion as these carbohydrates are taken, so will be the amount of sugar in the urine. This I can say without any hesitation whatever.

In order to follow a case of diabetes satisfactorily, I consider that a quantitative examination of the urine should be made, and, for myself, I feel quite in the dark as to the progress of a case unless I have this quantitative examination. In my own practice I keep an analyst who examines the urine of patients—a night and morning specimen—and directly I get the analytical report, I can read off exactly the condition that I have to deal with. Without this I should be perfectly in the dark as regards the progress or the severity of the case. It does not do to rely on the specific gravity. I have met with a specific gravity of 1.040 without any sugar in the urine. Medical men are often concerned over the specific gravity of the urine. The patient may have been put under treatment, but still the specific gravity keeps up to 1.032 or 1.035, although the urine is free from sugar. Under these circumstances, I say to the medical practitioner, Do not concern yourself with the specific gravity. If the urine is free from sugar, the high specific gravity is a favorable sign, as showing that the kidneys are equal to good work. If the kidneys were diseased, there would be a low specific gravity. The high specific gravity may be kept up by the passage of only a limited quantity of water, and by the nitrogenous diet which the patient is taking adding to the elimination of urea. On the other hand, a low specific gravity may sometimes be met with where there is a considerable quantity of sugar in the urine. I have met with a specific gravity of 1.009 or 1.010, and yet the urine contained a considerable quantity of sugar. These have been mixed cases of diabetes insipidus and diabetes mellitus. They are proved to be mixed cases by the fact that, when the patient is put under proper dietetic treatment, the sugar disappears, but the quantity of urine keeps up. I myself do not attach so much importance to the specific gravity as is done by certain medical men.

In testing the urine for sugar, my opinion is that the copper test is by far the best. As we all know, Fehling's solution is the test generally employed, but there is this disadvantage about Fehling's solution, it does not keep well; after being kept some time, it throws down a precipitate without the presence of sugar. This has led to many mistakes in diagnosis. I have frequently had patients sent to me with the statement that they were suffering with diabetes mellitus, when the only trouble was that a faulty Fehling's solution had been employed. Some years ago I directed my attention to the question whether the ingredients of Fehling's test could not be put together in the form of a pellet, and the solution be made as required. Certain difficulties were experienced at the outset, but these have been overcome. The pellets, as now made, consist of sulphate of copper in the anhydrous form, Rochelle salt, and potash. It is necessary to separate the sulphate of copper from the potash. This is done by first putting in the die the sulphate of copper, then a little Rochelle salt, next the potash, and, finally, more Rochelle salt. The pellet, after being made, is surrounded with waxed paper and kept in a well-stoppered bottle. If properly prepared and handled with care, the cork not being left out of the bottle, these pellets will keep indefinitely. There is this advantage about the pellet—it will never deceive you, for if it is allowed to absorb moisture, it at once becomes unfit for use, the oxide of copper being thrown down in the form of a black precipitate.

In the treatment of diabetes, I attach the greatest importance to diet. I do not consider that you can get on with the management of these cases unless you exclude as far as possible those principles of which there is a faulty assimilation. If sugar appears in the urine, it must previously have existed in the blood. I know from frequent examinations that the blood contains a trace of sugar, which may be represented in figures as from 0.5 to 0.8 part in a 1,000. In harmony with this condition of the blood, there has been a trace of sugar in the urine.

The ammonio-cupric test is the one I employ as a quantitative test. It consists of Fehling's solution with the addition of ammonia. With Fehling's solution there is, on the addition of saccharine urine, a precipitate of the suboxide of copper, and, for quantitative purposes, this precipitate interferes with the determination of the exact time when complete reduction has taken place. While the presence of ammonia does not interfere with the reduction, it keeps the reduced suboxide in solution, and we get the decoloration without the formation of any precipitate whatever. The addition of ammonia gives a more intense blue color to Fehling's solution, and this is brought by the reduction to the color of water without the formation of any precipitate. With the apparatus in perfect order, the quantitative determination can be made in two or three minutes. This test is so delicate that ordinarily, to perform it satisfactorily, you have to dilute the urine 1:20, and where it contains much sugar, 1:40. I usually determine the proportion of sugar in a thousand parts of urine, but, if it is desired to determine the number of grains to the ounce, this can be done by multiplying the quantity in a thousand by 0.4375.

In examining the urine of a diabetic, I generally desire that a night and a morning specimen be brought. When a person lives as people ordinarily live in England—that is to say, taking a meal on rising in the morning, breakfast; a meal in the middle of the day, lunch; and a meal in the early part of the evening, dinner—the urine passed on going to bed contains considerably more sugar than the urine passed in the morning. Where a person dines in the middle of the day and sups shortly before going to bed, then the conditions are reversed—there is less sugar in the night water than in the morning water. Over and over again, by the quantitative examination of the urine, I have

detected errors of diet where the patients have had the greatest desire to keep to what was right. A person who has been passing only a little sugar brings a specimen which contains a large quantity of sugar. Under such circumstances we must look for some error in the preceding meal. In one case this proved to be blanc-mange which had been made with corn flour. Blanc-mange for the diabetic should be made with cream and gelatin or isinglass. In another case a patient had been passing very little sugar, when suddenly the quantity increased. Careful questioning revealed no error in diet, until it was learned that the patient had substituted for the bran biscuits which he had been using others said to be "just as good," which examination showed to be made of the whole meal. I refer to these cases to show the value of the quantitative analysis.

In the treatment of these cases the exclusion of the carbohydrate elements of the food should be as complete as possible. In the case of a person in the middle period of life, I first put the patient upon a strict diet. Very often the sugar for a time lingers in the urine. It is materially diminished, but has not disappeared. I may also say that I have, in addition, recourse to opium, codeine, or morphine, for I believe that these drugs have an important influence in controlling the disease—or, to put it in other words, they restore the assimilative power. Certain it is that, under the influence of these drugs and strict diet, sugar after a time disappears from the urine; and, after the urine is kept free from sugar for a few months, I find that the individual has a certain amount of assimilative power over the starch of bread. I test this by giving him a couple of ounces of bread. Frequently there is no reappearance of sugar. If there is no return after this has been continued two or three weeks, I increase the quantity to three ounces per diem. Then, if there is no return, to four ounces and a half; and, finally, to six ounces. Then the person is in the position of a small bread-eater. I recommend patients to be content with that. They can very well give up potatoes and sugar, but to give up bread is a serious matter with many people. When a person can take six ounces of bread per diem he is not in an unfavorable condition. Many of these persons can continue to take this quantity of bread with no return of sugar in the urine. If, however, they go further and resume their ordinary diet, there will be a reappearance of sugar. The urine must be taken as the guide. Treating the case in this way, my experience is that, after the middle period of life, these patients do exceedingly well.

I must apologize, Mr. President, for the crudeness of these remarks, for I have had no time for preparation. I thank you most heartily for the attention which you have given to me. I can not close without thanking you and your countrymen for the cordial reception given to myself and my *compatriotes* by everyone with whom we have come in contact.

Dr. JAMES TYSON said: It is needless to say how much indebted we all feel to Dr. Pavy for his remarks, and in the brief time allowed for discussion I desire first to say that I think we, in America, have passed through much the same transition in our views as to the import of albumin in the urine as has taken place in England. The fact is thoroughly recognized that albumin may be present without any serious import; but the explanation of these curious albuminurias is still unsatisfactory. There are a certain number of them which are clearly the result of diet, and may be called alimentary albuminurias, but that all cases can not be thus explained is shown not only by the cases alluded to by Dr. Pavy, but also in such as those where the urine on rising is free from albumin, but in which within an hour afterward the urine passed is albuminous, although no breakfast has been taken. The crucial test for the determination of the gravity of an albuminuria is the presence

or absence of casts. I have found that in these harmless albuminurias tube casts are invariably absent; and where there is a constant association of albumin and tube casts, it, of course, means renal disease, no matter how slight the general symptoms may be.

With reference to sugar, we also entertain much the same views. In my hands Fehling's solution has proved the most satisfactory test, although open to the disadvantages alluded to by Dr. Pavy. Much, however, may be done to preserve it; if the bottle is kept corked and in a dark place, the solution will keep for a much longer time. I have also obtained satisfactory results in this respect from a Fehling's solution in which mannite was substituted for the tartrate of potassium and sodium. I have found that the pellets made in this country rapidly spoil. In reference to the treatment, we largely agree. I am inclined to believe that certain sugars, and especially certain fruit-sugars, are better managed by the diabetic than others are. Thus, I think that a patient may eat an apple, or even an orange, without much disadvantage, whereas the use of grapes is always attended with an increase in the quantity of sugar. The same is true of milk-sugar. I am satisfied that milk is a good diet for most diabetics, although, of course, it is not a cure. The dietetic treatment is, for the most, efficient; but, so far as my experience with drugs goes, I am satisfied also that the preparations of opium, and especially codeine, are the most efficient adjuncts to the dietetic treatment. They are, however, open to the objection that they produce constipation, which almost always aggravates the other symptoms of diabetes.

Dr. J. W. HOLLAND said: The remarks of the previous speaker have reminded me of my experience with glycerin as an organic medium in Fehling's solution. This makes a solution which keeps for a considerable time, although not indefinitely. At the Jefferson College laboratory we employ two solutions of definite strength, one containing the sulphate of copper, and the other Rochelle salt and the caustic potash or soda. These are mixed in equal quantities when it is desired to employ the test. In the use of Dr. Pavy's quantitative test, I find one small objection—which can be obviated by extreme care—that is, if the solution is boiled in an ordinary capsule the ammonia will be driven off and reoxidation of the copper follows. If a flask is employed, the ammonia will not escape so rapidly. One form of pellet lately brought to my attention is the indigo-carmine pellet. This seems to keep indefinitely. It is composed of sodium carbonate and the sulphindigotate of sodium. It is a very sensitive test—even more sensitive than Fehling's solution.

Dr. KLEEN, of Carlsbad, was introduced, and said: I had, two years ago, under my care at Carlsbad a most singular case. Mme. X., of Gothenburg, fifty years old, then consulted me, telling me that she was suffering with diabetes, that the illness had accidentally been discovered the year before, and that she had then visited Carlsbad (1884) and consulted Professor Seegen (who since that time had retired from practice). Mme. X., when I saw her, presented no symptoms of diabetes or of any other illness, except some nervous debility. I gave her a considerable quantity (100 grammes) of cane-sugar, collected the urine for some hours, and afterward for twenty-four hours, but found no glucose in it. I did not succeed better after she had dined copiously on rice and other amylaceous food. I then pronounced her free from diabetes. I still kept the case under observation, however, and at last found, upon examining the urine two hours after a meal, which had ended with a large portion of sweet fruits (mostly pears), a small quantity of reducing substance. Both Fehling's and Nylander's (bismuth) solutions showed reactions corresponding to the one we got, with urine containing 0.1–0.2 per cent. of glucose. When test

ing the urine with polarization by the spectroscope, I found, to my utter surprise, a slight deviation *to the left*. The urine did not contain a trace of albumin. I was at a loss what to think of it, and submitted it to the test of fermentation. The same day, however, I received a letter from Professor Seegen stating that when the patient was under his care her urine had contained much larger quantities (as much as 3 per cent.) of reducing substance, and that he had found that substance to be *levulose*. At the same time, Professor Seegen sent me a supply of glucose, asking me to submit the patient to a test of her toleration of that substance. So I did, and found that doses of 100 grammes or more did not produce more than very small quantities of reducing substance in the urine—that substance, to judge from a very slight deviation to the left in a good instrument, being levulose.

Worm-Müller has proved that glucose, administered in large doses, passes in a certain (small) proportion unchanged into the urine, even in healthy persons, while it passes in a much larger proportion into the urine of the diabetic patient. He has also found that all the different species of sugar, administered in large doses, in a certain (small) proportion, pass *unchanged* into the urine even of healthy persons, while in the diabetic patient at least some portion of them passes into the urine *transformed into glucose*. He believes in this latter circumstance to have found a difference, therefore, between persons suffering from real diabetes and those whose urine, while under ordinary diet with the common reagents, presents traces of glucose, or only now and then, under peculiar circumstances and in a passing manner, contains somewhat larger quantities of it. This coincides with my own experience so far as it hitherto goes. Like all physicians who occupy themselves with researches in this direction, I find every year persons whose urine shows traces of sugar, and now and then—especially after strong emotions, after alcoholic excesses, or after very rich meals of mixed food (but, generally, not after meals *exclusively* consisting of amylacea or of cane-sugar)—in a passing manner, somewhat greater quantities of a substance which shows *all* the qualities of glucose. In these doubtful cases I usually give a large quantity of cane-sugar; and afterward often find no glucose—or only slight traces of it—in the urine, till I have boiled it with mineral acid, and thus converted a portion of the cane-sugar that has passed over into glucose, whereupon I will find the well-known reaction of glucose. I consider these cases to be distinct from true diabetes, though it seems to me highly probable that they indicate a tendency to that disease, which others of larger experience than myself have also noticed—for instance, Professor Frerichs.

In the present remarkable case of *lævuluria* I found that some portion of cane-sugar passed unchanged into the urine. It seemed to me to be of great interest to find out how Mme. X. reacted against the other species of sugar, especially against levulose, which, with some reason, could be expected to pass over in larger proportion than in quite normal persons. I therefore desired to administer a large amount of honey (which is a mixture of glucose and levulose), and also to make a test with milk-sugar; but Mme. X., who had heard that she should avoid sugar above all things, and who had an interest in her own case only partly of the same nature as my own, did not wish to be submitted to further experiments, especially as I could not promise that they would be without some momentary influence on the urine. I can, therefore, only give the foregoing description of the case, such as is already given by Professor Seegen, who first discovered it, but I am not without hope of being able in the future to give fuller information upon it.

I am decidedly of the opinion that the case is not, clinically speaking, strictly one of diabetes. If the substance had

been glucose, it would have ranged among the large number of the above-named glucosurias, continuing unchanged for a great number of years in healthy or nearly healthy persons. I was rather astonished at seeing Professor Seegen state that the urine once contained as much as three per cent. of levulose, but can not doubt the accuracy of this most excellent observer. That the quantity has diminished so very much without any dietetic treatment makes the case even more interesting than it otherwise would be. I allowed Mme. X. a tolerably good supply of starchy foods, advising her only to avoid excessive use of them, and I have lately heard that the urine only now and then contains small quantities of reducing substance.

An Unrecognized Cause of many Throat Ailments.—Mr. LENNOX BROWNE, F. R. C. S., of London, read the following paper:

In accepting the very flattering invitation of your president to speak a few words to the members of the Philadelphia County Medical Society, it appeared to me both more becoming and more profitable to offer you some practical remarks explaining the *rationale* of some of the commoner of throat ailments, than to attempt to magnify the office of the laryngoscope by the relation of rare and wonderful cases. I was the more inclined to this view because I was well aware that, through the assiduous industry and well-known skill of your president and other members of your society, you have for some years been kept thoroughly posted in all that is new in laryngology.

It is now some ten years since first I sought an objective explanation of the condition known as *globus hystericus*, and since I commenced to make a systematic examination with the laryngoscope of every patient who came to me with this symptom. The result was communicated in a paper to the Congress of Laryngologists held at Milan in 1880. I found that but very few cases indeed were of a hysterical character—that is, of the nature of a phantom sensation—though uterine or ovarian disorder is a not infrequent predisponent, or, at least, concomitant, of the throat condition in the female sex.

Extending the term *globus hystericus*, I find that, with hardly an exception, each and every other subjective sensation in the throat is symptomatic of an objective cause. The chief of such feelings are those of a heat, a prickling, a swelling, a weight, a straw, a hair, or other foreign body. A few patients—one especially, a hale farmer—have complained of a feeling of intense cold, which is sometimes relieved, sometimes aggravated, after food-taking. In some instances there is actual pain with spasm, cramp, and a sensation of choking, and not infrequently there is cough; this symptom varies in degree from a slight hacking to the loud hyena-like bark known as nervous laryngeal cough. Many of the cases of so-called laryngeal vertigo, or, as I prefer to call it, of laryngeal epileptoid seizures, are capable of explanation and cure, on the lines I am at present taking.

On examination of the throat of a patient with symptoms such as I have described, one may or may not see chronic congestion and relaxation of the fauces and uvula, enlargement of the tonsils or obstruction by caseated material of the orifices of the crypts, granular pharyngitis, or even laryngeal hyperæmia. Where any one of these conditions is present, treatment thereof may or may not give relief; but none of them represents the class to which I would draw your attention—namely, that in which there is no generally recognized morbid state of local significance.

The results of laryngoscopic investigations in my hands have shown that there is: 1. A varicose, and even truly hæmorrhoidal, condition of the veins at the base of the dorsum of the tongue, sometimes at the lower surface and sides, in which last case it may be symptomatic of mitral insufficiency, or of severe hepatic derangement, or even of cerebral lesion. There is often a simi-

lar varicose state of the vessels in the superior surface of the epiglottis. 2. An enlargement of the circumvallate papillæ at the back of the tongue, causing the epiglottis to be hindered in its movements—imprisoned, as your president first called it.

Just drawing attention to the fact that the structure of these glands is very similar to that of the tonsils, I may mention that in a few instances I have seen actual blocking of the orifices, similar to the condition known generally as chronic follicular amygdalitis. I may also note that it is not possible to see these things either with a tongue depressor or in the laryngeal mirror as ordinarily employed. Many observers, especially beginners, seem to consider that their sole aim is to see the vocal cords, and, if these are sound, they write down "larynx normal"; but they omit to look well to the framework. To see this condition of lingual varix and glandular hypertrophy, the mirror must be placed quite high in the throat. Where, as is often the case, there is no actual or noticeable enlargement of the thyroid gland, it will be observed, on passing the hand gently over the front of the throat, that there is a distinct fullness of the thyroid isthmus. If the least pressure is made at this situation, the patient—not necessarily a female—will complain that the abnormal sensation is at once excited, and, on being questioned, will admit that when it occurs the collar is felt to be too tight for the neck.

Inquiring into the general health, and happily failing to find any of the more serious lesions to which I have alluded, it will be noted that habitual constipation and a generally defective circulation are both frequent symptoms; while in others there will be concomitant evidences of a varicose diathesis, such as rectal hæmorrhoids, varicocele, or varicose veins of the extremities.

In females the menstrual flow is often morbidly frequent or excessive, and there are other evidences of an enfeebled vasomotor control. Abuse of alcohol and that of tobacco are excitants of the condition; and in the cases of singers or public speakers, defective methods of filling the lungs—forcing the lower registers upward, or other functional fault which may lead to undue strain on the palato-pharyngeal muscles and engorgement of the vessels in this region—are fruitful predisponents.

In this connection, I may refer to the accurate explanation offered by your fellow-citizen, Dr. Carl Seiler, of the ætiology and pathology of chronic pharyngitis when occurring to voice users.

Some of those obscure cases which come under our occasional notice of the presence of small quantities of blood in the mouth, or of the taste thereof on rising from sleep, will be explained by the leakage of one or other of these enlarged and hæmorrhoidal venous capillaries in the region now under consideration.

A few words as to treatment. If the case is not of long standing or of aggravated character, correction of the main constitutional cause—cessation of the faulty method of voice production, or prohibition of a vicious habit or indulgence—may be sufficient to effect a cure, but this is rarely the case. Of remedies, I give chalybeates and aperients with digitalis or ergot, as may be indicated. Locally, astringent applications, especially of chloride of zinc or perchloride of iron, are by no means without avail; they can be applied by the patient himself. Gargles as ordinarily employed are useless, and occasionally are productive of exacerbation of the symptoms. Not so if employed by the method known as that of von Trolsch. Of lozenges, I find those of chloride of ammonium much more active in leading to resolution of the venous congestion than those of red gum, rhatany, etc.

Recent investigations show that the astringent properties of

tannin have been exaggerated. Where the uvula is relaxed, the snipping of an elongated portion, especially if other functional or constitutional faults are corrected, may lead to a cure; but in a certain proportion of cases in which the promises of the specialist as to the good effects to be gained by the procedure are not realized, the cause of failure will be found in non-recognition of the various vessels. Treatment of these is best effected by the galvano-cautery point, and it is necessary to seal each individual enlarged vessel. For this purpose it may be necessary to make more than one application. Lastly, there is often a hyperæmic tumefaction of the vessels, glandules, and submucous tissues of the pharynx, naso-pharynx, and turbinated bodies; these will also be best treated by the galvano-cautery.

In conclusion, I would say that in case it may be objected that the conditions I have described are but representative of an advanced chronic congestion, I do not deny that such occasionally may be the case. In the majority, however, there are no such antecedents; and where the two exist the practitioner will fail to cure the pharyngitis, or what not, until he has recognized and treated the varix.

And it is in this light that I have ventured to call attention to the subject as one that is not generally recognized, for, beyond a short communication at Milan by my deceased colleague, Llewelyn Thomas, I have seen no allusion to it in any books or archives, and no notice is taken of it by the great teachers of Vienna. I therefore make no apology for having occupied your time with considerations that may at first appear trivial or of exaggerated importance.

Dr. CARL SEILER said: I quite agree with the speaker that the *globus hystericus* is rarely of purely imaginary origin. Some chronic inflammation of the upper part of the upper air-passages usually accompanies this distressing condition. As he truly says, pharyngitis is one of the most common causes of this symptom. At the same time the pharyngitis is to my mind, as a rule, the consequence of remote causes which may be looked for in one of three different directions—in a disturbance of the gastric system, in a disturbance of the respiratory function of the nose and naso-pharynx, and finally, and most commonly in public speakers and singers, in a faulty use of the organ of voice. This latter condition is frequently met with in those who simply use the voice for ordinary conversation. The constant irritation thus produced leads to hyperæmia and chronic inflammation, which extends upward, rather than downward, into the trachea. In the treatment of the condition described I think that little can be accomplished by the application of remedies to the apparent seat of the disease, but that the cause must be looked for and removed.

Book Notices.

Dermatitis Venenata: an Account of the Action of External Irritants upon the Skin. By JAMES C. WHITE, M. D., Professor of Dermatology, Harvard University; Physician to Out-Patient Department for Skin Diseases, Massachusetts General Hospital. Boston: Cupples & Hurd, 1887. Pp. 9 to 216.

WE recently had the pleasure of noticing Dr. Morrow's book upon "Drug Eruptions," and now are very glad to welcome this one of Dr. White's upon an allied subject. While Dr. Morrow treats largely of the cutaneous eruptions from the ingestion of drugs, Dr. White concerns himself only with those arising from

the external application not of drugs alone, but also of various other substances.

The book opens with an admirably clear general description of dermatitis venenata, which is shown to present itself as an erythematous, papular, pustular, bullous, or even ulcerative disease, according to the strength of the irritant acting on the skin, the duration of its action, and the susceptibility of the individual acted upon. Then the subject is treated of under three divisions: Plants or vegetable irritants; organic and inorganic irritants; and animal irritants. The plants are arranged under their families, and in all cases the common equivalents of their botanical names are given. We find a list of nearly one hundred plants which are more or less poisonous, and among them such common wild flowers as the Jack-in-pulpit, the ox-eye daisy, the golden-rod, the wood anemone, and the buttercup. Our author attributes to but sixty of these plants undoubted poisonous properties; and of these not a few exert their malignant influence only upon a very small proportion of individuals.

In the second division of the book we have a short account of poisonous clothing, which we regret has not been more elaborated. The third division is chiefly remarkable for its exposition of the theory that the bites of insects, such as the mosquito, render the person bitten to a considerable extent proof against the poisonous effect of subsequent bites by the same insect. This theory of "protective inoculation" seems to have some *raison d'être*, judging from the clinical facts advanced by the author in its support.

Some forty pages, or about one fifth of the entire book, are devoted to the consideration of rhus poisoning. Arsenical poisoning is also considered at some length, and this section constitutes one of the most instructive of the book, though it seems to us that the case of arsenical dermatitis in a child, as given in the text, was quite as much one of arsenical poisoning from inhalation as of dermatitis from the local action of the arsenic. The usefulness of the book is impaired in many parts by the author's desire to be concise. The consideration of the dermatitides produced by insects could well have been made fuller; nineteen lines on the symptomatology of the itch, and three lines on its treatment, are far too short from so good a dermatologist as Dr. White. The want of a list of journal literature is remarkable in a monograph.

The book is a good and useful one, much of the information contained in it being drawn from the author's large experience as a physician and botanist. It will serve to explain some cases of artificial dermatitis where we are able to exclude with certainty the action of the more common poisonous plants.

The Curability of Insanity, and the Individualized Treatment of the Insane. By JOHN S. BUTLER, M. D., late Physician and Superintendent of the Connecticut Retreat for the Insane, etc. New York and London: G. P. Putnam's Sons, 1887. Pp. 59.

WE have read this little volume with interest. Dr. Butler writes on the question of the proper treatment of the insane as is only possible to one who, being endowed with firm perceptive faculties and humane instincts, has had ample opportunities, in the wards of a well-appointed asylum, of giving practical shape to his philanthropy. In company with all who have given the slightest attention to the evils incident to the overcrowding of our institutions for the treatment of mental disorders, he is impressed with the fact that "individualized treatment is called for in insanity as imperatively as in the case of acute forms of other physical disease. The form of treatment is different according as the practitioner is hopefully working for a cure in an acute case, or, as in some chronic case of long

standing, he is simply administering palliation and general care. The first requires his personal and persistent attention, the second may be treated in a general way and may be committed to others."

That a large percentage of recent insanity is curable under the prompt and scientific use of medical and moral means is beyond doubt. To attain good results, however, a more thorough segregation of the chronic insane from those recent cases in which a favorable outcome may be reasonably predicted is indispensable.

But not alone is success to be achieved by scientific classification; an absolute limitation of numbers is also necessary. In the large institutions devoted to the indigent insane, the great evils resulting from overcrowding have recently been exemplified at Blackwell's Island; and the insane in almost every State in the Union have suffered from the same cause.

Dr. Butler's little book differs widely from that catchpenny literature which, while pretending to enlighten, has nothing to teach, simply because the authors of such ephemeral productions have but too often never served in even the humblest capacity in an insane hospital, and can therefore have but shadowy conceptions of the practical questions involved. Reform which emanates from amateur—we had almost said histological—alienists has usually little practical ring in it. Only those who have lived with the insane can ever hope to thoroughly appreciate the exigencies of their psychology. A mind with good perceptive powers and a heart responsive to the woes of humanity are equally requisite. Dr. Butler has these things, as his admirably written little volume abundantly testifies.

Druitt's Surgeon's Vade-mecum. A Manual of Modern Surgery.

Edited by STANLEY BOYD, M. D., B. S., Lond., F. R. C. S., Eng., Assistant Surgeon and Pathologist to the Charing Cross Hospital, and Surgeon to the Paddington Green Hospital for Children, etc. Twelfth Edition. With Three Hundred and Seventy-three Wood Engravings. Philadelphia: Lea Brothers & Co., 1887. Pp. xvi-33 to 985. [Price, cloth, \$4.]

A COMPARISON between this and the last preceding edition, issued in 1877, serves admirably to exemplify the great progress made in surgery during the last ten years. At that time antiseptic surgery was still *sub judice*, deodorizers were employed to conceal the stench arising from a stump, ligatures were left hanging from wounds, and the extra-peritoneal operation was recommended in ovariectomy. In the present edition the results of later investigations are given in a clear though concise manner. The work has been almost completely rewritten, remodeled, and much increased in size. The division of chapters into numbered sections has been abandoned, so that the accounts given are more continuous. Part I treats of surgical diseases in general, and includes a brief but comprehensive account of bacteriology as it is at present understood. The chapters on inflammation and tumors are excellent and terse statements of the views now held on these subjects by the best authorities. Part II treats of injuries in general, including gun-shot wounds, and the effects of heat, cold, animal poisons, and parasites. In the chapter on wounds there is a plain description of the manner of conducting an operation, observing the usual antiseptic precautions, according to Lister's method, with mention of the most prominent objections to certain details and of the substitutes employed. Part III comprises two thirds of the entire work, and is devoted to the injuries and surgical diseases of the various tissues, organs, and regions. This comprehends most of such injuries and diseases as are likely to come under the care of the general practitioner or surgeon, and gives directions

for treatment that are sufficiently precise. While fullness of detail regarding various methods of treatment is of necessity absent, in a few cases additions or exchanges might profitably be made. Thus, no mention is made of the Velpeau bandage, which is still considered by many surgeons the best dressing yet known for fracture of the clavicle. Also Heaton's operation for hernia is not mentioned, though it is frequently practiced, at least in this country, while Wood's operation, which is acknowledged to be seldom performed, is fully described. Still, the chosen method is always good and the details are clearly given. Part IV is devoted to special operations. An almost complete series of woodcuts illustrating the ligation of arteries is a new feature in this part. Taken as a whole, the present edition is well calculated to uphold the high reputation the work enjoyed for many years, and is particularly valuable for practitioners who are unable or unwilling to purchase a large treatise.

The Principles of Antiseptic Methods applied to Obstetric Practice. By Dr. PAUL BAR, Accoucheur to, formerly Interne in, the Maternity Hospital, etc. Translated by Henry D. Fry, M. D. Philadelphia: P. Blakiston, Son, & Co., 1887. Pp. vii-8 to 175. [Price, \$1.75.]

THIS practical little work, which re-echoes ideas which have of late years been instilled into the American practitioner, will be read with interest. Although it contains nothing new on the subject, the matter is presented in a clear and forcible manner that can not fail to arrest one's attention. The arrangement of the book is briefly as follows: After discussing in Chapter I the germ theory as applied to the puerperium, the author describes in Chapter II briefly the various antiseptic agents now in use, and presents in the succeeding chapter the history and statistics of puerperal septicæmia before and after the adoption of antiseptic principles. Chapters IV to IX treat of the *technique* of antisepsis during and after labor, while the three concluding chapters are devoted to catheterization, rupture of the uterus, and the Cesarean section. Antiseptic treatment of the navel and of ophthalmia in the new-born are discussed briefly in the appendix.

In general, the book may be characterized as eminently practical and abreast of the times. The American reader may take exception to some of its statements, such, for instance, as the advice given on page 139 to administer intra-uterine injections but twice daily in cases of septic endometritis. The author must hardly expect us to wait patiently for twelve hours in order to see if the temperature will fall. The style is unusually terse, and abundant foot-notes render the work doubly valuable. The translator has done his part creditably.

BOOKS AND PAMPHLETS RECEIVED.

De la tuberculose nasale. Par le Dr. A. Cartaz, ancien interne des hôpitaux de Lyon et de Paris, etc. Paris: A. Delahaye et E. Lecrosnier, 1887. Pp. 5 to 23.

Zur Lehre von den Erythemen von Prof. Dr. Polotebnoff, Vorstand der dermatologischen Klinik der militär-medizinischen Akademie zu St. Petersburg. Mit 7 Holzschnitten im Text. Hamburg und Leipzig: Leopold Voss, 1887. Pp. 177. [Dermatologische Studien. Herausgegeben von Dr. P. G. Unna. Fünftes Heft.]

Intubation of Larynx. Papers read before the New York Academy of Medicine in the Stated Meeting of June 2, 1887. By A. Jacobi, Joseph O'Dwyer, Francis Huber, Dillon Brown, W. P. Northrup, I. H. Hance, and A. Caille. [Reprinted from the "Medical Record"]

A Reference Handbook of the Medical Sciences, embracing the Entire Range of Scientific and Practical Medicine and Allied Sciences. By various Writers. Illustrated by Chromolithographs and Fine Wood Engravings. Edited by Albert H. Buck, M. D., New York City. Volume V. New York: William Wood & Co., 1887. Pp. v-815.

A Manual of the Physical Diagnosis of Thoracic Diseases. By E. Darwin Hudson, Jr., A. M., M. D., Professor of General Medicine and Diseases of the Chest in the New York Polyclinic, etc. New York: William Wood & Co., 1887. Pp. xii-150.

Cyclopædia of Obstetrics and Gynecology. Volume Seven. A Hand-book of General and Operative Gynecology. By Dr. A. Hegar, Professor of Obstetrics and Gynecology and Director of the Gynecological Clinic at the University of Freiburg, and Dr. R. Kaltenbach, Professor of Obstetrics and Gynecology and Director of the Gynecological Clinic at the University of Giessen. In Two Volumes. Vol. II: Operations on the Tubes, Uterus, Broad Ligaments, Round Ligaments, and Vagina. Operations in Urinary Fistulæ. Prolapse Operations. Operations on the Vulva and Perineum. With Two Hundred and Forty-eight Wood Engravings. Edited by Egbert H. Grandin, M. D., Obstetric Surgeon to the New York Maternity Hospital, etc. New York: William Wood & Co., 1887. Pp. vi-354.

Cyclopædia of Obstetrics and Gynecology. Volume Nine. Diseases of the Female Mammary Glands. By Th. Billroth, M. D., Professor of Surgery at the Royal University, Vienna. And **New Growths of the Uterus.** By A. Gusserow, M. D., Professor of Obstetrics and Gynecology at the University of Berlin. One Hundred and Five fine Wood Engravings. Edited by Egbert H. Grandin, M. D., Obstetric Surgeon to the New York Maternity Hospital, etc. New York: William Wood & Co., 1887. Pp. iv-426.

Lessons in Gynecology. By William Goodell, A. M., M. D., Professor of Clinical Gynecology in the University of Pennsylvania, etc. Third Edition, thoroughly Revised and greatly Enlarged. With One Hundred and Twelve Illustrations. Philadelphia: D. G. Brinton, 1887. Pp. xvi-17 to 579.

Cyclic Albuminuria. By William Buckingham Canfield, M. D., Chief of Throat and Chest Clinic and Lecturer on Normal Histology, University of Maryland, etc. [Reprinted from the "Medical News."]

A Simple Method of Testing Color Blindness. By Henry Sewall, Professor of Physiology in the University of Michigan. [Reprinted from the "Medical News."]

What is Disease? By L. A. Merriam, M. D., Omaha, Neb. [Reprinted from the "Transactions of the Nebraska State Medical Society."]

Experiments on the Preventive Inoculation of Rattlesnake Venom. By Henry Sewall, Ph. D., Professor of Physiology in the University of Michigan. [Reprinted from the "Journal of Physiology."]

Reports on the Progress of Medicine.

SURGERY.

By M. L. FOSTER, M. D.

Nerve Injuries.—Mr. Anthony A. Bowlby has added an important increment to our knowledge regarding these injuries in the lectures delivered before the Royal College of Surgeons ("Lancet").

In his first lecture he considers the pathology of these injuries as viewed by different observers, with additions from his own observations. He maintains that the peripheral portion of a divided nerve degenerates and is then regenerated, although not united to the central healthy fibers, but that, unless such union takes place, it will probably after a certain lapse of time again degenerate, this time never to recover. Primary union is shown to be possible by two cases in which function was restored in three weeks after section and primary suture of the median nerve, but he believes it to be of rare occurrence. A very imperfect union, if any, usually results from simple section of a nerve, unless the ends are coaptated and sutured, with a corresponding loss of function in the parts supplied by the nerve. As secondary suture, several months after injury, is sometimes followed by a rapid return of function, it seems probable that regeneration is hastened by the apposition of the ends, by the union of the peripheral portion with the centers of nutrition. He emphatically denounces the commonly ac-

cepted doctrine that partial section or wound of a nerve trunk is more dangerous than complete section. The amount of trouble resulting from an injury is directly proportionate to the amount of nerve fibers divided.

The second lecture is devoted to a consideration of the trophic changes resulting from these injuries, and of the theories advanced to explain them. Some of these changes form the exception rather than the rule, but some of them are, when met with, sufficiently characteristic, as the "glossy skin" described by Paget and Weir Mitchell, and a curious condition of the nails. In some cases the nails become curved longitudinally and arched laterally, while the skin at its proximal extremity becomes retracted, exposing the matrix, while the upper line of union of skin and nail retreats into or under the latter, which then presents, instead of a smooth edge, a ragged and notched border. The toenails are much more rarely affected than the finger-nails, and to a less marked degree. Ulcers result sometimes from lack of nutritive force, sometimes from traumatism. The hair of the affected part is often gone, and when present is short, stumpy, and brittle. The few microscopical examinations which have been made show a degeneration of the hair follicles. Anidrosis is common, but sometimes hyperidrosis occurs over the affected part. Usually the connective tissues atrophy, and the palmar fascia becomes indurated. In some cases there is a marked tendency to œdema. The local temperature rises at first, and in about three weeks permanently falls below normal. The muscles may undergo rapid atrophy and degeneration with multiplication of nuclei of their connective tissue, and lose their galvanic and faradaic excitability. He has never seen such acute cases of joint trouble following nerve injury as are described by Weir Mitchell, but frequently finds them the seat of chronic inflammation and fibrous ankylosis. These trophic changes he attempts to explain by the theory that section of a nerve cuts off the permanent trophic influence from the parts supplied by the nerve, but he does not make it clear why section of a certain nerve should be followed in one case by these changes and not in another, as they are by no means invariable sequelæ. The treatment consists of primary and secondary suturing of the divided nerve. The ends should be freed from the surrounding tissues and freshened if necessary. The suture should be passed completely through the nerve trunk at right angles to its long axis, about a quarter of an inch from the cut surface in each end, and in large trunks another suture may be passed at right angles to the first. These sutures should then be drawn tight until the cut surfaces are brought in contact, and then the edges of the sheath should be neatly stitched together with three or four more sutures. The suture should be of absorbable and non-irritant material. In the secondary operation, as the peripheral portion of the nerve is throughout in the same state of degeneration or regeneration, it is inexpedient to make successive sections in the hope of finding healthier tissue; a very small portion only should be removed. The end of the central portion will be found bulbous, and the section should pass through the upper portion of the bulb near the normal trunk, because at this point there are numerous young nerve fibers, and the tougher tissue of the bulb furnishes an excellent hold for the sutures. When the ends of the nerve will not come into apposition, both portions should be stretched. If this does not suffice, he favors bringing the freshened ends as close as possible and inclining them in a decalcified bone tube. If this were not practicable, he would follow Létiévant's advice and turn down a portion of the proximal end after splitting it. As to the length of time that may be required for restoration of function after the operation, nothing definite can be said. Many cases have been reported as failures or partial successes after too short a period of observation. Usually considerable improvement will appear within a year, but it may not, and yet recovery ultimately ensue. No case should be considered hopeless until after the lapse of two or three years with no signs of improvement.

Fracture of the First Rib alone.—W. Arbuthnot Lane states, ("Brit. Med. Jour.") that in fewer than two hundred subjects examined consecutively in the dissecting-room he has found undoubted fractures of the first rib alone in four cases. He found several others which he believed had been fractured, but did not include them because there might be a difference of opinion regarding them. He does not include, either, cases of fracture of the first costal cartilage. Hence he considers

himself justified in concluding that fracture of the first rib alone occurs in at least two per cent. of the class from which the dissecting-room supply is drawn.

Influence of Position in the Treatment of Thoracic Aneurysm.—Dr. Mackie reports in the "Brit. Med. Jour." two cases in which the change from the recumbent or semi-recumbent position with rest to the vertical with exercise was quickly followed by improvement in the aneurysm. The first patient had a large aneurysm apparently of the innominate artery. He had been kept in bed five months taking large doses of iodide of potassium. At the end of five months he was allowed to get up and take gentle exercise. This change was quickly followed by diminution in the size of the projecting part of the aneurysm, with increasing firmness of the consolidation, so that after a few months the patient resumed work as a hawker.

The second case was one of large thoracic aneurysm in a patient with hemiplegia. The patient was unruly, and, after three weeks in bed, with restricted diet and large doses of iodide of potassium, got out of bed and moved about as much as the hemiplegia would permit. The aneurysm immediately subsided and pulsation diminished.

Mackie suggests that these changes may have resulted from the displacement of a clot or reduced blood-pressure brought about by the vertical position and gravitation of the blood, conduced to by the diminished force of the heart's action.

Treatment of Chronic Abscess by Irrigation.—In his address before the British Medical Association, Professor Hamilton described the following method of treatment of chronic abscesses: A long, curved trocar and cannula are pushed through the abscess and made to transfix it four or five inches; a piece of rubber tubing with a single hole about the center is drawn through the cannula by a thread connected with the cutting end of the trocar; the aperture in the tube being lodged midway between the wounds, the cannula is removed. One end of the tube is attached to an irrigating can hung above the patient's bed; the other end leads to a reservoir at the bedside. By means of a stop-cock the flow can be regulated as desired, a flow escaping drop by drop being sufficient to keep the contained fluid and the wall of the abscess aseptic. Distension of the sac can also be made when desired by compressing the exit portion of the tube. He considers a solution of chloride of zinc, 1 to 200, the best antiseptic to employ, maintaining that he has obtained the best possible results from this in spite of the assertion of Koch that chloride of zinc is inert as a germicide. He believes that if it does not kill the germs it renders a surface a barren cultivation-field. After about a week the abscess wall has undergone such decided alteration that continuous irrigation is not necessary, but occasional syringing is sufficient for the perfect healing of the cavity.

Conservative Surgery in Diseases of the Foot.—Mr. Wheeler ("Dublin Journal of Med. Science") emphatically disapproves of any half-way measures when there is evident disease of the bones present, but favors their immediate excision. Before deciding on any particular operation, the stage of the disease should be considered, whether acute or chronic, progressive or quiet, diffuse or limited. Partial operations are more successful in the chronic and non-diffused cases than in others. Caries following inflammation of ligaments is more favorable for partial excisions than when it commences in the cancelli of the bones. In the large articulations partial operations are worse than useless, especially when the inflammation is diffused.

Cholecystotomy.—Mr. Thomas Jones reports in the "Med. Chronicle" a case of immensely distended gall-bladder, which he evacuated six days after a preliminary operation, in which the peritoneal cavity was opened, and the parietal peritoneum sewn to the edge of the integument. The gall-bladder contained several ounces of pus and several gall-stones. The jaundice began to fade on the third day after the evacuation, and gradually disappeared. The patient made a perfect recovery, and at no time did bile escape from the wound, so that all communication between the liver and the gall-bladder must have been cut off.

Hæmorrhoids.—Mr. Whitehead describes the following operation for the cure of hæmorrhoids in the "British Medical Journal," and reports three hundred cases so operated in. In no case did death, secondary hæmorrhage, ulceration, abscess, stricture, or incontinence of feces occur after the operation:

The patient is anæsthetized and placed in the lithotomy position, and the sphincters are paralyzed by stretching. The mucous membrane is then divided at its junction with the skin very carefully round the entire circumference of the bowel. The mucous membrane is then dissected up, and pulled down, with the attached hæmorrhoids, until the latter lie below the margin of the skin. The mucous membrane is then divided above the piles, a portion at a time, and the free margin of mucous membrane is attached immediately to the corresponding free margin of skin. In this manner a complete band of hæmorrhoidal mucous membrane is removed, and relapse is much less likely than after the use of the ligature or clamp. The after-pain is slight, and patients can resume work within a fortnight.

Treatment of Burns.—Von Mosetig-Moorhof ("Wiener med. Presse"; "Cent. f. Chir.") complains that hitherto the principles of antiseptics have been for the most part very slightly considered in the treatment of burns. He recommends the use of iodoform, and refers to the analgesic operation of that drug. The patients become more quiet a few minutes after the application, and can, after a quarter of an hour, bear moving with comparative ease. With some precaution, there is no danger of poisoning. He opens the blisters, cleanses the surface carefully with wadding dipped in a half-per-cent. solution of salt, and then covers the burned parts with several layers of iodoform gauze, first sprinkling the very badly injured places with iodoform powder. This he covers with a large piece of gutta-percha tissue, then spreads absorbent cotton over the entire surface, and applies a bandage. This dressing remains as long as cleanliness or fever does not render a change necessary, usually from one to two weeks. In case the dressing is penetrated to a great extent by the discharge, the outer layers of the dressing may alone be changed, leaving the inner untouched. Complete occlusion is impracticable on the face, so here a five-per-cent. ointment of iodoform and vaseline, covered with a mask of gutta-percha tissue, may be applied, and daily renewed.

Cerebral Abscess from Disease of the Temporal Bone.—Mr. Barker ("Lancet") takes the position that more facts may be learned regarding localization and treatment of cerebral abscesses from a careful study of the pathology of the causes which produce them than from a search for special nerve symptoms. Especially is this true in cases dependent on disease of the temporal bone, which constitute at least one third of all cases. Subdural abscesses are, as a rule, found only in very chronic cases, and are very hard to diagnose at an early stage with certainty unless by exploratory operation. His observations in the post-mortem room lead him to locate the abscess either over the roof of the tympanum close to the squamoso-petrosal suture, or on the posterior surface of the petrous bone. In some cases it extends from one to the other of these spots. In the first place it may be reached by gouging cautiously through the bone half an inch above and the same distance behind the center of the bony meatus of the ear. In the second, half an inch behind the center of the bony meatus. Both operations may be necessary to exclude subdural abscess; in that case the upper one should be performed first. Encephalic abscesses appear, broadly stated, to be produced in two ways—by a septic inflammation extending from the walls of the tympanic cavity into the substance of the brain and there setting up an inflammatory process in the white substance, or by extension from the middle ear to the dura mater and thence to the cortex of the brain through a more or less localized lepto meningitis. Both may start from the same form of inflammation of the middle ear, with or without caries of its wall and with or without subdural abscess. In the first form there may be a considerable thickness of sound cortical tissue between the surface of the brain and the abscess. The course of the veins along which the inflammation runs is liable to considerable variation, but they usually pass from about the middle of the temporo-sphenoidal lobe either into the superior petrosal sinus, or to the dura mater about the roof of the tympanum, or to the petroso-squamosal suture. Hence he concludes that these abscesses are usually in the middle or posterior part of the temporo-sphenoidal lobe, and that nine-tenths of them would be found to lie within a circle an inch and a half in diameter with its center lying an inch and a quarter above and the same distance behind the center of the bony auditory meatus.

Abscess of the cerebellum he believes to be always found at the outer and anterior part of the lateral lobe, which rests against the

petrous bone. These collections, when of ordinary size, are outside the motor areas, and press upon a part of the brain which is very tolerant of stimulation and the functions of which are still obscure. So there may be no special nerve symptoms to guide, and reliance must be placed on the other general clinical signs. Among these he calls attention to the temperature. There is first a feeling of malaise and drowsiness, with slow pulse, terminating in a sudden great rise of temperature with a single rigor. Then the temperature gradually falls to subnormal, perhaps without subsequent rise. But in his cases the peculiarity was that the subnormal temperature was most marked in the evening. This is so unlike what we are accustomed to see with pent-up septic matter in other localities, when an evening rise is characteristic, that he suggests it may have some special significance in cases of abscess of the brain. Sluggish but perfect cerebration is in some cases a very marked symptom. Optic neuritis he maintains to be valuable when taken in connection with other symptoms, but apt to be misleading if relied on to too great an extent.

Miscellany.

The late Dr. Alonzo Clark.—At a regular meeting of the Medical Board of St. Luke's Hospital, held Wednesday, September 24th, the following sentiment was ordered to be entered upon the minutes:

It has pleased the Master to call to his reward our late associate, Professor Alonzo Clark, M. D., who early in the history of St. Luke's was appointed consulting physician, and for many years was president of our medical board. We, his associates, feel that we can not allow him to depart from among men without formally recording our high appreciation of his character and example. Of impressive stature and dignified presence, he commanded attention and inspired respect. Throughout his long professional life he was a teacher of great influence, and did much to elevate and improve the standard of medical instruction. A man of broad and liberal culture, he frowned upon pretense and quackery, so that those who practiced such arts slunk away abashed from his presence. We who have known him long and well feel keenly his loss, and sympathize with the grief of those near and dear to him, who have been left to mourn, but "not as those without hope."

[Signed.]

{ GEORGE A. PETERS, M. D.,
President Med. Board,
A. BRAYTON BALL, M. D.,
ALBERT A. DAVIS, M. D.

A Volunteer Medical Corps in Philadelphia.—At a meeting held in Philadelphia last week, the work of organizing an association for rendering free medical aid to the municipality was advanced. It is announced that the organization is to include active members, constituting an emergency corps; honorary and associate members; and patronesses. Officers for the ensuing year were elected as follows: President, Dr. C. J. Cleborne; vice-president, Dr. T. H. Andrews; secretary, Dr. G. M. Bradfield; recording secretary, Dr. William Price; treasurer, Dr. T. S. K. Morton.

The Doctor's Ironing-board.—A writer in the "Boston Transcript" says: "In a good old western Massachusetts town lives a doctor who has buried four wives. When number four was a bride of a few days she went with her oldest step-daughter into the attic to find an ironing-board. Seeing a board that she thought would answer her purpose nicely, she was about to take it, when the daughter exclaimed: 'Oh, don't take that, for that is what father uses to lay out his wives on!'"

The New York Academy of Medicine.—The Section in Surgery will meet Monday evening, the 10th inst. Dr. C. A. Powers is announced to read a paper on "Fractures through the Head of the Radius."

The Section in Neurology will meet Friday evening, the 14th inst. A paper entitled "Nervous Symptoms from Ocular Defects; their Relief by Mechanical and Medicinal Measures," will be read by Dr. R. W. Anidion.

The Section in Ophthalmology and Otology will meet Monday evening, the 17th inst. Dr. J. E. Weeks will read a paper on "The Antiseptic Properties of the Topical Remedies employed in Ophthalmology and Methods of Sterilizing Instruments, tested bacteriologically."

The Section in Theory and Practice of Medicine will meet Tuesday evening, the 18th inst. Dr. George B. Fowler will read a paper on "The Detection and Significance of Traces of Sugar in the Urine, with special reference to Life Insurance."

A Sanitary Convention is to be held at Albion, Mich., on the 6th and 7th of December, under the auspices of the State Board of Health.

Ulceration of the Nasal Septum as a Cause of Epistaxis.—Dr. Beverley Robinson writes to us as follows: "I have received a letter from Dr. Samuel Lloyd, of this city, in which he calls my attention to the fact that, in my paper published in the 'New York Medical Journal' for September 24th, I failed to give credit to the late Dr. James L. Little for having first directed attention to the fact that erosion or ulcer of the septum was a frequent cause of epistaxis. Dr. Little's article, entitled 'A hitherto Undescribed Lesion as a Cause of Epistaxis, with Four Cases,' was published in the 'Hospital Gazette' for March 9, 1879. It is at once a duty and a pleasure for me to rectify a sin of omission in regard to a matter of medical history, while crediting a deceased friend and colleague with what justly belongs to him."

M. Luys's Experiments in Hypnotism, an account of which was recently given by our Paris correspondent, are made the subject of the following comments by the Paris correspondent of the "Lancet": "There can be no doubt that these experiments have been performed with the results published; and, if the experimenters think that the application of their tubes and the symptoms which follow have a relation of cause and effect, they are, of course, entitled to that belief. But in my opinion the experiments are carried on in the very worst possible conditions for a scientific test, and in many cases the observers seem not only to ignore the psychology of hysteria, but also to be unacquainted with the most elementary principles of hypnotism. I have seen the operator guilelessly whisper to a visitor that such and such an effect would be produced, apparently unaware of the fact that in the hypnotic condition there is a state of hyperacusia which makes the faintest sound audible. When the subject does not actually hear what is the name of the medicine under experiment, she is almost sure to have to go through her performance in a certain order. The experimenter generally shows the phenomena *crescendo*, from the less to the more astounding, and should there be any change in this respect to the trained subject, the expression of the face and the inflexion of the voice are very sufficient guides. There is also such a thing as auto-suggestion, and, from what I have seen, it is very often the would-be suggester who comes away from the *seance* with a delusion."

Contusion of the Abdomen with Rupture of the Intestine.—The operative treatment of traumatic peritonitis, and of the injuries which cause it, is a subject treated of in the October issue of the "American Journal of the Medical Sciences," by Dr. B. Farquhar Curtis, of New York, who has studied the general subject by the aid of a series of 44 experiments upon dogs, and an analysis of 116 cases of rupture of the intestine and of 33 cases of contusion of the abdomen terminating in recovery, with special attention to the symptoms of the first hours after injury, in the hope of rendering an early diagnosis possible, and of indicating the most promising methods of treatment. The practical results of the inquiry may be summed up as follows: The treatment of contusion of the abdomen should be purely expectant in the early stage, until symptoms of internal injury have appeared, or until the full extent of time in which they may be expected has passed. Explorative laparotomy at this time is inadmissible. When symptoms of uncontrollable internal hæmorrhage or serious visceral injury appear, laparotomy is indicated; but, when the diagnosis is uncertain, the operation should always be begun as an exploration. Great collapse is an absolute contra-indication to all operative interference. When rupture of the intestine is found, the best method of treatment is to secure the injured gut in the abdominal wound, and form an artificial anus. This can readily be cured by a subsequent operation when the patient has recovered his strength.

Neuralgic Headaches with Apparitions of Unusual Character.—

Dr. S. Weir Mitchell reports in the October number of the "American Journal of the Medical Sciences" five peculiar cases of migraine which must be excessively rare, since with the largest opportunities he has seen but four examples. They are so interesting that they possess a value which sets them quite above the position of mere rarities. In the cases he describes, the ordinary subjective images of zigzag lines or rotating wheels were replaced by more definite shapes, so as sometimes to induce the belief for a time, on the part of the patient, that a ghost had been seen. In two cases the vision came as the only visual phenomenon of severe headaches. Now and then the apparitions were various, at times following the common zigzags, and at others occurring in the intervals of a succession of exasperating headaches.

The Health of the State of New York.—According to the State

Board of Health's "Monthly Bulletin," for August, the whole number of deaths reported was 9,042, including 2,950 from zymotic disease. Each thousand of the whole number of deaths included 238.70 from diarrhoeal diseases, 21.46 from typhoid fever, 33.42 from diphtheria, and 102.80 from consumption. There were nearly 2,500 fewer deaths than in July.

Government Health Reports.—By direction of the Secretary of the

Treasury, Dr. John B. Hamilton, Surgeon-General of the Marine-Hospital Service, has issued the following abstract of sanitary reports received during the week ending September 29th:

England and Wales.—The deaths registered in twenty-eight great towns of England and Wales during the week ending September 10th corresponded to an annual rate of 18.8 in a thousand of the aggregate population, which is estimated at 9,244,099. The lowest rate was recorded in Derby, viz., 12.2, and the highest in Preston, viz., 29.1 in a thousand. Small-pox caused 3 deaths in Sheffield and 1 in Bristol.

London.—One thousand three hundred and forty-nine deaths were registered during the week ending September 10th, including 15 from measles, 53 from scarlet fever, 18 from diphtheria, 50 from whooping-cough, 2 from typhus, 17 from enteric fever, 107 from diarrhoea and dysentery, and 1 from cholera. There were 160 deaths from diseases of the respiratory organs. Different forms of violence caused 59 deaths, and 6 suicides were registered. The deaths from all causes corresponded to an annual rate of 16.7 in a thousand. In greater London 1,637 deaths were registered, corresponding to an annual rate of 15.8 in a thousand of the population. In the "outer ring" 33 deaths from diarrhoea and 10 from diphtheria were registered.

Ireland.—The average annual death rate represented by the deaths registered during the week ending September 10th in the sixteen principal town districts of Ireland was 23.8 in a thousand of the population. The lowest rate was recorded in Kilkenny, viz., 8.5, and the highest in Galway, viz., 40.3 in a thousand.

Dublin.—One hundred and eighty-nine deaths were registered during the week ending September 10th, including 17 from measles, 3 from whooping-cough, 4 from scarlet fever, 2 from typhus, 5 from enteric fever, 34 from diarrhoea, and 2 from dysentery. Diseases of the respiratory organs caused 17 deaths. Two accidental deaths were registered, and in 28 instances the causes of death were uncertified. The deaths from all causes corresponded to an annual rate of 27.9 in a thousand.

Scotland.—The deaths registered in eight principal towns during the week ending September 10th corresponded to an annual rate of 19.1 in a thousand of the population, which is estimated at 1,299,000. The lowest mortality was recorded in Paisley, viz., 16.2, and the highest in Greenock, viz., 26 in a thousand. The aggregate number of deaths registered from all causes was 484, including 11 from scarlet fever, 5 from diphtheria, 40 from whooping-cough, 11 from fever, and 45 from diarrhoea.

Germany.—The deaths registered in fifty-one cities of Germany, having an aggregate population of 6,654,555, during the week ending September 3d, corresponded to an annual rate of 25.2 in a thousand. The lowest rate was recorded in Wiesbaden, viz., 10.9, and the highest in Chemnitz and Münster, viz., 39.1.

Montevideo.—Eight hundred and four deaths were registered during the months of May and June, 1887, including 74 from small-pox, 143

from diphtheritic croup, 27 from enteric fever, 2 from whooping-cough, and 1 from measles.

Buenos Ayres.—One thousand one hundred and forty-six deaths were registered during the month of June, 1887, including 226 from small-pox, 22 from enteric fever, 6 from scarlet fever, and 84 from diphtheria.

Malta.—The United States consul, in his dispatch dated September 1st, with reference to cholera, states that "the situation here has not altered materially, although matters in general have assumed a brighter aspect, so that there is ground to expect that the health of this population will soon resume its normal condition. Sixty-two cases and 19 deaths have been reported since August 22d, and 17 deaths have occurred from cases previously reported."

MORTALITY TABLE, FOREIGN CITIES.

CITIES.	Week ending	Estimated population	Total deaths from all causes.	DEATHS FROM—							
				Cholera.	Yellow fever.	Small-pox.	Typhus fever.	Enteric fever.	Scarlet fever.	Diphtheria.	Others.
Glasgow	Septemb'r 10.	545,678	195	..	..	..	..	3	3	2	..
Warsaw	August 27.	439,174	240	..	..	17	..	..	..	..	..
Warsaw	September 3.	439,174	270	..	..	25	..	..	10	2	..
Amsterdam	Septemb'r 10.	378,686	143	..	..	..	..	12	1	1	..
Rome	July 16.	372,779	191	..	..	3	..	..	1	..	..
Rome	July 23.	372,779	186	..	..	4	..	12	4	1	..
Rio de Janeiro	August 13.	300,000	347	..	133	..	..	..	..	1	..
Rio de Janeiro	August 20.	300,000	324	1	131	1	..	12	..	1	..
Munich	August 27.	269,000	164	..	..	..	..	1	..	3	..
Palermo	Septemb'r 11.	250,000	148	47	..	..	..	..	6	3	..
Edinburgh	September 3.	258,629	87	..	..	..	..	..	3	..	..
Belfast	Septemb'r 10.	224,422	88	..	..	..	..	1	1	..	..
Havana	Septemb'r 15.	208,000	200	11	62	..	..	6	..	..	..
Genoa	Septemb'r 10.	179,441	63	..	..	1	..	..	..	1	..
Leipzig	Septemb'r 10.	170,000	86	..	..	..	..	..	..	7	..
Trieste	August 27.	150,157	89	..	..	5	..	..	..	2	..
Trieste	September 3.	150,157	99	..	..	15	..	..	5	5	..
Toronto	Septemb'r 17.	120,000	35	..	..	..	..	1	..	3	..
Bremen	September 3.	119,000	45	..	..	..	..	..	..	1	..
Havre	Septemb'r 10.	112,074	118	..	2	..	..	29	..	..	..
Pernambuco	August 3.	111,000	44	..	..	2	..	..	..	..	..
Reims	September 3.	97,903	70	..	..	..	..	..	..	2	..
Leith	September 3.	72,397	21	..	..	..	..	..	1	..	..
Merida	September 6.	50,000	51	1	..	..	..	..	..	..	..
Maracaibo	August 20.	40,000	18	1	..	..	..	..	..	..	..
Maracaibo	August 27.	40,000	19	..	..	..	..	1	..	..	..
Cienfuegos	Septemb'r 12.	35,464	24	5	3	..	..	..	..	..	..
Guayaquil	September 1.	30,000	13	..	10	..	..	..	..	..	..
Guayaquil	September 6.	30,000	74	..	26	..	..	..	..	..	..
Gibraltar	September 4.	23,631	9	..	..	..	..	2	..	..	..

UNITED STATES.

Key West, Fla.—Yellow Fever.—Two new cases and 1 death are reported for the week ending September 28th.

New York Quarantine.—The health officer at New York reports 6 cases and 5 deaths from Asiatic cholera up to date among the immigrants from the steamship *Alasia*.

THERAPEUTICAL NOTES.

The Preparation of Aseptic Sponges.—The "Lancet" quotes the following from the "Vereinsblatt pfälzischer Aerzte": Sponges of medium porosity are the most easily treated, those in which the pores are too fine being freed with difficulty from sand and shell lime. They are well dried by heat, and are freed from coarse sand by being beaten with canes, after which they are placed upon a coarse hairsieve and washed until the water runs off absolutely clear and free from sediment. They are then subjected to the action of a solution of potassium permanganate (1 to 1,000) for about two hours, and enough crude hydrochloric acid is added to cause the violet color to disappear entirely. Then they are washed repeatedly, until the water used no longer reddens litmus paper, well dried, and placed in a solution of corrosive sublimate (1 to 1,000), where they are left for ten or twelve hours. The corrosive sublimate is removed by occasional washings with distilled water, and the sponges are dried in a room free from dust (or, preferably, in a drying press), until loss of weight ceases to take place. It is indispensable to preserve them in tightly closed metal or glass receptacles.

Papayotin in Fissures of the Tongue.—Schwimmer ("Wiener med. Woch.," "Nouv. remèdes") has succeeded in the treatment of fissures of the tongue with papayotin after failure with chromic acid, iodotom, and nitrate of silver. He used a solution of from 1 to 2 parts of

papayotin in 10 parts each of glycerin and distilled water, applied five or six times a day, the fissure being previously well dried. No maceration takes place, but the pain is stopped and the epithelium renewed. The treatment was used in twenty-five cases, all of which were completely cured, except one, which was of a syphilitic nature, and in that case, although antisiphilitic treatment had failed, amelioration followed the use of papayotin.

Antipyrine in Articular Rheumatism.—Bernheim and Simon ("Rev. méd. de l'Est"; "Lyon méd.") report the results observed by them in thirty-four cases. The good effect was undoubted in twenty-eight cases, while in six there was little if any effect. Of nineteen cases of acute or subacute rheumatism, the remedy was effective in eighteen. Of twelve cases in which there was no fever, incomplete or doubtful success was recorded in two, both of which were chronic. Of two cases of gonorrhoeal rheumatism, amelioration was observed in one, and absolutely no effect in the other.

An Emulsion of Cod-liver Oil.—The British Pharmaceutical Conference's "Formulary of Unofficial Remedies" ("Brit. and Colon. Druggist") gives the following formula:

Cod-liver oil.....	40 fluidounces;
Powdered tragacanth.....	200 grains;
Tincture of benzoin, {	
Spirit of chloroform, { each.....	1 fluidounce;
Glycerin, {	
Oil of cassia.....	2 fluidrachms;
Distilled water.....	a sufficient quantity.

Place the oil in a dry Winchester quart, and add the tragacanth, tincture of benzoin, and spirit of chloroform, previously well mixed; agitate briskly for a minute; then add all at once a pint of distilled water, and agitate as before; lastly, add the essential oil, the glycerin, and enough distilled water to make four pints. Shake vigorously for a few minutes. The dose is from 2 to 8 fluidrachms.

Bland's Pills.—The same formulary (*ibid.*) gives this formula:

Sulphate of iron.....	60 grains;
Carbonate of potassium.....	36 "
Powdered sugar.....	12 "
Powdered tragacanth.....	4 "
Glycerin, {	
Distilled water, { each.....	2½ minims.

Reduce the sulphate of iron to a fine powder, add the sugar and tragacanth, and mix intimately. Reduce the carbonate of potassium to a fine powder in another mortar, and thoroughly incorporate the glycerin and water with it. Transfer this to the mortar containing the sulphate of iron, beat thoroughly until the mass becomes green and assumes a soft pilular consistence, and divide into twenty-four pills, each of which will contain one grain of ferrous carbonate. Dose, from one to three pills.

Ammonio-ferrous Sulphate.—Chicandard ("Lyon méd.") suggests the use of this salt in medicine, for the reason that it is very stable, whereas the other ferrous salts speedily undergo chemical change on exposure to the air. The ammonio-ferrous sulphate, or sulphate of protoxide of iron and ammonium, $\text{Fe}(\text{NH}_4)_2(\text{SO}_4)_2 + 6\text{H}_2\text{O}$, contains one seventh of its weight of metallic iron. Seventeen parts will dissolve in a hundred parts of distilled water. Its taste is astringent, but not so decidedly so as that of ferrous sulphate.

Poisoning with Cannabis Indica.—Schuschny ("Orvosi Hetilap"; "Pester med. Presse"; "Ctbl. f. klin. Med.") calls attention anew to the lack of uniformity in preparations of Indian hemp, and reports the case of a woman, twenty-two years old, with spasm of the bladder, who, after having taken about three grains and a half of the extract (in three doses two hours apart) showed the following symptoms: Great anxiety, dizziness, a thready pulse (132 to the minute), great sweating, and dilatation of the pupils. The intelligence was not affected. The symptoms lasted about eight hours, and were not followed by either the delightful sensations or the polyuria sometimes observed.

Oil of Sassafras to Mask the Odor of Iodoform is recommended by C. E. Dodsley ("Brit. and Colon. Druggist"). "The addition of four drops to the ounce of iodoform," he says, "completely covers the disagreeable odor so characteristic, nor is the presence of the oil rendered evident to the most sensitive olfactory organs."

Chloral Hydrocyanide is recommended by Hermes ("Inaug. Dissert.," Berlin, 1887; "Med. Chron.") as a substitute for hydrocyanic acid, on account of its stability and constancy of composition; 6.46 parts of the compound are found to correspond to 1 part of anhydrous hydrocyanic acid.

ANSWERS TO CORRESPONDENTS.

No. 51.—There are two different succinates of iron. The one that has been recommended as a solvent of gall-stones is the hydrated succinate of the peroxide of iron. A teaspoonful of a solution of three parts of the salt in thirteen parts of water is given three times a day.

No. 52.—The subject is more fully treated of in Wagner's "Manual of General Pathology" than in any other recent work with which we are acquainted.

No. 53.—Raynaud's disease was described by Raynaud in a Paris thesis entitled "De l'asphyxie locale et de la gangrène symétrique des extrémités," published in 1862.

No. 54.—The term micro-aspirator has been applied to an apparatus for sucking air through a filtering medium, for the purpose of separating microscopical substances contained in the air with a view to their examination.

To Contributors and Correspondents.—The attention of all who purpose favoring us with communications is respectfully called to the following:

Authors of articles intended for publication under the head of "original contributions" are respectfully informed that, in accepting such articles, we always do so with the understanding that the following conditions are to be observed: (1) when a manuscript is sent to this journal, a similar manuscript or any abstract thereof must not be or have been sent to any other periodical, unless we are specially notified of the fact at the time the article is sent to us; (2) accepted articles are subject to the customary rules of editorial revision, and will be published as promptly as our other engagements will admit of—we can not engage to publish an article in any specified issue; (3) any conditions which an author wishes complied with must be distinctly stated in a communication accompanying the manuscript, and no new conditions can be considered after the manuscript has been put into the type-setters' hands. We are often constrained to decline articles which, although they may be creditable to their authors, are not suitable for publication in this journal, either because they are too long, or are loaded with tabular matter or prolix histories of cases, or deal with subjects of little interest to the medical profession at large. We can not enter into any correspondence concerning our reasons for declining an article.

All letters, whether intended for publication or not, must contain the writer's name and address, not necessarily for publication. No attention will be paid to anonymous communications. Hereafter, correspondents asking for information that we are capable of giving, and that can properly be given in this journal, will be answered by number, a private communication being previously sent to each correspondent informing him under what number the answer to his note is to be looked for. All communications not intended for publication under the author's name are treated as strictly confidential. We can not give advice to laymen as to particular cases or recommend individual practitioners.

Secretaries of medical societies will confer a favor by keeping us informed of the dates of their societies' regular meetings. Brief notifications of matters that are expected to come up at particular meetings will be inserted when they are received in time.

Newspapers and other publications containing matter which the person sending them desires to bring to our notice should be marked. Members of the profession who send us information of matters of interest to our readers will be considered as doing them and us a favor, and, if the space at our command admits of it, we shall take pleasure in inserting the substance of such communications.

All communications intended for the editor should be addressed to him in care of the publishers.

All communications relating to the business of the journal should be addressed to the publishers.

Original Communications.

THE CAUSATION OF PNEUMONIA.*

By HENRY B. BAKER, M. D.,
LANSING, MICH.

THE reason for my coming before you is, I suppose, that, having collected statistics of sickness and of deaths over wide areas and over considerable periods of time, it is desirable to learn how the results of the tabulation of such statistics, and of certain lines of reasoning based upon such statistics, agree with evidences from other sources concerning which members of this society are best qualified to judge. At the last meeting of the State board to which I belong leave of absence was voted me for this purpose, and, in making the motion, a fellow-member remarked that it was understood that, in coming here to present this subject before you, I should learn more than any of you, and it would be my duty to communicate what I learned here to as many as possible in our own State for the public good. So I trust that members of this society will express themselves freely on the subject of the causation of pneumonia. As I understand it, truth is the object of our search.

In Michigan rather more than one hundred representative physicians, in active general practice in different parts of the State, send to the office of the State Board of Health, regularly after the close of each week, a report of the sickness which has come under their observation during the week just passed. This is a system of "collective investigation of disease" which, in my opinion, is worthy to rank as scientific, because it is a report so soon after the occurrence of the facts reported that there is a probability that not many of the facts will be omitted.

A corps of meteorological observers supply reports of tri-daily observations in different parts of the State. Both sets of observations, of sickness and of the weather, have been kept up for several years, so that the statistics cover so many reports that all minor errors—such as those of diagnosis, of omissions, etc.—tend to balance each other, and curves made from several years' observations are reasonably true and regular curves, containing in themselves evidences of their probable truth.

The reports of sickness mention the diseases which were observed during the week, *old* cases as well as new cases; therefore a curve based upon the reports and representing the rise and fall of any given disease should, when compared with a curve representing the cause of that disease, be found to follow later in time, lagging behind the curve representing the cause of the disease by a time equal, at least, to the average duration of the disease. Accompanying this paper are tables corresponding to the diagrams presented, exhibiting by figures in tabular form the same facts which are graphically shown in the diagrams.

Let me ask your attention now to Diagram No. 1 in the series which has been distributed to you. You will see

that it includes statistics of eight years, of over thirty thousand weekly reports of sickness, and over one hundred and fifty thousand observations of the atmospheric temperature. You will see that the curve representing temperature is quite regular, that the same may be said of the curve representing sickness, and that this last follows the other curve with such uniformity as to carry conviction that there is some necessary relation between them. Upon the subject of the average duration of pneumonia, fatal and non-fatal, I should be glad to hear an expression from members of this society. I believe the average duration is more than two weeks. In my diagrams the smallest division is one month, and the line representing sickness from pneumonia follows uniformly one month later than that representing temperature. It follows in such an unmistakable manner that I think it certain that there is a relation of cause and effect. Having reached this conclusion, it was desirable to learn whether the same relation held in other parts of the world. Diagram No. 2 shows that it held with respect to that portion of the United States over which the United States armies were scattered during the three years 1862, 1863, and 1864; that diagram includes the statistics of nearly fifty thousand (49,487) cases of sickness from pneumonia. Diagram No. 3 shows that the eleven thousand five hundred and ninety-six deaths from pneumonia in the United States armies during those three years also sustained a similar relation to the atmospheric temperature, although the average duration of the fatal cases would seem to have been longer than the non-fatal cases, the curve for deaths being *two* months later than the curve for temperature (indicating that the average duration of the fatal cases was more than forty-five days). Diagram No. 4 shows that the one hundred and fourteen thousand (114,119) deaths from pneumonia in London, England, in the thirty years 1845 to 1874 sustained a similar relation to the atmospheric temperature, although there the deaths in summer follow only one month later than the temperature, and in winter the greatest number of deaths seems to precede the time of greatest cold. I think it probable that, if we could have all the facts, there would not be such a fall of the curve in the earlier months, and a tilting up of the curve of the deaths in the later months of the year, as is shown in my diagram. Diagram No. 5 shows that sickness from "respiratory disease" in the native troops in India in 1883 sustained a similar relation to atmospheric temperature; but these statistics include too few facts to make a very steady curve. I have studied the statistics in India in order to learn whether in tropical regions the same law holds which I have found to hold in temperate regions, and it seems to hold true there as elsewhere. Pneumonia causes comparatively little sickness among the troops in India, and with respect to this disease the climate is more favorable to the European troops than to the native troops; but what pneumonia they do have there seems to follow after the curve for atmospheric temperature.

Diagram No. 6 shows that in Michigan bronchitis sustains relations to atmospheric temperature similar to those of pneumonia. I have found that this is true in other parts of the world. This has a bearing upon the alleged bacter-

* Read before the Brooklyn Pathological Society, February 24, 1887.

rial origin of pneumonia, because, if pneumonia is caused by a micro-organism or germ, then the germ is certainly controlled by the atmospheric temperature, and, inasmuch as the curve for bronchitis is practically the same as the curve for pneumonia, bronchitis should be caused by the same germ. I do not maintain that the germ has very much to do with the causation of either of these diseases.

Dr. A. Seibert, of New York, has for several years been studying the relations of pneumonia and of bronchitis to weather, and he has found that both diseases sustain relations to atmospheric temperature similar to those shown in my diagrams. His diagrams included statistics in New York and in Germany. He has thought that relative humidity has causal relations to those diseases, but I find no such relation. Diagram No. 8 shows that in Michigan the pneumonia follows such a long time after the change in relative humidity that it does not seem probable that the influence of relative humidity can be very great. Relative humidity, as you know, gives no statement of the absolute quantity of vapor of water in the air; it is simply the per cent. of saturation of the air with vapor of water, and the quantity required for saturation differs for each degree of temperature. When the meteorologist speaks of humidity, he means relative humidity, and, unfortunately, he has impressed this habit upon physicians and biologists who have studied the ætiology of diseases. But the human lungs during life maintain a nearly constant temperature and humidity, so that when air enters the lungs cold and, consequently, dry, its temperature and humidity are immediately increased, and when that air is exhaled it is at the nearly uniform temperature of 98° F., and nearly saturated with vapor of water at that temperature. That is to say, each cubic foot of air exhaled will then contain about eighteen and a half (18.69) grains of vapor of water. The quantity of water exhaled in excess of what is inhaled depends, therefore, upon the absolute humidity of the atmosphere, so we should expect absolute humidity of the atmosphere to have close relations to affections of the lungs and air-passages. It has close relations. The quantity of water which air can contain increases with the temperature of the air, and in Michigan the curve for absolute humidity is almost precisely the same as the curve for temperature; so, as I have not many diagrams here showing the absolute humidity, I will ask you to study Diagram No. 1, and consider that that shows approximately the relation of sickness from pneumonia to absolute humidity of the atmosphere.

Considering, as I do, that it is now proved that in any given place the average sickness from pneumonia is quantitatively related to the atmospheric temperature and absolute humidity, and more dependent upon those conditions than upon any other known condition, is it possible to explain why this is so, or, in other words, how pneumonia is caused, or its cause controlled by conditions of the air inhaled? From time immemorial, exposure to sudden changes of temperature has been an alleged cause of pneumonia. For a time it seemed to me that the evidence of our sickness statistics was not in accordance with this general belief. There is most pneumonia in those months when the average

daily range of temperature is smallest, and least pneumonia when the average daily range of temperature is greatest. But a little reasoning makes the evidence harmonize with the common belief. There is least pneumonia following the warmest weather, and there is most pneumonia following the coldest weather; and during the coldest weather is really the time when most sudden changes occur to mankind, because man is not continuously exposed to outdoor conditions; and the change from indoor to outdoor conditions, or the reverse, in the coldest weather is vastly greater and incomparably more sudden than the daily range of temperature out of doors at any season of the year. That the common belief is correct, therefore, there can be no further question.

The manner in which such sudden changes tend to cause pneumonia has gradually become plainer, until to-day there does not seem to be much mystery about it. For several years I have been accustomed to consider that the condition of the lungs and air-passages subjected to such sudden changes can be appreciated by reflecting upon the condition of the cheek of a person who has been exposed to intense cold out of doors, and then allowed to remain in a warm room. Under those circumstances the congestion due to reaction from cold is frequently intense; there is sometimes nearly complete paralysis of the superficial blood-vessels. Of course, something more than congestion, and different from stagnation of blood in the lungs, is found in pneumonia; but that reaction from exposure to cold is sometimes a factor in the causation of pneumonia seems to me to be certain. Professor Alexander B. Shaw, M. D., of St. Louis, Mo., is inclined to go a step further, and to believe that pneumonia may be caused by perturbation of the vaso-motor center in the medulla by impressions through nerves connecting this center with the stomach. He relates cases, and quotes M. Foster as saying that, "as a matter of fact, we find that just as the heart is affected, either in the way of inhibition or of acceleration, by influences reaching it along certain nerves, so the action of the vaso-motor center may be exalted or depressed by nervous influences reaching it from various sentient surfaces; that the exalting or depressing influence thus exercised may be brought to bear either on the whole vascular system or a particular vascular area." *

Dr. Shaw says: "Does not exposure to great extremes of temperature cause pneumonia by inducing neuro-paralytic hyperæmia in a circumscribed area? Does not the fact that, as a rule, but a portion of one lung [is affected], and that portion a complete lobe or lobes, harmonize more perfectly with the theory that the disease is preceded by perturbation of the particular vaso-motor center or portion of the great vaso-motor center presiding over the nutrition of the area involved, than it does with the doctrine that pneumonia is caused by a microbe?" †

Ozone and Pneumonia.—Some years ago the late Dr. Henry Day, of Stafford, England, published his researches on the causation of pneumonia and bronchitis by ozone

* "St. Louis Courier of Med.," July, 1886, pp. 24, 25, 27, 28.

† *Ibid.*

artificially prepared. He stated that dogs caused to inhale ozone contracted bronchitis, and that, if the inhalation was prolonged, pneumonia resulted. I do not know that his experiments have been repeated by others, but it is interesting to note that, in Michigan, the curve for atmospheric ozone by months is almost the same as the curve for pneumonia. The difficulty, however, in regarding ozone as a cause of pneumonia lies in the fact that the times of most and of least pneumonia do not follow, but slightly precede the times of most and of least ozone, so that, although aside from this there is close correspondence, yet in this respect the relation is not quantitative. Were it not for the direct experiments by Dr. Day, and the fact that ozone is a powerful irritant of the air-passages, the most probable explanation would seem to be that the curves for ozone and pneumonia are similar because both are largely dependent upon the atmospheric temperature. Yet there is one other reason for a belief that ozone may be a factor not only in the production of pneumonia, but of all diseases in which there is an excess of fibrin in the blood. Ozone is a powerful oxidizer. Inhalation of ozone may favor a change of the albuminous to fibrinous constituents of the blood. Possibly the comparative absence of ozone from cities may account for the smaller death-rate from pneumonia in cities than in country districts, but it seems more probable that it is because of less exposure to cold outdoor air.

Range of Atmospheric Pressure.—Diagram No. 7 shows that there is a close relation between the average daily range of atmospheric pressure and sickness from pneumonia; the greater the range of pressure, the more pneumonia, with a slight discrepancy in the month of February, in which month the range is more closely associated with the wind than with the temperature. Perturbations of atmospheric pressure may have to do with the causation of pneumonia, but I conclude that this is not the controlling cause, for, if it were, the curve for pneumonia would follow the curve for range of pressure invariably, instead of more closely approaching the curve for temperature. Waves of atmospheric pressure are, in a general way, caused by differences in temperatures; they seem to be greatest, or at least heaviest, when the air is heaviest—that is, coldest and driest.

Absolute Humidity and Pneumonia.—I come now to the explanation of what I consider the most important factors in the causation of pneumonia. Of those who master the evidence sought to be concentrated in Diagram No. 1, in the pamphlet before you,* I think few will dispute that, in some way, directly or indirectly, pneumonia is quantitatively related to temperature of the atmosphere. It seems to be more closely related to temperature than to any other known meteorological condition, unless it is absolute humidity, the curve for which is about the same as for temperature. The direct effects of cold, and reaction from cold, seem to be insufficient to account for all the phenomena of pneumonia. The closest indirect relation is, as stated, through the absolute humidity of the atmosphere, and I believe it is through the absolute humidity of the atmosphere

that temperature controls the amount of pneumonia, as follows: Air expired from the human lungs is nearly saturated with vapor of water at a temperature of about 98°. Each cubic foot of such air contains nearly nineteen grains of vapor. The quantity of vapor exhaled is at all times greater than the quantity inhaled; but, when the air is very cold and dry, the quantity exhaled is excessive, as may be seen when we reflect that a cubic foot of air at zero, Fahr., can contain only half a grain of vapor, and at 32° only two grains, while at 70° F. it may contain about eight grains; so that when air at zero is inhaled, each cubic foot of it, when exhaled, takes from the air-passages about eighteen grains of vapor of water. In passing off, this vapor leaves in the air-cells and air-passages the non-volatile salts, such as chloride of sodium. When the air inhaled is excessively dry, as it always is when excessively cold, this salt collects in the air-cells of the lungs in considerable proportions. This fact may not be generally understood, but it follows almost necessarily, in accordance with well-known laws, from the conditions I have stated, and it has been experimentally proved to be true in pneumonia by Lionel S. Beale, of London, England, as long ago as 1852, that the chlorides collect in the lungs in pneumonia. Mr. Beale's investigations were undertaken to verify the researches of Redtenbacher, who in 1850 proved that during the onward progress of pneumonia the chlorides were absent from the urine. Mr. Beale also sought to learn "the channel through which the chloride of sodium was eliminated," "or the locality in which it was stored"; also "with the hope of being able to trace the connection between the absence of the salt from the urine and the occurrence of hepatization."*

On this last point I think Dr. Beale was not successful. His explanation that it was through the selective affinity connected with new cell formation has not, I think, been accepted; but he proved that the salt collected in the lung in pneumonia. In one case he also found sugar. My explanation of the connection between the fact of the presence of the chlorides in the lung and the coincident hepatization I am able to quote almost entirely from a standard textbook on physiology, as follows: "Speaking of sodium chloride," Professor Dalton says, "one of the most important characters of this salt in the living body is undoubtedly its property of regulating the phenomena of endosmosis and exosmosis, or the translocation of nutritive fluids through the organic membranes."†

Again he says: "There are even some cases in which endosmosis takes place without being accompanied by exosmosis. This occurs when water and albumin are employed as the two liquids, for while water readily passes inward through the animal membrane, the albumin does not pass out."‡

"But a substance like albumin, which will not pass out by exosmosis toward pure water, may traverse a membrane which is in contact with a solution of salt. This has been

* The pamphlet alluded to consisted of eight diagrams, accurately drawn to scale, graphically representing the evidences contained in the eight tables printed herewith.

* "Trans. of the Royal Medical and Chirurgical Soc.," xxxv, 1852, p. 326.

† "Treatise on Human Physiology," sixth edition, Philadelphia, 1875, p. 47.

‡ The same, p. 365.

shown to be the case with the shell-membrane of the fowl's egg, which, if immersed in a watery solution containing from three to four per cent. of sodium chloride, will allow the escape of a small proportion of albumin. Furthermore, if a mixed solution of albumin and salt be placed in a dialysing apparatus, the salt alone will at first pass outward, leaving the albumin; but after the exterior liquid has become perceptibly saline, the albumin also begins to pass in appreciable quantity."*

When the atmosphere is cold and dry, and a large amount of vapor is being taken from the air-passages, and the non-volatile chlorides are consequently collecting in the air-cells, the conditions are such as Professor Dalton describes as favorable to the exosmosis of albumin, and we would expect the exudation of such constituents of the blood out toward the salt solution in the air-cells. My statistics prove that pneumonia is quantitatively related to the inhalation of cold, dry air. Exudation of plastic material into the air-cells is the most important phenomenon in pneumonia. The chain of evidence as to its causation now seems to be about complete. This seems all the more important, because, even if one accepts the evidence that micro-organisms are uniformly present in pneumonia, there is in that direction no explanation of what causes the exudation. When shown the evidence which I have collected, proving that the average amount of pneumonia is absolutely proportional to the temperature and absolute humidity of the atmosphere, a friend said: "That shows that the reproduction of the pneumococcus is controlled by the temperature"; but this can not be the true explanation, because the temperature of the air-passages is tolerably constant, and probably does not differ much at different seasons of the year. The explanation seems to be that the pneumococcus is generally if not uniformly present, and that after the exudation has been caused, in the manner which I have pointed out, the pneumococcus is able to reproduce itself in the exudate.

Possibly the characters of the different micro-organisms which may be able to multiply in the pulmonary exudate may have a bearing upon the character of the pneumonia; this conjecture is in accordance with what is known of micro-organisms. But I leave this subject of the modifications of pneumonia, believing that it is important first to have a clear idea of the manner in which is brought about the exudation—the most important phenomenon in croupous pneumonia. As to catarrhal pneumonia and bronchitis, the irritation caused by the collection of non-volatile salts, left by the excessive evaporation of vapor, seems to me a sufficient explanation of their ætiology; but, in order to come to this conclusion, I think one must first be convinced that in some way these diseases are caused by the inhalation of cold, dry air.

Certain facts in statistics which I can not elaborate at this time seem to me to indicate that, in order to cause the exudation which occurs in pneumonia, there is required a greater concentration of the non-volatile salts than is required to cause bronchitis; but of this the evidence which I put before you may not be conclusive; although by com-

paring Diagram No. 1 with Diagram No. 6 you will see that bronchitis increases more rapidly than pneumonia does when cold weather comes on in the autumn, and it also continues a little longer in the spring. You will see also that of all reports received throughout the year, only an average of about 40 per cent. state that pneumonia is present, while about 60 per cent. state that bronchitis is present, showing a much greater prevalence of bronchitis than of pneumonia under circumstances precisely the same.

It has been suggested that experiments on animals might properly supplement these statistics of thousands of experiences of human beings; and to certain classes of minds, perhaps to most people, that kind of evidence would be more conclusive. I trust that such experiments will be made, and I look forward to the gaining, in that way and by other methods, of much valuable information as to what constitutes the predisposing cause or causes of pneumonia. Is it not in part due to diet? Is not this the reason why there is so little sickness from pneumonia in excessively cold climates where salt is not required for the preservation of food; and why there is such a great amount of pneumonia in some warm climates, where most of the food is salted in order to preserve it?

TABLE I.

By months for a period of eight years, 1877-'84, the relation between sickness from pneumonia and the average temperature of the atmosphere in Michigan.

	Sickness fr'm pneu- monia. (a)	Atmos- pheric t'm- perature. (b)		Sickness fr'm pneu- monia.	Atmos- pheric t'm- perature.
	Cases.	Degrees.		Cases.	Degrees.
Average	39	46.74	July	18	70.68
January	62	21.43	August	14	68.85
February	66	25.60	September	18	62.05
March	62	31.04	October	23	51.34
April	56	44.48	November	35	35.99
May	42	56.60	December	48	27.25
June	27	65.54			

(a) Indicating what per cent. of all reports received stated the presence of pneumonia then under the observation of the physicians reporting.

(b) The average temperature is for groups of several stations in different parts of the State. It is stated in degrees Fahr. Over 30,000 weekly reports of sickness and over 150,000 observations of the atmospheric temperature are represented in this table.

TABLE II.

By months (made of uniform length—thirty days each) for the three years, 1862-'64, the relation of sickness from pneumonia in the United States armies to the average atmospheric temperature.

	Sickness from pneu- monia. (a)	Atmos- pheric tem- perature. (b)		Sickness from pneu- monia.	Atmos- pheric t'm- perature.
	Cases.	Degrees.		Cases.	Degrees.
Average	229	56	July	85	78
January	427	36	August	74	76
February	447	38	September . .	77	69
March	415	45	October	139	56
April	324	54	November . . .	233	46
May	176	66	December . . .	281	38
June	107	74			

(a) Average number of cases sick with pneumonia per 10,000 soldiers ("mean strength") of the white troops.

(b) The meteorological data for just the years 1862-'64 not being obtainable, the average temperature for a long series of years (three to thirty) at several representative stations is used instead.

* "Treatise on Human Physiology," p. 363.

TABLE III.

By months (all made thirty days) for the three years 1862-'64, the relation of deaths from pneumonia in 100,000 white troops in the United States armies to the average atmospheric temperature.

	Average number of deaths from pneumonia. (a)	Average atmospheric temperature. (b)		Average number of deaths from pneumonia.	Average atmospheric temperature.
Average . . .	54	56°	July	23	78°
January . . .	97	36	August . . .	16	76
February . . .	105	38	September . .	13	69
March	110	45	October . . .	18	56
April	86	54	November . .	47	46
May	42	66	December . .	59	38
June	26	74			

(a) Number of deaths per 100,000 ("mean strength") white troops.

(b) The meteorological data for just the years 1862-'64 not being obtainable, the average temperature for a long series of years (three to thirty) at several representative stations is used instead.

TABLE IV.

By months for a period of thirty years, the relation of average deaths per week from pneumonia in London, England, to the average atmospheric temperature.

	Average deaths per week from pneumonia	Average atmospheric temperature.		Average deaths per week from pneumonia.	Average atmospheric temperature.
Average . . .	73	51°	July	42	64.2°
January . . .	98	38.6	August	37	63.5
February . . .	86	40.1	September . .	43	59.1
March	91	42.2	October	66	52.2
April	82	48.6	November . . .	98	44.2
May	67	52.7	December . . .	108	40.5
June	53	60.0			

TABLE V.

By months, the relation of sickness from respiratory disease in the native troops to the average atmospheric temperature, at six stations in India, during the year 1883.

	Respiratory disease. (a)	Average temperature. (b)		Respiratory disease.	Average temperature.
Average . . .	43	78°	July	24	84°
January . . .	111	67	August	20	85
February . . .	73	69	September . .	21	82
March	47	77	October	31	79
April	32	86	November . . .	43	71
May	28	90	December . . .	58	64
June	23	87			

(a) Cases of sickness from respiratory disease per 10,000 native troops—months corrected to uniform length.

(b) At six stations representing approximately the latitude and longitude of the stations of those troops.

TABLE VI.

By months for a period of nine years, 1877-'85, the relation of sickness in Michigan from bronchitis to the average atmospheric temperature.

	Sickness from bronchitis. (a)	Average atmospheric temperature. (b)		Sickness from bronchitis.	Average atmospheric temperature.
	Cases.	Degrees.		Cases.	Degrees.
Annual average	62	46.25	June	54	65.30
January	77	20.77	July	43	70.73
February	78	23.89	August	41	68.23
March	77	29.76	September . . .	49	61.73
April	72	44.14	October	55	50.72
May	61	56.23	November . . .	67	36.23
			December . . .	72	27.28

(a) Indicating what per cent. of all reports received stated the pres-

ence of bronchitis then under the observation of the physicians reporting.

(b) Over 35,000 weekly reports of sickness and about 173,000 observations of atmospheric temperature are represented in this table.

TABLE VII.

By months for a period of four years, 1882-'85, the relation of sickness in Michigan from pneumonia to the average daily range of atmospheric pressure.

	Sickness from pneumonia. (a)	Average range of pressure. (b)		Sickness from pneumonia.	Average range of pressure.
	Cases.	Inch.		Cases.	Inch.
Annual average	34	2.14	June	25	1.50
January	55	2.25	July	15	1.25
February	58	2.94	August	12	1.36
March	57	2.98	September . .	16	1.56
April	51	2.08	October	22	2.03
May	37	1.71	November . . .	30	2.28
			December . . .	39	2.72

(a) Indicating what per cent. of all reports received stated the presence of pneumonia then under the observation of the physicians reporting.

(b) The average daily range of atmospheric pressure, in inches of mercury, is for groups of several stations in different parts of the State.

TABLE VIII.

By months for a period of eight years, 1878-'85, the relation between sickness in Michigan from pneumonia, and the average relative humidity of the atmosphere.

	Sickness from pneumonia. (a)	Average relative humidity. (b)		Sickness from pneumonia.	Average relative humidity.
	Cases.	Per ct.		Cases.	Per ct.
Annual average	38	75.0	June	26	71.7
January	59	80.7	July	17	72.1
February	65	79.5	August	14	73.9
March	62	76.1	September . .	18	75.0
April	55	68.2	October	23	76.2
May	41	67.5	November . . .	33	78.9
			December . . .	45	82.1

(a) Indicating what per cent. of all reports received stated the presence of pneumonia then under the observation of the physicians reporting.

(b) Per cent. of saturation of the atmosphere with vapor. The average is for groups of several stations in different parts of the State.

HYDROTHERAPY IN MENTAL DISEASES.*

By THEODORE H. KELLOGG, M. D.

THE term hydrotherapy embraces every form of internal as well as of external use of water in the cure of disease. As the various external applications of water are more especially to be here discussed, as indicated in the treatment of mental diseases, the more limited term balneotherapy might be preferred as corresponding more nearly with the scope of this article.

The history of a remedy that has stood the test of ages is often in itself an instructive commentary, and perhaps no introduction could be more appropriate than a few lines giving salient historical points in hydrotherapy. The believer in balneology as a modern science is taught humility by a review of past facts, which show with what a quick

* Read before the American Neurological Association at its thirteenth annual meeting.

and truthful instinct mankind in all ages has employed water, a natural element, as a cure for disease. The old Mosaic law and the Mohammedan religion, with injunctions as to daily ablutions, show how well both the curative and prophylactic value of water was understood. The Arabians had a most complete system of hydrotherapy, and the Turkish bath of modern Oriental lands is only an imitation of one of their forms of bathing.

Celsus and Galen, and still later Paulus Ægineta and Paracelsus, display in their writings a thorough knowledge of the use of water as a remedial agent. The Romans not only had clear ideas of hydrotherapy, but in their elaborate and costly system of public baths they utilized the hygienic resources of water on a grand scale never equaled in modern times. Their enlightened ideas of the salutary uses of water, which had been carried into France, Germany, and England, seem to have disappeared for many centuries after the downfall of the Roman empire.

In the twelfth and thirteenth centuries similar ideas were again revived in these countries by the contact of the crusaders with the inhabitants of Oriental lands.

In France and in Italy there was an active revival of hydrotherapy during the latter part of the fifteenth century and in the early part of the sixteenth century.

Again, in 1723, in Italy, Nicolo Lanzini published a complete treatise on hydrotherapy.

Some years later, Hahn first introduced in Germany the use of cold water in the treatment of fevers. This system was renewed and extended in a bold and useful way by Currie, who published in 1797, in England, his "Medical Reports on the Use of Water, Cold and Warm."

In the mean time many German physicians had treated cases of disease successfully by water in various forms, but in 1820 Priessnitz gave a new impetus to hydrotherapy by his remarkable success in the cure of a variety of chronic affections by water used internally and externally.

During all these past active eras of hydropathy, cases of insanity, like general diseases, were doubtless treated more or less in a hydrotherapeutic way.

This was certainly the case in France, Italy, and Germany during the eighteenth century. German physicians especially used immersions and douches with reckless determination that no modern physician would risk. Even so late and great an authority as Esquirol carried cold affusions to great extremes, and thus actually aborted some acute cases of mental disease at the risk of the patient's life, for it can not be maintained that such heroic treatment is ever entirely free from danger.

This hasty glance at the historical aspect of this subject reveals abundant clinical facts accumulated by past experience in the empirical treatment by water of both mental and general diseases. The data thus furnished have not yet been interpreted by the light of modern science, and it may also be affirmed that few reliable scientific conclusions have been formulated from the mass of facts recorded in our own day in the numerous cases of mental disease treated hydrotherapeutically.

The most comprehensive principles of guidance for the practitioner may be briefly summed up as follows:

1. Careful physiological experiments have established the effects of hot and cold water on respiration, circulation, bodily temperature, the increase of oxygenation and carbonic acid, the conversion of fat, and changes in nitrogenous tissues.

2. Rational hydrotherapeutics in mental, as in other diseases, must consist in the application of these physiological facts to meet symptomatic indications in accordance with the ætiology and pathology of each individual case.

The most complete division of this subject would require a separate description of all the hydropathic forms of treatment applicable to every ætiological and pathological condition encountered in insanity, but the limits of this article require a briefer division, which, if less scientific in form, will, it is trusted, prove equally useful in fact.

The various forms of baths and of the other external applications of water will be described in separate order, and under these distinct heads will be mentioned the special cases of mental disease in which they are indicated.

The modern Turkish bath is essentially a hot-air exposure of the naked body to a temperature varying from 95° to 180° F., followed by thorough massage of the body and limbs, and completed by the gradual cooling of the person, lightly covered, in the recumbent posture in a mild atmosphere.

Space will not permit a notice of the use of this remedy in mental diseases in past times, but in our own day Dr. Lockhart Robertson, of England, and Dr. Power, of Ireland, were among the first to make a thorough trial of this form of bath in cases of insanity, and to strongly advocate its therapeutic value. In this country the writer, in 1873, while physician in charge of the New York City Asylum for the Insane, made the first extensive trial of this remedy, and reported the results of twenty-two hundred Turkish baths administered in various forms of insanity (*vid.* Wood's "Reference Handbook of the Medical Sciences," vol. iv, p. 78). The most useful indications which it fulfills are, first, as a vaso-motor stimulant in all conditions of capillary stasis as found in the bluish extremities of melancholia attonita, primary dementia, and many secondary forms of insanity with torpid circulation and muscular inaction. The livid and mottled skin in these cases after exposure to the dry heat assumes at first a purplish tint, but after brisk superficial massage practiced centripetally, it takes on a more natural reddish hue. This improvement often remains for some hours after the bath, and in some cases it is permanent, as regards both superficial temperature and circulation. It is indicated, secondly, as a diaphoretic and desquamative agent in certain cases of melancholia in which there is apparently complete suppression of the glandular functions of the skin, which is dry, harsh, and covered with bran-like epidermic scales as if there were *furfuratio universalis*.

There are apt to be cutaneous paræsthesiæ and tactile illusions in these cases which often get prompt and efficient relief from the bath after the sebaceous and sweat-glands have been restored to activity.

Another most useful purpose of the bath is the passive exercise which the massage supplies in a large number of cases in which active exercise is not practicable. The vari-

ous movements imparted to all the muscles of the trunk and extremities tend to maintain the muscular as well as the vascular tone, and they probably hasten metabolic changes, though to a less degree than voluntary muscular contractions.

In the class of cases mentioned above there is often not only improved circulation and return of a subnormal temperature to the norm of bodily heat, but also a generally increased nutrition and an actual gain in weight.

The Turkish bath again is a remedial agent in cases of toxic origin arising from plumbism, hydrargyrisim, alcoholism, paludal intoxication, and also in syphilitic, gouty, rheumatic, and certain other diathetic insanities.

In these cases the good effects are not due to diaphoresis alone, but to the diversion of blood to the periphery from central organs, and to improved circulation and to hastened absorption and tissue changes. In mania from acute alcoholism the Turkish bath is one of the best means of elimination of the poison from the system. Cool acidulated drinks are to be freely allowed, and a sedative effect, with tendency to sleep and relief of cerebral congestion, often follows the bath.

It is to be understood that nothing like a routine use of the bath is recommended, but that the general condition of the patient and the condition of the respiration and heart's action and bodily temperature must guide the variations required in each case. General contra-indications are all organic diseases of heart, lungs, and nervous centers, and yet in these very instances a mild degree of dry heat, followed by a tepid spray and rubbing, are palliative measures.

Every Turkish bath should be supplied with a narrow needle-spray with numerous very fine jets which can be projected with great force and readily graduated from cold to very hot water. Such a needle-spray affords one of the most useful counter-irritants known, and when applied over the whole length of the spine, as well as in other special ways, it often effects surprisingly good results. The sudden reversal from hot to cold affords the most powerful vaso-motor stimulant, and capillary stasis in stuporous conditions may sometimes be relieved by this means alone, and the stupor, due to a like passive congestion of cortical capillaries, may temporarily disappear. As the needle-spray only acts on a small portion of the peripheral nervous area at one time, it has not the dangers attending the use of the shower-bath.

It has been supposed that patients would oppose the bath, but practically they do not object to it any more than to any other form of treatment, and many of them come to regard it as an actual luxury.

The Russian bath is taken in vapor ranging from 95° to 110° F. (and, if the amount of vapor in the air is small, a temperature of 130° F. even may be borne), followed by a shower- or plunge-bath. It may be roughly improvised by placing the patient in a chair or a bed, with hoops covered by a blanket, under which vapor is conducted. This form of bath is a strong nervous stimulant, increasing arterial action and diaphoresis, diverting the blood to the surface, and answering in the main the same indications as the Turkish bath.

The Roman bath is a desirable modification of these forms, by inunctions practiced after the exposure to dry or moist heat. Vaseline, cocoa-oil, and various unctuous substances may be rubbed thoroughly over the whole surface, to which they impart a most pleasing sense of softness and elasticity. The effect is often felt for a whole day, and in cases of melancholia, with the dry and furfuraceous skin above mentioned, it most effectually answers the indications.

The value of processes of anointing seems to have escaped modern attention, though it was fully recognized in the practice of Eastern nations for many centuries, and its physiological ground is the influence exerted on the immense peripheral expansion of the cutaneous nervous system. The Roman bath of ancient days was one of the most practical and perfect ever devised, and it is a question whether it would not prove most useful if employed in nervous and mental diseases.

The Roman bather removed his garments in the mild air of the "apodyterium," and was anointed with oil and passive movements of the joints were made in the "uncturarium"; he then played at various kinds of games in the "spheristerium" until gentle perspiration began, and he then completed the sweating process in the "caldarium," with graduated seats rising to a high degree of dry heat. He was then scraped and rubbed down, and again anointed with fine oil, and then finally passed into the "tepidarium" to recline a few final moments, and cool completely before passing into the open air. There is no such perfect sequence of physiological changes for patients treated by modern balneotherapeutics.

Of the use of the ordinary forms of baths something will now be said, and a remark generally applicable is that the best time for bathing is when there is within the system the most reserved nervous energy. If strength has been spent in active exertions, or if food has not been taken for many hours, or if sleep has long been absent, it is a bad time for bathing. In most cases there is the most stored vital force after the night's rest, and as soon as the morning meal has been digested.

Cold-water baths range from 40° to 60° F., and their immediate effects are capillary contraction, increased arterial tension and cardiac action, and congestion of internal organs. If brief and followed by reaction, they are stimulant and tonic, but otherwise they are depressing. Their chief employment is in conditions of hyperpyrexia, as it sometimes occurs in certain phases of general paresis, following the status epilepticus, in puerperal mania and fever, in typhomania, and in rare instances of acute delirious mania.

The reduction of temperature by the cold bath is an heroic proceeding, to be undertaken in these cases, however, without hesitation, while carefully watching the pulse and the state of the thermometer placed in the rectum.

Cool baths vary from 60° to 75° F., and they are used to reduce temperature, or simply for the sake of the reaction, and to allay nervous irritability. Comparatively feeble patients may take them, if they are lifted immediately from the warmth of the bed to the water and returned to warm coverings after three or four minutes.

All sudden applications of cold to the surface are to be avoided in confirmed heart disease, atheromatous cerebral arteries, or advanced disease of internal organs.

Tepid baths from 80° to 95° F. are useful to allay the irritability of the sensory nerves of the skin, and to relieve the perverted peripheral sensations from which many insane patients suffer. They are one of the first means to be tried in all cases to procure sleep before resort to powerful drugs is had.

Prolonged warm baths, having a temperature from 95° to 100° F., have had an extensive trial in psychiatry. From Pinel and Esquirol down to Brierre de Boismont, Luys, and other modern French alienists, they have continued to be employed for the cure of acute cases of insanity. In Germany, too, they have been used, more especially in acute cases of sthenic mania. Their duration may vary from one to several hours, and they have even been extended for days, but with doubtful propriety, owing to an element of danger not always to be foreseen, for cases of death from syncope have been reported under these circumstances. While the patient is in the bath, cold applications are to be made to the head by wet cloths or a small stream of water.

Hot baths from 100° to 105° F. are chiefly used for their vaso-motor stimulant effects in angioparetic conditions with subnormal temperature. They are necessarily of brief duration, and they cause capillary dilatation, increased heart's action, and hasten changes of nitrogenous tissues and elimination of urea just in proportion to the general rise of bodily heat, which, of course, accumulates much more rapidly in hot water than in hot vapor or air. They are contra-indicated in cases of weak heart or arteries, and in locomotor ataxia and other organic spinal diseases.

Graduated baths are to be reduced slowly from 98° to 60° or even 40° F. in some cases. This reduction of temperature may be effected by pieces of ice, but it is better that cold water be introduced and uniformly distributed to avoid local and sudden sensations of cold. Thermometers graduated and mounted in wooden handles for this purpose are to be had.

The graduated bath is the most acceptable and the most prompt means of reducing bodily temperature in alcoholic mania, in delirium acutum, in the status epilepticus of epileptic insanity, and in acute cases of sthenic mania.

The acutely maniacal patient with high temperature, bounding pulse, pulsating carotids, suffused conjunctivæ, and cerebral congestion, is wrapped in a sheet and lifted into the bath, and cold applications are made to the head. The water is gradually reduced to the lowest degree at the end of twenty or thirty minutes, if there has been no indication from the pulse, temperature, or respiration for the removal of the patient before that time. The graduated bath may be repeated many times with advantage during the twenty-four hours. The relief is sometimes remarkably evident from the very first bath, and some cures have been accomplished by the end of the third or fourth day of this treatment.

Wet packs have been much employed and have been spoken well of by Leidesdorf, Maudsley, and many others.

The wet sheet is carefully folded about the nude patient so as to come in contact with every part of the surface, and blankets are then wrapped closely about the patient, who reclines thus covered five or ten minutes if simply reaction is desired, or five or six times as long if diaphoresis is sought. If reduction of temperature is the object to be accomplished, the pack is to be renewed every ten minutes.

This procedure is not only antipyretic but sedative, and employed in hysterical and hypochondriacal cases with extreme irritability of the cutaneous nervous system. It also favors sleep by allaying general excitability, and arresting for the time being muscular overexertion. In fact, one objection urged against it is that it is, or may be made, a most effectual means of restraint. Some patients accept this form of confinement as a medical measure, while they would strongly reject mechanical restraint, and it is of double value on this account in certain cases. Hot as well as cold packs may be used in asthenic cases of melancholia; and by restoring capillary circulation and the normal bodily temperature, much good is sometimes effected. The rubbing wet pack is the thorough friction of the patient through the wet sheet, followed by rapid drying of the surface. It is to be used where a specially prompt reaction is required. There is a form of wet pack which approaches in fact an affusion, and is indicated in puerperal mania with high temperature, and may be employed advantageously in other cases as an antipyretic measure. The patient, wrapped in a sheet covered with blankets, is placed on a corded bedstead, under which is stretched a rubber blanket to catch the water, which ranges from 65° to 75° F., and is hourly poured over and saturates the sheet. The patient may remain for hours in this pack, with warmth to extremities, if need be, and can be nourished or stimulated if necessary during the reduction of temperature, which is to be repeatedly tested in the vagina or rectum.

The actual cold affusion was formerly used in France and Germany, and Esquirol alleged cures by its use, but it is too severe a remedy except in certain cases of hyperpyrexia, in which it is one of the most powerful means for the reduction of bodily heat. Its occasional use at the present day in hysterical cases is not unfamiliar.

Shower-baths from a few seconds' to several minutes' duration are to be very cautiously employed even in vigorous patients. In stuporous states a shower of five or ten seconds daily will sometimes improve the vaso-motor and the psychical condition, and in hysterical insanity this application of water is beneficial at times. The hot shower to the lower extremities simply in dementia with impaired capillary circulation and cold feet may be used to advantage. The mechanical as well as the thermal action of the shower-bath is to be borne in mind.

Douches, tepid, hot, or cold, answer a good purpose. They may be improvised by pouring from a kettle with a spout, or by placing a vessel at a height and using rubber tubing as a siphon for withdrawing and directing the water upon the patient placed in a bath-tub or upon a rubber blanket. The stream may fall several feet, and its force and size must be carefully considered in the effect to be produced. The most susceptible points are the crown of the

head, the sides of the neck, and the epigastric region. In states of mental depression and in conditions of stupor, temporary improvement of respiration and circulation may be observed after the use of a half-inch stream of hot water allowed to fall three feet upon the whole length of the spine. Also in cases from sexual and alcoholic excess the hot spinal douche is a most useful remedy as well as in choreic insanity. In this form of spinal douche the water should be as hot as can be borne, so as to conjoin the thermic and mechanical influence. Sitz-baths and foot-baths are employed for their familiar effects in insanity.

The hot foot-bath, with or without mustard, accompanied by cold to the head, is a good sleep-producing remedy in cerebral hyperæmia. Full mustard-baths with three to six ounces of mustard in from thirty to sixty gallons of water have been used by Newington in England and Ball in France. The genital organs are to be protected from the action of the mustard by covering. The favorable influence of these baths on the cutaneous circulation and in the relief of cerebral congestion is said to be decided. The physiological fact of the contraction of cerebral capillaries on the irritation of cutaneous sensory nerves was proved by Baumschiedt in experiments on animals.

Many patients are too feeble for or too much opposed to the more general applications of water above described, and more local measures are then to be used.

Thus, for the reduction of temperature, sponging of the surface with cold water or cold enemata are in order. Tepid sponging allays irritability and favors sleep, and the use of spirits in the water or of bay-rum about the head and face and neck is soothing, and may make the difference between a restful or a restless night on the part of the patient.

In some cases Chapman's ice- or hot-water bags may be used with advantage to the spine. In melancholia with subnormal temperature and wiry pulse, and cerebral anæmia from a spastic state of the cortical vessels, sleep may be procured by the hot spinal bag. In maniacal conditions with angioparesis the cold spinal bag is often useful to relieve insomnia.

Cerebral anæmia or hyperæmia, in whatever forms of insanity found, afford indications for the direct applications of heat or cold to the head.

The ice-cap and the rubber-coil cap for the continuous flow of cold water are the most practical.

It is not necessary or desirable to shave the head in women except in acute meningeal inflammation.

In typhomania, mania a potu, acute stages of general paresis, and puerperal mania, this local abstraction of heat may be continued with good results for hours or days together. Other useful local applications are hot stupes to the epigastrium to promote sleep, or hot flannels to the feet and legs and cold wet cloths to the head for the same purpose.

In the high temperature of paretics after epileptoid seizures, frictions with ice are most efficient.

Finally, the use of salt water calls for a few remarks. For feeble patients with dementia and melancholia local frictions with cloths moistened in a solution of bay-salt are good cutaneous stimulants. For those that are strong enough,

warm brine baths (five pounds of rock-salt to fifty gallons of water) may be employed to stimulate the peripheral nerves and the general circulation. Sea-bathing is an excellent means of procuring a lively reaction in strong patients. Surf-bathing especially is powerful for good or evil. The impact of the waves is a species of rough massage which is as depressing in the feeble as it is exhilarating in the robust. A patient with hypochondriacal insanity, whose insomnia resisted all the usual drugs, only slept soundly after an hour's rough surf-bathing; and if sea baths were more available they would doubtless prove of decided benefit in many cases of insanity.

To sum up the conclusions of this paper briefly, it may be said that the indications of hydrotherapy in mental diseases are to control bodily temperature, to stimulate local and general circulation, to produce diaphoresis and the elimination of certain substances through the skin, to hasten tissue changes and to improve general nutrition, to allay irritability of peripheral nerves, to procure sleep and relieve cerebral anæmia and hyperæmia, and in a measure to take the place of drugs.

Balneotherapeutics in insanity is admittedly only employed empirically as yet, but it is becoming a more exact science, and indispensable in the treatment of mental diseases, and it deserves a much more extended employment than has yet been accorded it in this country.

It is hoped that this paper may excite some further interest in this subject.

48 WEST THIRTY-SIXTH STREET.

THE USE OF HOT WATER IN SURGERY.*

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THE use of hot water in surgery is the subject to which I purpose calling your attention on this occasion.

In a paper read by me before the surgical section of the American Medical Association at its meeting in Washington in May, 1884, on "Railroad Injuries of the Extremities of the Human Body," etc., I considered the hæmostatic effects of hot water when applied to the abraded surface of operation wounds. (See "Journal of the American Medical Association," vol. iii, p. 372.)

In a paper also presented by me, on the "Protective Treatment of Open Wounds," before the New York County Medical Association in February, 1885, the principles involved in the method of treatment of wounds by *hot water* were more fully discussed, and the results of experiments demonstrating the protective power of a film of coagulated albumin were shown, absolutely preventing the ingress of atmospheric germs; and being composed of autogenous material, there was no possibility of any toxic effect on the part of the agent employed, as against the many recorded instances of poisoning by the use of carbolic acid and corrosive sublimate.

* Read before the New York State Medical Association, September 27, 1887.

It is now my intention, after over two years' further experience, to consider the results obtained, and to answer sundry criticisms, undoubtedly due to a total misunderstanding of the principles involved in the method and mode of application of the remedy.

Since the commencement of the practice under consideration in August, 1879, in many operations, both capital and minor, in hospital as well as in private practice, and frequently with the most unhygienic surroundings, there has been observed, except in one case, an absolute exemption from sepsis in any form. This case will be considered further on.

The method of treatment of operation wounds by hot water is based upon the following propositions:

1. After the larger vessels have been tied in an operation wound there occurs an outward flow from the divided arterioles, venules, and lymph-spaces of a sero-sanguineous fluid, highly albuminous in its character, in varying quantity, and continuing for a longer or shorter period.

2. As long as this outward flow continues there is a perfect immunity from infection by atmospheric germs.

3. The application of hot water checks this outward flow, coagulates the albuminous elements in the fluid, and forms an impenetrable shield over the surface of the wound.

4. Hot water applied to the abraded surface acts as a powerful cardiac stimulant and controls shock.

In order to test the temperature necessary to produce coagulation of albumin contained in serum, the following experiment was made:

A test-tube was partly filled with serum, and a thermometer so arranged that the bulb was immersed beneath the surface of the fluid. The test-tube was immersed in water and heat applied. At 68° C. (= 154° F.) the serum, at first bright red, became darker and partially coagulated, and at 70° C. (= 158° F.) it assumed a grayish, muddy appearance, and was completely coagulated. It was observed that the temperature of the water in which the test-tube was immersed exceeded that of the contents of the test-tube by about 14° C., or 57° F. In the first instance the hot water employed stood at 179.6° F., and in the latter at 183.2° F. Or, in other words, it is necessary that the water should have a temperature of not less than 183° F. in order that firm coagulation may result. At 200° F. to 212° F. it will blister if applied to the skin, and, if a sufficiently prolonged application is made, will *cook* the abraded surface, or, in other words, coagulate the albuminous elements in the superficial capillaries, and still further increase the protective power afforded by the method.

I am in the habit of using water slightly below the boiling point, or at the only diminution of temperature it would suffer during the time occupied in transit from the fire to the operating-room.

It seems to me evident that, owing to the greater vitality of the deeper seated muscular tissues, they possess much greater powers of resistance to the effect of heat than the skin. In making the application, this fact should be recognized, and care taken to prevent the water running beyond the abraded surface and blistering the surrounding integu-

ment, as I have seen occur in several instances owing to carelessness of the one making the application. *The application should be continued until ALL OOZING is stopped, the parts are thoroughly GLAZED, and the red hue of the tissues is decidedly deadened.*

The secretions which take place from operation wounds treated by this method are usually of a clear or slightly opaque serum, and which, after thirty-six or forty-eight hours, may contain flocculi of coagulated albumin in a greater or less quantity, governed by the intensity of the application and the amount of the previous oozing. This appearance of albuminous flocculi is more especially observed in cases in which the wound is closed and treated by through-drainage. In open wounds the albuminous deposit is more appreciable to the eye, resembling in some cases the exudation of diphtheria. This exudation in the course of a few days is thrown off, leaving a healthy granulating surface beneath.

The immunity from septic absorption which is afforded to patients who may have undergone capital operations under the most unsanitary surroundings is well illustrated by the case of Thomas G., who was admitted to the Jersey City Hospital, July 18, 1883, for lacerated wound of the foot, and who underwent amputation of the leg at its lower third, and that of Adam H., who was admitted to the same hospital, July 23, 1883, for compound comminuted fracture of the leg, followed by amputation of the thigh at the lower third. Both were the result of railroad injuries. G. and H. were both discharged, cured, September 3, 1883.

The point of interest lies in the fact that there were in the hospital at the time, in the same ward, several cases of erysipelas and a large number of chronic abscesses, and in the female wards immediately overhead four cases of puerperal fever. At no time during the progress of treatment was there observed the slightest untoward symptom. As a promoter of reaction, cases are constantly occurring which illustrate the power of hot water as a cardiac stimulant when applied to the abraded surface of an operation wound.

In a case of hysterectomy performed by Dr. Nathan Bozeman, in which the symptoms of shock were urgent, I injected into the peritoneal cavity water at 120° F., with an immediate arrest of collapse, and rapid and complete reaction.

In a case of suppurative peritonitis due to perforation of the appendix vermiformis, for which I performed laparotomy in June, 1886, I injected water at the same temperature as in the preceding case, thoroughly washing out the cavity of the abscess. The patient recovered, although he was bordering on collapse at the time of the operation.

In the "Medical Record," March 19, 1887, Dr. W. Gill Wylie reports a case of laparotomy in which he used water at 105° to 110° F. for the relief of shock and arrest of hæmorrhage, with immediate relief of the symptoms. After describing the operation, he uses the following language: "I noticed that not only was the bleeding checked by the hot water, but the indications of shock, which were present to an alarming extent—that is, feeble heart's action, cold perspiration, etc.—were at once relieved by the hot

water. . . . The result was magical. After this the symptoms of shock did not return, and at no time was there a subnormal temperature."

These statements of Dr. Gill Wylie are, I believe, absolutely true, as I have during the past eight years demonstrated time and time again; in fact, so frequently as to lose all novelty to those who are in the habit of witnessing operations in St. Francis Hospital.

When, however, the astonishing discovery is made, in 1887, that hot water will arrest oozing, and that hot water will promote reaction and relieve shock, we are forced to the conclusion that a portion of the medical periodical literature of the day has been overlooked by the gentleman. I can not bring myself to believe that he would intentionally claim as his own a procedure in the treatment of operation wounds which I, on two occasions—viz., in the "Journal of the American Medical Association" in 1884, and also in the "New York Medical Journal" in 1885—announced to the surgical profession, and which I have continuously practiced since 1879. He has no more claim to priority in the method of treatment of wounds by hot water than he has to the invention of Corning's method of using cocaine, or to Sims's dilator.

The restorative powers exerted by hot water on the general circulation are also, to as great an extent, manifested on the local circulation of a part whose vitality is to a certain extent damaged by contused or contuso-lacerated wounds, as of the extremities, such as we often meet with in hospital practice among the employees of the numerous railroads which have their termini in our midst. Poiseuille has shown in his experiments on the web of a frog's foot that, if the part be covered with water at 104° F., the rapidity of the current in the capillaries is so much increased that we can hardly distinguish the form of the corpuscles. These injuries are usually sustained by the coupling of cars, and exhibit every variety of severity from simple rupture of the skin, with subcutaneous extravasation of blood, to a general crushing of the whole part into a homogeneous mass, for which the only remedy is amputation. For the treatment of every degree of injury except the last mentioned the limb is placed in a water-bath as hot as can be borne, and retained for a half-hour at a time. These baths are repeated three or four times a day. The part injured, during the interval, is wrapped in oakum wrung out of hot water, and covered with oiled silk. By this method many a limb has been saved which seemed damaged beyond recovery.

There seems to be a lack of appreciation on the part of some who have criticised and profess to have practiced the method under consideration. The late Professor Frank H. Hamilton, in a very able article on "The Art of Primary Union by Adhesion," published in the "Medical Record," January 2, 1886, says: "Dr. Varick recommends that the water have a temperature slightly below the boiling point; this might do if one were to apply it by means of a sponge, and then only for an instant. . . . But if employed continuously or by irrigation through the nozzle of a tube, it ought not to exceed in temperature 112° or 115° F., or a temperature which may be easily borne by the hand." Dr.

Hamilton evidently failed to appreciate the mode and object of the application advocated by me.

The application is always made with a clean sponge or sheet lint, and is kept in contact with the part for several minutes, or frequently renewed applications are made, until the changed appearance of the parts is observed as previously described.

Again, the object of a high temperature for the coagulation of the albuminous exudate on the surface of the wound is not recognized. The temporary glazing which occurs over the surface of a wound, as the oozing gradually and spontaneously ceases, must not be confounded with, nor considered as identical with, that produced by the application of hot water.

The glazing first named is nothing more than the result of coagulation of the sanguineous flow, having a surface of serum with an underlying clot, and due to fibrinous contraction and a process of desiccation. It is highly putrescible and easily washed away. As albumin at the temperature of the body is fluid, it possesses no protective power and partakes of the same liability to putrefaction as the other elements of the exudate. Hot water applied deprives it of its putrescible property, and it will exist unchanged for an indefinite period. I have kept a film of coagulated albumin, applied to a piece of fine linen, unchanged for a period of over four months, while the beef-tea, for which the albuminized linen was used as a cover, remained absolutely unchanged for a like period.

Before I used hot water, and used warm water instead, the effect invariably was to increase the outward flow, to keep patent the divided capillaries, and prevent the glazing of the parts; and many cases of sepsis followed. It seemed that the danger of contamination of the wound was enhanced by this method.

An amusing instance of failure to comprehend the principles involved in the subject under discussion occurred recently in a hospital not a thousand miles from New York. A surgeon, having occasion to perform an amputation at the lower part of the leg, and after ligating the vessels, was annoyed by a somewhat free oozing which he was unable to control. A gentleman present, who had on several occasions witnessed the hemostatic effect of hot water in St. Francis and Jersey City Hospitals, suggested its use in this case. The hot water was brought and cold water added until it could be easily borne by the hand, then by means of a sponge it was applied for a moment several times. This proving ineffectual, the sponge, now saturated with water scarcely more than blood-warm, was held at a distance above the wound and the water allowed to trickle over the surface. It is needless to say this also failed. The verdict of the sapient operator was that "hot water is no good."

It would be impossible, even if it were desirable, to occupy the time of this assemblage with an enumeration of the various operations to which this method is applicable, and in which it is being constantly resorted to. I shall therefore content myself with a detail of major amputations performed by me since 1879, with a comparison of results obtained by me with that of others collected from statistics furnished by various authors in this country and Europe.

In the "International Encyclopædia of Surgery," vol. i, p. 626, in a table showing the comparative mortality of amputations for injury and disease, we find the following percentage of mortality for major amputations by the authors enumerated:

	Cases.	Mortality. Per cent.
Malgaigne	560	53.3
Trelat	1,038	47.5
Golding Bird	859	31.8
Callender	358	20.6
Butlin and McCreedy	416	18
Holmes	500	31.6
Spencer	557	26.9
Chadwick	692	26
Gorman	296	36.4
Varick	90	44.4
Norris and Morton	982	25
Ashhurst	100	28
Total cases	6,448	
Mortality		32.9

In the London "Lancet," April 9, 1887, we find at page 720 a paper entitled "The Result of Major Amputations treated Antiseptically in the Newcastle-on-Tyne Infirmary from April 1, 1878, to December 31, 1886," by Mr. Frederick Page, as follows: Three hundred and eighty-two major amputations, with a mortality of 7.5.

At the University College Hospital, up to May, 1871, of 307 consecutive major amputations 79 proved fatal—a mortality of nearly 25 per cent.

Of 53 consecutive major amputations performed by me and treated with hot water, I report 39 primary cases with 2 deaths, and 14 secondary cases with 1 death.

	Cases.	Recovered.	Died.
<i>Primary Cases.</i>			
Thigh	18	17	1
Leg	6	6	..
Arm	6	6	..
Shoulder joint	2	2	..
Right forearm, left thigh, with C. and L. wound of right foot ..	1	..	1
<i>Secondary Cases.</i>			
Thigh	7	7	..
Leg	3	3	..
Arm	1	..	1
Hip joint	1	1	..
Forearm	2	2	..
Total	53	50	3

Mortality, 5.6 per cent.

The fatal cases were as follows:

1. Fred. H., admitted to Jersey City Hospital, August 13, 1882, for compound comminuted fracture of the leg, for which amputation of the thigh at its lower third was done. There were several attacks of secondary hæmorrhage, and, although the femoral artery was ligated in Scarpa's space, he died of a sudden hæmorrhage on the 26th of the same month.

2. Cornelius P., a private patient, suffered amputation of the arm on account of caries of the elbow joint. He progressed favorably from the time of operation, September 2, 1884, up to September 8th, when he died of a sudden attack of angina pectoris.

3. Noah R., admitted to St. Francis's Hospital, Jersey City, October 26, 1886, having sustained a compound comminuted

fracture of the right forearm, a complicated, compound comminuted fracture of the left leg, and a contused and lacerated wound of the right foot. Amputation of the right arm and left thigh was done, and the remaining foot dressed with iodoform. He bore the operation well, and progressed favorably until November 1st, when symptoms of septicæmia developed, and he died November 7th, on the eleventh day after the injury. The operation wounds had united to nearly their whole extent by first intention, but the remaining foot had sloughed extensively, and was no doubt the source of his septic infection.

The case of P. might with propriety be excluded from the list of unsuccessful cases, as he died of a disease totally unconnected with the amputation, and which he had suffered from on several occasions previously. Excluding this case, the rate of mortality would be reduced to 3.7.

Of the 53 cases recorded above, 44 were performed on account of railroad injuries. Thirty-four of the 53 cases reported by me occurred in St. Francis's Hospital, Jersey City, from August 12, 1879, to August 1, 1887, with the following result:

HOT-WATER METHOD.

	Cases.	Recovered.	Died.
Thighs	16	16	..
Legs	4	4	..
Arms	5	5	..
Forearms	6	6	..
Hip joint	1	1	..
Shoulder joint	1	1	..
Right arm and left thigh	1	..	1
Total	34	33	1

Mortality, 2.9+ per cent.

During the same period, in the same hospital, in the same wards, and with the same hygienic surroundings, there were done 25 major amputations under Lister's method, with the following result:

LISTER'S METHOD.

	Cases.	Recovered.	Died.
Thighs	10	6	4
Legs	3	3	..
Arms	7	6	1
Forearms	2	2	..
Shoulder joint	1	..	1
Both legs	2	1	1
Total	25	18	7

Mortality, 28 per cent.

Enough has been said to illustrate the therapeutic effects of hot water in surgical practice. It has stood the test of time and experience, and fulfilled every claim made for it. The results obtained in major operations under its use are unexcelled by any other method of antiseptics, while in the matter of major amputations it is unequalled. Simplicity and convenience are its characteristics.

The baseless fear of using water too hot may have deterred some from using the method, while others again look with disdain at the lack of display of the paraphernalia employed, the homespun nature of the appliances used, and there is absent that foreign glamour which to some presents an irresistible fascination. In it the gauze, protective, and

carbolic spray find substitutes in a wad of oakum and grandmother's tea-kettle.

Since the preceding paper was written I have received the following letter from my friend, Dr. J. D. McGill, Surgeon-General of New Jersey, and one of the surgeons to St. Francis's and Jersey City Hospitals:

Dr. T. R. Varick.

DEAR DOCTOR: Inclosed you will find a record of eighteen capital amputations which have occurred in my practice during the last four or five years.

Six of these amputations were performed and subsequently treated according to Lister's method; the remaining twelve (all amputations performed by me since March, 1885) were treated at the time of operation with hot water, after the method advised by yourself.

The subsequent treatment of these twelve cases has been to observe absolute cleanliness, and to insure perfect drainage.

The iodoform dressing has been the one employed.

LISTER METHOD.

SITE OF OPERATION.	No. of cases.	Pri- mary.	Second- ary.	Recov- ered.	Died.
Thigh	1	1	..	1	..
Arm	2	2	..	1	1
Forearm	1	1	..	1	..
Leg	2	2	..	1	1
Total.....	6	6	..	4	2

The deaths were in both cases due to septicæmia.

VARICK METHOD.

SITE OF OPERATION.	No. of cases.	Pri- mary.	Second- ary.	Recov- ered.	Died.
Thigh	3	2	1	3	..
Leg	4	4	..	4	..
Foot (Pirogoff's operation)....	1	..	1	1	..
Arm	2	1	1	2	..
Forearm	2	2	..	2	..
Total... ..	12	9	3	12	..

Yours respectfully,

J. D. MCGILL.

DOUBLE STRICTURE OF THE RECTUM, CAUSED BY PLASTIC EXUDATION IN THE PELVIS.

AUTOPSY.*

BY CHARLES B. KELSEY, M. D.

THE specimen presented this evening is one illustrating exceedingly well one point in the pathology and many in the treatment of rectal stricture. The case was referred to by me at a meeting of this society nearly three years ago, shortly after it first came under my management;† and it is with great satisfaction that I am enabled now to follow out the history to its termination.

The patient was a widow, fifty years of age, who was first seen by me in December, 1884. She described an attack of pelvic peritonitis four years before, which had nearly cost her her life, and to which she correctly ascribed all her subsequent

trouble. She had never been free from pelvic and rectal pain since the attack, and had experienced a steadily increasing trouble in defecation ever since. About a year and a half before she first came to me, bloody passages and the usual diarrhœa due to stricture began, and it had never ceased. The patient was anæmic, emaciated, and in bad general condition, besides suffering from chronic intestinal obstruction.

An examination revealed a mass of cartilaginous firmness connected with the uterus behind, and completely blocking the rectum by pressure against the sacrum. The finger entered the bowel two inches, and beyond this point nothing could be passed larger than a hard-rubber male catheter. It was impossible to tell what length of the rectum was occluded by the mass, except as the sensation of wall like resistance led one to suppose that the disease must be of considerable extent, and filling nearly the entire pelvis.

The patient was under my constant observation until her death, a few weeks less than two years from her first visit; and, colotomy being declined from the first, the time was passed in a prolonged struggle to prevent, as long as possible, her death from intestinal occlusion. Dilatation with bougies at first worked very favorably. Commencing with a large-sized catheter, in a few weeks a stomach-tube could be passed, and at the end of four months a No. 8 flexible rectal bougie. Beyond this point the rectum was absolutely undilatable, and the expression is used literally, for again and again I introduced the end of my index-finger into the stricture, and, boring with all my strength, could make no more impression than upon a piece of wood. Another fact which became almost certain as frequent passages of the bougie were made was that we had to deal with a second obstruction a short distance above the first; for, though a No. 8 bougie often passed through the first contraction, it never went on up the bowel more than an inch or so.

The patient was much troubled with discharges of blood and matter, and, as there was no ulceration of the rectum below the obstruction, I supposed there must be above, as is so generally the case. In this I was mistaken, as the specimen will show.

For about eighteen months there was little or no change in the patient's condition, but at the end of that time the urine became albuminous, and she rapidly lost strength, though the rectum still remained pervious to the bougie, which was passed at least once a week, and generally twice.

A few months later I was sent for to her house and found her suffering from complete obstruction of seven days' duration. She had not been under my personal care for a few weeks, and, on account of her feeble condition and the heart and kidney complications, the use of the bougie had been omitted with this result. The obstruction was attended by all the usual signs—great distension and visible coils of intestine, much rumbling of gas, and vomiting, with the pulse at 120.

With this condition we struggled from August 25th to September 7th. The treatment was at first by opium and tapping, but the opium was badly borne, the respirations rapidly failing to seven with small doses, and showing a decided tendency not to come up again. After a day or two of this the treatment was changed to gentle laxatives, and, after a few trials on successive days, I again succeeded in forcing a No. 8 bougie through the first obstruction, where it became plugged with feces, and up to the second, but more than six inches of the tube could not be introduced without more force than I dared use; and water injected through the bougie when at this distance was immediately expelled. From August 25th to August 31st very little had been accomplished by treatment, except that she had been fairly nourished with enemata of peptonized

* Read before the New York Clinical Society, September 23, 1887.

† "N. Y. Med. Jour.," Feb. 14, 1885.

milk, and the great distension had been somewhat controlled by frequent tapplings, which gave escape to large quantities of gas. She was, however, in much the same condition as when the treatment began—pulse 120, urine in fair quantity and albuminous, vomiting, and occasional passages of a drachm or so of bloody mucous.

On August 31st I decided that the only chance of success lay in full doses of opium, in spite of their not being well borne, and the treatment by this means alone was begun a second time. Morphine was used in doses of one sixth of a grain, and in a very few hours the patient was in a condition which I have never before seen. The respirations were five to the minute, and remained so, except when the patient was aroused, for two days and nights. Except when roused, she lay in a per-

ing over five to the minute. She was, however, easily roused when spoken to (the only thing which gave me courage to continue the drug), and at such times the respirations came up to fifteen and twenty, to immediately fall again when left undisturbed. She was, of course, constantly watched, and, considering that we were dealing with uræmia as well as obstruction, I continued the morphine, not according to the frequency of expiration, but guided solely by the ease with which she could be aroused. The doses of morphine, it should be said, were not at all large for such circumstances. No record of the actual amount was kept, but it was a decided feature of the case that a respiration of five should be maintained with the amounts administered.

At the end of twenty-four hours of this treatment the patient had two large, solid evacuations, the first in fourteen days. The morphine was steadily continued for a week longer, with occasional tapplings, when she had three more copious passages, the distension disappeared, and the obstruction was relieved. This was on September 7th. On September 28th she died with uræmic convulsions, the bowels having been very loose, but somewhat distended with gas, up to death.

Autopsy six hours after death.—Kidneys small and contracted. Other abdominal and thoracic organs healthy. Moderate distension of large intestine with gas, but no fecal matter. The point of greatest distension during life, and the one at which the tapping had always been done, was found to be the transverse colon, misplaced so as to run vertically on the right side parallel with the ascending colon.

Pelvic contents matted together, and firmly adherent to the sacrum and coccyx, from which they were removed with great difficulty and in one mass, shown in the specimen.

The anterior surface of the uterus and the bladder were free from any exudation, but both ovaries and broad ligaments, the rectum, and Douglas's pouch, were solidly imbedded, and all cemented firmly to the sacrum and coccyx. Both ovaries were cystic. In the space between the uterus and rectum there was an abscess cavity filled with black, sloughy tissue, the existence of which had not been suspected during life. This at some time had opened into the bowel both above and below the stricture, and accounted for the discharges of blood and pus of which the patient complained. The walls of the abscess were thin, and were ruptured by slight pressure during the removal of the specimen.

About an inch and a half above the first stricture there was a second, caused by a distinct band which had twisted the bowel on itself, and bound it firmly down to the top of the sacrum. Here there was no mass of exudation around the gut, and any undue force with a bougie would certainly have resulted in perforation.

The points of interest in the case are briefly these:

1. The effects which may result from plastic exudation in the pelvis.
2. The unsuspected presence of an abscess.
3. The absence of any changes of an ulcerative character in the bowel either above or below the stricture.
4. The possibility of preventing intestinal obstruction for so long a time with the parts in such a condition.
5. The effects of the morphine treatment in relieving the obstruction which finally occurred.
6. The fact that, although an eminently proper subject for colotomy, the patient was kept alive for two years from the first obstruction without it, and that death was finally due not to obstruction, but to the kidneys.



1. Anus. 2. Rectum. 3. Stricture laid open. 4. Abscess cavity communicating with rectum by perforations above and below stricture, as shown by the probes. 5. A small ovarian cyst.

ectly tranquil sleep, breathing occasionally with a deep sighing respiration, followed by one or two lighter ones, and never go-

Correspondence.

LETTER FROM VIENNA.

Meynert on the Nervous and Psychical Disturbances produced by Overstrain in Schools.—Nothnagel on the Treatment of Diseases of the Heart.—A Night Medical Service in Vienna.—The Vienna Medical Faculty.—The International Health Congress.

VIENNA, September 14, 1887.

HOFRATH PROFESSOR MEYNERT has recently made an important communication on the nervous and mental disturbances observed in young people as the result of overstrain in the schools, especially in the so-called *Mittelschulen*, such as the *Gymnasien*, the *Realschulen*, and the *Handelsschulen*. He first referred to the observations that he had made among the great number of patients at his clinic in the General Hospital. During the decade 1876 to 1885 the number of patients admitted into the psychiatric clinic was 8,809, and out of them Meynert selected the male patients between the ages of ten and twenty-five years, the period of life in which diseases due to overstrain in schools ought to break out, and they numbered 596. Of the young persons affected with mental diseases, 68 were school-boys or pupils in other educational institutions. The pupils of the so-called *Volksschulen*, who belong to the poor classes of the population and who are engaged in other work than that at school, were not taken into account by the author, as overstrain of another kind, as well as misery, might have exerted an influence that would be a disturbing element in the investigation. The patients were divided into three classes, according to age: those between ten and fifteen, those between fifteen and twenty, and those between twenty and twenty-five. All those of the first class, except an epileptic who was a pupil in an institution for the deaf and dumb, belonged to the *Volksschulen*. In the second class there were seventeen individuals, including eight pupils of the *Gymnasien*—one affected with epilepsy, two with acute psychical disturbance of a curable form, two with acute mental disturbance with primary idiocy (the so-called hebephrenia, presumably incurable), one with primary madness, one with mania, and one with secondary psychical disturbance. Three pupils of the *Realschule* were affected with acute insanity. Out of the three pupils of the commercial school, one suffered with acute insanity and one with chronic alcoholism, and one, without having shown pronounced psychical disturbance, had tried to commit suicide. A law student was suffering with mania. In the third class there were fifteen persons. Among these, a pupil of the *Realschule* had primary madness (*originäre Verrücktheit*); a commercial-school pupil had acute insanity with stupor; out of two pupils of the agricultural school, one had epileptoid attacks; out of two pupils of the technical school, one had chronic alcoholism and one had acute madness; of two students of philosophy, one had primary madness and one had acute insanity; of three law students, one was a hypochondriac with insanity and two had epileptoid attacks, complicated in one of them with tonic spasms; and of three medical students, one had acute insanity and two had tried to commit suicide. In only three persons of the second class could it properly be held that overstudy and night work were the only possible causes of the mental disturbance—two from the *Realschule* and one from the *Gymnasium*.

Differing with Hasse, Meynert pointed out at length that overstrain at school was often the only cause of mental disease in the young, and he stated that the greatest number of such

affections was not found among those who were admitted into lunatic asylums, but in the sufferers with the various forms of neurasthenia that gave rise to such morbid sensations as dread of walking in the street, of social intercourse, of intellectual or bodily occupation, etc. Among the other results of overstrain was sexual excitation, manifested by "pollutions," and the like, due to congestion of the abdominal organs resulting from sedentary occupation. It was not in the young alone that the injurious effects of scholastic overstrain were to be observed; they were manifested in advanced age by a special disposition to mental diseases. The psychical affections peculiar to the age of puberty (hebephreniæ) were very dangerous, as they had a tendency to be complicated with idiocy and with stupor. These facts ought to be impressed upon the minds of parents and school managers. As to the universities, their students were more independent, but it would be a great error if the Austrian authorities were to decide to add a ninth year to the *Gymnasium* course. I may add that Professor Meynert's communication, of which I have given only the chief features, forms one of the reports of the committee appointed by the Section in Hygiene of the *medizinisches Doctoren-Collegium* to study the subject.

In a recent clinical lecture, Professor Nothnagel spoke of certain drugs recommended as substitutes for digitalis in cardiac affections. The action of *Convallaria maialis*, he said, was of little importance. *Adonis vernalis* had hardly any effect when given in small doses, and even in daily amounts of from fifteen to forty-five grains it often proved inefficient. It was proper, however, to try one of these drugs when digitalis was ineffectual. The use of adonis should be begun in doses of from forty-five to eighty grains a day, but not more than a hundred and five grains a day should be given. In Dr. Voigt's trials, at the speaker's clinic, the effects of sparteine had not been very decided; it conduced to regularity of the heart's action, but it was far inferior to digitalis in producing diuresis and in influencing the blood-pressure. In cases of arrhythmia, when digitalis ceased to produce its effect, sparteine might be tried, in doses of a few hundredths of a grain. As to caffeine, it was a very efficacious drug, but, to obtain good results with it, not less than fifteen grains a day should be given; he ordered it in doses of three grains daily for five days, and, if that was not sufficient, he prescribed from eight to thirty grains a day, and sometimes he had given forty-five grains in a day. The best preparations of caffeine were the double salts, such as the salicylate of caffeine and sodium, etc. The drug had a special diuretic effect, and was particularly indicated in cases of dropsy; its sole inconvenient property was its exciting action on the nervous system. It might with advantage be given in conjunction with digitalis, the latter being given for five or six days, and then caffeine for ten or twelve days more. Yendrassik, of Budapest, had recently directed attention to the diuretic action of calomel; from nine to twelve grains being given daily, a considerable diuresis was observed after some days. In case the calomel had no effect, Yendrassik recommended the use of jalap in addition. In the speaker's opinion, however, it was better to combine it with opium, and some precautions were to be observed in its administration. Care must be taken to keep up a due action of the bowels; otherwise the calomel might become deposited in the intestine, and, being transformed into corrosive sublimate, attack the intestinal wall. Attention should also be paid to the prevention of stomatitis. In cases in which calomel had been given for three or four days without success, the speaker suspended its administration for six or eight days, and then began with it again. Alluding to Oertel's treatment, which, as is well known, has been used for obesity as well as heart disease, the speaker said

that, where compensation had been established and there was as yet no degeneration of the muscular structure of the heart, he regarded the method as superfluous and even as inadmissible, as every kind of excitement should be avoided in this stage of heart disease. It was available only in cases of a high degree of insufficiency of the cardiac muscle. In valvular affections, hypertrophy of the heart was produced by mechanical causes, and went so far as to compensate for the causes of circulatory disturbance; but it would not exceed a certain degree—a muscle thus hypertrophied soon underwent a degenerative process, and another stimulant was required to produce a new hypertrophy. It was under such circumstances that Oertel's method, playing the part of a stimulant, proved successful, but its action should be carefully watched.

With the view to the establishment of a night medical service in Vienna, the *Polizeipräsidium* has made the following propositions: 1. In each district, one or more public buildings are to be designated as places at which physicians are to be on duty steadily at night. 2. Each of these places is to be made known to the whole population. 3. The physician's aid may be summoned personally, by the police telegraph, or by telephone. 4. The physician is entitled to receive a fee for each night visit, the amount of which is to be fixed by the municipality. 5. Each physician is to be provided with a coupon-book, and, when he makes a visit, he is to present the proper coupon to the family; the latter may either pay him at once or acknowledge the service by signing the coupon. 6. At certain stated times, the physician is to present the unpaid coupons to the municipality, which will pay him his fees, and then either collect from the families, or, if they are unable to pay, charge the amounts to the poor-fund. 7. For every night spent by the physician at the station without his services being called for he is to receive a fee, also to be fixed by the municipality. 8. Each physician must keep a book record of the cases to which he has been called, to be presented to the *Stadtphysicat* at certain stated times. 9. Any physician may announce by means of a lantern, the form of which is to be determined by the *Magistrat*, that he is willing to take part in the service.

According to the official catalogue of the University of Vienna, for the winter semester 1887-'88, the number of students is 5,456, of whom 2,668 (2,178 ordinary and 490 extraordinary) are in the medical department. Of the 337 foreigners, there are 66 Americans, 50 Russians, 28 from the German Empire, 74 Roumanians, and 82 Servians. During the next session, twenty ordinary professors, thirty-six extraordinary professors, and seventy-five *Docenten* will give two hundred and four lectures, together with practical courses, demonstrations, etc. Three lectures, by three different professors, will be given on the history of medicine, six on anatomy, twelve on physiology, eighteen on general pathology, pathological anatomy, histology, pharmacology, and pharmacognosy, forty-six on internal medicine, thirty-two on surgery, five on otology, seventeen on ophthalmology, twenty-eight on gynecology and pædiatrics, seventeen on dermatology and syphilis, six on psychiatry, six on hygiene, and six on medical chemistry.

Sixteen hundred members have already announced their intention of taking part in the International Health Congress at Vienna, among whom are a hundred and ten delegates from European nations and America. The patron of the congress, the Crown Prince Rudolphus, will open the sessions on the 26th inst., in the name of the Emperor. On the evening of the 28th the Hereditary Prince will receive the foreign delegates at the Imperial Court, also in the name of the Emperor. Besides a festival representation at the *Hofoper*, several excursions to the Kahlenberg, Semmering, Budapest, Abbazia, etc., have been planned by the committee.

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EPILEPSY OF CARDIAC ORIGIN.

ANYTHING that tends to throw light upon the pathology of the nervous phenomena commonly known as epilepsy can not fail to be of interest. Within the past few years various factors, many of which have not stood the test of time, have been credited with the power of evoking that condition, but in a recent number of the "*Revue de médecine*" M. Lemoine adduces evidence worthy of consideration, which goes to show that certain affections of the heart may produce epilepsy. It may be supposed that the *modus operandi* is by means of a disturbance of the cerebral circulation, the agency of which in calling forth epileptic seizures has been pointed out by several authors. M. Lemoine's attention was first attracted to the likelihood of cardiac disease having this effect by the peculiar features of a case that came under his observation, the history of which, along with those of two others, he relates in full. The patient was thirty-nine years of age, and belonged to a family singularly free from neuroses. He himself had never had syphilis, had never been addicted to alcohol, and had never received a blow on the head. Up to his twentieth year he had enjoyed robust health. From that time on he began to suffer, especially in the summer, with rheumatic pains in several of the joints, but had never had acute rheumatism. After a time he began to experience dyspnoea on exertion, and palpitation even while at rest. His first attack of epilepsy occurred in his thirty-second year, and was apparently evoked by a powerful emotion. He now became subject also to attacks of vertigo, which were brought about by a sudden noise or a vivid emotion; they would come on when he assumed the horizontal posture, and were attended with palpitation and cardiac oppression. Supporting his head in an elevated position by means of two pillows caused these symptoms to disappear. A physical examination of the chest revealed the existence of regurgitation and stenosis of the mitral valves. The attacks of epilepsy, as well as those of vertigo, were held in check by the administration of digitalis and caffeine. The second case was that of a man, thirty-five years of age, who was entirely free from any hereditary taint. At the age of ten years he had an attack of acute rheumatism, during which he had pain in the cardiac region and oppression of breathing. In his thirteenth year he had his first attack of epilepsy, and after that he had frequent attacks, which were always preceded by palpitation and difficulty of breathing. He had insufficiency and stenosis of the mitral valves. A systematic course of treatment, probably with bromide of potassium, in an institution had resulted in no benefit, and the attacks were occurring daily. When he first came under M. Lemoine's

care, digitalis was administered, and from the very first the attacks ceased, and did not return while he was under observation, a period of four months. The third case was one of aortic insufficiency with very severe attacks of epilepsy, attended with some mental derangement. There was very decided and rapid amelioration following the use of caffeine.

If one may generalize from so few observations, the form of epilepsy dependent on cardiac trouble differs from the classical form. In one of M. Lemoine's cases the period of rigidity was of short duration, and was not followed by convulsions. In another of his cases, although the attacks were regular, they were unattended with cyanosis of the face, and the clonic spasms followed quickly upon the rigidity, which lasted only for a short time. All the cases had certain characters in common; the attacks were always preceded by an aura originating in the cardiac region, by palpitation, by præcordial anxiety, and by a sensation as of a rush of blood to the head. It is of practical interest to note the benefit which resulted in each case from the use of digitalis and caffeine after bromide of potassium had either failed or effected only an insignificant amelioration.

MINOR PARAGRAPHS.

THE FRENCH EDITION OF EMMET'S "GYNÆCOLOGY."

It is gratifying to observe the appreciation of Dr. Emmet's teaching shown in a review, by Dr. F. Verchère, of the French translation of his "Gynæcology," published in a recent issue of one of the best of the French journals, the "Revue de chirurgie." It is particularly satisfactory that the reviewer estimates Dr. Emmet's carefulness and conscientiousness at their true worth, for it is to those features, we are convinced, that his teaching and example owe their greatest value.

THE ALUMNI ASSOCIATION OF THE COLLEGE OF PHYSICIANS AND SURGEONS.

WE would call the attention of the alumni of the college to the announcement which will be found in our advertising columns, stating the conditions on which the next prize is to be awarded for an essay. This prize is among the most honorable of its class, and the conditions are very advantageous, especially in the fact that competitors are given full liberty in the choice of a subject.

CIGARS AS A PHARMACEUTICAL ARTICLE.

A Boston apothecary was lately fined for selling a cigar on Sunday. In the defense it was maintained that the apothecary sold cigars as drugs, under which term he cited lexicographers as authority for including anything intended to relieve pain or suffering, and offered testimony to the effect that on occasions cigars had been prescribed by physicians.

THE PROPOSED NIGHT MEDICAL SERVICE FOR VIENNA.

It will be seen by the account given by our Vienna correspondent of the outlines proposed by the police authorities of that city for the organization of a night medical service that the scheme is well conceived, and that in all probability it will prove to be readily and satisfactorily capable of execution. In its main features it differs little from the plan put into operation in New York a few years ago, but some of the details seem to be better arranged.

THE ALLEGED FRAUDULENT USE OF A LABEL.

AN action has been begun against a firm of druggists in New York, on the charge of counterfeiting the label of the firm of Merck & Co., of Darmstadt. It is to be hoped that the allegation will be disproved, for it would be much to be regretted if any New York firm, even if composed of foreigners, were to be shown to have been guilty of so discreditable a course.

LISTERISM AND DUELING.

THE "Progrès médical" quotes from the "Journal des sciences médicales de Lille" an account of certain antiseptic precautions taken by Dr. Labusquière in a recent duel at which he was present in his professional capacity. Swords were the weapons, and, before the encounter took place, the doctor subjected the blades to the purifying action of fire, and then smeared them with a preparation of carbolic acid. Consequently the combatants, who were both wounded, were able to be about again in the course of a few days. This application of Listerism may be viewed as the recoil of the pendulum from the old doctrine of salving the weapon after it had inflicted a wound.

ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Fourth Division of the Health Department for the following statement of cases and deaths reported during the two weeks ending October 11, 1887:

DISEASES	Week ending Oct. 4.		Week ending Oct. 11.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever.....	48	10	45	9
Scarlet fever.....	56	15	60	8
Cerebro-spinal meningitis....	3	3	5	3
Measles.....	6	2	21	2
Diphtheria.....	95	37	82	37
Small-pox.....	0	1	0	1

The New York Cancer Hospital.—We have been requested to announce that a house surgeon and an assistant will be appointed about the 1st of December, the term of service of the former to be six months, and that of the latter a year. The appointees must be graduates in medicine, and one of them must have served in a hospital. Candidates should apply in person to Dr. A. B. Ball, secretary, 42 West Thirty-sixth Street. The hospital is situated at Eighth Avenue and One Hundred and Fifth Street.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from October 2 to October 8, 1887:*

Change of Station.

HALL, WILLIAM R., Captain and Assistant Surgeon. From David's Island to Fort Custer, Montana.
 PRICE, C. E., Captain and Assistant Surgeon. From Fort Custer to Fort Du Chesne, Montana Territory.
 SUTER, WILLIAM N., First Lieutenant and Assistant Surgeon. From Washington Barracks to Fort McKinney, Wyoming.
 WEISEL, D., Captain and Assistant Surgeon. From Fort McKinney to Fort Sill, Indian Territory.
 HORTON, S. M., Major and Surgeon. From Fort Riley to Fort Adams, Rhode Island.
 BACHE, D., Major and Surgeon. From Fort Adams to Fort Riley, Kansas.
 KIMBALL, J. P., Major and Surgeon. From West Point to Fort Elliott, Texas.

NEWTON, R. C., Captain and Assistant Surgeon. From Fort Elliott to David's Island, New York Harbor.

HEIZMANN, C. L., Major and Surgeon. From Fort Ontario to West Point, New York.

S. O. 232, A. G. O., October 5, 1887.

CARTER, E. C., Captain and Assistant Surgeon. Leave of absence further extended fifteen days. S. O. 231, A. G. O., October 4, 1887.

CABELL, J. M., First Lieutenant and Assistant Surgeon. Relieved from further duty in connection with the competition of "Team of Distinguished Marksmen," at Bellevue Rifle Range, to take effect October 1st, and will return to his station, Fort Omaha, Nebraska. S. O. 95, Department of the Platte, September 27, 1887.

CABELL, J. M., First Lieutenant and Assistant Surgeon, will be relieved from duty at Fort Omaha, and assigned to temporary duty with Battalion 6th Infantry in the field. S. O. 98, Department of the Platte, October 1, 1887.

BORDEN, W. C., First Lieutenant and Assistant Surgeon, will be relieved by officer commanding troops upon arrival of Assistant Surgeon Cabell, and will return to his station at Fort Douglas, Utah. S. O. 98, Department of the Platte, October 1, 1887.

Marine-Hospital Service.—*Official List of Changes of Stations and Duties of Medical Officers of the United States Marine-Hospital Service for the two weeks ending October 8 1887:*

IRWIN, FAIRFAX, Passed Assistant Surgeon. Granted leave of absence for twenty-five days. October 5, 1887.

QUITÉRAS, JOHN, Passed Assistant Surgeon. Granted leave of absence for seven days. September 28, 1887.

NORMAN, SEATON, Assistant Surgeon. Upon expiration of leave of absence to rejoin station, New York. October 4, 1887.

Society Meetings for the Coming Week:

MONDAY, *October 17th*: New York Academy of Medicine (Section in Ophthalmology and Otology); New York County Medical Association; Hartford, Conn., City Medical Association; Chicago Medical Society.

TUESDAY, *October 18th*: Virginia State Medical Society (first day—Richmond); New York Academy of Medicine (Section in Theory and Practice of Medicine); New York Obstetrical Society (private); Medical Societies of the Counties of Kings and St. Lawrence (semi-annual), N. Y.; Ogdensburg, N. Y., Medical Association; Hunterdon, N. J., County Medical Society (Flemington).

WEDNESDAY, *October 19th*: Virginia State Medical Society (second day); Harlem Medical Association of the City of New York; Northwestern Medical and Surgical Society of New York (private); Medical Society of the County of Alleghany (quarterly), N. Y.; Newark, N. J., Academy of Medicine; Philadelphia County Medical Society (clinico-pathological).

THURSDAY, *October 20th*: Virginia State Medical Society (third day); New York Academy of Medicine; New Bedford, Mass., Society for Medical Improvement (private).

FRIDAY, *October 21st*: Virginia State Medical Society (fourth day); Chicago Gynecological Society.

SATURDAY, *October 22d*: New York Medical and Surgical Society (private).

OBITUARY NOTES.

Valentine H. Taliaferro, M. D., of Atlanta, Ga., died recently at Tate Springs, Tenn., whither he had gone for the benefit of his health. The deceased was born in Oglethorpe County, Ga., September 24, 1831, and was graduated

from the Medical Department of the University of the City of New York in 1852. After practicing successively in Co-weta, Palmetto, Atlanta, and Columbus, he finally settled in Atlanta, which city was afterward his home. At the outbreak of the civil war he entered the Southern army as a private soldier, but was rapidly promoted through the various grades to the rank of colonel, and at the close of the war he was an acting brigadier-general. In 1859-'60 he was professor of materia medica and therapeutics in Oglethorpe Medical College, Atlanta, an institution that became extinct in 1861, and in 1872 he was appointed professor of obstetrics and diseases of women and children in the Atlanta Medical College. In 1876 he was made dean of the faculty, and in 1877 a member of its board of trustees. He was a member of the Medical Association of Georgia, of which he was vice-president in 1857, and of the Atlanta Academy of Medicine, of which he was president in 1877. Referring to Dr. Taliaferro's death, the "Atlanta Medical and Surgical Journal" says: "It is hard to estimate the loss to humanity in the early death of such a man in the midst of his usefulness and in the full maturity of his intellect."

James A. Gray, M. D., of Atlanta, Ga., died on September 27th, at the age of thirty-seven. He was born in Monroe County, Ga., and was graduated from the Atlanta Medical College in 1879. In 1881 he was made proctor of the college and appointed lecturer on venereal diseases. In 1880-'81 he was demonstrator of anatomy in the Southern Medical College. He was secretary of the Medical Association of Georgia and managing editor of the "Atlanta Medical and Surgical Journal." His death is said to have been due to typhoid fever.

Charles E. Heath, M. D., of Lee, Mass., died on Wednesday, the 5th inst., at the age of fifty-seven. The deceased was born in Barrington, and was graduated from the Albany Medical College in the class of 1856. He was a member of the Massachusetts Medical Society and of the Berkshire, Mass., District Medical Society.

John O. French, M. D., of Hanover, Mass., died on September 24th, in the sixty-seventh year of his age. He was born in Gilmanton, N. H., and was graduated from Dartmouth Medical College in 1844. At the outbreak of the civil war he entered the army as surgeon, in which capacity he was distinguished as a man of unusual coolness and powers of endurance. At the close of the war he returned to Hanover, where, with the exception of a few years' residence in Boston, he afterward resided. He was a member of the Massachusetts Medical Society and of the Plymouth, Mass., District Medical Society.

George O. Allen, M. D., of West Roxbury, Mass., died suddenly on Monday, the 3d inst., in the forty-ninth year of his age. He began his medical studies at the Medical School of Maine, and was graduated from Harvard Medical School in 1866. During the civil war he served as a medical cadet, and as a volunteer assistant surgeon in the navy in the Mississippi squadron. At the close of the war he was for a time connected with the Naval Hospital at Chelsea, Mass., and was also on the Franklin in the European squadron. In 1872 he resigned his position in the navy and settled in West Roxbury, where he afterward resided. He was a member of the Massachusetts Medical Society and of the Norfolk, Mass., District Medical Society.

Professor Joseph Meyer, of Berlin, Griesinger's successor as director of the medical *Poliklinik* of the university, died on the 25th of September. Dr. Lubinski, his former assistant, who attended him in his last illness, contributes to the "Deutsche Medizinal-Zeitung" a brief but very touching tribute to the deceased, whom he speaks of as beloved by those who served under him and as particularly painstaking in the difficult work of teaching clinical medicine.

Proceedings of Societies.

NINTH INTERNATIONAL MEDICAL CONGRESS.

SECTION IN GENERAL SURGERY.

(Continued from page 334.)

Three Hundred and Eighty-four Laparotomies was the title of a paper read by Dr. JOHN HOMANS, of Boston, who confined himself wholly to his own experience. The general method of operating was as follows: The sponges were prepared by soaking in a 1 to 1,000 corrosive-sublimate solution. They were then wrung out dry with an ordinary wringing machine, and kept in a 1-to-20 carbolic-acid solution. The carbolic-acid spray was always used, although it was considered unnecessary, and an electric light was always kept in readiness. Of the first five non-antiseptic operations, all the patients had died; of the antiseptic operations, 248 patients had recovered and 34 had died. The vitality, or viability, of the patient had much to do with the result of the operation. The usual causes of death had been peritonitis and septicæmia. The author was skeptical about the occurrence of mechanical intestinal obstruction, except as the intestines were paralyzed by peritonitis. Two patients in whom the bladder was wounded during ovariectomy had recovered and were living two and six years, respectively, after the operation. In both cases the opening in the bladder was closed with silk sutures. Of the patients who survived the operation, nine had died of abdominal cancer a few months or years afterward, and thirty had had ventral hernia. There were fifteen children born of eleven women out of about two hundred heard from. The sexes did not correspond to the ovary remaining. The usual length of the incision was about two inches. The stump was always tied, burned, and dropped back. Silk sutures were used, and care was taken to include all the abdominal parietes, particularly the transversalis fascia. Drainage was used in fifteen cases. The greatest number of consecutive recoveries after ovariectomy had been thirty-eight. The author had never seen a suppurating ovarian cyst but once, and in that case the cyst had been tapped. There were cysts which contained fat and sebaceous matter which to the naked eye looked exactly like laudable pus and could only be distinguished from it by microscopical examination. There were two cases of swelling of the parotid gland after ovariectomy. Both patients recovered quickly, and the speaker did not regard enlargement of the parotid during convalescence as of special importance. The cases of removal of uterine fibroid tumors numbered twenty-seven, with seventeen recoveries. In the later cases, the patients had nearly all recovered. The operation was never done unless the patient's life was in danger from hemorrhage, mechanical pressure, or exhaustion, or unless she suffered severe pain. In the cases of ovarian cysts, uncomplicated except by adhesion, where the tumor could not be removed, and in which the cyst was stitched to the abdominal wall, numbering nine, recovery had followed. The author had had but one case of collection of pus in the abdominal cavity, which was treated successfully by laparotomy and drainage. Of salpingitis and abscess of the ovary due to gonorrhœa, there had been one case. This was treated by removal of both tubes and one ovary. The patient recovered. Of removal of large intra-abdominal fatty tumors, there were two cases, both of which ended fatally. The speaker had had one case of operation for the closure of Meckel's diverticulum, in an infant five months of age, resulting in complete cure. One case of intestinal obstruction caused by Meckel's diverticulum, occurring in a man twenty-one years of age, had resulted fatally. One case of cure of tubercular peritonitis and dropsy by laparotomy was re-

ported. The patient was now fat and healthy, three years after the operation. Three cases of removal of the kidney for sarcoma, cancer, or abscess terminated fatally. There were five cases of lumbar colotomy, or pubic colotomy, three of which were successful. The author had removed a fibroid tumor in the abdominal fascia and peritonæum of the right lumbar region by laparotomy. The patient was now in good health, four years after the operation. A number of cases of special interest were briefly reported, and an exhaustive table of all the cases was shown.

The following *résumé* was given:

282 Ovariectomies.....	248 recoveries, 34 deaths;
27 Hysterectomies.....	17 " 10 "
32 Partial removals of uterine and ovarian tumors.....	10 " 22 "
19 Exploratory operations.....	16 " 3 "
10 Removals of uterine appendages.	9 " 1 death;
14 Miscellaneous laparotomies.....	5 " 9 deaths;
384 Laparotomies.....	305 " 79 "

An Important Point connected with Abdominal Surgery was the title of a paper read by Dr. ADDINELL HEWSON, of Philadelphia. The point referred to was in connection with the coaptation of the wound after laparotomy. The diminution of the number of ligatures and the lessening of their irritating properties was of great importance. The abandonment of sutures was recommended, the wound being kept in apposition by means of gauze secured on each side with book-binder's glue. The glue was not applied nearer than half an inch from the wound. This dried as quickly as collodion, it dried on a moist surface, and it would hold securely. Gauze so secured would support twenty pounds to the square inch. It was not disturbed by motion or distension.

When is Colotomy Justifiable?—This was the title of a paper by Dr. J. M. MATHEWS, of Louisville, Ky. The following conclusions were presented: 1. Colotomy is not justifiable in cases of cancer of the rectum. 2. In stricture or obstruction of the rectum from whatever cause, within three inches and a half of the sphincter, colotomy should not be done. 3. The operation is not warranted in cases of ulceration of the rectum, unless of specific origin, and accompanied with stricture beyond the reach of the finger. 4. Colotomy should not be performed for a tumor or aneurysm causing pressure on the bowel. 5. In cases of congenital occlusion of the rectum, the operation is not to be recommended. 6. In cases where the operation is looked upon as a last resort, colotomy should not be done, save for total obstruction, of benign or specific origin, located farther than three inches and a half above the sphincter. 7. Where the rectum or the sigmoid flexure is closed by a stricture of benign or specific origin, colotomy is indicated. The reasons for advising against colotomy in the cases given above were, that the operation did not prolong life; that, admitting that life could be prolonged, the operation is not advisable; instead of prolonging life, surgical interference shortened it, and the pain was not materially lessened by the operation. Where the disease was located within three inches and a half of the sphincter, it might be treated by division. In other cases proctotomy was recommended.

Dr. DAWSON, of Cincinnati, had never performed colotomy with any satisfaction to himself or with much to his patients. There were, however, cases in which it seemed to be indicated. The speaker had now a patient, a young man, with an immense cancerous mass in the rectum almost beyond the reach of the finger, and narrowing the caliber of the bowel to half an inch. There was not the slightest sign of cachexia. The growth was accompanied by extreme pain. He had almost decided to

open the abdomen, and if possible remove the mass with a portion of the gut. This operation had been done in Europe; but it was not old enough to enable us to judge of the results to be attained. In syphilitic cases, where there was stricture, the stricture would disappear under antisyphilitic treatment.

Dr. G. M. QUIMBY, of Jersey City, agreed with Dr. Mathews. He had performed operations similar to that suggested by Dr. Dawson, but the result had not been satisfactory. Unless there was total stricture the operation was hardly justifiable.

Dr. SAMUEL BENTON, of London, had understood the author to say that colotomy was not to be recommended for total obstruction due to cancer of the rectum. His practice was, if he could penetrate beyond the cancer, to do extirpation. If the growth was so high that he could not remove the whole of it, he performed colotomy. He would recommend colotomy in these cases of cancer of the rectum. In the cases that he had had, life had been prolonged about fifteen months after colotomy. The last patient lived eighteen months. There was complete obstruction, and, if the operation had not been performed, the patient would have died in two weeks. It had been his experience that the straining and bearing down at stool were relieved by colotomy. The growth to a certain extent remained at a standstill, and a considerable amount of the pain was done away with. After proctotomy the stricture quickly returned. He treated benign tumors by electrolysis. This quickly relieved the stricture. The treatment was safe and could be continued while the patient remained at his ordinary work. He would not say that the stricture did not return, but it could be kept down by a repetition of the electrolysis or by dilatation practiced by the patient.

Dr. J. A. C. O'NEIL, of Gettysburg, Pa., thought the proper course to be pursued in the case referred to by Dr. Dawson would be to inject the mass with carbolic acid and scrape it out. This would afford relief.

Dr. J. W. HAMILTON, of Columbus, O., would utter a word of warning against the use of carbolic acid in the treatment of diseases of the rectum. The use of this agent was fraught with danger. Where there was obstruction due to cancer of the rectum, colotomy should be performed.

Dr. E. M. MOORE, of Rochester, N. Y., thought it was extremely rare to observe cancer in a person only seventeen years of age, as in Dr. Dawson's case. At that age sarcoma was very common. This was not accompanied by the cancerous cachexia, and every surgical operation for sarcoma was a failure. He would strongly object to the operation proposed, and would recommend colotomy.

Dr. W. N. HINGSTON, of Montreal, thought that colotomy should be performed where there was obstruction. It also relieved pain. When the whole of the mass could be got away, proctotomy should be performed.

Dr. O'NEIL had used carbolic acid for ten or fifteen years, and as a general rule had found it of value.

Dr. MATHEWS would merely say that carbolic acid was a hazardous remedy—one that had caused much damage and led to hundreds of deaths.

(To be continued.)

PHILADELPHIA COUNTY MEDICAL SOCIETY.

Meeting of September 28, 1887.

The President, Dr. J. SOLIS-COHEN, in the Chair.

Peculiar Sequelæ of Measles.—Dr. JAMES COLLINS read the following paper:

Measles is usually considered a very simple affection. The

respiratory organs and eyes are usually watched. This being accomplished, and care being taken that aural catarrh is not developed, measles is considered as having been properly treated. During the recent epidemic I witnessed some sequelæ from measles in which the nervous system seemed to be especially involved.

CASE I.—A girl of eight years. The fever, eruption, and desquamation followed the usual course; and not until several days after the skin had resumed its normal color, and the bronchitis had disappeared, did the symptoms of chorea develop. This child was a blonde, of Irish parentage. The invasion of the nervous symptoms was gradual, but they developed to a violent degree. During the second week the agitation of the child was so great that she could not remain upon a sofa without being guarded or tied. She was unable to feed herself, and was constantly laughing and giggling, as well as twitching. Cinchifuga, tonics, and applications to the spine were used. The child recovered, and was well at the sixth week.

CASE II.—A girl of eleven years, of German parentage, a dark blonde, also developed chorea, but in a less violent degree. Similar treatment was pursued, and recovery was complete in the fourth week.

The marked nervous element in these cases causes them to be worthy of note.

CASE III.—Kate A., aged three years and a half; the second case of measles in the house. The eruption appeared at the normal period, and followed the usual course. Catarrhal symptoms were not more marked than usual. The temperature did not rise above 103° F., and the pulse was 110 at the highest point. On the third day of the eruption she exhibited a peculiar irregular kick while in bed. Examination revealed that the reflexes of the ankle and knee were exaggerated, while the ability to stand was greatly impaired, and the co-ordination of the movements of the lower extremities was imperfect. On the following day she was unable to sit up in bed, the arms kept in irregular motion, while the power to grasp was almost lost for small objects. By the fourth day hearing was impaired, and by the seventh day eyesight was lost, and the action of the sphincters became uncertain. Blind, deaf, and powerless for self-help, this poor child for five weeks kept up an idiotic cry, with irregular swinging and aimless motion of the arms and legs. The special senses gave some objective evidences of such a grave condition. The fundus of the eye showed the arteries tortuous, the veins full, and the chorioid congested, and the disc seemed to be choked in either eye. Dr. Lautenbach, who is skilled in the use of the ophthalmoscope, assured me, however, that the condition was that of a swollen disc from active inflammation, and not a true choked disc. The membrana tympani of each ear was normal. From a hyperæsthesia of the reflexes there resulted a condition of impaired sensation, with subnormal temperature, as a rule. After five weeks, under the use of absorbent alteratives and counter-irritation to the spine, the child began to improve, and after twelve weeks commenced to walk and see; hearing was slow to return. The reflexes of the bladder and rectum also became normal. Yet the child continued nervous and irritable, howling with a raucous voice when disturbed or denied any of her wishes. During the summer she has gradually improved; she now walks with gait somewhat wabbling. She eats well, sleeps well, and is well nourished. Her temper is irascible; she drags the right foot, and falls easily. The motion and use of the upper extremities appear to be normal. The hearing is nearly normal. The fundus oculi shows evidences of some structural changes; the vessels are still small and tortuous, and some chorioiditis remains. Vision has improved so that she can distinguish objects, but my last attempt to test it accurately resulted in ignominious failure. The urine has shown neither albumin nor sugar. Specimens examined were of normal specific gravity, and deposited phosphates on standing.

The following case presents some peculiar conditions:

CASE IV.—Edward L., aged nine years, had measles in March, 1886. The attack was severe for four days, and, in spite of treatment, the recovery was slow. He complained of severe headache and of seeing

double at times. During the spring and summer he seemed to be tolerably well, excepting headache, from which he suffered frequently. In July, 1886, his headaches increased. At times his head seemed to be drawn either backward or to one side, the paroxysms lasting four or five minutes, after which he would complain of seeing double. On closing the left eye, vision improved; at times he vomited his food with glairy mucus. The lad improved under treatment. Spells of headache became less frequent. As he complained of his eyes, examination showed hypermetropia of 1 D. right eye, 2 D. left eye, with astigmatism in the left eye. The optic disc of the left eye was swollen, that of the right less so. Glasses given in November improved the vision, but the headache was still persistent at intervals. He got along tolerably well until February, 1887, when the headache returned with increasing violence; his gait became unsteady, and double vision increased, becoming almost constant. In April he was taken to a specialist, who added prisms to his glasses, which, for a time, improved his vision. In May his headaches became violent again; he suffered from attacks of nausea; his gait became more uncertain; he stiffened his feet in walking, and staggered with uncertain movements, frequently falling, but seemed in good spirits; and his temperature was subnormal. His urine was pale and passed in large quantities, but neither sugar nor albumin was detected. Since July the lad has lost flesh; loses his food by vomiting frequently; often the matters vomited are undigested food with glairy mucus, of a yellowish tinge. Pain in the head is always present before vomiting, and the head is thrown backward; he belches, and often has hiccough. The temperature is subnormal, and the hands and feet are usually cold. He generally sleeps well. The condition of his eyes as I have seen them, and been confirmed by Dr. Isett, who is practiced in the use of the ophthalmoscope, shows both discs swollen; the arteries small and tortuous; the veins large and tortuous; the chorioid congested. Dr. Isett adds: "No doubt there is pressure on the brain somewhere." The treatment of this lad has been tonic, alterative, and dietetic. The case presents a peculiar outcome from measles.

I report these to elicit further reports of such cases, and for the sake of calling attention to the effects of measles on the nervous system, which, in these cases, seems to have suffered severely.

Dr. WILLIAM B. ATKINSON said that during the last epidemic of measles he had seen more cases of inflammation of the lungs than in any previous epidemic within the last thirty-five years. Catarrhal sequelæ had been extremely common. He had not met with eye troubles, nor had he seen any evidences of brain affections. He recalled two cases, seen some fifteen years ago, in which the eyes and the brain were so affected that vision was entirely lost. In one case the vision returned after a period of fifteen months, and the child recovered perfectly. In the second case, that of a child eighteen months of age, the vision was perfectly restored at the end of eight or ten weeks. He attributed the restoration of vision, in the first case, largely to the use of phosphorus, which, with intervals of rest, was continued for a year.

Dr. W. M. WELCH had never met with the sequelæ referred to by Dr. Collins, but thought that reference is made to them in elaborate text-books. Such sequelæ were, he thought, more frequent after small-pox than after measles. He had seen the hearing and speech affected during recovery from small-pox, but never from measles. The author had referred to a subnormal temperature after defervescence took place. The speaker had noticed this, and also unusual slowness of the pulse. In adults, he had frequently found the pulse under fifty, when in the recumbent posture.

Dr. E. T. Brien said that the question whether or not in these cases, where nervous symptoms had been prominent, there was any lesion of the nervous system, had always been an interesting one to him. He had recently had the opportunity of making a post-mortem examination in a case of typhoid fever where nervous symptoms had been well marked from the sec-

ond week onward. The patient had always been regarded as an hysterical individual. There was spasm of the muscles of the back of the neck, with retraction of the head to the right side, also spasm of the right arm, with contraction of the muscles, and the right leg was similarly affected. The pupils always responded to light, and there was no paralysis of any muscle. The only abnormal condition found in the brain was the presence of two cysts, one in each fissure of Sylvius. These were of about the size of a walnut and contained clear fluid. There was no evidence of inflammation or of the presence of hydatids. It was a question whether or not these cysts were congenital. This case showed that there might be marked nervous symptoms without special lesions, and at the same time might we not imagine that some of these cases of severe nervous symptoms in the course of the specific fevers occurred in consequence of imperfect development of the cerebral substance? The only case in which he could recall symptoms similar to those described by Dr. Collins was that of a child four years of age, and the result in that case had been permanent insanity.

Book Notices.

Syphilis. By JONATHAN HUTCHINSON, F. R. S., LL. D., Consulting Surgeon to the London Hospital, etc. With Eight Chromo-lithographs. Philadelphia: Lea Brothers & Co., 1887. Pp. xii-532. [Price, \$2.25.]

Few men are better known in the medical world than Mr. Jonathan Hutchinson. For years he has written and spoken clearly and instructively upon the disease which is the subject of the book now before us. When such a man writes a book on syphilis, we are justified in expecting one of great value, and we have not been disappointed in this instance. Nevertheless, we are conscious of a feeling of annoyance, because the valuable material given in the book is arranged so badly that the general effect is marred. The subject is treated of under two main divisions: 1. general statements, 64 pages; 2. clinical commentaries and illustrative cases, 454 pages.

In regard to the use of such terms as syphilitic lupus, syphilitic psoriasis, syphilitic lichen, and the like, there are those who hold that such diseases of the skin do not exist, and that the use of such terms only makes the confusion of dermatological nomenclature worse confounded. We confess that we are somewhat surprised at so unscientific a use of terms as occurs on page 344, where we read of a syphilitic form of lupus erythematosus being predisposed to by the chilblain diathesis (!). Mr. Hutchinson is a unicist, and teaches that the soft non-infecting sore is produced by the inflammatory products of syphilis without the actual virus of the latter disease. He believes that syphilis is of microbial origin, but that the specific microbe has not yet been discovered. He believes that oft repeated small doses of mercury are capable of aborting syphilis in most cases, provided its administration is begun at the time of the induration of the initial lesion and the appearance of the button bubo. Second attacks of syphilis are not considered to be uncommon, and he does not regard them as evidences of complete cure of the first attack. The contagious property of syphilis is believed to exhaust itself after two years; and at the expiration of that time the surgeon is justified in sanctioning marriage, provided the patient has undergone a thorough course of mercury.

The phenomena of the tertiary period of syphilis are due, according to our author, to peculiarities which have been

stamped upon the tissues during the active or secondary period of the disease. They are often excited by purely local causes, and are entirely non-contagious, though they spread by a species of local infection. They are but little influenced by specific treatment, except in their earliest stage.

Mr. Hutchinson teaches that a child may inherit syphilis from the father through the agency of the semen; from the mother through the agency of a diseased ovum or the placental circulation; or from both parents. Hereditary syphilis can not be passed on to the third generation, nor does syphilis ever cause any other chronic skin disease or scrofula. The physiognomy of a typical case of inherited syphilis is admirably given on page 433; the symptoms of iritis in the same disease are tabulated on page 244; and the appearances of "Hutchinson's teeth" are scattered about through the book, but are best shown on pages 86 and 422.

To one who is well versed in syphiography, this book will prove attractive on account of its wealth of short clinical notes illustrating many rare phases of syphilis. To one who has seen a fair amount of syphilis, it will serve as a light to illuminate some obscure cases. But it seems to us that it would be difficult for a student or tyro in medical practice to derive from it a clear idea of the disease of which it treats; and this, not because the book does not contain the whole subject, but because the matter is presented so unsystematically. If the general statements were given more fully, and the clinical commentaries were better arranged, it would be an exceedingly good treatise on syphilis. The book is well printed and provided with a copious index. The eight lithographic plates, with their thirty-two illustrations, are worth the price of the book. They well illustrate syphilitic chorioiditis and iritis, erratic chancre, and syphilitic disease of the teeth and nails. We are pleased to note that our compatriot, Dr. R. W. Taylor, is given full credit for his pioneer work concerning dactylitis syphilitica.

Lectures on the Surgical Disorders of the Urinary Organs. By REGINALD HARRISON, F. R. C. S., Surgeon to the Liverpool Royal Infirmary, etc. Third Edition, rewritten and enlarged. London: J. & A. Churchill, 1887. Pp. xi-583.

THE second edition of this excellent and exceedingly practical work was issued in 1880, and reviewed at some length in our columns. The book now appears with nearly two hundred more pages, including the contents of two other books by the same author, viz.: "The Prevention of Stricture and Prostatic Obstruction," issued in March, 1882, and "Observations on Lithotomy and Lithotripsy," issued in May, 1883. We need not again attempt a critical examination of the book, but will simply note that one hundred and sixty-seven of its pages are devoted to the consideration of stricture, nearly one hundred pages are given to an account of the diseases of the prostate, and the same number of pages are taken up by a study of stone. The book is profusely illustrated with woodcuts, and is one of the most complete and valuable treatises upon the subject that we have seen.

GENERAL LITERARY NOTES.

Among recent foreign publications we note the following:

F. ALCAN, Paris.—F. Despagnet, "De l'irido-chorioidite suppurative dans le leucome adhérent de la cornée" (2fr.) — L. Martineau, "Leçons sur la thérapeutique de la métrite." (3fr.) — Lahillonne, "Étude de posologie hydro-minérale rationnelle dans les troubles de la respiration et de la circulation." (1fr. 50.) — Lemoine, "De la blépharoptose cérébrale."

A. DELAHAYE & E. LECROSNIER, Paris.—Odent, "Des angines pseudo-membraneuses au cours de la scarlatine." (2fr.) — A. Hovelacque and G. Hervé, "Précis d'anthropologie."

J. B. BAILLIÈRE & FILS, Paris.—A. Herzen, "Le cerveau et l'activité cérébrale au point de vue psycho-physiologique." (3fr. 50.) — O. Jennings, "Sur un nouveau mode de traitement de la morphinomanie." (1fr. 50.) — Oré, "Hygiène des maternités." (2fr. 50.)

O. DOIN, Paris.—L. Danion, "Traitement des affections articulaires par l'électricité; leur pathogénie." (5fr.) — A. Brissay, "Fragments de chirurgie et de gynécologie opératoire contemporaines." Introduction by J. A. Doléris. (7fr.)

MORRIS & FILS, Paris.—S. E. MAVROGÉNY PACHA, "Conférences médicales sur la malaria."

Bureaux du "PROGRÈS MÉDICAL," Paris.—J. Strauss, "Le charbon des animaux et de l'homme." (6fr.)

G. STEINHEIL, Paris.—S. Bonnet, "De la cure radicale des hernies épigastriques." — R. Brunon, "Contribution à l'étude de la myosite infectieuse primitive."

A. ABEL, Leipsic.—A. Krüche, "Specielle Chirurgie. Ein kurzes Lehrbuch für Studierende und Aerzte." 4th ed. (6M.)

BENRATH & VOGELGESANG, Aachen.—J. Beissel, "Balneologische Studien mit Bezug auf die Aachener und Burtscheider Thermalquellen." (1M. 40.)

M. COHEN & SOHN, Bonn.—H. Ribbert, "Der Untergang pathogener Schimmelpilze im Körper." (3M.)

W. ENGELMANN, Leipsic.—B. Hofer, "Untersuchungen über den Bau der Speicheldrüsen und des dazu gehörigen Nervenapparates." (5M.) — W. Kirchner, "Ueber Divertikelbildung in der Tuba Eustachii des Menschen." (4M.) — T. Kölliker, "Ueber die Hernia processus vaginalis encystica." (0M. 60.) — P. Müller, "Bemerkungen über physiologische und pathologische Involution des puerperalen Uterus." (1M. 60.) — Von Nussbaum, "Ueber Unglücke in der Chirurgie." (1M. 20.) — J. Orth, "Ueber die Entstehung und Vererbung individueller Eigenschaften." (2M.) — Reubold, "Ueber Pankreasblutung vom gerichtsärztlichen Standpunkte." (1M. 20.) — J. A. Rosenberger, "Ein Vorschlag zur Behandlung gangränescirender Darmwandbrüche." (1M.) — H. Virchow, "Ein Fall von angeborenem Hydrocephalus internus, zugleich ein Beitrag zur Mikrocephalenfrage." (6M.)

F. ENKE, Stuttgart.—P. Zweifel, "Lehrbuch der Geburtshülfe für Aerzte und Studierende." (16M.) — A. Vogel, "Lehrbuch der Kinderkrankheiten." 9th ed. Ed. by P. Biedert. (14M.) — Von Nussbaum, "Leitfaden zur antiseptischen Wundbehandlung mit Rücksicht auf ihren gegenwärtigen Standpunkt." 5th ed. (6M.) — C. F. Kunze, "Compendium der praktischen Medicin." 9th ed. (10M.) — A. Politzer, "Lehrbuch der Ohrenheilkunde für praktische Aerzte und Studierende." 2d ed.

HEUSER, Neuwied.—Michaelis, "Rathgeber für Leberkranke." (3M.)

A. HIRSCHWALD, Berlin.—F. Falk, "Die pathologische Anatomie und Physiologie des Joh. Bapt. Morgagni (1682-1771). Ein monographischer Beitrag zur Geschichte der theoretischen Heilkunde." (2M. 40.) — A. Goldscheider, "Neue Methode der Temperatursinnprüfung." (4M.) — E. Siemerling, "Anatomische Untersuchungen über die menschlichen Rückenmarkswurzeln." (2M. 60.)

A. HÖLDER, Vienna.—S. Stricker, "Ueber die wahren Ursachen." (1M. 50.) — E. Neusser, "Die Pellagra in Oesterreich und Rumänien." (1M. 50.)

LIPSICUS & TISCHER, Kiel.—G. Berger, "Fünf Fälle von Erweiterung der Stirnhöhlen durch Flüssigkeitsansammlung." (0M. 80.)

A. MÜLLER, Zürich.—A. E. Fick, "Ueber Erkältung." (0M. 80.)

VANDEMÖCK & RUPPRECHT, Göttingen.—G. Riehm, "Repetitorium der Zoologie, zum Gebrauch für Studierende der Medicin und Naturwissenschaften." (3M. 60.)

F. VALLARDI, Rome.—A. Biondi, "Trattato di semiotica medica." (15L.)

BOOKS AND PAMPHLETS RECEIVED.

Massage. Principles and Practice of Remedial Treatment by Imparted Motion. By George H. Taylor, M. D., etc. New York: John B. Alden, 1887. Pp. 5 to 173.

Senkung und Vorfall von Scheide und Gebärmutter sowie die veralteten Dammrisse. Von Dr. G. Walcher, 1. Assistenzarzt die

geburtshilflich-gynäkologischen Klinik zu Tübingen. Tübingen: H. Laupp, 1887. Pp. xiii-161. [Gynäkologische Abhandlungen unter Zugrundlegung von 4,000 Fällen aus der geburtshilflich-gynäkologischen Klinik zu Tübingen.]

The Delusion of Tonics. By George H. Taylor, M. D., etc.

A Practical Treatise on the Diseases of the Hair and Scalp. By George Thomas Jackson, M. D., Instructor in Dermatology in the New York Polyclinic, etc. New York: E. B. Treat, 1887. Pp. 21 to 356. [Price, \$2.75.]

The Specific Gravity of the Urine and its Relations to Structural Diseases of the Kidneys. By Charles W. Purdy, Honorary Fellow of the Royal College of Physicians and Surgeons, Kingston. [Reprinted from the "Journal of the American Medical Association."]

The Burton Case. By W. Thornton Parker, M. D., etc., Newport, R. I. [Reprinted from the "Journal of the American Medical Association."]

Successful Removal of Two Osteomata of the Orbit: One originating in the Frontal, and the other in the Ethmoidal Cells. With a History of Osteomata of the Neighboring Pneumatic Cavities of the Orbit. By Joseph A. Andrews, M. D., Ophthalmic Surgeon to Charity Hospital, New York. [Reprinted from the "Medical Record."]

Suppuration de l'oreille moyenne. Par W. Cheatham, M. D., chargé du cours des maladies de l'œil, de l'oreille, de la gorge et du nez à l'Université de Louisville, Ky. (traduit de l'Anglais par R. Lendat). [Reprinted from "Annales des maladies de l'oreille, du larynx, du nez et du pharynx."]

Sanitary Progress. A Paper read before the Beirut Literary Society, February 4, 1886. By C. F. Dight, M. D., Professor of Physiology and Hygiene in the American College at Beirut, Syria.

Surgical Relations of the Ileo-cæcal Region. By J. McF. Gaston, M. D., of Atlanta, Georgia. [Reprinted from the "Journal of the American Medical Association."]

Pathology, Diagnosis, and Treatment of Perforation of the Appendix Vermiformis. By J. McF. Gaston, M. D., Professor of Surgery, Southern Medical College, Atlanta, Ga. [Reprinted from the "Journal of the American Medical Association."]

The Dressings and Appliances employed in the Practice of Antiseptic Surgery. London: John Milne, 1887.

Études cliniques sur le morrhuel (extrait de l'huile de foie de morue brune). Par E. C. Lazeaud, Docteur en médecine de la Faculté de Paris, Paris: G. Steinheil, 1887. Pp. 56.

Reports on the Progress of Medicine.

OPHTHALMOLOGY.

By CHARLES STEDMAN BULL, M. D.

Myopia and its Treatment.—Knies ("Arch. f. Ophthal.," xxxii, 3) begins by defining myopia as a pathological process which leads to an enlargement, and especially to elongation, of the eyeball beyond the normal limits of growth. The first symptoms of beginning myopia are both subjective and objective. The subjective symptoms are a sense of pressure in and behind the eye, photophobia, asthenopia, entoptic manifestations, phosphenes, etc. The objective symptoms are a wide pupil and typical changes in the fundus. The first changes in the fundus are hyperæmia of the optic disc and loss of retinal luster, and this condition Knies characterizes as myopia imminens, as distinguished from that condition in which a crescent has already begun to form on the temporal side of the disc, and which he calls myopia incipiens. The lost retinal luster never returns, nor does the optic papilla ever regain its normal appearance. Knies regards myopia as a disease of the eyes which, to a certain extent, stands between iritis serosa on the one hand and chorioiditis disseminata on the other. It is analogous to the first in the more diffuse extension of the trouble in the external layers, whereby the pigment epithelium is in the beginning but little affected. It is analogous to the latter in its localization in the posterior pole of

the eye. In common with both, it is more apt to occur at the period of puberty, and to be bilateral. In all three diseases the extension of the inflammatory process from the eye along the optic nerve and its inner sheath may be demonstrated. In all three diseases, therefore, the condition of the optic nerve is a test or proof of the activity of the process.

Investigations into the Relation between Convergence and Accommodation of the Eyes.—Maddox's article ("Ophth. Review," Dec., 1886) is an abstract of three papers previously published in the "Journal of Anatomy and Physiology." His chief method of examination was the direct method, to ascertain the relative position of equilibrium of the eyes, as follows: The dark box into which the eyes look from the narrow end has a median partition crossed at one point by a rectangular obstructive. At the farther end are two luminous apertures, represented by the dots to which lines are drawn from the eyes. The right one is movable, and its position is quite correctly estimated as long as the obstructive is in the middle, for then the desire for single vision is exercised. But, when the obstructive is pushed to the right, that desire ceases, and the two apertures appear to approach each other. The apertures are at slightly different levels, and when they are adjusted so as to appear to be in the same vertical line, a real interval separates them, which records automatically on a graduated scale the deviation which occurs. The results of his examinations are as follows: 1. The natural position of equilibrium of the two eyes with distant vision is one of slight convergence of their visual axes. The rule, therefore, is that, when in distant vision one eye is covered by the hand, the covered eye turns in. It follows from this that the exact parallelism of the visual axis which occurs in natural binocular vision for distance is only maintained by the active exercise of the desire for single vision. 2. The degree of initial convergence is the same whether one or both eyes are engaged in active fixation of distant objects, provided the desire for single vision is not excited. This shows that the convergence of the covered eye is not due to lessening of its accommodation, and is corroborative of the fact that the effort of accommodation is a single one for both eyes. 3. The central connection between accommodation and convergence is so delicate that the slightest increase of the former alters the position of the visual axis of a covered eye. This associated or "accommodative" convergence is added on to the initial convergence, so that for nearer objects up to a certain distance from the eye there still exists some relative convergence, but the "initial" disproportion between convergence and accommodation is continually lessened till a point is reached, in viewing which it ceases. 4. The first effort of accommodation is accompanied by more than its corresponding proportion of a metre angle, but from this "point of greatest relative convergence" the disparity gradually lessens up to the point of coincidence. 5. As vision approaches from the point of coincidence, relative divergence sets in, and gradually increases till at ten inches from the eyes there is an outward deviation of a covered eye to 4 or 5°. The deviation begins in half a second after the eye is covered, and continues to advance at decreasing speed for from half a minute to a minute and a half. 6. The deviation is exactly similar whether one eye is placed subjectively in the dark, or both receive one or more images. 7. This divergence in near vision is greatest on first opening the eyes in the morning; it diminishes rapidly during the first half hour and more slowly through the day, and undergoes a temporary increase after the principal meal. 8. The convergence of near binocular vision is, therefore, composed of three factors. The "initial" convergence is the starting-point. To it is added the accommodative convergence; and, lastly, the "fusion-supplement," excited by the desire for single vision, makes up what deficiency is left. 9. As vision approaches close to the near point, the increasing mechanical resistance to both accommodation and convergence necessitates the expenditure of continually increasing effort to do each equal increment of work. But the effort required increases in much quicker ratio for the former than the latter, so that each dioptré of accommodation requires an effort great enough to cause more than a metre angle of convergence. 10. The oculomotor muscular sense is purely central. 11. When one eye is covered, the object seen by the other eye seems to move in the direction of the covered one; the apparent movement is at half the rate, and through half the angle of the real deviation of the excluded eye, show-

ing that half the deviation is due to contraction of the external rectus by a ranging center, and the other half to relaxation of the internus from the converging center. 12. A fixed object seen by a stationary eye may appear to move in some experiments, and the same fixed object seen by a moving eye may appear stationary in others, according to the innervations in play. 13. The great physiological differences in the extent of the connection between the two efforts of convergence and accommodation in different individuals account for the fact that squint results as a consequence of many cases of hypermetropia, with less refractive abnormality than in other cases where squint shows no tendency to occur. 14. If accommodation and convergence were as inseparable as they were once thought to be, there would be diplopia for most objects outside the median plane, homonymous or heteronymous, according to their distance from it. 15. The two efforts are primitively in large measure dependent, but the connection gradually lessens as age advances.

A Case of Double Ophthalmoplegia.—Caudron ("Rev. gén. d'ophthal.," Jan., 1887) reports a case of this kind in a locksmith, aged forty, who applied for treatment, complaining of loss of sight. With the right eye he could count figures at two metres and a half, but with the left he could only distinguish the movements of the hand at one metre. There was a simple atrophy of the optic disc, more pronounced in the left eye. With the right eye green could not be recognized, and blue and red only in the infero-nasal segment of the field. In the left eye there was a large central scotoma, and red and blue could only be recognized in large masses, while all other colors were not recognized at all. Both eyes were absolutely immovable in the orbits. The pupils responded to both direct and reflex irritation, though sluggishly. The case must be classed as one of bilateral nuclear paralysis. This patient drank to excess, and was the son of an alcoholic mother. He had no tabetic symptoms and no headache, but his memory had failed, and he was somnolent.

The Astigmatic Contractions of the Ciliary Muscle.—Martin ("Annales d'oculistique," Jan.-Feb., 1887) draws the following conclusions from his investigations: In certain cases the over-correction in one eye is associated with a partial contraction, excited by a corneal astigmatism of the other eye. The over-correction operates in virtue of the law of associated movements. The associated astigmatism results from an associated contraction. The difference in the degree of astigmatism of the cornea of the same patient does not always induce a contraction exceeding the limit in the less astigmatic eye. Whenever the difference between the two asymmetrical surfaces is slight, each eye regulates its own internal contractions. Whenever the associated contraction is manifest, the difference between the corneal astigmatism of the active eye and that of the passive eye varies between 0.50 D and 3.50 D. About one patient in eight seems to escape this influence of one eye upon the other. The associated contraction is always of a less degree than the contraction which gave rise to it. In subjects showing partial contraction in the active eye, this contraction varies from 0.25 D to 1 D. When there exists in the passive eye a slight degree of corneal astigmatism, the correcting contraction does not ordinarily make a right angle with the meridian of greatest refraction of the cornea. A horizontal contraction of the active eye gives rise in the passive eye to a contraction either horizontal or within 15° of horizontal. A vertical contraction apparently causes an oblique contraction. An oblique contraction excites an oblique contraction, with an angular difference varying from 0 to 30°. In the great majority of cases of oblique contractions the associated contraction lies in the same direction as the directing contraction. The angle existing between the directing contraction and the associated contraction only once reached the height of 90°. The associated contraction causes a subjective astigmatism in an eye without corneal astigmatism, and always lasts longer than the contraction which gave it birth. Prolonged use of atropine is necessary to overcome this contraction, and the longer it has existed, the more obstinately it resists treatment.

Indications for Intra-ocular Irrigation after Extraction of Cataract.—Grandclément (*ibid.*) is convinced that irrigation of the anterior chamber and of the capsular sac is an excellent and very necessary complement to the extraction of the cataract. The irrigating fluid brings away numerous lenticular *débris*, which otherwise might remain con-

cealed from view of the surgeon and give cause to serious inflammation. These irrigations are particularly to be recommended in immature cataracts. He advises a solution of mercuric bichloride of the strength of 1 to 5,000.

Sudden and Lasting Nystagmus Lateralis, most Marked when Looking to the Left.—At a meeting of the Ophthalmological Society of the United Kingdom ("Ophth. Rev.," March, 1887) there was shown a man, aged seventy, who three days previously had noticed, on waking, that fixed objects moved and rocked laterally. He had been troubled with slight diplopia for fifty years. For the last week he had been giddy. He had been deaf for fourteen years in the right ear, and for five years in the left ear, from ordinary middle-ear catarrh. There was no apparent squint, and an examination of the diplopia showed that the double images were but little distance apart. Lateral nystagmus was most marked when he looked to the left side. The pupils were of equal size, and reacted to light and accommodation. The hippus was irregular as to time and degree, was not synchronous with respiration, pulse, or nystagmus, and was not altered by looking to the right or left. The nystagmus was increased by active movements, especially in coming down stairs and in turning suddenly to the right. The knee-jerk was normal.

Episcleral Faradization and Galvanization of the Ocular Muscles.—Eulenburg ("Ctrbl. f. prakt. Aug.," March, 1887) advises the use of a new electrode devised by Hirschmann, of Berlin, for application to the ocular muscles. It consists of a flexible, oval platinum plate, 8 mm. long and 6 mm. wide, attached to a slender shank 20 mm. long, which is inserted in a brass cap. The electrode is fixed in a handle 10 cm. long, at the lower end of which is a binding-screw for connection with the battery, and the handle is also provided with the usual apparatus for breaking and opening the current. In applying the faradaic or galvanic current to the affected muscles, the eye is at first cocaineized. The platinum plate is then at once brought in firm apposition with the desired spot, and then the other electrode, in the form of a large round plate, is placed upon the sternum or the palm of the hand, and then the current is allowed to pass by opening the connection. The current may be allowed to pass continuously for from one to two minutes without producing an ill effect. Eulenburg has never succeeded in producing any excursive movements in the galvanized muscles even with this improved apparatus, and therefore does not think that this episcleral irritation of the ocular muscles will have any value as a means of exploration in cases of paralysis of the ocular muscles.

Double Dacryoadenitis.—Caudron ("Rev. gén. d'ophthal.," Jan. 31, 1887) reports a case of this kind in a woman, aged thirty-four, of rheumatic constitution, whom he first saw with an inflammatory swelling of the right lacrimal gland of ten days' duration. The pain was intense and of a throbbing character, and the upper lid was intensely swollen. The enlarged gland projected at the upper external angle of the orbit. The left lacrimal gland had become inflamed several days subsequently, and presented the same symptoms, but to a less degree. The patient for more than six months had been subject at her menstrual epochs to a swelling of the upper lids which lasted for several days, and which was confined to the region of the lacrimal glands.

Secondary Transplantation of Skin-Flaps without Pedicles, and their Value in Blepharoplasty.—Wicherkiewicz ("Arch. für Ophthal.," xxxii, 4) makes a strong plea for a more extended employment of this method of operating. Before the operation, the patient must take a complete bath and put on clean under-clothing. The eyelids, lashes, and surrounding region of the face are then to be scrubbed with an aseptically clean sponge and soap, and then bathed with a solution of corrosive sublimate (1 to 1,000). The conjunctival sac is then to be irrigated with a sublimate solution of 1 to 10,000. An incision is then to be made parallel to the ciliary margin of the everted lid through the skin as far as the fascia for the whole length of the lid. From the ends of this incision a curved incision is made through healthy skin, which shall include all cicatricial tissue and adhesions, and this is then excised. The edges of upper and lower lids are then united by sutures for a distance of ten or twelve millimetres. When all bleeding has ceased, the wound-surface is irrigated with a cold solution of carbolic acid, and then covered with a piece of Billroth's iodoform gauze and absorbent cotton. Both eyes are then covered with a piece of gauze

soaked in a sublimate solution of 1 to 1,000, and bandaged. From the second to the fifth day the transplantation is to be done. The portion of the patient's body from which the flap is to be taken is to be carefully washed with soap and the sublimate solution (1 to 1,000). The bandage is then to be removed from the eyes under the carbolyzed spray. A pattern, cut from aseptic muslin, is then to be made from the space to be filled, and a flap, some millimetres larger in every direction, is to be cut from the skin of the arm and dissected up, care being taken to preserve the subcutaneous cellular tissue. This flap is then placed with the skin surface downward on the finger and thumb of one hand, and irrigated with boiled distilled water, during which the operator removes with the scissors all adipose and connective tissue. The flap is then carefully placed upon the raw surface to be filled, and fastened in place by four sutures. Great care should be taken that the flap lie as smoothly as possible. The parts are then covered with a piece of tin-foil that has been thoroughly boiled, and over this a layer of absorbent cotton and iodoform gauze. A bandage is then applied over both eyes. If there is no discharge, the bandage is to be left undisturbed for six or seven days. Blepharorrhaphy is, if possible, to be avoided.

Transplantation of the Cornea.—Von Hippel ("Rev. gén. d'ophtal.," Sept. 30, 1886) reports another case of successful transplantation of the cornea. The patient was a young girl, aged seventeen, who had a corneal leucoma from an ulcer in early childhood. The opacity measured four millimetres in diameter, entirely obscured the pupil, and affected the vision so seriously that even with a dilated pupil the patient could only count fingers at two metres. With a circular trephine four millimetres in diameter, the entire opaque cicatrix was excised down to the membrane of Descemet, and removed with knife and forceps. The hæmorrhage was controlled by iced applications of a solution of mercuric bichloride. The same trephine was then used to excise a piece of a rabbit's cornea through its entire thickness. This was at once placed in the wound, which it completely filled. The conjunctival sac was then carefully irrigated with the same solution of bichloride, iodoform was dusted over the eye, and then both eyes were closed with a bandage. The wound healed rapidly. During the first few days there was slight cloudiness of the transplanted flap, but this disappeared at the end of the first week. Some punctate erosions of the epithelium and two small spots of infiltration near the lower margin of the flap appeared during the second week, but disappeared in two days. The bandage was removed at the end of the second week, and vision was then $\frac{20}{200}$ with a narrow pupil. At the end of eight months the flap was still transparent.

Contribution to the Subject of Glaucoma.—Rheindorf ("Kl. Mon. f. Aug.," April, 1887) offers the following hypothesis of the pathogenesis of glaucoma: 1. He regards primary glaucoma as merely the expression of an obstructed exit of the intra-ocular fluid from the posterior to the anterior segment of the eyeball, caused by a thickening of the zonular diaphragm. 2. He regards secondary glaucoma as the expression of an increased secretion in consequence of local irritation of a section or part of the uveal tract, especially of the ciliary body and processes. There is thus no similarity between the nature of primary and that of secondary glaucoma, although the one symptom of increased tension, with its consequences, is common to both. It is possible, however, that in primary glaucoma the increase of tension begins in the posterior segment of the globe, while in secondary glaucoma it begins either in the vitreous or in the anterior chamber. The author seeks the cause of the advancement of the lens in a condition of the zonule. If we assume that glaucoma is a secretory neurosis, a hypersecretion of the vitreous, what would prevent the exit of the fluid through an intact zonula, and thus an equalization of the contents of the vitreous and of the anterior chamber? The worst that would be produced would be an increase of the entire contents of the eyeball, but not of a segment of it. Rigidity of the sclera and obliteration of Fontana's space would not explain the symptom; on the contrary, we should rather expect a deepening of the anterior chamber. With a narrowing of the circumferential space by an increase in width of the lens, the zonula remaining intact, the current would pass more rapidly through the narrowed channel of exit. The advancement of the lens is always the primary symptom, while the inflammation is the second-

ary one. Hence Rheindorf regards this advancement of the lens, and the consequent strain on the ciliary processes, as the cause of the glaucomatous inflammation. He regards the mydriasis as a purely mechanical symptom caused by two factors. When the point of increased secretion of the intra-ocular fluids has been reached, the ocular capsule must tend to assume that form in which it possesses the greatest capacity—that is, the globular form—and must also tend to equalize the sclero-corneal angle. Hence a strain is exerted upon the peripheral attachment of the iris in a centrifugal direction. If, now, the iris is pushed forward by the advancing lens, and drawn tightly over the latter like a cap, the pupil is stretched out and expanded, and the iris is thinned. Hence mydriasis and thinning of the iris can only occur when the lens is pushed forward. An explanation of the loss of sensibility of the cornea in acute glaucoma is more difficult to give, but Rheindorf thinks that it is certainly not a phenomenon of pressure. It is, perhaps, due to some alteration in the terminations of the corneal nerves due to inflammatory changes in the cornea in acute glaucoma.

Contribution to the Doctrine of Glaucoma.—Jacobson ("Archiv für Ophthal.," xxxii, 3) in this paper discusses the various theories that have been advanced as to the causation and pathogenesis of glaucoma. In regard to the connection existing between increased tension and glaucomatous excavation, Jacobson states as a fact that in an acute glaucomatous eyeball the tension, even after enucleation, remains much above normal, until evident signs of evaporation appear on the surface. He also calls attention to two additional circumstances: 1. In many cases of chronic glaucoma, after an iridectomy has been done and the anterior chamber emptied, by a slight pressure on the lid a clear, colorless, or slightly yellowish fluid can be pressed out for some minutes. 2. In many cases of chronic glaucoma, on the removal of the bandage twenty-four hours after the operation, the anterior chamber is found deep, the aqueous humor clear, and the wound apparently well closed, but the entire conjunctiva chemotic. Both these appearances are due to a pathological collection of free fluid in the periphery of the vitreous chamber. Jacobson also believes that in an acute attack of glaucoma, during the period of increase of tension, the papilla may sink back before the vessels at the edge deviate from their plane or level. In chronic glaucoma the excavation is the consequence of an increase of tension, which is neither continuous nor of a high degree, and is shown, not by coarse, demonstrable changes in the vessels in the iris or refracting media, but by a gradual sinking backward of the optic papilla. The origin and development of the excavation are the same, whether the glaucoma is acute or chronic. The periodical obscurations of vision are due to obstructions in the arterial current to the retina. The colored rings seen by the patient are due to anomalies of refraction, and are also dependent on the chorioidal circulation. Both symptoms appear simultaneously and belong together. Jacobson considers that if the assumption that the vitreous chamber of the glaucomatous eye is too full is correct, then we should naturally look *a priori* to venous chorioidal stasis as the most probable cause of a transudation into the vitreous. Inasmuch as we now refer the causation of the colored rings and the periodical obscurations of vision to circulatory disturbances in the region of the chorioid, it is not too much to assume that the causes of the prodromal symptoms are at the same time the most probable causes of the increased tension. Similar varieties of excavation and similar functional disturbances point to a close relationship between acute and chronic glaucoma, and to a dependence of the function upon the excavation. As long as the media are clear, slight obstructions to the circulation will be overcome or made harmless by collateral channels (glaucoma simplex); but when the media begin to be cloudy, either the course of the circulation in one direction is blocked or the limit is passed up to which a slowing of the current without transudation may be brought. Jacobson does not think that the arterial pulsation in glaucoma can be explained by the increased tension alone; diseases of the circulatory apparatus are a necessary condition for its production. These primary conditions act upon the blood-current in the choroid in the same way as they do on the current in the retina, and their consequences are a lower arterial pressure, passive hyperæmia, and dilatation of the capillaries and veins. The numerous vascular anomalies in the retinal picture of chronic and advanced acute glaucoma consist in dilatation, distortion, stopping of the caliber of the veins, with or with-

out hæmorrhages, and in diminution of the visible arterial contents, with or without sclerosis of the vascular walls. They are usually consequences of bodily diseases, the influence of which the chorioid, as well as the retina, has to bear. It is a well-known fact that by small doses of atropine, homatropine, and cocaine in concentrated solutions, acute glaucoma may be produced, and again safely and permanently cured by eserine. In Jacobson's opinion, as soon as mydriatics have entered the anterior chamber they exert a paralyzing, dilating effect upon the vessels, which suddenly retards the rapidity of the blood-current. If there are present any local or general conditions favoring a slow movement of the venous blood—such as old age, climacteric congestions, sclerosing inflammatory action, etc.—the sudden stasis is followed by an excessive transudation. Closure of Fontana's space by the lens is not possible. The immediate consequence of the sudden crushing of the anterior segment is a profuse hæmorrhage from the vessels of the anterior segment of the choroid, by which laceration of the vessels, compression of the larger veins by extravasations, and obliteration of the veins by coagulated blood, can scarcely be avoided. This closure of a large blood-current and the consecutive dilatation of still permeable veins is followed by transudation into the vitreous, which in the second stage can not be distinguished ophthalmoscopically from the diffusely cloudy vitreous of chronic inflammatory glaucoma. The cause of the glaucoma is the violent interruption of the circulation in the vascular anterior segment of the chorioid. The retention hypothesis alone does not explain the increased tension, for the closure of Fontana's space, as demonstrated by Knies, and its most important factor, may be wanting in pronounced glaucoma. Nothing is known of pathological changes in other lymph-channels. Jacobson regards it as all-important to determine positively from a pathologico-anatomical standpoint whether constant changes are always found in undoubted glaucomatous eyes, which may be connected with increase of tension, and of what nature these changes are. An iridectomy diminishes the stasis of the venous blood in the iris, when the current through the vasa vorticosa is obstructed, and consequently makes room for the current of chorioid blood to the iris. If the continuity of the iris is broken, stasis in the chorioid vessels can never reach the degree with which acute glaucoma begins. The more recent the process, the more normal the iris tissue, the more sure is an iridectomy as a protector against venous stasis. Primary acute glaucoma is the expression of an extensive venous stasis in the anterior segment of the choroid, with consecutive acute œdema. Primary glaucoma simplex is the expression of a gradually progressive retardation of the chorioid circulation with exudation of a fluid into the vitreous chamber of a similar optical quality.

Miscellany.

The Woman's Medical College of Philadelphia.—The thirty-eighth annual session was opened on Thursday, the 6th inst. The introductory lecture was delivered by Dr. W. W. Keen.

The Woman's Medical College of Baltimore.—The opening address of the sixth session was made on Wednesday, the 6th inst., by Dr. Joseph T. Smith, who spoke of the benefits of the microscope to medical science. Dr. Richard H. Thomas, dean of the faculty, spoke of the effect that the study of medicine had in broadening the mind. Dr. Henry M. Thomas has been appointed lecturer on nervous diseases.

The Volunteer Medical Association, of Philadelphia, has elected the following Executive Committee: Dr. L. J. Deal, Chairman; Dr. Addinell Hewson, Jr., Dr. J. M. Baldy, Dr. H. H. Kynett, Dr. Charles Penrose, Dr. Orville Horwitz, Dr. W. Christie, Dr. H. Augustus Wilson, and Dr. E. L. Vansant.

"The Engineering and Building Record" is now the title of the paper hitherto known as "The Sanitary Engineer," the old name being retained as a sub-title. On making this change it says editorially: "We have decided to change the name of this journal to the title given in

this issue. It is not intended to change the character of the paper. Our object is simply to convey by the first part of the name adopted the scope of the matter it regularly gives its readers."

The City Board of Health recently passed the following resolutions:

Resolved, That on and after October 1, 1887, the consideration of all diseased animals coming under the jurisdiction of this department be and is hereby referred to the Division of Contagious Diseases of this department.

Resolved, That on and after October 1, 1887, Dr. Cyrus Edson be and is hereby transferred from the position of chief inspector of food and chemical analysis to that of chief inspector of contagious diseases, and that his salary be increased to \$3,000 per annum.

Resolved, That on and after October 1, 1887, the position of chief inspector of food and chemical analysis in this department be abolished, and that Mr. E. M. Martin, the chemist of the board, be given charge of the duties of that office, and that his salary be increased to \$2,000 per annum.

Resolved, That on and after October 1, 1887, Mr. E. M. Martin be and is hereby directed to report to this board a plan of action which shall contemplate a careful scrutiny of all food and drink commodities of this city, for the purposes of detecting the existence of diseased or adulterated conditions of them.

The Health of Boston.—During the week ending Saturday, October 8th, the following numbers of cases and deaths from infectious diseases were reported to the Board of Health: Diphtheria, 24 cases and 8 deaths; scarlet fever, 46 cases and 1 death; typhoid fever, 48 cases and 6 deaths; measles, 3 cases. There were also 30 deaths from consumption, 17 from pneumonia, 8 from heart disease, 14 from bronchitis, and 19 from marasmus. The total number of deaths was 182, against 191 in the corresponding week last year.

The Health of Michigan.—According to a summary of returns to the State Board of Health for the four weeks ending October 1st, diphtheria was reported from fifty-one places, scarlet fever from twenty-one, typhoid fever from forty-six, measles from five, and small-pox from one place.

Government Health Reports.—By direction of the Secretary of the Treasury, Dr. John B. Hamilton, Surgeon-General of the Marine-Hospital Service, has issued the following abstract of sanitary reports received during the week ending October 6th:

England and Wales.—The deaths registered in twenty-eight great towns of England and Wales during the week ending September 17th corresponded to an annual rate of 18 in a thousand of the aggregate population, which is estimated at 9,244,099. The lowest rate was recorded in Derby, viz., 15, and the highest in Preston, viz., 27 in a thousand. Small-pox caused 9 deaths in Sheffield, 1 in Liverpool, and 1 in Cardiff.

London.—One thousand two hundred and sixty-six deaths were registered during the week ending September 17th, including 22 from measles, 57 from scarlet fever, 20 from diphtheria, 53 from whooping-cough, 17 from enteric fever, 73 from diarrhœa and dysentery, and 2 from cholera and choleraic diarrhœa. There were 142 deaths from diseases of the respiratory organs. Different forms of violence caused 37 deaths, and 5 suicides were registered. The deaths from all causes corresponded to an annual rate of 15.7 in a thousand. In greater London 1,595 deaths were registered, corresponding to an annual rate of 15.4 in a thousand of the population. In the "outer ring" 27 deaths from diarrhœa, 10 from whooping-cough, 6 from diphtheria, and 2 from scarlet fever were registered.

Ireland.—The average annual death rate represented by the deaths registered during the week ending September 17th in the sixteen principal town districts of Ireland was 25.9 in a thousand of the population. The lowest rate was recorded in Newry, viz., 3.5, and the highest in Kilkenny, viz., 38.1 in a thousand.

Dublin.—Two hundred and thirty-two deaths were registered during the week ending September 17th, including 8 from measles, 3 from whooping-cough, 2 from scarlet fever, 1 from enteric fever, 2 from diphtheria, 33 from diarrhœa, and 2 from dysentery. Diseases of the

respiratory organs caused 23 deaths. Four accidental deaths were registered, and in 29 instances the causes of death were uncertified. The deaths from all causes corresponded to an annual rate of 34.3 in a thousand.

Scotland.—The deaths registered in eight principal towns during the week ending September 17th corresponded to an annual rate of 18.7 in a thousand of the population, which is estimated at 1,299,000. The lowest mortality was recorded in Aberdeen, viz., 12, and the highest in Paisley, viz., 26.5 in a thousand. The aggregate number of deaths registered from all causes was 467, including 17 from scarlet fever, 3 from diphtheria, 19 from whooping-cough, 11 from fever, and 55 from diarrhoea.

Denmark.—The Danish Government has issued an order, under date of the 6th of September, 1887, that ships coming from, or having had intercourse with ships coming from, infected ports, are subjected to quarantine, and the importation of old linen, bedding, clothing, rags, etc., from infected or recently infected ports is prohibited.

Malta.—The United States consul, under date of September 12th, in his dispatch relative to cholera states that "the hope that has been entertained that the disease would soon disappear, based on the gradual decrease in cases a few days back, has not been realized, for, on the contrary, there has been a slight recrudescence. From September 1st to September 12th, inclusive, there have been 82 cases and 28 deaths, and 29 deaths have been registered during the same period from cases previously reported."

Palermo.—The United States consul, under date of September 5th, with reference to cholera, states that "the disease has considerably decreased, the cases and deaths during the week ending the 4th instant being only 81 and 52, respectively, a decrease of 45 cases and 20 deaths compared with those reported during the preceding week."

The consul, in his dispatch under date of September 12th, states that "86 cases of cholera and 47 deaths occurred therefrom during the week ending the 11th instant, an increase of 5 cases and decrease of 5 deaths compared with the preceding week. The disease obtains in nearly all the seaport and many of the interior towns of the island, but thus far has not been severe at any point. The papers of yesterday announce 63 cases and 23 deaths within fifteen hours at Messina. Cholera has also made its appearance at Grotte and Teapani, within this district, some time since."

Florence.—The United States consul telegraphs, under date of October 4th: "Suspected cases cholera at Cagliari."

Gibraltar.—The secretary of the board of health reports, under date of September 8, 1887, that the board have decided to impose a quarantine of ten days on arrivals at that port from Sardinia.

Santiago de Cuba.—The sanitary inspector reports that "the first case of the epidemic of small-pox now prevailing was imported from Havana about five months ago, and that 1,204 deaths have been registered since that time, and the number of those attacked, so far as known, has been over 2,000. The epidemic is now, however, rapidly declining, owing to the measures taken by the municipal authorities to make vaccination and revaccination compulsory.

"Yellow fever has been almost entirely confined to the military hospital, a building located in the suburbs, on the highest hill around the city proper, and about half a mile from the port. The total number of deaths for the last three months has been 273, and those attacked 365, the majority of whom were unacclimated recruits. The troops have been now taken into the country, and the cases of fever have become rare. The shipping has been entirely free from it."

Naples.—The United States consul, under date of September 14th, states that "the number of cases of Asiatic cholera in the city of Naples from the 3d of September to the 13th of September last, both days included, were 117, of which 77 were followed by death. The entire country surrounding Naples is quite infected with cholera, but it is impossible to ascertain the exact truth, as the authorities are very reticent in regard to the actual state of affairs."

Rome.—The United States consul-general, under date of September 8th, with reference to cholera, states that "from August 25th to September 8th, inclusive, there have been in this city 109 new cases and 56 deaths. Since my dispatch of August 25th there have been further cases of cholera at Tivoli and various villages of the province. The

precise number of cases is not obtainable, but the mortality is said to be about 60 per cent."

Messina.—The United States consul, in his dispatch dated September 13th, states that "with regard to the cholera in Messina this summer, I have the honor to report that a refugee from Catania arrived in this city July 4th, and died of cholera two days later. His nurse died on the 10th, whereupon the authorities ordered a thorough cleaning up and disinfecting of the streets and lanes, and prohibited the sale of stale meats, fish, vegetables, and fruits in the market. Two other imported cases of cholera, both of which proved fatal, occurred during the month of July. August 6th I telegraphed to the department 'yesterday 3 deaths from cholera, originating here.' These cases greatly alarmed all classes, and a general stampede from the city followed. The retail trade of Messina has suffered seriously from this exodus, and as the Mediterranean countries established quarantines of from 5 to 21 days against arrivals from Sicily, the movement of foreign shipping has been small this summer. Up to the 10th instant the port authorities continued to give clean bills of health. The record of cases and of deaths from cholera in the province of Messina from July 4th to September 8th is 71 cases and 45 deaths, of which 55 cases and 34 deaths occurred in the city of Messina. From August 28th to September 8th but two cases of cholera have occurred; the sanitary precautions were suspended and, confidence being restored, thousands of refugees returned to the city for the municipal election, September 8th. Cholera reappeared in an aggravated form on the 10th instant. From Saturday morning to Monday midnight 158 cases and 66 deaths have been reported."

MORTALITY TABLE, FOREIGN CITIES.

CITIES.	Week ending—	Estimated population.	Total deaths from all causes.	DEATHS FROM—							
				Cholera.	Typhoid fever.	Scarlet fever.	Diphtheria.	Small-pox.	Measles.	Whooping-cough.	Diarrhoea.
Paris	September 3.	2,350,045	904	9	35	5	27				
Paris	Septemb'r 10.	2,350,045	842	7	42	5	19				
Paris	Septemb'r 17.	2,350,045	893	6	27	1	17				
Glasgow	Septemb'r 17.	745,543	193		5	6	1				
Warsaw	Septemb'r 10.	430,175	289	18			11				8
Calcutta	August 13.	133,217	163	12							
Calcutta	August 20.	133,217	184	11							
Amsterdam	Septemb'r 17.	318,668	179		1		4				
Rio de Janeiro	August 27.	300,000	411	181			8				
Rio de Janeiro	September 3.	300,000	419	1	170		3				
Munich	Septemb'r 10.	269,000	171				1				6
Edinburgh	Septemb'r 17.	258,629	81				3				
Palermo	Septemb'r 18.	250,000	123	55			3				1
Belfast	Septemb'r 17.	224,492	95				3				
Havana	Septemb'r 22.	208,000	165	1	19						
Genoa	Septemb'r 17.	179,482	65		1	2	1				
Leipsic	Septemb'r 17.	170,000	68				6				
Trieste	September 9.	150,157	94		6		2				
Stuttgart	Septemb'r 17.	125,550	40				1				
Toronto	October 1.	120,000	24				2				
Havre	Septemb'r 17.	112,074	91				25				
Leghorn	Septemb'r 18.	101,355	60				1				
Reims	Septemb'r 17.	97,903	44				2				
Lith	Septemb'r 17.	72,276	35				1				
Mayence	September 3.	65,701	21				1				1
Cienfuegos	Septemb'r 19.	37,464	25	3	1		1				
Cienfuegos	Septemb'r 26.	37,464	13		1						
Vera Cruz	Septemb'r 22.	23,800	22	1							
Gibraltar	Septemb'r 10.	2,631	10				1				1
Guayaquil	Septemb'r 15.	30,000	41		9						

New York Quarantine—Cholera.—The following communication has been received from Dr. William H. Smith, health officer at the port of New York, under date of the 5th instant:

"The steamship *Alesia*, from Marseilles, August 29th, and Naples, October 3d, with most of her cargo taken at Marseilles—at Naples she received her cargo by lighters—arrived at this quarantine, and was inspected the morning of September 23d. The report of the surgeon showed that there had been eight deaths on board, six of which were unquestionably cholera. All the cases reported were fatal. Four cases were found in hospital sick with the disease, and four cases were discovered when inspecting the passengers. I may here refer to the fact that the bill of health from the consul at Naples declared that 'there had been many cases of cholera at Naples and vicinity for the last five weeks. The exact number could not be ascertained. The mortality of those attacked is 70 per cent.' (Consular bill of health.) The well passengers were removed the same day to Hoffman Island for observation, and the sick to Swinburne Island Hospital. The number of cases

on board on arrival was eight; twenty cases have developed among the passengers since they have been under observation to this date; five of those removed from the vessel have died and three recovered. Of those that have developed while in quarantine, nine have died, four have recovered, five are convalescent, and the remaining two are now seriously ill. The disease has been very virulent and rapid in its fatality in a majority of the cases; in several instances patients that were well at inspection in the afternoon were nearly or quite pulseless within twelve hours. At this date there has been no development of cases among the immigrants for the past two days. The steamer was twice washed with scalding water from the boilers through the hose in every accessible part, and immediately after this washed in every part with a solution of corrosive sublimate, two parts to one thousand. The hatches had been closed and sealed and covered with tarpaulin before the passengers were taken on board, except three cabin passengers, taken at Marseilles. All the immigrants were removed to Hoffman Island. Immediately subsequent to the washings with the solution of mercuric chloride, after breaking out the cargo to the bottom of the hold, one hundred pounds of sulphur was burned in the hold, the hatches of the spar-deck being closed for ten or twelve hours. The disinfection by the solution before mentioned was the next day repeated, every accessible portion of the vessel being washed with it by brooms or sponges, followed by the combustion of one hundred and fifty pounds of sulphur, the hatches being again closed until the following morning. Every textile fabric—carpets, mats, the dunnage and clothing of the crew—was immersed in boiling water for a considerable time by the introduction of steam through hose attached to the boilers. Finally, all exposed portions of the steamer, except the saloons, including the fore-castle, were repainted. The steamer was detained in the lower bay fourteen days. The well passengers were removed to Hoffman Island for observation, and the sick to Swinburne Island Hospital the day of their arrival at quarantine. The cleansing and disinfection of the baggage of the immigrants commenced immediately thereafter. A large tank that can be securely closed, having a perforated pipe, and extending from the bottom to the under side of the lid, and connecting with a large boiler used for heating the buildings, is used in part for the disinfection. Two rooms, fifteen by twenty feet each, made as close as possible, are used to disinfect by the combustion of sulphur. Each piece of baggage and every article of clothing have been subjected to sulphurous-acid gas thus produced for several hours, in the ratio of three pounds to each one thousand cubic feet of air-space. The disinfection by moist-steam heat has been at the same time constantly in progress; the clothing is subjected to this process for at least three hours. Barrels of a solution of bichloride of mercury of the strength before mentioned are placed in the closets and used to wash them after the dejecta of each person has been removed by the flush from the tanks above the hopper of the closet. Every day the floors of the large buildings, each fifty by about one hundred and fifty feet, are washed with a solution of the same article. To-day the subjection of each and every article of baggage has been again commenced, and will be continued until all articles have been again disinfected by the means mentioned. For two days past no new cases have developed. It is well to state that the first cases on the Alesia developed the ninth day after the steamer left Naples. It is as yet an open question whether the cases that have developed on Hoffman Island arose from infection contracted from the same source that gave rise to the deaths on board the steamer, or from sources that were transferred to Hoffman Island with the passengers. There is every reason to believe at this writing that the infection among the immigrants is destroyed, except, possibly, that its development may be exceptionally long delayed in cases which may occur."

UNITED STATES.

Key West, Fla.—Yellow Fever.—Dr. J. Y. Porter, president of the board of health, reports by telegraph, under date of October 6th, that 3 cases have been reported since September 30th at the village of Progreso, two miles from the city, making for the month of September 6 cases and 1 death. None since. The epidemic is over.

LATER.—**Tampa, Fla.**—October 7th, 20 cases and 4 deaths from yellow fever were reported. A panic prevails in the city.

ANSWERS TO CORRESPONDENTS.

No. 55.—Topical treatment is usually sufficient.

No. 56.—The paper you mention was read at the Congress. The form of publication that you suggest has been followed in the case of previous meetings, and it is announced that it will be carried out in the case of the Washington Congress.

No. 57.—The words morphia, atropia, and the like, were formerly the official titles of morphine, atropine, etc., in the United States and British Pharmacopœias, but that is no longer the case, morphina, atropina, etc., having been substituted.

No. 58.—The French edition is much to be preferred. It was published by Masson, in 1875. The whole of the original work is contained in it, whereas it was decidedly curtailed in the English translation; moreover, the French translator's notes are exceedingly useful.

No. 59.—The deodorized tincture of opium of the United States Pharmacopœia is probably an equally good preparation.

No. 60.—You will find Ott's article in the "Archiv für Gynäkologie," vol. xxvii, No. 1. Accept our thanks for the pamphlet.

To Contributors and Correspondents.—*The attention of all who purpose favoring us with communications is respectfully called to the following:*

Authors of articles intended for publication under the head of "original contributions" are respectfully informed that, in accepting such articles, we always do so with the understanding that the following conditions are to be observed: (1) when a manuscript is sent to this journal, a similar manuscript or any abstract thereof must not be or have been sent to any other periodical, unless we are specially notified of the fact at the time the article is sent to us; (2) accepted articles are subject to the customary rules of editorial revision, and will be published as promptly as our other engagements will admit of—we can not engage to publish an article in any specified issue; (3) any conditions which an author wishes complied with must be distinctly stated in a communication accompanying the manuscript, and no new conditions can be considered after the manuscript has been put into the type-setters' hands. We are often constrained to decline articles which, although they may be creditable to their authors, are not suitable for publication in this journal, either because they are too long, or are loaded with tabular matter or prolix histories of cases, or deal with subjects of little interest to the medical profession at large. We can not enter into any correspondence concerning our reasons for declining an article.

All letters, whether intended for publication or not, must contain the writer's name and address, not necessarily for publication. No attention will be paid to anonymous communications. Hereafter, correspondents asking for information that we are capable of giving, and that can properly be given in this journal, will be answered by number, a private communication being previously sent to each correspondent informing him under what number the answer to his note is to be looked for. All communications not intended for publication under the author's name are treated as strictly confidential. We can not give advice to laymen as to particular cases or recommend individual practitioners.

Secretaries of medical societies will confer a favor by keeping us informed of the dates of their societies' regular meetings. Brief notifications of matters that are expected to come up at particular meetings will be inserted when they are received in time.

Newspapers and other publications containing matter which the person sending them desires to bring to our notice should be marked. Members of the profession who send us information of matters of interest to our readers will be considered as doing them and us a favor, and, if the space at our command admits of it, we shall take pleasure in inserting the substance of such communications.

All communications intended for the editor should be addressed to him in care of the publishers.

All communications relating to the business of the journal should be addressed to the publishers.

Lectures and Addresses.

WHAT IS ANATOMY?

A LECTURE DELIVERED, OCTOBER 5, 1887,
AT THE OPENING OF
THE ANATOMICAL COURSE AT THE MEDICAL DEPARTMENT,
UNIVERSITY OF GEORGETOWN, WASHINGTON, D. C.

By FRANK BAKER, M. D.,
PROFESSOR OF ANATOMY.

IN one of the many discussions that occurred during the sessions of the late International Medical Congress I was asked, "What is anatomy?" The answer to this is so important, and involves so much that will affect your future career, that I have thought that I could not do better than to make it the subject of the preliminary remarks by which I am to-night to introduce you to the systematic study of that great and wonderful science.

You, gentlemen, are the successors of a long line of students; a vast army has marched over this road, leaving it well worn by their footprints, and carving their names here and there by the wayside. Many will report that the study of anatomy has been a toilsome task, dreary and uninteresting, already more than half forgotten. To others, on the contrary, it has been a garden of delights. Over this road have passed, among innumerable throngs of those now unknown, the great and mighty dead masters of the science: Vesalius, who, while yet a boy, dared both the terrors of the law and the horrors of a superstitious and ignorant age, and climbed by night a gallows-tree to obtain the first complete human skeleton ever prepared in Europe; Harvey, who, from the laborious investigations of years, deduced the anatomical facts which led to his splendid discovery of the circulation of the blood; Bichat, who died at the early age of thirty-one from prolonged and unremitting exposure to the infected air of the dissecting-rooms of that period, storming the ramparts of disease and dying for a noble cause as truly as the soldier who falls "in the imminent deadly breach," not, however, until he had revolutionized pathological anatomy, and set upon a firm basis the law which rules our therapeutics to-day—that the action of disease is merely an exaggeration of the ordinary healthful activities of the body, that the difference between health and disease is one of degree rather than of kind; Schwann, who patiently worked with his microscope day after day, month after month, and year after year, pursued by poverty, until he finally was able to make that incomparably important generalization that the entire human body was built up of discrete particles of protoplasm called cells, each of which had an independent activity; John Hunter, whose discoveries were legion, and who devoted his entire fortune and time to the study of anatomy, founding and almost creating the splendid Hunterian Museum of London, unequalled in some respects by any other in the world; and an army of others—Eustachius, Fallopius, Sylvius, Willis, Malpighi, Albinus, Meckel—devoted men, who spent long years in careful investigation, but have now passed away, leaving to us their names scattered over the

structures of the body. There must have been something interesting about anatomy to excite the enthusiasm and hold the attention of these men, often in spite of trial, privation, and suffering.

"What is the nature of this interest?" you will ask. At the outset of his career every thoughtful man meets in his path the solemn-visaged sphinx of destiny, who puts to him riddles like these: "What are you?" "Whence do you come?" "Whither are you going?" Many a noble mind has destroyed itself in vain endeavor to answer these. The science we are about to pursue concerns itself with these questions, never fully answering them, it is true, but groping and searching with glimmers of light ahead. As a general definition I might answer the query, "What is anatomy?" by saying that it is the science of structure—that is to say, that it treats of the structure of our bodily frames, the history of that structure, its relation to other similar structures, and its possibilities for the future. Surely, since the pythoness engraved on her temple at Delphi the immortal words "Know thyself," there has been no branch of knowledge which can presume to surpass this in interest and value.

It is true that the full scope of anatomy has not always been understood. The very etymology of the word shows us that it first stood for the mere art of cutting apart, or dissecting. So we find that the early anatomists contented themselves with examinations without much consideration of the significance of what they found. The science of that day was much distorted by the prevalent notion that it was more important to *reason* well than to *observe* well. A few observations, backed up by subtle and ingenious logic, were considered sufficient to complete knowledge, therefore but little attempt was made to ascertain the facts of human structure; and, public prejudice and religious teaching being against the dissection of bodies, it was considered sufficient to deduce human anatomy from an examination of the bodies of animals.

The treatises made at this period were considered so exhaustive and complete that any emendation of them, any extension of the science beyond the bounds set by Galen and Marinus, caused a shudder of horror like that felt when a navigator proposed to pass beyond the pillars of Hercules into the unknown ocean. For over a thousand years an idea that this was all of anatomy prevailed in the world; men were so utterly dead to any proper comprehension of the scope of the science that it was declared by one school that it was utterly valueless, and that the study of it interfered with a thorough knowledge of the theory of medicine.

But when the dark cloud which settled down upon Europe after the decadence of the Roman Empire and the irruption of the northern barbarians began to lift, when the great hordes of Attila and Marie had been worked over and modified by the influence of southern civilization, men began to ask questions of Nature in every direction, and anatomy came in for its full share. They asked first, Are we really sure how the human body is made? Have we not been taking for granted the inaccurate observations of those who never really examined the body at all? It was soon

found that this was so. Vesalius set every anatomist in Europe to work with the scalpel, and there was soon elaborated a body of gross descriptive anatomy very much as we have it to-day.

The practical importance of this revival of interest was very great. For the first time surgery was placed upon a sure foundation. The actual form and relations of organs being known, operations relating to them became possible. It could be ascertained when and how far surgical interference was proper. Amputations could be done in a scientific manner, tumors could be removed, ligations practiced, operations of various kinds invented. While before all was guess-work, and the art of the surgeon was combined with the effrontery and hocus-pocus of the charlatan, now precision was possible, and the most expert was the one who had become the best acquainted with the human body by dissection. Soon the realm of medicine was also invaded. Auscultation, percussion, and other modes of physical examination based on anatomical considerations were adopted; anatomy was brought to the elucidation of symptoms, of causes of disease, and of the changes which it effects in the system. The great branch—pathological anatomy—grew off from the parent stem, and began to bear fruit. It is needless for me to dwell at this time upon this aspect of our great science; you will have occasion throughout the course at every lecture to consider the practical results which arise from anatomical facts. Anatomy furnishes the wheels upon which runs the thought of the scientific physician, the plan of the works by which he calculates the approach of the enemy Disease, and devises the means for meeting him.

Here, again, there has been shown a tendency to rest satisfied with the achievements of the science. Many books have been written upon purely descriptive anatomy, and it would seem as if every nook and cranny of the human body had been explored and every device used to wrest from Nature her secrets. There are those even to-day who look upon our science as practically exhausted; there is for them nothing more to learn in it beyond the mere memorizing of the results of dimensions and relations obtained by the minute care of others. But as the Alpine climber often imagines that he has reached the final summit, and, on emerging to clear vision, still sees the real mountain stretching silently upward beyond his view, so the true votaries of science scale one height only to become conscious of the immensity beyond.

Formerly but little regard was paid to the differences which exist between individuals. The body of man was considered for practical purposes fixed and definite, to be described once for all. It is true that considerable deviations were sometimes found, occasionally extraordinary forms with a quite unusual arrangement of organs would excite a passing wonder; but these were passed over, without an attempt at rational explanation, as *freaks* of nature, as if the divine mother, weary of regularity, were in the habit of occasionally playing pranks like a mischievous school boy. Other variations not quite equal to these would not infrequently puzzle a surgeon. An artery that ought by all anatomical rules to lie in a certain place would be found in another; a viscus would be strangely situated or of an un-

usual shape; a muscle would come to view never before described, and perhaps much in the way of the surgeon's knife. On examining still more carefully, it was seen that there existed a host of minor variations, too small to be any practical obstacle to the surgeon, which were nevertheless real. We recognize our friends by small differences in shape, color, and texture of bodily features. Similar differences extend through and through the body, so that there is no organ so small that they are not found in it. There is not only in man, but in all living things, a constant tendency to variation.

Let us examine as to the causes of this. First we notice that habits of life have a marked influence; the farmer, whose life is spent in the open air at rugged physical labor, can be told at once from the man who spends his life in his study; the soldier, whose training and life are on land, can be told from the sailor, whose training and life are on the sea. Examine carefully and minutely, and you will see that for every day and for each one of us the history of our lives is checked off upon our bodily frames with unerring accuracy, with exact and even-handed justice. Each individual is affected by his surrounding circumstances, that whole body of influences that the French have characterized by the apt term *milieu*, which we somewhat clumsily translate "environment."

Besides this there is another series of differences due to age. All living beings pass through *phases* which affect their anatomical form. Each of us can remember a time when his body was smaller, less developed, less fitted for special and particular uses—more *generalized*, to use the proper term. We know from observation of others that this series of changes can be traced back to the time before our recollection, when we were born, brought into the outer world from a stage of intra-uterine existence, a helpless, puny creature, unconscious of thought, merely capable of the functions necessary to nutrition and growth, with undeveloped limbs and expressionless features. The anatomist carries this farther still, traces the growth of the child in its mother's womb and the different phases of its anatomical structure there, sees as he goes back to earlier forms that the different organs are more and more simple, that no limbs appear, that the little creature is nothing but two tubes applied to each other, that these tubes have arisen from disc-like membranes; finally, that these were formed from a single minute cell almost beyond the range of vision, a little spherule of protoplasm called the ovum. As we go backward there is less and less complexity of organization until a form of extreme simplicity is reached.

In an old Hindu fable Ammi says to his son: "Bring me a fruit of that tree and break it open. What is there?" The son said: "Some small seeds." "Break one of them and what do you see?" "Nothing." "My child," said Ammi, "where you see nothing, there dwells a mighty tree." So it is that in that little spherule, the human ovum, there exists the potentiality of a fully formed and developed man.

Can we trace this farther back? Yes, we find that our ovum, so pregnant with possibilities, is formed by the coalescence of two tiny cells derived from different individuals—

one male, one female; that these cells have each been formed from other cells of the parent body quite similar in all essential respects to those from which all cells of a growing body are formed; that they are, in fact, a part of the parent. And yet there is a wonderful property about these tiny cells. They are able to convey to the resulting product a tendency to reproduce the anatomical features of the parents. How this is done we know not; the wisest naturalists and philosophers have vainly endeavored to fathom the reason why each living thing should bring forth fruit after its kind, but as yet with small success. Even minute differences become hereditary; the chin of the Bourbons, the black brow of the Douglas, become family traits; and peculiarities like these extend throughout the entire anatomy not only of man, but of all things having life. Sometimes a transmitted peculiarity will lie dormant for one or more generations, reappearing after an interval as an atavism, or reversion to ancestral type.

There are, then, two classes of influences producing variation in anatomical structure—one due to environment, the second to heredity; but it will easily be seen that the two co-operate, that if the influences due to environment act long enough and strong enough they will sufficiently impress the parent organism to make it possible to affect offspring. This is the way that races of men have grown up. As the family enlarges it separates; one member goes to a mountainous country, and the stock descended from him become, by the transmission of stored-up impressions for generation after generation, hardy mountaineers, muscular, with long limbs and an enlarged lung surface capable of enduring fatigue and of breathing the rarefied air of great heights; another member goes to the lowlands, where he rarely sees a hill, and his posterity are a short-limbed, broad-hipped race, inclined to be fat and heavy. Precisely this took place in Europe. Switzerland and Holland were settled by peoples that can claim a common ancestry.

It might be stated that the influence of heredity is simply to multiply the influences of environment by acting through time. Nature abounds with illustrations of the tremendous power of small forces when acting through long spaces of time. The effect of the falling of a single drop of water is immeasurably slight, but by constant dropping the hardest of substances can be worn.

"Gutta cavet lapidem non vi sed sæpe cadendo."

And this is continuously acting now, and has been for countless ages. Every rain-storm cuts gullies, wears rocks, shapes the face of the globe. Everywhere we may hear

"The sound of streams that, swift or slow,
Draw down æonian hills and sow
The dust of continents to be."

Standing at Niagara, we see that the mighty chisel has cut a gorge hundreds of feet in depth and some miles in length; at the cañon of the Colorado, one which is half a mile in depth and hundreds of miles in length. The Archimedean lever that was to be long enough to move the world has been found—it is *time*.

Applying now this same cumulative effect of small forces to the explanation of the anatomy of man, what will be the

result? If influences strikingly different have constantly acted for a long time, the result will be great variation; if the influences have been similar or have been operative for a short time, the variations will be slight. Hence we get first the varieties of man found in different parts of the same country, then the varieties which constitute nations, then races of men. In many cases history helps us by showing that our deductions are correct and that those we had classed together for anatomical reasons are really from a common stock. Thus while we are able to recognize, by certain anatomical characteristics of skin, hair, shape of skull, etc., a community of origin in those races known as the Indo-European, history confirms this view by showing that they all, no matter how diversely scattered, have migrated from a central stock that ages ago dwelt in the great central plateau of Asia.

But in our journey backward we soon leave written history. The lowest existing savages have an anatomical structure lower than modern Europeans, and upon the anatomical evidence alone we find that the early inhabitants of Europe were like them, or even below them, in this respect. You see here the skull of a modern European; look at the height and breadth of the frontal region, the almost perpendicular line of the face, the small zygomatic arches. Here is the skull of a New Zealand Maori; notice the low and narrow frontal region, the projecting jaw, the frightful prominence of the zygomatic arches like a beast of prey. Now bear in mind that each of these peculiarities carries in its train certain functional activities. A high and broad forehead means, other things being equal, more room for the brain; the projecting jaw and the deep temporal fossa indicate a powerful apparatus for grinding and tearing, the jaw here being not only for eating, but for biting; it is used as a weapon.

Here now is another specimen to which I wish to call your attention. It is the cast of a skull found at Neanderthal, in Germany, under such geologic circumstances as to leave no doubt of its immense antiquity. Compare this with the skull of the Maori. You will see at once that we have gone down still another grade. Look at this retreating forehead, this small cranial capacity, these enormous arches and ridges for muscular attachments. It is hardly comparable with the Maori skull, and we almost fail to imagine what low kind of being it could be that possessed such a cranium.

If not with the Maori, then with what? We are not limited in our investigations. The laws of variation by descent which I have stated to you apply to all living creatures. We come to the momentous question, Are there any creatures that resemble man? Look at this prehistoric skull and at these skulls of the existing anthropoid apes and you will see. The resemblances are striking. Here we have the same retreating and contracted forehead, the same overhanging arches, the same indications of terrible muscular strength. If we found resemblances like these between any two races at the present day, what should we think about them? Simply this: that they undoubtedly had a common ancestor.

Between these skulls there exists the same anatomical

relation, somewhat wider it is true, as is shown between the lowest existing savage tribes and the highest civilized man of to-day. If we are to conclude from anatomical evidence that the Bushman and the European are of a common stock, that they sprang from some remote ancestor, so we must equally conclude, on precisely similar evidence, that from some far-off progenitor sprang two branches, one of which brought forth the lowest types of mankind, the other developed into the still more lowly orang, gibbon, and chimpanzee.

You will observe, gentlemen, that I speak to you as an anatomist and upon anatomical evidence only. This evidence is of extraordinary force. It might almost be said that we find an agreement bone by bone, muscle by muscle, nerve by nerve, and vessel by vessel, with differences only in relative size, shape, and proportion of organs. With evidence of any other character I have nothing to do. It does not fall to me to show the stupendous differences between the *functional activities* of man and those of the entire brute creation.

I leave to others to speak of his transcendent intelligence and mental power, which lift him immeasurably above even the highest of the lower animals; of the world-wide depths which separate the philosophy of a Plato, the sympathy of a Shakespeare, the invention of a Newton, the genius of a Napoleon, from the chattering ape. The differences in *degree* are as great as that between the thunder of Niagara and the murmur of a gutter-stream. It is simply my duty to point out to you certain anatomical facts, in order that you may hereafter be able to understand the discussion of many questions which will come up for consideration relative to the significance of structure.

The operations of the law of descent with variation by no means stop after we leave man. The same series of resemblances and differences are found throughout the animal and vegetable kingdom, the same laws of relationship can be worked out, so that we are led to the conclusion, by a mass of evidence overwhelming in amount and detail, that the entire world of living things has developed out of a comparatively few simple original forms, that the same progress from simple to complex that we saw operating in the development of the human embryo has been also operative on a scale where time is not measured by months or years, but by ages of incalculable length; that each of us, in fact, repeats in an abbreviated form in the development of his individual body the steps through which the race ascended in its path from dim, almost formless, activity up to its present station at the head of all living things. We thus look upon all creatures as inter-related and their structure as mutually interpretative.

This is of the greatest importance to us, for it enables us to solve many difficulties in human anatomy that would otherwise be insoluble. The means of investigating the human body are necessarily limited. The opportunities for studying the details of the development of the fetus at an early stage are comparatively rare, the stages passed through by the human embryo from the first to the twelfth day have never been seen, yet we know, from the vast number of observations made upon lower animals, that there is no reason

to doubt that those stages which occur in all the mammalian class occur also in man. Similarly in microscopic examinations, the evidence obtained from the higher *Mammalia*, is freely used to supplement and complete that obtained from actual examination of the tissues of man himself. The fact of similarity of structure and function between man and the animals near him underlies all recent investigations in histology, pathology, physiology, and therapeutics. For this, if for no other reason, it would be necessary for me to state to you the grounds on which the evidence rests. Think for a moment how overwhelming it is, how impossible to explain it on any other ground than identity of origin.

In order, then, to completely understand the structure of the human body, we must know something of the way in which it came to be built up, both during the vast period of time when it was gradually being developed by racial changes and in that shorter abbreviated recapitulation of those changes found in embryonic existence.

Let me illustrate how this may become useful to you. It is not infrequent to find persons born with some abnormality or wide variation of structure. These may usually be explained by what is called the law of reversion, the traits of long-forgotten ancestors reappearing in the offspring. So we see children born with hair covering the entire body, with an unusual number of fingers, with the viscera transposed, or with an arterial system like that of animals lower than man. Similar to these are cases where development has been arrested, such as hare-lip, spina bifida, exstroversion of the bladder, all conditions which at one time exist normally in every embryo.

In other cases we find the most extraordinary light thrown upon the normally existing peculiarities of the body. The valves of the veins, for instance, are little folded flaps of the inner lining of the vessels which fly back against the wall and allow the blood to pass toward the heart, but resist its return toward the periphery of the body. They are evidently useful for the purpose of counteracting the force of gravity, which would otherwise be a serious obstacle to the circulation of the blood. If it were not for these little breaks in the column, the law of hydrostatic pressure shows that the strain put upon the vessels of the legs and feet would be much more than they could endure. But are the valves arranged with that purpose clearly in view? We find them in the arms and legs, it is true, but they are wanting in the vena cava, the azygos veins, the portal and spinal veins, where they would be of the greatest use, as all are trunks that carry immense quantities of blood. Many disorders, such as varicose veins of the legs, and hæmorrhoids, can be distinctly traced to this absence of valves. On the contrary, we find them in a number of veins which run horizontally, such as the intercostal veins, where they can not, as far as we see, be of the slightest use, and finally in the jugular vein, where, instead of being useful, they are a positive hindrance to the rapid and effective return of the blood from the head to the heart.

This condition of things remained a complete puzzle to anatomists until Dr. Clevenger explained it a few years ago in the most beautiful manner. The whole apparatus is

adapted for a quadrupedal position. Put man on all fours, as he walked in the early years of infancy and the early ages of time, and everything is explained. The vena cava, portal and spinal veins, are then all in a horizontal position, or nearly so; the intercostal veins lift the blood against the force of gravity, and must therefore have valves; the jugular vein being also inclined when a quadruped carries the head downward as in feeding, the same arrangement is necessary to prevent a venous congestion of the brain.

These, then, are all so many proofs that man has not always had the erect posture which he has now. To them might be added a multitude of other proofs: the tendency to hernia and to uterine displacements; the very shape of the pelvis, imperfectly adapted to the duplicate functions of supporting the viscera and of child-bearing; and the exposed position of the great vascular trunks of the thigh—all imperfections peculiar to man.

This naturally leads us to consider another class of evidence which is derived from what are known as vestigial organs. These are structures which have been of use at some previous period of racial history, but have ceased to be so owing to the change of habits and environment of the individual. There are many of these in the anatomy of man. The coccyx is the vestige of a tail, more of a tail by the way than is possessed by some of the apes; the vermiform appendix to the cæcum is the relic of a large diverticulum used for macerative digestion in some animals; the pineal body of the brain is probably the remains of a third eye possessed by some animals now extinct.

The muscular system has many of these organs which are tending to disappear. There is a delicate little muscle behind the knee called the plantaris. The fleshy part of it is often not larger than one joint of the little finger, and it sends a long, slender cord down to join the great heel tendon. By careful dissection it may be traced as far as the sole of the foot, uniting there with a thick, strong tissue called the plantar fascia. So insignificant as to be often overlooked by the dissector, it is not, as far as we are aware, of the slightest use. Its true value can not be understood until we examine it in other animals, where we often find it to be a powerful flexor of the foot, as large and strong as the other great muscles of the calf. There are many others equally puzzling until we get a clue from the lower forms. The pyramidales are two small muscles situated on the abdominal wall directly above the pubic bone. Anatomists have puzzled much over them, for they appear to be of little use, as they pass up for a short distance and lose themselves in the thick sheet of tough tissue which outwardly lines the abdomen. All that they can do in man is to pull this sheet tight and so help the deeper muscles in their work. In order to find their real significance we must go down to pouched animals, or marsupials—not such a very long way off in structure from man as you might think—and there we find that the pouch which holds the young is situated in this part of the abdominal wall and is closed by two muscles, performing an active and important office, which have precisely the situation and attachments of the pyramidales.

A single muscle may sometimes illustrate reversion,

arrest, and disappearance. Here is a specimen found last winter in the dissecting-room of the college. It is a biceps muscle of the arm having the unusual number of four heads. Normally it has, as its name implies, two heads only, both going to the shoulder-blade, one to the coracoid process, the other passing through the capsule of the shoulder-joint and attached just above the rim of the socket. The two usual heads are here, as you see; there is, however, another attached to the lower third of the humerus, and still another which does not penetrate the capsule, but blends with its external fibers and can be traced running over the outside as far as the shoulder-blade. This appears at first sight to be merely an anatomical curiosity not worthy of serious consideration and of no practical value. In most treatises on anatomy no mention is made of such a variety. Yet on further examination we find the matter replete with interest. In climbing animals, where great strength of limb is required, the biceps has a third head inserted on the humerus. Further, what we call the long head, which passes through the capsule of the shoulder-joint, was originally external to the joint, passing directly over the capsule to its insertion on the scapula. As development goes on it gradually grooves the capsule, finally sinks into it, and becomes surrounded by synovial membrane. In this process, which may be noted in the human fetus and which is arrested at different stages in different animals, independent fasciculi may become separated. Our fourth head, which went to the joint-capsule, was such a separated fasciculus. Finally we note that a still further stage is possible: that the fascicle which had penetrated the joint may become inactive and lose its anatomical characteristics. In that case it would become a band of ligamentous tissue representing the vestiges of what had been, and instances of this are known in other joints of the body, the ligamentum teres of the hip being a notable example. Our examination of this seemingly unimportant variation, instead of being profitless, has led us to most significant information regarding muscles that pass over joints and the interdependence of muscles and ligaments.

There is no page of anatomy that does not receive light from the laws of development; our anatomical history is recorded in our very bones. Comparing the structure of the bone of the upper arm, we find that in the early races of men it resembles that of the nearest animals in several particulars. In modern man the axis of the bone has been twisted about so as to bring the palm of the hand more nearly to the front. The twist amounts nearly to a half-circle. In prehistoric man it falls to 139 degrees or even less, and in apes to still less. In a similar way the tibia in many prehistoric skeletons is found to be flattened, or platycnemid, apparently for the better accommodation of muscles useful for climbing, resembling in this respect that of the apes. This is usually associated with a corresponding change of axis in the mid-ankle joint so that the sole can be turned inward more readily. Curiously enough, this same peculiarity of the ankle-joint exists in the human infant before it learns to walk. Observe a kicking baby of a few months; you will see it turn its foot inward, grasp and extend its toes in a manner significantly like that of a climbing animal. Preserve and de-

velop this by training, and the foot becomes an efficient prehensile organ, as is shown in the Australian savages and Japanese rope-dancers.

Occasionally it happens that certain curious variations are found in the ribs of man. Instead of the ordinary twelve on each side, there may be thirteen, one being added above or below. Upon examining the development of the spine and the anomalies found in that region, a mass of evidence is brought to light, all tending to show that along nearly the whole vertebral column there are traces of ribs; that the original typical vertebrate animal had a rib on each side of each vertebra, and that man inherits that form.

From what I have said, you will readily perceive that anatomy is very far from having reached completion; you will see, indeed, that it never can be entirely completed. So long as man is changeable, so long as the laws of variation continue to operate, the science of anatomy will continue to develop. Taken in its wider sense, the science includes the structural history of every living creature, and so long as there is a gap yet left incomplete—and when can we hope to complete them all?—there will be work for the anatomist to do. In our special branch we shall pursue only the study of human anatomy, using the light thrown upon it by the history of development to illustrate and elucidate it. It will not be possible for us to consider even hastily the minutiae of other zoological forms; those who wish to pursue studies of that character must seek them beyond the limits of a medical school. We will introduce our course by a consideration of the way in which organs are built up from the simple ovum to the complex adult form. Thus we can view the human body according to the strict logic of nature, and a great deal of the difficulty which otherwise besets the study will disappear. The body will cease to be an inexplicable complex of organs with difficult names and become a beautifully unfolded congeries of related structures which can be understood and appreciated. In this way anatomy becomes worthy of the name of a *science*, a correlated, arranged, and organized body of human knowledge, not a mass of inchoate, unrelated, undigested facts.

Pursuing the study in this way, you will learn to respect the omnipresence of law, and to bow with reverence before that awful conception which is perhaps the grandest ever conceived by the mind of man, of an endless chain of infinite changes, actions, and reactions, which have shaped nebulae, the stars, the sun, the planets, earth and its elements, inorganic nature, and organic life from the tiniest speck of living matter up to man himself. You will feel something of the awe of Kepler, who, overwhelmed by the grandeur of planetary laws, cried: "My God, I think thy thoughts after thee!"

The study of human anatomy to-day, gentlemen, is a consideration of a portion of this vast scheme; the body of man is seen not to be a fixed quantity, as considered by the older teachers, but perpetually changing, perpetually adapting itself to outward conditions which are themselves slowly shifting. Astronomers tell us that the whole solar system is constantly moving in space, swinging in an immense orbit, far beyond the powers of man to conceive, around some unknown and distant sun situated across

abysmal spaces. The motion is only apparent when observations are taken at immense intervals of time. So with man; if we take time sufficiently great, if we commence at the earliest recorded human remains and compare them with the man of to-day, we see that we are moving. Whither? We know not with clearness, with certainty; we only know that it is toward the light, onward and upward. That is shown by all the evidence at hand. Man is passing from the degraded condition of a brute, of a ravening animal preying on all the world, including his own kind, to a creature endowed with reason, self-control, and a power to appreciate the vast and wholesome order of the universe. Anatomy shows us this; from the flat-browed, heavy-jawed cave man to the skull of a Socrates or a Darwin is almost as wide a gap as from the ape to the man.

It is to this study I invite you; I need not say to you that it is one of the noblest of all. I invite you, not to a field of chaff, where you are to endeavor to get food for your intellects by cramming your heads with names, but to a feast where the wisest have delighted to sup. I invite you not merely because of the obvious fact that anatomy is the necessary gateway to all proper knowledge of medicine, not only because she is an acknowledged law-giver to physiology, to pathology, to surgery, to obstetrics, and to therapeutics, but for the real enlightenment of your understanding as well. The demands that modern life makes upon the physician are great. He is called to the gravest responsibilities, to the highest activities. He must not only be a physician, he must also be a thoroughly trained *man*, fully abreast of his time. For this reason, if for no other, you should not be content with that mere superficial knowledge that is a snare alike to its possessor and to those who trust him. Medicine can never stand alone; it is connected on every side with other sciences, especially those which relate to life and organization. You should, therefore, be aware of the general scope and advance of science; you should be able to keep step within your own field with the march of the vast army of investigators in other related departments, so that your time may not be wasted and your learning put to shame.

It is not without effort that you can make yourself worthy to sit at this table; you must approach it with thoughtfulness, with reverence, with that interest which characterizes good work in any field. It is not easy; it is not a science that you can acquire by listening to lectures alone; it requires hard work of hand and brain, skillful, unremitting patience in dissecting, careful discrimination in weighing and understanding the work of others. I feel confident, in advance, of your enthusiasm and your help. To those who can persevere I can promise that lofty pleasure which comes from any sincere and faithful examination of Nature's laws. Vergil, a poet who is now somewhat out of fashion, has told us something of this pleasure, in lines so noble and sweet that I must give them to you in their beautiful original form:

"Felix qui potuit rerum cognoscere causas;
Atque metus omnes, et inexorabile fatum
Subjecit pedibus, strepitumque Acherontis avari."
(Geor. II, 490.)

Happy is he who can learn of the causes of things, and put under his feet all fears, even relentless fate and the noise of the greedy gulf of death.

1315 CORCORAN STREET, WASHINGTON, D. C.

Original Communications.

THE COMPARATIVE STUDY OF SOME OF THE METHODS OF TREATMENT BEST ADAPTED TO THE RELIEF OF OCCLUSION OF THE POSTERIOR NARES.*

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THE object of this paper is to show the comparative value of the different means and appliances for the relief of partial or complete occlusion of the posterior nares caused by hypertrophy of the soft parts. The diminution of the openings of the posterior nares caused by encroachments of fibroid or other growths does not belong to the province of this paper. Occlusion of the posterior nares may arise (1) from hypertrophy of the posterior end of the lower and middle turbinated bodies (rarely of the *superior* turbinated bodies); (2) hypertrophy of the soft tissues over the *vomer*, familiarly known as hypertrophy of the vomer, and formerly called by some writers "œdematous infiltration of the vomer"; and (3) hypertrophy of the glandular tissue at the vault of the pharynx, known as the pharyngeal tonsil. This tissue, although outside of the posterior nares proper, is not infrequently the cause of occlusion in a greater or less degree when it becomes enlarged. Hypertrophy of the posterior portion of the lower turbinated bodies is by far the most frequent condition met. The second in frequency is hypertrophy of the vomer. The third—hypertrophy of the posterior end of the *middle* turbinated body—is but little less frequently observed than the second. Hypertrophy of the pharyngeal tonsil is commonly observed in the young. It is not necessary in this paper to speak of the causes and effects of these conditions, as I have already treated of them in a former article,[†] but only to consider the surgical means for their relief. The treatment of these conditions by medicinal sprays, etc., but rarely effects any permanent good. Before the invention of the rhinoscope the naso-pharyngeal space was an almost unknown region, and the instruments were of necessity crude and illy adapted to the end. Contemporaneous with the new pathology of chronic rhinitis and its scientific study came suitable instruments, more delicate and precise. To Dr. Jarvis, of New York, is the world most indebted for the snare now so well known and for so long of such inestimable value. Cocaine, which, by lessening the pain, one would naturally suppose would widen the field for the use of Dr. Jarvis's snare, on the other hand, by

its power to contract the erectile tissue, causes such a diminution as to make the encircling of the hypertrophied mass much more difficult, and, as these masses are most frequently composed of dilated blood channels (angiose hypertrophies), the effect is all the more marked. If the tissue in question belonged to the *true* hypertrophies—often present in the anterior portions of the nasal chambers—the objection would not be valid. In hypertrophy of the vomer the tissues, while not so susceptible to the contractile power of cocaine, are markedly difficult to reach, owing to their peculiarity in outline—being sessile—so rendering it almost impossible to encircle them in a wire loop. If the attempt is made to fix the loop of wire in the snare by the use of transfixion needles (as strongly advocated by Dr. Jarvis), it is found to be extremely difficult, cumbersome, and often impossible. Hypertrophy of the outer end or face of the *middle* turbinated tissue can seldom be reached by Jarvis's snare with or without fixation needles. This portion of the posterior nares is well known to be the most difficult of access of all diseased parts in that region, and can only be effectually attacked from behind the soft palate and by different means. The *superior* turbinated tissue so rarely involved is inaccessible to any snare. The galvano-cautery, so well known, and, in skilled hands, so very valuable an adjunct to the successful measures employed for the relief of hypertrophic catarrh, has many advocates and is largely to be credited with the grand average of success in the field of rhinal surgery. While an ardent admirer of the good points in galvano-cautery employed in this field, I am free to acknowledge, after an extended experience in its employment, that it has some minor objections, and has been greatly abused by some workers. With its employment in other regions of the nasal chambers than those mentioned in this paper we have nothing to do. The abuses in the post-nasal space are seen chiefly in transient, and sometimes permanent, damage to the orifices of the Eustachian tubes and to the structures of the middle ear. The cases of injury are few, it is true, in comparison with the whole number benefited, and if the galvano-cautery could always be employed in experienced and skilled hands, no ill effects could follow. The question of annoying bleeding after the free use of the heated electrode is sometimes raised as an objection; the lack of facility has been urged against the galvano-cautery, but unfairly if the electrodes are delicately made and flexible. The galvano-cautery handle should be very light in weight,* and have the binding posts in the middle and *not* at the end. After considering the arguments for and against its use I am persuaded that the galvano-cautery, combined with the use of cocaine, affords one of the most efficient means for the surgical relief of hypertrophic rhinitis. It differs widely in its value in the posterior nares from the Jarvis snare in that *its* field has been greatly enlarged since the nasal chambers have been anæsthetized by cocaine.

We now come to the last method of treatment of occlusion of the posterior nares—by chromic acid. This chemical has many friends and some bitter enemies; some who extol virtues in it which others deny that it possesses. It

* Read before the American Laryngological Association at its ninth annual congress.

† "Observations on Occlusion of the Posterior Nares as a Result of Nasal Catarrh," "Medical News," April 7, 1883.

* Three quarters of an ounce

would be difficult to reconcile these diverse opinions unless we could find the true cause of the differences in the *form* in which the acid is used and in the *manner* of its employment. I think I can demonstrate that the objections offered by those denying its virtues arise from want of suitable appliances for the safe and exact application of the caustic, especially when directed to the posterior nares. The form of solution should never be employed in the posterior nares for caustic action, as it is impossible to make it exact, and, when dissolved, it loses much of its caustic power, besides giving rise to intense inflammation, which of course is to be avoided.

The *crystals* are often employed, either loosely in contact with a roughened probe or rubbed on absorbent cotton twisted on a bent probe. This is faulty in that it is not controllable and is wanting in exactness, and is open to the general objection of always being liable to come in contact with the tissues of the soft palate and vault of the pharynx, either in the attempt to apply or during its withdrawal. Chromic acid, from the experience of the writer, should never be employed in the posterior nares in any other state than that of *fusion*, and it is requisite to its safe employment that a minute and well-shaped fused portion be used. This renders the acid fixed in quantity and less liable to spread to contiguous tissue. But, with all these precautions, unless the acid is protected by some means until brought into direct contact with the tissue to be destroyed, the soft palate and surrounding tissue will be smeared either before or after the application, and an inflammation thereby set up. It is almost impossible, even with a prior application of cocaine to the post-nasal space, to avoid coming in contact with surrounding tissue when the fused acid is not protected. In a certain class of cases—those with roomy post-nasal spaces—with the mirror to guide one, an exact application may be accomplished; but in a far larger number of cases—and in those generally most in need of such treatment—it is impossible to pass in the exposed bead of fused acid without injuring other parts. The *confidence* inspired by a safe and properly constructed instrument renders the act of the operator much more dexterous and exact. For several years I have had experience with such an instrument originally devised by me for the destruction of papilloma of the larynx (and most admirably

The original paper above mentioned alleges the following advantages over other concealed applicators, viz.:

1. A double-acting lever movement.
2. Uncovering of the stylet by drawing the tube backward instead of *pushing out* the concealed stylet, and thereby avoiding the aberration at the point.
3. Flexibility of the stylet and tube, allowing a variety of positions and diversity of uses.
4. Self-recovery of the tube by a spring in the handle.

This little flexible instrument, if well constructed, is durable and *precise*. I find that by using it a once difficult and inexact application has now become precise and successful. Where the hypertrophied masses are large and of long standing it is necessary at times to repeat the application to get a complete and radical destruction of the tissue. The inflammatory reaction is wonderfully small—often not appreciable. Some increase of secretion necessarily follows for a few days. The *facility* and *precision* of the applicator are remarkable. This is readily apparent from the mechanism of the instrument. I have not considered other surgical means for these parts, because I consider those above mentioned by far the most desirable and prominent. In the treatment of enlargement of the pharyngeal tonsil the application of chromic acid to the mass is readily made with the same applicator. It is necessary to repeat the applications when the mass is large and diffused. The *galvano-cautery point* is very effective when pushed well into the growth and the current then allowed to flow. A white heat is necessary *here* for quick action and rapid destruction, as I have already shown it to be for the destruction of papilloma of the larynx.*

1417 WALNUT STREET.

ON THE TREATMENT OF ATROPHIC RHINITIS BY APPLICATIONS OF THE GALVANIC CURRENT.†

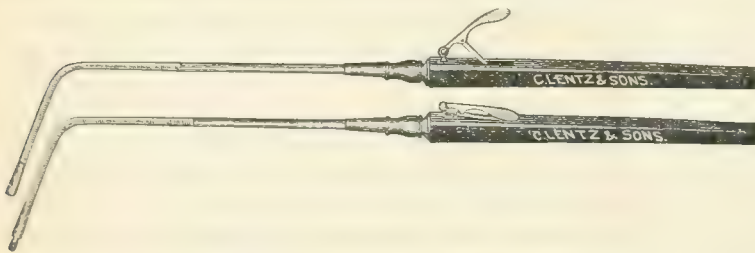
By D. BRYSON DELAVAN, M. D.

At the second annual meeting of this association, held in 1880, a paper upon "Pharyngitis Sicca" was read by Dr. E. L. Shurly, of Detroit. It will be remembered that in this communication Dr. Shurly called attention to the use of the galvanic current in dry catarrh of the pharynx, and that he cited several cases in which the application of that agent had been followed by decided relief. Afterward, in conversation with the writer, Dr. Shurly advocated the same treatment in atrophic rhinitis, and stated that good results had been obtained by him from its use.

As everybody will admit, there are few diseases which offer greater discouragement to both patient and physician than the one in question. The general verdict has been that, in a well-established case, the prognosis is bad; the truth of this opinion is confirmed by

* "Med. News," January 1, 1887.

† Read before the American Laryngological Association at its ninth annual congress.



suit to that end). I diverted it from its first use to that of the destruction of hypertrophies in the posterior nares and vault of the pharynx. This instrument is already before the medical profession in the issue of the "Medical News" for November 7, 1885. The accompanying cut shows two views of the instrument.

common observation. Any measure, therefore, capable of affording a fair promise of relief should be carefully studied, and all possible good from it realized and accepted before it is condemned.

With the intention of investigating the value of Dr. Shurly's suggestion, the writer about two years ago began a series of clinical experiments, the results of which have been so satisfactory that it would seem unfair to the originator of the idea, as well as to the method itself, that they should be withheld. It has seemed pardonable, therefore, to call the attention of the association for a few moments to the subject.

The application is made as follows: The positive pole of a constant current battery is applied to the nape of the neck by means of a flat sponge electrode. The negative pole is then applied directly to the nasal mucous membrane by means of an electrode especially designed for the purpose.

Dr. Shurly, in conversation with the writer, has insisted that, in order to obtain the best results, the electrode should be made of metal, and that the metallic surface should come into immediate contact with the Schneiderian membrane.

While not questioning the truth of this view, the writer has found practically that the use of such an electrode is inconvenient and troublesome. In order to render the application of the nasal electrode simpler for the physician and more comfortable for the patient, he has been in the habit of using a piece of common copper wire, around which has been loosely wrapped a pledget of absorbent cotton. The size of the pledget must be carefully regulated to accommodate itself to the diameter of the nasal fossa into which it is to be introduced. It is to be saturated in lukewarm water, and, the nasal cavities having been thoroughly cleansed, introduced until the extremity of the electrode reaches the retro-nasal space. The electrode may be made in two sections, and one of these introduced into each nasal cavity at the same time. The ends of the electrodes may then be joined to the connecting wire of the negative pole of the battery, and the current gradually applied. The strength of the current should range for the average patient between four and seven milliamperes, and the sittings should last from five to twelve minutes, or until the irritation caused by the current has been sufficient to provoke a slight watery discharge.

This proceeding is not accompanied by disagreeable symptoms if the current is not applied too strong.

The immediate effect of the current is a sensation of warmth, followed by a tendency to increase of secretion. Later in the course of the treatment the symptoms in favorable cases are improved, sometimes slowly, sometimes with a fair degree of promptness. It is not alone in atrophic conditions that Dr. Shurly's method is valuable. Applied in certain cases of hypertrophic rhinitis, the writer has found it markedly beneficial, and his own experience, as well as that of several colleagues to whom he has recommended it in consultation, has encouraged him to regard it as a decided acquisition to the therapeutic resources at our command.

Of course it is in cases of comparatively recent standing that the best effects are to be obtained. Persistent and patient treatment, however, in the graver class of cases, will give results which the writer has not seen equaled by the application of any other method. The main objection to the use of the galvanic current is the amount of time required for its thorough and satisfactory application. It is to be hoped, nevertheless, that, in spite of this, the value of Dr. Shurly's method may become more generally recognized, and that the relief which it is capable of producing may be afforded to the unfortunates who may require it.

RECURRENT NASO-PHARYNGEAL TUMOR.

CURE BY ELECTROLYSIS; EXHIBITION OF THE PATIENT.*

By RUFUS P. LINCOLN, M. D.

IN April, 1886, I saw, in consultation with Dr. Satterthwaite, A. B., aged nineteen years, who feared a recurrence of a nasopharyngeal tumor that had already been twice removed by a surgeon in San Francisco, Cal. I expected to have received before this time a report of his operations and of the pathological character of the tumors removed, but it has not yet come to hand.

Briefly, from the patient's account, I will state that the principal growth was removed from behind the palate in March, 1885, and a tumor that presented in the left cheek from under the zygomatic arch the following September. The tumor reappeared in the posterior nares, and the first operation was repeated in November. At the time of the first operation the patient could not breathe through either nostril; the soft palate was distended, and the tumor could be seen when looking into the mouth. The patient was deaf in both ears. The left cheek was enlarged by a growth, which he was informed was a part of that in the throat. The patient was conscious of the presence of the tumor two years before the first operation.

When I first saw him he complained of inability to breathe through his left nostril, and of a sense of fullness in the posterior nares. To inspection there was nothing abnormal visible in either nostril anteriorly. A probe passed into the left, however, met an obstruction as it reached its posterior border; the right was entirely free. On looking into the mouth, the left side of the arch of the soft palate was gaping; it evidently had been once incised and only partially restored. Posterior rhinoscopy disclosed a pinkish-colored mass, of about the size and shape of a horse-chestnut, nearly filling the left half of the post-nasal space. A further examination showed this to be an outgrowth from the left border of the vault and the left lateral wall of the naso-pharynx. To the finger it was immovable, but elastic.

On the left side, above the first molar, where the mucous membrane is reflected upon the inside of the cheek, a sinus presented, from which a small amount of purulent matter was escaping. A probe introduced here penetrated two inches and a half.

It was through an opening made at this point that the zygomatic prolongation of the tumor was removed.

It was decided at our consultation that an attempt should be made to destroy the tumor by electrolysis. Mr. W. F. Ford prepared for me some needles insulated to within three fourths of an inch of their points, and of a convenient length, to be used through the anterior nares.

* Read before the American Laryngological Association at its ninth annual congress.

June 3, 1886.—I did my first operation as follows: I introduced two needles well into the tumor, and connected them with the negative pole of the battery. The positive pole was always subdivided, terminating in two large sponge-covered electrodes, one of which was firmly held against the chest below the left clavicle, while the other was in a like manner placed just above the corresponding scapula. After the first treatment but one needle was used. There were in all sixteen applications at intervals of from four to six days, each *séance* occupying from twelve to twenty minutes.

July 29th.—All evidence of a tumor had disappeared, the only trace of the growth being a button of cicatricial tissue, which occupied its former site.

The battery used was that made by the Galvano-Faradic Company, and the number of cells employed at each *séance* was quickly increased to sixteen, and sometimes to twenty-two. The immediate effect of the electrolysis was a distension of the mass operated upon, and a change of color toward lividity, but both of these changes passed away within twenty-four hours. At each succeeding *séance* the mass was decidedly smaller than at the previous sitting. The only disagreeable symptom incident to the operation beside slight pain was a feeling of dizziness; this never lasted more than half an hour after the operation ended. The patient has been frequently seen since the date last mentioned. There has never been any evidence of a disposition of the tumor to be reproduced. All disagreeable symptoms attributable to the growth have vanished.

My excuse for presenting this subject to you to-day is to emphasize and justify what I have twice before insisted upon at meetings of this association—viz., the ability to successfully treat certain cases of naso-pharyngeal tumors by galvano-cauterization and electrolysis.

A CASE OF LARYNGEAL STENOSIS TREATED BY DIVULSION AND SYSTEMATIC DILATATION.* By MORRIS J. ASCH, M. D.

THE following case is interesting from the character of the stenosis, from the success of the treatment, and also from the obscurity of the cause producing the stenosis:

Miss K., aged thirty, a music-teacher, presented herself at the throat clinic of the New York Eye and Ear Infirmary, October 4, 1885, with the following history: Up to her twenty-seventh year she had always enjoyed good health. At that period she had some pulmonary trouble of the nature of which she was ignorant. Subsequently she had always a slight cough, but no other symptoms. No diminution in weight; no hæmoptysis or night-sweats. In October, 1884, she first noticed a slight wheezing on inspiration, accompanied by a short spasmodic cough, which gradually increased in severity until May, 1885, when the dyspnoea became excessive. She was treated at the dispensary of one of our large hospitals for asthma without obtaining relief, and was finally pronounced incurable, a change of climate being recommended as the only means of procuring comfort. At the time she presented herself at my clinic her dyspnoea was excessive at intervals. She breathed with her mouth widely opened, inspiring with a stridulous, gasping sound, which could be heard in an adjoining room. The slightest exertion increased the dyspnoea, which, however,

was ameliorated on lying down, the only position in which she was comparatively comfortable. The voice was clear, though not strong; the heart-sounds were weak, with loud sibilant râles over the whole chest; and there was dullness under the left clavicle. The appetite was good, and all the functions were normal.

Examination with the laryngoscope showed no abnormality in the larynx above the cords, nor in the cords themselves, but on deep inspiration the origin of the trouble was revealed below the vocal cords. At the level of the cricoid cartilage, and encircling the opening of the trachea, were seen two pale, thick, shining swellings, united posteriorly by a membranous expansion, and leaving the anterior wall free, which diminished the opening of the larynx to a third of its natural size. The membranous portion of this swelling was double, there being two folds of it at different levels. When the patient presented herself again, on October 20th, the membranous expansion posteriorly was nicked by means of Whistler's laryngotome, and the stricture divulsed by means of a long laryngeal forceps opening laterally. A small amount of blood followed the operation, and for several hours there was a good deal of coughing. After this the patient was very comfortable, the dyspnoea was materially lessened, and she was able to ascend a flight of stairs without exhaustion, a thing which she had been unable to do for two years.

On October 22d the patient was seen again, and the caliber of the stricture seen to be materially enlarged, the constricting band being now divided into two crescent-shaped lateral portions. The breathing was still loud, but with barely any effort and with only occasional gasps. Metallic sounds were passed into the trachea daily, and dilatation with the forceps was performed tri-weekly. The noisy respiration having now ceased, the chest was examined, and bronchial respiration found to be quite marked. From this time the patient gradually improved, the stretching with the forceps being regularly performed by my assistant in the clinic, Dr. Emil Mayer.

As time went on the dilatations were performed less frequently until February 8, 1886, when Dr. Mayer reported the patient much improved, the caliber of the stricture enlarged, and the breathing almost noiseless.

In April an attack of bronchitis supervened, and with it the dyspnoea recurred, but the continued dilatation soon relieved this. The patient's condition improved, and she became less regular in her attendance.

On September 2d the patient presented herself at my office in such an extreme state of dyspnoea as to almost warrant an immediate tracheotomy. I examined her larynx, and found it to be acutely inflamed at the seat of the stricture, while the crescentic bands were enlarged to such a degree as to leave the merest chink for the passage of air. In a little while there was a lessening of the extreme dyspnoea, so that she was able to be transported to the infirmary, where she was put to bed, and, under the use of steam and cold compresses to the throat, the acute symptoms subsided and the larynx was restored to its previous caliber. Dilatation by O'Dwyer's tubes was then tried, but the patient was unable to tolerate this method, spasm of the larynx being caused by it.

Dilatation was then begun with Schrötter's hard-rubber tubes, commencing with No. 3. They were introduced every other day, being retained from five to fifteen minutes at a sitting, and the size increased as the treatment progressed. From this time the improvement was steady and manifest; the patient tolerated the presence of the tube without difficulty, and in three months from the adoption of the method the caliber of the larynx and trachea was restored, and the cure was perfect. At the time of this writing (May, 1887) she has no asthma, the

* Read before the American Laryngological Association at its ninth annual congress.

respiration is natural, and she can perform her duties without inconvenience in this respect, but, unfortunately, the symptoms of pulmonary disease have increased.

There was in this case no history of syphilis nor knowledge of any inflammation of the larynx or trachea; it was evidently a case of subchordal hypertrophic laryngitis, described by Gerhardt in 1873 under the name of "chorditis vocalis inferior hypertrophica," and cases of which have been reported by Schrötter, Burow, Marian, Ganghofner, Chiari, and others. The disease, when seated in the larynx, shows itself first by hoarseness; if, however, it is below the cords, then dyspnoea is the first symptom. There is probably a history of inflammation of the throat at some previous time; then dyspnoea appears, and, as soon as the thickening is of sufficient volume, suffocative attacks occur, often attended by complete aphonia. The usual seat of the disease is below the cords. The nature of the disease is in doubt. Its immediate cause is undoubtedly catarrhal inflammation of the mucous membrane, while the patients are generally of a strumous constitution. It may, however, result from tuberculous inflammation, which, Chiari says, can produce swelling below the cords.

In the treatment of these cases systematic dilatation by means of the tubes of Professor Schrötter is the best method to pursue. A striking point in the history of the present case is the rapid amelioration brought about by the use of these tubes, and the permanency of the good effects produced by them. In all cases of stenosis where a tube can be introduced there can be no question as to the propriety of attempting this method in preference to tracheotomy. An English catheter can be introduced, increasing in size until one of the hard-rubber tubes can be inserted, and the patient can soon be taught how to introduce it himself. If, however, the dilatation is pushed too rapidly, and a tube of unsuitable size is forced, severe reaction may occur, causing swelling, and the dyspnoea may be increased to such an extent as to render an artificial opening imperative. There is no question in my mind as to the preference to be given to this method over any other that we possess. In cases where urgency exists, of course a surgical procedure may be unavoidable; but in cases of chronic stenosis the tube is indicated, especially where it is the result of chronic inflammation. In cases where the stricture is the result of wounds, or of cicatrization following loss of tissue, or where acute stenosis is present, tubage should not be employed; in the one case it would be powerless to exert any permanent improvement, and in the other the reaction would aggravate the original disease. Yet, in cases of emergency, respiration might be maintained by its means until tracheotomy could be performed. In cases of stenosis existing low in the trachea, tubes of a different curve from the laryngeal tube must be employed.

The question of the cause of the stenosis in the case I have just reported is an interesting one. Was it the result of simple catarrhal inflammation in a strumous subject, or had the condition of the lung which manifested itself later on any effect in the production of this swelling? Certainly we have not been accustomed to look for the early laryngeal manifestations of phthisis so low in the air-passages,

and yet it is possible that they may present themselves in this locality more frequently than has been supposed; and if we examine closely into all our cases of stenosis it is possible that we may occasionally find tubercle to be a factor in its production.

A CASE OF LEUCOPLAKIA BUCCALIS.

RECOVERY.*

By W. C. GLASGOW, M. D.,

ST. LOUIS, MO.

At the Detroit meeting of the society in 1885 our esteemed president, Dr. Ingalls, read an exhaustive paper on "Leucoplakia Buccalis," and reported a case which had recovered under the local use of the galvano-cautery. It has been my fortune to have a similar case in which recovery has taken place under a less heroic method of treatment, and I take this opportunity to place it on record:

Mr. F., a merchant, forty-eight years old, consulted me on January 15, 1885, on account of a trouble of the throat. He stated that for some weeks he had had pain and difficulty in swallowing, and a certain amount of thickness of speech. He had been losing flesh and weight, with an increasing degree of weakness and loss of mental activity.

On examination, the right tonsil appeared swollen and very red, the left slightly enlarged. On each anterior pillar of the palate an opaline patch was seen covering the greater part of the pillar. There was also a small patch of similar character on the lower part of the tonsil. The removal of a portion of the patch left a bleeding surface. About the middle of the tongue was a thickened opaline patch, of nearly the size of a quarter of a dollar, with several fissures extending to the tip of the tongue; a small opaline patch was also seen on the side of the tongue. On the left side of the tongue was a small, irregular-shaped ulcer, with clear-cut edges, looking as if it had been cut out with a punch, and extending through the mucous membrane to the sub-mucous tissue. Certain of the appearances in the throat, more especially the deep, clear-cut ulcer, gave rise to the suspicion of syphilis, but, on questioning him, no definite syphilitic history could be obtained. He stated that, about twenty-five years before, he had had a slight sore which was cauterized; from his description, this was probably a herpes præputialis. This healed immediately, and since then, until his throat began to give him trouble, he had enjoyed perfect health. There was no enlargement of the glands, and he had absolutely no history of a secondary symptom. He was married and had four children. His wife and children had always been perfectly healthy. He was a great smoker, using daily from ten to twelve cigars.

In spite of this history, I determined to give him specific treatment. I ordered him full doses of the biniodide of mercury and made daily applications to the throat with the carbulated iodine, and ordered him to give up his cigars. Under this treatment he steadily grew worse; the patches continued to enlarge, until the whole tonsil was covered with a yellowish-white patch. The soft palate and uvula became swollen and edematous.

The specific treatment was then discontinued and he was given a simple iron tonic, and the local application of the iodine was continued.

He continued under this treatment for three months with the most gratifying result. The patch on the tongue disap-

* Read before the American Laryngological Association at its ninth annual congress.

peared, the ulcer healed, and the patches on the tonsil were scarcely visible.

The soft palate and uvula remained greatly swollen and cedematous. The mucous membrane was hanging in folds and ridges, as if partly detached from the submucous tissue. A slight cutaneous eruption appeared in the form of isolated flat tubercles on the end of the nose, with a few on the face, and a few patches of squamous eruption were seen on the back of the neck. I am inclined to believe the tubercles to be the result of iodism. His health had greatly improved, and he was able to swallow without pain.

On May 1st I sent Mr. F. to the Hot Springs, Ark. Here the physicians he consulted regarded his case as syphilitic, and gave him the regular treatment. He was thoroughly boiled and bathed, and received heroic doses of mercury in the form of blue ointment, with enormous doses of iodide of potassium. After a two-months' course of this treatment, finding that he had been steadily growing worse, he consulted another physician. This gentleman, after a study of the case, doubted the syphilitic origin, and was inclined to consider it epitheliomatous. When I saw Mr. F. again, on July 1st, a very decided aggravation of his disease was apparent. He had again lost flesh, he was weaker, and his throat pained him greatly on swallowing. The soft palate and uvula were cedematous, and on the soft palate could be seen three crescentic-shaped patches of about the size of a threepence; each patch consisted of a number of small papules, and it was surrounded by a well-defined red band; there were similar patches on the right tonsil. The pillars of the palate still showed the opaline color.

I now gave him liq. potass. arsenitis in full doses, and continued this for ten days; all local treatment was discontinued. At the end of this time the patches of papules had disappeared, and the place was covered by a white-yellowish exudation.

He now received tonic doses of mercury and potash, $\frac{1}{16}$ gr. of the former and 1 gr. of the latter. Under this treatment he steadily improved, and in six weeks his throat had regained its normal appearance, with the exception of a small opaline patch on the side of the tongue, enlarged tonsils, and a fullness of the uvula. He could swallow without pain, and he had gained in weight and strength. At this time he visited Europe and spent a month traveling through the British Isles. He considered himself entirely well, having regained his strength, and his throat gave him no trouble until he caught a cold at the Isle of Wight. He then hastened to London and consulted Dr. Morell Mackenzie; our distinguished colleague, after hearing his history and examining him, gave him the opinion that his throat disease was syphilitic, and prescribed for him minute doses of the iodide of potassium. Mr. F. returned home in perfect health, and from that day to this has not had a sick day. His throat is perfectly normal, with the exception of slightly enlarged tonsils.

In a throat practice of seventeen years I have seen many syphilitic throats, but have never seen one resembling this case. I have seen mucous patches and condylomata and the papillary syphilides in all varieties; in all these cases the condition has yielded to constitutional treatment. From my experience with this case, I can not agree with our distinguished colleague in considering this to be a case of syphilis. This opinion I form from the following facts:

1. There is no history of syphilis; the initial lesion is very problematical and no secondary symptoms have appeared in twenty-five years.

2. Aggravation instead of improvement of the local disease under the most heroic and persistent anti-syphilitic treatment.

3. Improvement and recovery under a simple tonic treatment, such as we should expect to be of benefit in any simple chronic inflammatory condition.

4. A healthy family showing no sign of the syphilitic dyscrasia.

I should rather consider the throat disease to be the result of excessive smoking; the history and results of the case seem to perfectly justify the conclusion.

A CASE OF KELOTOMY.*

By JARVIS S. WIGHT, M.D.,

BROOKLYN.

G. M., nineteen years of age, was brought to the Long Island College Hospital at half-past two o'clock on the afternoon of January 10, 1887, suffering from strangulated hernia. The hernia appeared suddenly on the morning of the same day, about seven o'clock, as he was going to his work, and was very painful. He walked home, where he was seen by his family physician in a short time. Another physician was called, when ether was given. An attempt at reduction by taxis did not succeed, and, as soon as arrangements could be made, he was sent to the hospital. Soon after his arrival I examined him and found he had an irreducible strangulated hernia on the right side. It was a direct hernia, and the tumor was of considerable size.

With the assistance of Dr. Lewis, Dr. Van Cott, Dr. Dudley, and Dr. Tucker, at about three o'clock in the afternoon I began the operation. A preliminary incision was made at once down to the sac. Then I cut the constricting band over the neck of the sac, and made a reasonable attempt to perform the minor operation, but did not succeed. Subsequent events showed that this failure was fortunate. On opening the sac, a considerable quantity of strangulated intestine rolled out, which, while it was very much congested, was not yet gangrenous. Dark blood continued to flow from the sac, and a lacerated wound of the intestine bled freely. The mucous coat had not been torn through. The laceration was near the mesentery, and in the vicinity of the opening in the abdominal wall. Three efforts to include the edges of the wound in a single ligature failed. I then stitched the wound with catgut sutures. A small curved needle was passed through the serous and muscular coats of the intestine in two places, and the two sutures were tied and cut short. The hæmorrhage ceased at once.

On examination, I found that the intestine had come through the outer third of Hesselbach's triangle, very close to Poupart's ligament, not disturbing the conjoined tendon. The opening in the subperitoneal and transverse fasciæ was from side to side, and about half an inch in length; but the rent was very narrow, and the edge above was very sharp. No expedient would separate the edge of the opening above from the intestine below, as it rested on Poupart's ligament. I had to make a free incision before the strangulation ceased. In the mean time the coils of intestine had been kept clean and warm by means of towels moistened with a warm solution of bichloride of mercury. In a few moments the oozing from the intestine ceased. Though I had made a large opening in the abdominal wall, I found it very difficult to reduce the dislocation; but, when the intestine was well inside, it readily kept its place. I then closed the main part of the wound with two catgut sutures, including all the deep tissues, being careful not to include the spermatic cord. Horse-hair sutures were employed

* Read before the Brooklyn Pathological Society, February 24, 1887.

to close the rest of the operation wound. The part was then dusted over with a powder containing one part of iodoform and two parts of pulverized coffee, and covered with an antiseptic pad.

Soon after the operation the temperature went up to 105° F., but a few hours after it went down to 101°. Since then the temperature has been somewhat irregular, ranging mostly from 99.5° to 101°. On one occasion it was as high as 102°. On Monday, the 17th, it went up to 103°. To-day, January 20th, it is 98.6°. The pulse is 71, and the respiration is 19.

I gave the patient repeated doses of deodorized tincture of opium from the outset; sometimes he had four twenty-minim doses in the twenty-four hours. He was confined exclusively to a milk diet, and kept in bed on his back. Two or three times he had slight distension of the bowels with gas. His urine was drawn off twice a day for a week. At no time did he have much pain. On the evening of the 16th an enema of nearly a pint of water, containing a little soap in solution, was administered. There was no action of the bowels. His opiate was omitted, and he was left for the night. The next morning, one week from the day of the operation, the enema was repeated, and caused a copious evacuation of the bowels. Since then he has passed urine without the catheter. For the past few days he has had ten grains of quinine in the twenty-four hours. This may be the cause of the subsidence of his fever.

In the vicinity of the operation wound there was intense capillary congestion for four or five days; this slowly went away. The sutures were mostly removed at the end of the week. The main catgut suture was absorbed. There was primary union of the wound—except at two points. A small point near the lower end of the incision showed slight suppuration; a little larger point near the upper end of the incision discharged a moderate amount of healthy pus.

At present these small ulcers are rapidly closing, and, so far as I can now come to a conclusion, I should say that my patient would be reasonably certain to recover. Let me add that the reasonable and ordinary rules of antiseptic surgery were applied in the treatment of this case.

The patient says that about a year ago he had a similar swelling, of nearly half the size of the present one, and that it continued three or four days, when it went away itself. A member of his family said that he had a hernia at the time of his birth; but I could not learn anything beyond this simple fact.

Correspondence.

LETTER FROM LONDON.

The Introductory Addresses at the Medical Schools.—A Post-graduation Course at Charing Cross Hospital.

LONDON, October 4, 1887.

THE medical session has now begun at all the London hospitals, and yesterday witnessed the annual repetition of inaugural addresses at those hospitals which have not given up the old custom. It is curious that the three largest hospitals should have discontinued the addresses while they still flourish at smaller institutions, but such is the fact. At St. Bartholomew's and the London Hospitals there was a dinner of old students, and at Guy's a conversazione. Charing Cross, the only other school which has finally abandoned the introductory address, did not celebrate the occasion by any festivities. King's College and the Middlesex, however, so far departed from the regular practice as to have addresses from laymen, and not from

one of their own teachers. At the former Lord Selborne, an eminent lawyer and ex-lord chancellor, undertook the duty, and at the latter the Lord Mayor of the city of London.

The addresses at the other institutions did not contain anything of a very novel or interesting character. Several of them, of course, had allusions to medical politics; indeed, it was not to be supposed that the coming struggle on the question of an M. D. degree for London students should be passed over in silence. Dr. Sturges's, at the Westminster, was almost wholly political. Mr. Anderson Critchett, at St. Mary's, dwelt on the improvements that had taken place in medical practice and chiefly in his own specialty, diseases of the eye, in recent years. Mr. Dent, at St. George's, devoted his hour to the nature and significance of pain. Dr. Crocker, at University College, told his audience some of the things they were not to do when launched into the world, and especially cautioned them against endeavoring to get practice by advertising. Various kinds of advertiser were described, especially the advertiser circumstantial, who, while appearing to praise something else, was really putting himself forward; as the most flagrant instances of this variety he referred to men who lent their aid in puffing sundry trade articles, either directly by writing testimonials or indirectly by allowing extracts from their works to be reprinted by the venders of drugs, foods, or hygienic articles and sent out as circulars or left in public places; another plan he also referred to was to write books known as "bread-and-butter books" of more or less pretension on common diseases, such as "gout," or on some fashionable or new treatment, such as "massage," to give the impression that the writers were authorities on the subject. There will be not a few probably who will not like Dr. Crocker's very plain way of speaking.

Of course it is much too soon to know anything about the number of entries, yet I expect that the Middlesex will be found to have made the greatest gain among the smaller schools. They have for some months past been building new schools and a residential college, and they have taken good care to let the public hear of their doings from time to time, and that sort of thing almost always attracts the public, who really can not be expected to discriminate between the relative merits of the teachers at the different schools. Last year St. Mary's did much the same thing; they opened some new school buildings and a small residential college with a great flourish of trumpets, and were rewarded by a very considerable increase in the number of their students. Next year it will be one of the others that will find some legitimate excuse for drawing a large share of public attention to itself. If the thing went merely by turns, it certainly would be the turn of St. George's or Kings, for these schools have both sadly degenerated from what they were in by-gone days.

A post-graduate course of lectures is about to be given at the Charing Cross Hospital, each member of the staff having undertaken to give one lecture. This is not the first time this has been attempted in London, for a course was given at St. Mary's a few months ago, but it was not a great success. The reason of its failure is said to have been that the subjects were not those on which the average general practitioner desired information, and those who have organized the course at Charing Cross have endeavored to avoid this mistake. How far they have succeeded time will show. It always appears a pity to me that the work at our special hospitals is not a little better organized, as that would constitute by far the best possible post-graduate course a man could wish for. If half a dozen of the leading special hospitals were to join together and arrange for lectures and demonstrations to those who had paid a specified fee into a common fund, I believe that we should hear less of people going over to Vienna for clinical instruction.

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FRANK P. FOSTER, M. D.

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ANTIPIRYNE AND ACETANILIDE AS ANALGESICS.

THESE two recent additions to our list of remedial agents have already taken an advanced place among antipyretics, and the literature of their use in cases of high temperature is quite extensive. It is only within a few months that cases have been reported in which they have been used for other than their well-known antithermal effects. Dr. John Blake White, of New York, was, so far as we know, the first to make use of antipyrine in painful affections, which he did in 1884, soon after its introduction by Knorr, in cases of headache; and his account of the results of two years' use of the remedy in these cases was given in the "Medical Record" for September 11, 1886. In his cases, the headaches were the result of indigestion, menstrual disturbances, great mental strain, and loss of sleep. Dr. White was first led to regard antipyrine as an analgesic by the fact that typhoid-fever patients who took it as an antipyretic were often relieved of headache. Last May Dr. W. H. Thompson read a paper before the Section in Materia Medica and Therapeutics of the New York Academy of Medicine, in which, as will be seen by referring to our issue for July 23d, page 109, he gave it as the result of his experience that antipyrine was of great value in true migraine; that malarial headache was mitigated by its use, but not to so decided a degree; that dyspeptic headache was sometimes ameliorated; and that uræmic headache was not affected.

During the past year M. Germain Sée has been making use of antipyrine as a pain-relieving remedy, and has recorded his observations in the "Union médicale." In both acute and chronic articular rheumatism and in the painful paroxysms of gout he has found the remedy efficient, as well as in various forms of neuralgia, especially the facial and the sciatic. He has also produced good results with it in painful conditions of the abdominal contents, such as renal, hepatic, gastro-intestinal, and uterine colic. He compares it with its newer rival, acetanilide (absurdly called antifebrine), but accords the superiority as an analgesic to antipyrine. In the severe pains of locomotor ataxia, M. Lépine has given great relief with antipyrine. M. Demiéville recently read a paper before a French society, in which he reported favorable results from the use of acetanilide in cases of neuralgia, sciatic, ulnar, intercostal, and trigeminal, also in cases of dysmenorrhœa and of pain due to cancer and gangrene. In this Journal for May 28th, Dr. Allan McLane Hamilton, of New York, published an article in which he gave his observations on the analgesic properties of both antipyrine and acetanilide, which had led him to the conclusion, like M. Sée's, that the former was the more serviceable of the two.

The dose of antipyrine in these painful cases is from ten to fifteen grains usually, although five grains are often sufficient to give relief; that of acetanilide is from two to eight grains. The present writer's experience with the two remedies is decidedly in favor of antipyrine, but in some few cases he has found that acetanilide would answer as well. The patient should be directed to lie down as soon as the drug is taken, for it has a slight hypnotic effect, and patients generally fall into a quiet slumber, from which they awake very much relieved. In a few cases where the writer has used antipyrine, it has caused vomiting, and in two instances marked depression, but otherwise no ill effects have followed the use of quite large doses. In antipyrine we undoubtedly have a valuable addition to our already long list of pain-relieving remedies, and in many cases its analgesic properties come more into play than its antithermic action. But it is a patented article, and it is to be regretted that its price still keeps it out of the reach of many sufferers.

MINOR PARAGRAPHS.

THE TRANSPORTATION OF PATIENTS WITH INFECTIOUS DISEASES IN PARIS.

THE "Gazette hebdomadaire de médecine et de chirurgie" states that, following the example of London, Paris is about to provide itself with three stations where conveyances can be had for transporting persons sick with infectious diseases. Each station is to have twelve carriages—two for small-pox, two for diphtheria, two for measles, two for scarlet fever, two for typhoid fever, and two for other infectious diseases.

SUTURE OF THE BLADDER.

THE "Deutsche Medizinal-Zeitung" summarizes a recent article by Dr. A. Brenner, an assistant at Billroth's clinic, published in the "Archiv für Chirurgie," by which it appears that the author appreciates the force of Guyon's remark that the bladder should be sutured hermetically or not at all. In the method that he suggests, which as yet he has carried out only on the cadaver and in the case of dogs, two threads are carried around the wound, at a distance of an inch or less from it, one running in the submucous tissue, and the other in the muscular coat, care being taken that neither shall involve the mucous membrane. Both are then tightened and securely tied. The result of this is to form a rosette-like pouch, which slightly alters the shape of the bladder, but the wound is made water-tight and air-tight.

INOCULATED MEASLES.

IN a recent number of the "Monatshefte für praktische Dermatologie" Dr. F. Michael reports a case of the apparent inoculation of measles in which there were two particularly interesting features: the fact that the patient who furnished the contagium was in the stage of incubation at the time, and the appearance of a rash in the vicinity of the point of inoculation twenty-four hours in advance of the general eruption. The facts were as follows: A school-girl had a pustule on the dorsal aspect of the first segment of the middle finger. The teacher opened the pustule with a pin given her by a child sitting near by, this child, as it afterward appeared, being in the period of incubation of measles. On the ninth day the little girl sickened with the usual prodromes of measles, and there was redness of the back of the hand that had been affected with the pustule.

The author discusses the question of whether this was due to a lymphangitis caused by the pustule or a morbillous rash occasioned by inoculation with the pin; and he concludes that the latter supposition is the true one.

A RECOVERY IN SPITE OF THE PATIENT.

THE "Revue générale de clinique et de thérapeutique" quotes from the "Bulletin médical" an account of the case of a highly hysterical woman from whom a large cyst of the broad ligament was removed. To the minute care bestowed upon the antiseptic precautions the operator attributes the woman's escape from the natural consequences of certain remarkable performances in which she afterward indulged. Within a few hours after the operation she got out of bed and knelt down on her knees, in spite of all remonstrances. The next morning she was a little depressed, and complained of the intolerable itching caused by sudamina. During the day she was taken with a severe hysterical attack, after which, having watched for an opportunity, she left her room and walked a number of yards before she could be taken back to bed. The following night she rose again, and a struggle was necessary before the nurse could get her into bed again. The next day she escaped anew and visited the kitchen, from which she was brought back only after what is described as a truly pugilistic encounter. On the fourth day she had another major attack of hysteria, and walked into a neighboring chamber. On the fifth day she became calm, and the dressing was changed. She was in good condition, and nothing was found more serious than a crop of sudamina on the abdomen. Thenceforth her convalescence was unmarked by any noteworthy incident.

DRINKING-WATER AS A CAUSE OF TYPHOID FEVER.

THE water used for drinking is so commonly recognized as the chief vehicle of the germ of typhoid fever that even isolated instances in which it is evidently not at fault are of interest. A striking example was lately reported to the *Société de médecine* of Nantes by M. Bonamy, in which the occupants of two houses used drinking-water from the same source, but only one of the households was attacked with typhoid fever. That family, however, suffered severely, as there were six cases and four deaths. The account is published in "Gazette médicale de Nantes."

ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending October 18, 1887:

DISEASES.	Week ending Oct. 11.		Week ending Oct. 18.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever.	45	9	44	8
Scarlet fever.	60	8	61	9
Cerebro-spinal meningitis.	5	3	2	3
Measles.	21	2	14	3
Diphtheria.	82	37	103	30
Small-pox.	0	1	1	0

The International Medical Congress and the Newspapers.—The managing editor of the Philadelphia "Press" has addressed the following letter to the editor of one of the Philadelphia medical journals:

"My attention has been called to an editorial in your issue of the 24th ult., in which you state that Dr. I. Minis Hays, of the 'Medical News,' was the author of the dispatches sent from

Washington to the 'Press' in regard to the recent International Medical Congress. A newspaper is alone responsible for its news dispatches, and it is not the custom of responsible journals to make known the names of its regular correspondents. Permit me, however, to state authoritatively *through your columns* that Dr. Hays was not the author of the dispatches in question, and that he was not in any way responsible for them. They were sent from Washington by two regular correspondents of the 'Press,' and I find, upon inquiry, that the identity of the writers was absolutely unknown to Dr. Hays, who, I may add, is at the present moment quite unknown to me, save by name."

University College, London.—According to the "British Medical Journal," the late Mr. Richard Quain bequeathed to the college nearly the whole of his fortune, amounting to about £75,000.

The late Dr. Joseph C. Hutchison.—At the regular meeting of the Board of Regents of the Long Island College Hospital, held October 8, 1887, the following was entered on the minutes:

"The members of the board, having heard with unfeigned sorrow and regret of the death of Joseph C. Hutchison, M. D., president of the collegiate department, are deeply impressed with the great loss the institution under their care has sustained by being deprived of his counsel and aid. Dr. Hutchison was an industrious worker, an eminent surgeon, and a good citizen. He was a thorough scholar and a successful teacher. He was highly esteemed by his professional brethren, and was loved and respected by all who knew him. He brought to the advancement of the interests of the college a mature mind, a ripe judgment, and a steady, faithful, and sincere application that promised much for the future, thus fulfilling the highest hopes of his fitness for the place he occupied."

On motion it was *Resolved*, That a copy of the foregoing minutes be signed by the president and secretary, and sent to the family of Dr. Hutchison, and that copies be also supplied to the press for publication.

[Signed]

W. T. OSBORNE, *Secretary*.

THOMAS H. RODMAN, *President*.

The New York Post-graduate Medical School and Hospital.—We learn that Dr. Milton Josiah Roberts has resigned the professorship of orthopædic surgery and mechanical therapeutics.

Naval Intelligence.—*Official List of Changes in the Medical Corps of the United States Navy for the week ending October 8, 1887:*

MARTIN, WILLIAM, Assistant Surgeon. Detached from Hospital, Norfolk, and granted sixty days' leave.

BATES, N. L., Medical Inspector. Detached from the Naval Dispensary, and ordered to the Examining and Retiring Board.

PRICE, A. F., Surgeon. Ordered to the Naval Dispensary, Washington, D. C.

WAGGENER, J. R., Surgeon. Ordered to the Receiving-ship Minnesota.

FITZSIMMONS, PAUL, Surgeon. Detached from the Minnesota, and ordered to the Marion. October 15th.

ATLEE, LOUIS W., Assistant Surgeon. Detached from the Receiving-ship Vermont and ordered to the Marion. October 15th.

RESH, W. H., Passed Assistant Surgeon. Detached from the Coast-Survey Steamer Blake and ordered to the Navy Yard, New York.

BERRYHILL, T. A., Assistant Surgeon. Detached from the Minnesota and ordered to the Blake.

DRENNAN, M. C., Surgeon. Detached from the Naval Academy and to wait orders.

Society Meetings for the Coming Week:

MONDAY, *October 24th*: Medical Society of the County of New York; Boston Society for Medical Improvement; Lawrence, Mass., Medical Club (private); Cambridge, Mass., Society for Medical Improvement.

TUESDAY, *October 25th*: New York Dermatological Society (private); New York Academy of Medicine (Section in Laryngology and Rhinology); Buffalo, N. Y., Obstetrical Society (private); Medical Societies of the Counties of Queens (semi-annual, Garden City) and Rockland (semi-annual), N. Y.; Boston Society of Medical Sciences (private).

WEDNESDAY, *October 26th*: New York Surgical Society; New York Pathological Society; American Microscopical Society of the City of New York; Auburn, N. Y., City Medical Association; Medical Society of the County of Albany, N. Y.; Gloucester, N. J., County Medical Society (quarterly); Middlesex, Mass., North District Medical Society (Lowell); Berkshire, Mass., District Medical Society (Pittsfield); Philadelphia County Medical Society (conversational).

THURSDAY, *October 27th*: New York Academy of Medicine (Section in Obstetrics and Diseases of Women and Children); New York Orthopædic Society; Brooklyn Pathological Society; Roxbury, Mass., Society for Medical Improvement (private); Massachusetts Medical Benevolent Society (annual, Boston); Cumberland, Me., County Medical Society (Portland); Pathological Society of Philadelphia.

FRIDAY, *October 28th*: Yorkville Medical Association (private); New York Society of German Physicians; New York Clinical Society (private); Philadelphia Clinical Society; Philadelphia Laryngological Society.

Letters to the Editor.

ON THE EFFECTIVE, RAPID, AND SAFE INDUCTION OF GENERAL ANÆSTHESIA.

26 WEST FORTY-SEVENTH STREET, *October 10, 1887.*

To the Editor of the New York Medical Journal:

SIR: Any one who has had occasion to administer anæsthetics to a considerable extent must have been impressed by the great difficulty often experienced in etherizing individuals of large and robust constitution. Some years ago, while I was serving a portion of my medical apprenticeship with the late Dr. J. Marion Sims, my attention was often attracted to this phenomenon, and I remember to have had many a discussion on the subject with my illustrious preceptor. In those days we used to hear a great deal about "smothering" patients who were difficult to bring under the influence of the anæsthetic. By this was meant pressing the ether-cone down upon the face, so as to admit of the ingress of but a small amount of air—in other words, partial asphyxiation. Sometimes, too, in very intractable persons, nitrous-oxide gas was given before proceeding to the administration of ether, or, where the gas was not available, a hypodermic injection of morphine was resorted to as a preliminary expedient. When, some time after serving my medical and surgical apprenticeship, my energies became exclusively directed

to the study of nervous and mental affections, my thoughts would often involuntarily recur to my early experience with anæsthetics. Thus, while walking through the street on one occasion, I observed a small, thin man walking arm in arm with a fellow-companion, who was large and fleshy. Both these persons were evidently intoxicated, but the smaller man was much more profoundly affected than his larger companion, to whom he clung for support. On making inquiry of bar-keepers and others who have had occasion to witness the various phases of intoxication, I subsequently learned that it was a very ordinary occurrence to find a large, vigorous individual drink with impunity a quantity sufficient to render a small and less robust person hopelessly intoxicated. This disparity of effect, it seemed to me, could only be accounted for on the ground of the difference in the blood-quantity of the average large and small persons. In other words, there is less blood to saturate in a small individual than in one of greater weight and size. But, if this proportion is true, we ought, by shutting off a certain portion of the circulation, to be able with a smaller quantity of alcohol to produce equally pronounced effects in a shorter space of time. And this, in truth, we may accomplish; for I have observed that, if a strong band is secured around each thigh so as to effectually interrupt the circulation, and then a moderate quantity of alcohol is given, the effects of the latter upon the central nervous system are greatly enhanced. By this I mean that mental inco-ordination and the other accompaniments of intoxication may be produced by the introduction into the stomach of a relatively small quantity of alcohol—an amount which, were there no ligatures about the limbs, would have been wholly inadequate to the production of the phenomena. To thoroughly appreciate the principles involved, it is necessary to bear in mind that, when we place the ligatures about the thighs so as to interrupt the circulation in both arteries and veins, we enormously cut down the amount of blood actively circulating. As a consequence we require less alcohol, and less time as well, to saturate this active blood-mass to a sufficient extent with alcohol to produce a profound impression upon the cerebro-spinal axis. What is true of alcohol applies with equal force to ether anæsthesia. The following observation exhibits this physiological relationship in a sufficiently striking manner:

Some time since, there was admitted into the Manhattan Eye and Ear Hospital a man who had been addicted to the abuse of alcohol. Shortly after his entrance into the hospital he was anæsthetized for the purpose of performing an operation upon one of his eyes. The time consumed in etherization, on this occasion, was from six to seven minutes. On the 10th of October it became necessary to perform a second operation, and, at the invitation of Dr. David Webster, ophthalmic surgeon to the hospital, I attended, and sought, by the application of the principles above referred to, to diminish the time required to etherize the patient. The simple procedure resorted to was as follows: A strong, flat elastic tourniquet was secured around each of the patient's thighs, so as to arrest both the arterial and venous blood-flow in the same. By this procedure each limb was converted into a species of receptaculum for a considerable proportion of the total blood-mass, or, as a distinguished friend of mine who was present put it, "about one third of the man was cut off," and consequently it was only necessary to saturate the remaining two thirds (of the total blood-mass). The ligatures being in place, the ether cone was applied over the mouth and face of the patient, and in about three minutes by the watch (according to Dr. N. J. Hepburn, who was present and paid particular attention to this portion of the investigation) the patient was anæsthetized. Dr. Webster then performed the operation of iridectomy. On the completion of the operation, the ligatures were removed and the patient re-

covered from the effects of the ether instantly. This rapid recovery from the effects of the anæsthetic created considerable comment from the medical gentlemen present, and was certainly a very interesting phenomenon from whatever physiological standpoint one chooses to view it. The following gentlemen were present during the entire *séance*: Dr. David Webster, Dr. George F. Carey, Dr. J. Osroft Tansley, Dr. F. W. Ring, Dr. N. J. Hepburn, Dr. W. M. Leszynsky, and others.

Should I again have occasion to test this mode of inducing general anæsthesia, I shall ligate the arms as well as the lower limbs, placing the ligature as near the axilla as possible. It is clear that by so doing the amount of blood excluded from the influence of the anæsthetic may be largely increased, and the effectiveness of the whole procedure proportionately enhanced. I would merely add that in 1880 I first administered chloroform, ether, and nitrous-oxide gas in conjunction with pressure applied to the carotid arteries, seeking thereby to confine (retard) the blood, saturated with the anæsthetic, for a prolonged period in contact with the cerebral ganglia. These experiments were subsequently published ("Carotid Compression," Anson D. F. Randolph & Co., New York, 1882). This was the first time in medical history that an attempt was made to confine a sedative substance in prolonged contact with nervous tissue for therapeutic purposes by arresting the circulation. It was this principle which I subsequently extended to anæsthesia of the peripheral nerves.

I have ventured to present the foregoing considerations, not so much in the light of a physiological finality as with a view to inciting further research in a field which events may prove to be not wholly devoid of practical interest.

J. LEONARD CORNING.

THE STARVATION OF THE GONOCOCCUS.

208 SECOND AVENUE, October 17, 1887.

To the Editor of the New York Medical Journal:

SIR: I wish to add a few practical remarks to the very learned and most valuable article by Dr. O. T. Osborne, of New Haven, Conn., entitled "The Abortive Treatment of Gonorrhœa," which appeared in your Journal for October 8th.

Dr. Osborne quotes from Dr. Currier, who says that the bismuth injection "does not kill the germs, but starves them, and Dr. Osborne adds: "This is certainly difficult to believe." Such starvation of germs has, however, been explained. Küchenmeister—I can not give a precise reference to his paper, but it appeared before 1882—recommended injections of diluted lime-water (1 to 4) in the initial stage of gonorrhœa, saying that such injections acted like lime-water applications on diphtheritic membranes—*i. e.*, by dissolving the inflamed membrane to a certain extent, and thus removing the ground the gonococci were living upon. He further maintained that by such lime-water treatment—the injections to be repeated hourly—the inflammation would at once be reduced and the acute stage much shortened, and especially that the pain in micturition and the painful erections at night would be mitigated, the process passing at once, after a day or two, into the second, or subacute stage, admitting of astringent injections. Before I knew of a new method, of which I shall speak farther on, I followed Küchenmeister's treatment, and found that what he had alleged for it was confirmed. Sodium-bicarbonate solutions, recently recommended, and mentioned by Dr. Osborne, act on the same principle.

Koenig ("Therapeutische Monatshefte," April, 1887), speaking of iodoform, says that it is not a direct antiseptic, that it does not destroy bacteria, that it even has to be protected against the invasion of micro-organisms, but that it acts on

wound surfaces in such a manner that it sterilizes them, thus promoting the healing process by destroying the ground on which the micro-organisms are living. In other words, lime-water, bicarbonate of sodium, and iodoform starve the germs. So do bismuth, oxide of zinc, and many other alteratives and astringents. Kocher introduced bismuth as a direct antiseptic, and Socin did the same thing in the case of oxide of zinc. They both committed the same error that von Mosetig-Moorhof had committed in introducing iodoform as a direct antiseptic. We have heard much of late for and against iodoform, and I think that Koenig has found the solution of the question as to how far the drug is or is not an antiseptic.

In preference to injections, and also in preference to the gelatin bougies mentioned by Dr. Osborne, I now employ a new contrivance, the invention of Dr. Paul Francke, of Chemnitz, Saxony, called the antrophore (in German, *Antrophor*; from *ἀντρον*, a cavity, and *φορέιν*, to carry—a carrier into a cavity). This instrument certainly has the advantage, in the first place, of being of service in all forms and stages of gonorrhœa—an advantage that can not be alleged for either injections or bougies. The antrophore consists of a nickel-plated tube formed by a closely wound spiral coil of wire, to one end of which is fastened a small rivet with a hemi-spherical head, while the other end bears a ring to serve as a handle. These are both neatly soldered in place. Having no core, the tube possesses great elasticity and pliability, yet it is very firm when pushed in a straight direction. These tubes, or skeletons, are nickel-plated or coated with a thin film of shellac, to protect them from oxidation by the air or the action of the chemicals that may be used in the medicaments. To a mixture of gelatin and glycerin in such proportions that the melting-point is 82° F. is added a two-per-cent. solution of carbolic acid, to secure an aseptic condition, and finally the medicinal agent is added in various amounts suitable to the cases to be treated. Into this composition the skeletons are dipped at a temperature of 86°, then they are hung up by the handle, to become hard by cooling. The process is repeated until they have taken up the requisite amount of material. While they are hung up, a drop-shaped end is formed. In order to prevent the finished antrophores from adhering together, they are dusted with talc, which must be washed off with cold water when they are to be applied. The pliability of the instrument allows of its entering any channel, even one that is tortuous or choked, and the same property admits of its being kept in place often as long as thirty minutes, so that the medicated preparation may liquefy slowly and remain in close contact with the diseased portion of the urethra.

Dr. Osborne's citation of Goll's experience with thalline interested me very much, as I too have treated a number of cases with this new drug. According to Kreis's experiments, published in January, 1887, thalline is the very specific against gonococci, and perhaps the long-sought-for means for abortive treatment. In a case of acute gonorrhœic inflammation, I first tried an injection of a weak solution of thalline, but found that it caused too much pain; then I tried an injection of pure cold water, and found that that likewise gave pain—rather more than the thalline injection, instead of less. I then introduced an antrophore charged with a five-per-cent. thalline mass, and to my surprise found no difficulty and caused no pain whatever. This case was a very severe one, characterized by extensive lymphangitis with fever, unusually violent pain on micturition, and painful nocturnal erections. It appeared to me that the thalline antrophore did more service in alleviating all these symptoms and shortening the process than any treatment I had ever employed or heard of. Of course, it would be premature to form a judgment from a single case, but from all that we hear of thalline I think it deserves a fair trial in the treatment

of gonorrhœa, and I would recommend the thalline antrophores, especially during the stage of acute inflammation.

A. ROSE.

Proceedings of Societies.

NINTH INTERNATIONAL MEDICAL CONGRESS.

SECTION IN OBSTETRICS.

The President, Dr. DE LASKIE MILLER, of Chicago, in the Chair.

The President's Address.—The PRESIDENT read an address in which, after warmly welcoming the members and thanking the officers of the section for their valuable labors, he spoke more particularly of craniotomy, expressing the belief that it was fraught with more dangers to the maternal parts than was generally recognized, and that the operation should be adopted only in a limited number of cases: of extra-uterine pregnancy, which should be diagnosticated early and foetal life destroyed by electricity; and of the puerperal state, in which too much care could not be taken not to infect the woman, but we should also strive, in carrying out antiseptis, not to cause toxæmia; strict cleanliness in the lying-in chamber was safe antiseptis.

On the Contractions of the Uterus throughout Pregnancy, and their Value in the Diagnosis of Pregnancy, both Normal and Complicated.—Dr. J. BRAXTON HICKS, of London, sent a paper, which was read by Dr. Earle, of Chicago. The author showed that during utero-gestation there were uterine contractions, the intervals being from five to twenty minutes. After the fourth month these contractions could be recognized by external palpation alone. Before that period bimanual palpation was necessary. During the intervals the uterus was soft; during the contractions it became firm, and could easily be recognized by palpation. These contractions were of value in diagnostivating between pregnancy and tumors. The physiological value of the contractions was to empty the veins of carbonized blood. It was probably the carbonized blood that caused the contractions.

Dr. A. R. SIMPSON, of Edinburgh, corroborated the author's statements concerning the value of uterine contractions throughout pregnancy in differential diagnosis.

Dr. A. F. A. KING, of Washington, and Dr. CHARPENTIER, of Paris, made some remarks upon the paper.

Vicarious Menstruation.—Dr. DUNCAN C. MACCALLUM, of Montreal, had been prompted to write this paper by the diverse opinions which prevailed regarding vicarious menstruation. He cited four cases which he thought were true cases of vicarious menstruation. In two the hæmorrhage took place from the stomach, in one from the lungs, in the other from the nose. The characteristics of all cases of vicarious menstruation were the absence of flow from the uterus, and a flow of blood from some other organ which could be accounted for in no other way than by the unusual blood tension at the menstrual epoch. Sphygmographic tracings were shown in illustration of such premenstrual blood-tension.

Dr. PARKES, of Chicago, Dr. NELSON, of Chicago, and Dr. GLISAN, of Portland, Oregon, related cases of vicarious menstruation.

The Mechanics of the Delivery of the Child's Head by Forceps, with a Description of a New Normal Forceps.—Dr. T. LAZAREWITCH, of St. Petersburg, sent a paper with this title which was read by Dr. Jaggard. In the use of the ordinary cross-bladed forceps, the larger the child's head the less powerful the grasp. The forceps should be, as it were, a con-

tinuation of the hand, rendering it possible to grasp the child's head confined within a limited space. The smaller the dimensions of the blades the more skillfully could they be guided, and the less the injury which would result from their incorrect application. The detrimental action of the blades increased with their breadth, and with the rigidity with which their parallelism was maintained. The convex margin of the extremities of the blades should not be so thin as to cut and wound the soft parts of the mother, nor so thick as to obstruct the introduction of the blades. The lock should admit of easy and sure locking of the two halves, and also of slight turning on the longitudinal axis, which allowed them to be accommodated to the foetal head and the walls of the parturient canal. The handles of the author's forceps were so arranged that unnecessary pressure on the head was avoided. The surface of the blades should be smooth, favoring strict antiseptis. The pelvic curve of the blade was not only useless, but prejudicial in not permitting the ends of the blades to grasp the head properly. The author spoke of his forceps as a parallel forceps and as a normal forceps.

An Improved Forceps with Parallel Branches.—Dr. W. S. STEWART, of Philadelphia, presented a forceps with parallel branches, which admitted of applying either blade first. It was not possible for the blades to slip if properly applied, and there was moderate and uniform compression. He thought the instrument admitted of greater facility of making traction.

The Influence of Leukæmia on Pregnancy.—Dr. J. C. CAMERON, of Montreal, said that scarcely anything had been written on the influence of leukæmia upon the organs of reproduction and the course of pregnancy. He then gave the history of a case of leukæmia in a woman in whose family it was hereditary. Accurate observations of the ratio of red blood-corpuscles to the white were made during the course of one pregnancy, and it was found that the white corpuscles were much increased in number. In the child at birth the relative number of white and red blood-corpuscles was normal.

Experimental Uræmia.—Dr. A. CHARPENTIER, of Paris, in this paper detailed certain experiments on pregnant animals, showing that the injection of an excess of urea into the circulation caused death of the foetus first, and of the mother afterward.

Dr. W. T. Lusk, of New York, had thought that death of the foetus in uræmia was due to carbonic acid, and not to an excess of urea, as this might be present and the foetus still live.

Uniformity in Obstetrical Literature.—Dr. ALEXANDER R. SIMPSON, of Edinburgh, read a paper, including a report on uniformity in obstetrical nomenclature.

The Prognosis of the Cæsarean Section.—Dr. W. T. Lusk, of New York, gave the earlier statistics of this operation, and showed that death occurring when the improved suture was employed was due to preventable causes. Further causes for unfavorable statistics in this country were the fact that the operation was not undertaken until the woman had been exhausted by other methods of effecting delivery, and the limited experience of the operators. The advantages of Cæsarean section over craniotomy in pelvis with a conjugate diameter under three inches were too great to admit of hesitation in choosing between the two operations.

Cæsarean Section.—Dr. M. SÄNGER, of Leipsic, sent a paper, an abstract of which was read in English. The points to which the author called particular attention were antiseptis, the abdominal incision, which should be in the linea alba, about sixteen centimetres in length, the avoidance of constricting the child by the elastic ligature, and the uterine suture. Silk or catgut should be used. The indications for choice between the several operations were considered.

Abdominal Section for the Removal of the Fœtus.—Dr. W. H. WATHEN, of Louisville, read a paper, in which he advocated the performance of abdominal section in all cases, when the child was living, in preference to craniotomy.

The Treatment and Surgical Restoration of the Cervix Uteri during Pregnancy.—Dr. A. DOLÉRIE, of Paris, furnished a paper on this subject. The author described one of several cases in which there was a double laceration of the cervix uteri, from which at a subsequent pregnancy a disagreeable fœtid discharge took place, with other painful symptoms. Having failed to give relief by other measures, Dr. Doléris performed trachelorrhaphy. The operation was brief, and gave relief from the symptoms without interfering with the course of pregnancy.

The Relation of the Atmosphere to Puerperal Fever.—Dr. JOSEPH KUCHER, of New York, read a paper, pointing out the evil influences of impure air, but not maintaining that sepsis could occur except by contamination of wounds.

On the Prevention and Treatment of Puerperal Septicæmia.—Dr. THOMAS MORE MADDEN, of Dublin, sent a paper of which the following is an extract: Under this term the writer included all forms of septic fever consequent on parturition and occurring within the puerperal period. These, whatever different phases they might assume, or however named, were in reality manifestations of a specific puerperal fever, the character of which was modified in each instance by the general condition of the patient, the intensity of the septic intoxication, and the prevailing epidemic constitution of the atmosphere. Puerperal septicæmia might originate in three ways, viz.: from inoculation with the micrococci of clinically allied diseases, such as erysipelas or scarlet fever; secondly, and more frequently, by infection from the pathognomonic chain-like micro-organisms evolved by other puerperal-fever patients; and thirdly, from infection with self-generated septic matter. If these views were admitted, the utter impossibility of ever permanently and completely stamping out puerperal septicæmia by any of the measures yet suggested must be apparent. More especially Utopian would the realization of this idea appear in the crowded maternity wards of hospitals, general or special, constantly occupied by lying-in women, in which septicæmia was liable to develop with a rapidity and virulence that apparently defied both prevention and treatment. Although absolute immunity from puerperal fever must, unfortunately, in our present state of knowledge, be considered as hopeless, unquestionably its prevalence might be much diminished and its virulence minimized by the rigid observance of judicious precautionary antiseptic and hygienic measures, such as many of those formulated by Dr. Fordyce Barker, of New York, and acted on with marked advantage in the present practice of the Dublin Lying-in Hospital. The writer dwelt at some length on the prophylaxis of puerperal septicæmia, and detailed the plan of treatment which, from long clinical experience of its value, he had adopted, and for this purpose strongly recommended the administration of the chlorates of iron, potassium, and quinine during the latter months of pregnancy. In this connection the great importance of a strict supervision of the functions of the nurse in reference to the patient's general and local hygiene and aseptic condition was insisted on, and, above all, the author urged the advisability in all cases of the obstetrician himself washing out the uterine cavity daily with a weak carbolic-acid injection (which he much preferred to the corrosive-sublimate solution) throughout the whole puerperal period, during which, from the first, he invariably gave ergot in large doses, twice or thrice a day, until the uterus had permanently regained its normal size and condition. The treatment of puerperal fever must be governed by the special form of the disease and the condition of the patient in each case. The prevailing type had changed re-

peatedly in the various epidemics of the disease that had come under or within the writer's clinical experience in hospital and consultation practice during the past twenty years. At the present time we most frequently met with a distinctly remittent form of septicæmic fever after parturition. And in these cases he relied primarily on the maintenance of the patient's strength by suitable nourishment and stimulants; secondly, on the daily washing out of the uterine cavity with hot water, plain or medicated; thirdly, in the way of medicine, on full doses of quinine and turpentine. The latter he regarded as the most valuable of all drugs in every form of puerperal fever, and believed that it acted not only as a most potent stimulant, and as a depurating agent by its action on the excretory organs, but also probably directly arrested the development of the micro-organisms which were so intimately connected with the phenomena of puerperal septicæmia. In all such cases he believed that turpentine should be given by the mouth or rectum in as large doses and as long as its use could be persevered with.

A Study of Certain Questions in Connection with Puerperal Fever, with Particular Reference to the Use of the Intra-uterine Douche and the Curette.—Dr. C. W. EARLE, of Chicago, presented a paper in which he took the ground that puerperal fever was always due to a poison introduced from without, and that the only rational treatment consisted in removing decomposing materials in the parturient tract and in preventing the local poison from infecting the general system. When there was continued high elevation of temperature, he would wash out the uterus and remove remaining portions of the placenta with the curette.

The Prevention of Puerperal Fever.—Dr. R. L. SIBBETT, of Carlisle, Pa., read a paper on this subject. His views regarding the cause of puerperal fever were in harmony with those of the author of the previous paper, but he thought the intra-uterine douche could not be used by unskilled hands without danger.

PHILADELPHIA COUNTY MEDICAL SOCIETY.

Meeting of October 12, 1887.

The President, Dr. J. SOLIS-COHEN, in the Chair.

Chronic Rhinitis as an Ætiological Factor of Acne of the Face.—Dr. CARL SEILER read the following paper:

For a number of years I have made the observation that acne vulgaris and acne rosacea co-existed frequently with chronic rhinitis, and particularly with the atrophic form of nasal catarrh, but it is only lately that I have come to the conclusion that this form of nasal disease is in many cases of acne the exciting cause. This conclusion may seem far-fetched and perhaps unreasonable at first glance, but I hope to be able to show that there is undoubtedly a close connection between the two affections. For this purpose I will give a short history of a few of the cases which have come under my observation, before entering upon a theoretical discussion of the connection between chronic rhinitis and acne.

CASE I.—J. H., aged thirty-eight years, a broker, consulted me for chronic nasal catarrh. He stated that he had suffered from stoppage of the nose for several years, and that every morning he blew out large scabs. After this his nose felt clear but dry, and he had lost the sense of smell to a very large degree. For two or three years he had noticed a redness of the external integument of the nose, which had gradually become worse, so that at the time I saw him it had spread from the nose to the cheeks, and pimples had made their appearance. The rest of his face was free from pimples or redness. On inquiry as to his habits, he said that he had always been a total abstainer from alcohol in any form, and the redness of his nose was the more annoying to him

as it gave rise to jocose remarks on the part of his friends. His general health was good, and there were no symptoms of gastric disturbance. On examination, I found the anterior nasal chambers filled with dry scabs of hardened mucus, and, having removed them, saw that the mucous membrane below them was unusually pale, both on the septum and over the turbinated bones. The lower turbinated bone was barely projecting from the wall of the nose, and the turbinated cavernous tissue was apparently absent, as no impression could be made by pressure with the probe. This condition caused the anterior chambers to be abnormally large, so that the posterior wall of the naso-pharynx could easily be illuminated and viewed through the nostrils. Irritation with the probe caused but a very slight amount of moisture to gather around the spot touched, while the whole of the mucous membrane was abnormally dry. There was no odor.

The treatment consisted in cleansing the nasal cavities morning and night with an alkaline wash, and in stimulating the mucous membrane with dilute nitrate of silver in powder, a small quantity of which was blown into the nostrils two or three times a week. In order to keep up the stimulation, a tampon of cotton was introduced into the anterior nasal chambers placed against the side of the nose, in place of the atrophied inferior turbinated bone, which tampon was renewed by the patient after the cleansing morning and night. As an application to the skin I prescribed a lotion consisting of alcohol and precipitated sulphur, to be applied every night with a tuft of cotton, and to be washed off in the morning with soap and water.

Under this treatment the acne gradually diminished, and the mucous membrane of the nose again became bathed with secretion, until after a little over three months the redness had entirely disappeared, and the cotton tampons could be dispensed with, because the lower turbinated bones, or at least the cavernous tissue, began again to project into the lumen of the anterior nasal chambers. I saw the patient again three years later, unfortunately without having an opportunity of examining his nose, but he told me that there had been no return of the acne, and that his nose troubled him but little, and then only when he neglected to use the alkaline wash; the sense of smell had also returned to a large degree, but was not so acute as he might wish.

CASE II.—A. L., aged twenty years, a machinist, from Wilmington, had had scarlet fever when ten years old, and since then had suffered from nasal catarrh. At about the age of puberty pimples began to appear on his face, which gradually became larger and more numerous, until, when I saw him, his face and even neck were covered with various-sized pustules in different stages of development. In the free spaces between them comedones were numerous, and at the angles of the jaw and on the neck there were large scars, forming pockets in some instances, caused by confluent acne pustules. His general health was good. On examination, I found practically the same condition of things as in Case I, except that a disagreeable odor was present, and a perforation of the septum existed. This latter circumstance led me to inquire for syphilitic infection, but I could not elicit anything pointing to the existence of even a taint, but found that he had been in the habit of picking off the scabs of hardened mucus from the lower portion of the septum with his finger-nail, and had thus gradually scratched a hole into the cartilaginous partition.

Having at that time a suspicion of the connection between atrophic rhinitis and acne, I directed, for the sake of experiment, the treatment solely to the nasal chambers, and intentionally made no applications to the acne pustules. The treatment in other respects was the same as that adopted in Case I. On account of the distance of the patient's home from the city, I saw him but seldom, and it was several months before much improvement was noticed. However, in the course of about eighteen months the acne had disappeared entirely, as had also the comedones, and the chronic rhinitis had so far yielded to the treatment that the patient considered himself cured.

CASE III.—Miss E. S., aged twenty-two years, a school-teacher, whose general health was moderately good, had felt a stoppage of the right nostril for some years, while the left nasal chamber was free but very dry, so that she had to use cosmoline or cold cream every night before she felt at all comfortable. In the mornings she occasionally expelled a small scab of dried mucus of a yellowish-green color. On her face were numerous pimples and comedones, but distributed more largely on

the left side. When asked, she stated that the pimples had made their appearance two or three years before, had always been more numerous on the left side of her face, and did not seem to have anything to do with her diet, as she had, by the advice of her physician, abstained from various articles of food for considerable periods of time, without apparently producing any effect upon the acne. Her monthly periods did not seem to her to produce any increase in the number of the pimples.

An examination of the nose proved this to be one of those cases which are occasionally met with in which we find an atrophic condition on one side co-existing with a hypertrophy of the turbinated cavernous tissue on the other. The left nasal chamber, being abnormally large, its mucous membrane pale and dry, and the lower turbinated bone hardly visible, presented the same characteristics as described above, and for this condition the same treatment was adopted—viz., stimulation with nitrate of silver and powder, and the cotton tampon after the dried secretion had been removed. The other nasal chamber presented the well-known features of the hypertrophic nasal catarrh, with its injected mucous membrane, from which a copious flow of secretion is poured at the slightest irritation, its projected turbinated tissue which obstructs the lumen of the lower meatus, and its frequent projections from the septum. Here an entirely different treatment had to be adopted, which it is needless to describe in detail; in fact, the two sides of the nose were treated as though they were two separate and distinct cases—the one an atrophic, and the other a hypertrophic rhinitis. The sulphur and alcoholic lotion was used in this case, as it was important to the patient to get rid of the acne as soon as possible, which happy result was accomplished in a remarkably short time, to her great delight.

These short notes of three cases will, I think, suffice to show that there is a connection between atrophic rhinitis and acne of the face. Although a large number of such cases could be cited to demonstrate this point still further, I think it would be waste of time to do so, as they are all more or less a repetition of each other.

According to the statements of the different authors on skin diseases, acne occurs with equal frequency in both sexes, usually makes its appearance at the time of puberty, and is frequent until the age of thirty. As predisposing causes are mentioned gastric disturbances, either lack of or excess of sexual connection, onanism, insomnia, and intemperance, but no mention is made, in any of the works to which I have had access, of atrophic rhinitis as a predisposing or existing cause. That the sexual organs have a great influence upon the production of the disease can not be doubted, for many cases are cited in which acne showed itself only during pregnancy or at the menstrual period in women; and it disappears with the cessation of the practice of self-abuse in boys and men; also, the fact that it is most frequent at puberty would point in that direction. Some authors lay so much stress upon this that they direct their treatment altogether to the sexual organs, by passing a bougie into the male urethra, and prescribing vaginal douches and medication, having no faith in local applications to the skin of the face.

Speaking of the pathology of acne, Veiel says: "The cause of the inflammation is the mechanical irritation by the inspissated secretion; the latter, again, is due to deficient glandular activity, because, owing to the defective elaboration of sebum, the secretion has time to dry in the efferent duct."

Behrend explains the new formation of acne efflorescence by assuming that the swelling of the inflammatory areola around the acne pustules and nodules occludes the efferent channels of neighboring glands. Similar views as to the pathology of the disease are expressed by others.

It would seem, therefore, that two factors must act in conjunction with each other to produce acne, the one to act as an obstruction to the efferent channel of the sebaceous glands by

the introduction of dirt into it, and the drying of the secretion behind it, producing the so-called comedones, and also a diminution in the activity of the gland itself, which causes an alteration in the consistence and quantity of the secretion, which thus is not able to remove the foreign body in the mouth of the duct by pressure from behind, as undoubtedly occurs in the healthy skin. Thus the retention and accumulation of the secretion cause by pressure a localized inflammation, which is finally relieved by the formation and escape of pus. In *acne rosacea*, the rarer form of the disease, we find no formation of pustules, but simply a general more or less diffused inflammation, which is probably due also to a perverted action of the sebaceous glands, but does not lead to a retention of the secretion.

I have not been able to find an opinion expressed in any of the books as to the direct cause of the glandular irritation, whether it is altogether local, and caused by obstruction of the duct in the formation of comedones, or whether it is due to reflex nervous irritation, or, finally, is produced by a more or less general disturbance of the capillary circulation in the skin of the face.

The first of these propositions may at once be set down as insufficient to explain the pathological condition, for comedones are frequent in almost every face without being necessarily accompanied by *acne*. The two other propositions may be considered together, for we can not have inflammation without disturbance of the circulation, and no disturbance of the circulation without nerve influence.

The above-cited predisposing causes clearly indicate that an irritation of the nervous system must exist somewhere, be it in the mucous membrane of the stomach or in the sexual apparatus, which, by reflex, acts upon the easily influenced capillary circulation of the skin of the face and neck, and thus, by causing a change in the capillaries around the sebaceous glands, causes a perverted action of these glands if it is kept up for any length of time, or if no relief from blood-pressure is afforded. It is my belief that the cavernous tissue covering the turbinated bones provides such a relief, and that this is one of the functions of the erectile tissues of the body. This belief is strengthened by the fact that, under mental excitement which causes flushing of the face, the cavernous tissue in the nose swells up, while, on the contrary, with any emotion which causes paling of the face, the erectile tissue of the turbinated bones becomes paler, and diminishes markedly in bulk—facts well known to every laryngologist. Let this cavernous tissue be absent or greatly diminished, as is the case in atrophic rhinitis, and very little or no relief is afforded for the excessive blood-pressure in the capillary circulation in the skin of the face, and the result will be *acne* if any of the predisposing causes are present. In the cases above cited, and in many others under my observation, the *acne* disappeared *pari passu* with the reformation of the cavernous tissue, and thus these would seem to be of some importance as clinical proofs of this theory.

I am fully aware that a single line of cases observed by one observer is by no means a sufficient guarantee for the acceptance of a theory, and it will require many more cases observed by many observers to prove or disprove it. At the same time I can not but think that atrophic rhinitis may be one of the ætiological factors of *acne*.

NEW YORK NEUROLOGICAL SOCIETY.

Meeting of October 4, 1887.

The President, Dr. C. L. DANA, in the Chair.

The Arthropathy of Tabes.—Dr. W. H. PORTER presented a specimen of the spinal cord and the knee joint from a case of

tabes. The patient was a woman, thirty-two years old. The family history was good. There was no history of alcoholism or rheumatism in the case. In May of the present year ovariectomy had been done, and, with the exception of the formation of a ventral hernia, the patient had made a good recovery. The affection of the spinal cord dated from five months previously, and in February last a gradual increase in the size of the knee had been noted. As early as December 15th, however, the patient had suffered pain, and partial luxation had made standing difficult. Examination showed the right knee painful, but not swollen. The left knee presented subluxation, some fluid, and enlargement of the lower portion of the femur. There was some dyspnoea, also some headache. The patient also suffered with external hæmorrhoids, but the urine was normal, and the co-ordination good. The right knee measured 18 inches, and the left 21½. The patient was a large woman, weighing 300 pounds. The enlargement and the riding of the patella upon the joint were all the positive symptoms in the case, and the patient was transferred to the surgical ward. There continued to be a great deal of boring pain in the knee, but no puffy feeling in the feet, no anæsthesia, and no ocular trouble. The joint was excised with an apparently good result, but three weeks later, on August 10th, discoloration of the skin of the buttocks and of the small of the back appeared, and in the course of a day or two the part sloughed. The woman died, apparently of sepsis from the slough. Post mortem, the viscera were found healthy with the exception of the liver, which was pock-marked with cicatricial depressions. The right knee joint was found in good condition. Moderate changes of interstitial thickening were found in the spinal cord. The question was, whether this should be considered a case of ataxia, the only positive symptom being the boring pain. The supposition of tuberculosis had been entertained, but the excised joint had failed to show tubercular tissue or bacilli, and erosion of the bones had been the only discoverable change.

The PRESIDENT added that the spinal cord was now being examined by Dr. Græme M. Hammond, and there was no doubt that the posterior columns, particularly the postero-external columns, or columns of Burdach, were affected. It was a case of sclerosis of the cord, most marked in the posterior columns.

Dr. W. A. HAMMOND suggested that articular affections with locomotor ataxia were infrequent in this country as compared with France. He had never seen a case, although many cases of locomotor ataxia had passed under his notice. According to Charcot, they were very common, resembling in this the *grande hystérie*, which also seemed limited to France, and even to the walls of the Salpêtrière Hospital.

Dr. PORTER stated that during the past year he had made post-mortem examinations in four cases of locomotor ataxia. In two of these there were joint affections, and in two there were none. They had been recognized during life in only one of the cases. He had never seen the condition before this year.

Dr. L. WEBER referred to a case which had been presented the day before at the Society of German Physicians. He had seen others, but not such as would answer to Charcot's descriptions. Rosenthal, of Vienna, also had described severe joint affections in locomotor ataxia, but not in such great numbers. The speaker could point to a few cases out of 70 or 75, but as a rule the affection had not been destructive. It was acute; it would come and go, and complete restitution might occur. He referred to two cases. In one there were diabetes and locomotor ataxia, and in the other there was sclerosis of the cervical region of the cord. In this case it looked as if the cartilage and bone were invaded, as there were crackling and change in form. A case like that referred to as presented the day before,

with intracapsular fracture and such extreme mobility, he had never seen before in this country.

The PRESIDENT, from an experience embracing two cases, had found that the term tabetic arthropathy did not mean the same thing under all conditions. One of the patients, whose case was of ten years' standing, slipped and fell, nearly dislocating a joint already loose, so as to present a typical arthropathy of this disease.

Melancholia due to the Prolonged Use of Morphine.—

Dr. S. B. LYON presented the history of a case of melancholia following the prolonged use of morphine for the relief of cardiac pain. The patient was a woman fifty years old, who for three years had suffered from a condition diagnosticated as angina pectoris, which only morphine relieved. From two to seven grains had been taken during the day. She had subsequently suffered with terrors and delusions similar to those of the morphine habit, but more persistent. Relief was obtained after the withdrawal of the drug and the removal of the patient to an asylum, away from the unwise attentions of her friends. The cure was sudden, complete banishment of her terrors and delusions occurring in a single day. A curious double consciousness characterized this case. While dominated by her delusions she preserved her ordinary consciousness, thus appearing to inhabit in thought both a real and an unreal realm. While insane, this patient was free from her cardiac pain. This subsequently appeared again, but yielded to electrical applications.

Dr. M. PUTNAM JACOBI considered the case very interesting. The conception of the ego as a simple unit was childish. Undoubtedly changes might occur in the groupings which went to form the consciousness of which the ego was made up. In this case there was destruction of the ordinary linkings of consciousness, with a replacement of the ordinary normal impressions by the formation of a new sphere. The aberrations produced by morphine and other toxic influences could be explained in like manner. The suddenness of the recovery in this case further demonstrated that the forced paths of association had ceased to be traveled and the old ones been resumed—a process which might be likened to the switching of an engine from one track to another.

Dr. HAMMOND objected to the term double consciousness in connection with the case. Double consciousness might be represented by plus and minus. The patient was not at the same moment in both conditions, but at different periods led separate lives, during the plus condition knowing nothing of what occurred during the minus condition, and *vice versa*.

Dr. E. C. SPITZKA thought that the reader of the paper had used the term with the meaning of the French. The case was assuredly not one of double consciousness as the term was used by alienists. In double consciousness there was really a double ego with alternate consciousness.

Dr. LYON recognized that the case was not one of double consciousness as Dr. Hammond and Dr. Spitzka had used the term. The patient had, however, a double consciousness in an ordinary acceptance of the word, with a real and an unreal aspect, the latter dominating.

A Discussion on the Use of Antipyrine and Antifebrine in Nervous Diseases was opened by Dr. T. S. ROBERTSON. He had used antipyrine first, in general practice, in acute rheumatism, and it had appeared not only to reduce the fever, but to control the pain. This had led him to try it in a case of migraine which had resisted aconitine and chloral. He had subsequently given it in a hundred unselected cases. In 90 per cent. of these, relief had been obtained in from fifteen to forty-five minutes. He had given it without a stimulant, and diaphoresis was the only ill effect which he had seen. In the

severe pains of tabes he had given from ten to twenty grains hypodermically, or from twenty to thirty by the mouth, with a resulting diminution in frequency. In insomnia, the sleep was better than that produced by chloral. The speaker had never seen heart failure. In hyperpyrexia he gave forty grains at a dose, and had himself taken one hundred and twenty grains in the course of twenty-four hours without any unpleasant result.

Dr. E. WAITZFELDER had had an experience somewhat similar to Dr. Robertson's, but had given the drug with a stimulant, having found nausea and vomiting common where this was not used. He had given antipyrine in twenty miscellaneous cases of headache, producing relief in about 50 per cent. He had directed its use in the epileptic ward about three months ago. It had been thoroughly tried, but without any appreciable effect. He had used it for the pains of locomotor ataxia, but, while the patients had improved, he did not attribute this to the drug.

Dr. HAMMOND had used antipyrine, and his experience had been entirely negative. He had given both antipyrine and antifebrine, singly and combined, in neuralgia, the pain of locomotor ataxia, insomnia, vertigo, and headaches both of the anæmic and of the hyperæmic variety. His method of administration had been to give fifteen-grain doses three times a day, continued for from two to three weeks. A new drug was not needed to shorten an attack of migraine. A hypodermic injection of morphine would do it, or one hundred grains of bromide of sodium, or $\frac{1}{100}$ of a grain of nitro-glycerin, according to the variety. In a case of tuberculous meningitis in a child of two years he had given four-grain doses of antipyrine for the relief of pain, and had signally failed. He had given it in epilepsy without result.

The PRESIDENT asked whether Dr. Hammond had given antifebrine in epilepsy.

Dr. HAMMOND had given both antipyrine and antifebrine in fifteen-grain doses, with similar results, sometimes combining seven grains and a half of each. He referred to the insolubility of antipyrine making its administration difficult.

Dr. G. W. JACOBY thought it serviceable to hear the other side of this question. His own experience had resembled that of Dr. Hammond. Antipyrine gave some relief in migraine, at least following the first or second administration. It sometimes cut short insomnia, but that about comprised its usefulness in this field. It was not without danger. He had seen collapse from a dose of twenty grains.

Dr. M. PUTNAM JACOBI had given antifebrine in the infirmary to a child with pleuro-pneumonia, and, with lowering of the temperature, relief from pain also was produced, although the physical signs remained unaltered and defervescence occurred in a typical manner on the sixth day.

Dr. SACHS believed that antipyrine could be recommended only in migraine, possibly also in headache of a neurasthenic type. Cases should be followed up for a number of months. The results from two or three administrations should not be relied upon. He had given it in a dozen cases of migraine, with relief within twenty minutes after its first administration, and in no case had it been necessary to repeat the dose more than two or three times, at intervals of an hour. The only unsatisfactory cases had been those of the spastic type. The paralytic type had been in every case relieved. In one case, that of a man of thirty-two years, the condition had resisted all previous treatment. The patient every four weeks had to go to bed for from twelve to thirty-six hours, and was incapacitated for work for several days. Antipyrine did not entirely relieve the headache in this case, but the patient was able to continue his business during the paroxysm. In the

speaker's experience, about 20 per cent. of the headaches of neurasthenic origin were relieved. In headaches of anæmic and gastric origin the treatment had been unsatisfactory. In insomnia, with and without migraine, antipyrine had appeared to act as a true narcotic. Sleep of nine hours and a half to ten hours followed the administration of two grains. He had used it in the lightning pains of locomotor ataxia and in peripheral neuralgias, particularly trigeminal and sciatic, without result. Antipyrine was not a panacea, and the speaker thought that it should be used carefully. He had met with no bad results himself, but from the reports of others it was evident that such results could occur.

The PRESIDENT expressed surprise that Dr. Hammond had been so unsuccessful in the use of antipyrine, and suggested that he keep a closer watch upon his clinical assistants. Dr. C. H. Brown professed to have been cured of a most violent migraine by antipyrine, and was enthusiastically prescribing it in Dr. Hammond's clinic. In the treatment of epilepsy, antipyrine could only be used empirically. Antifebrine, on the contrary, had been shown to act as a spinal depressant, and hence could be rationally prescribed.

Dr. ROBERTSON had found antipyrine soluble in Vichy water. He considered a dose of from 20 to 30 grains safe. He had not maintained that it cured, but that it acted as a palliative in the conditions named.

AMERICAN LARYNGOLOGICAL ASSOCIATION.

(Continued from page 363.)

On Occlusion of the Posterior Nares.—Dr. A. W. MacCoy, of Philadelphia, read a paper on this subject (see page 457).

Dr. WILLIAM C. JARVIS, of New York: I can not agree with the reader in all respects. My transfixion needle, devised for the removal of turbinated hypertrophies, has not met with the favor which I think it should. I have employed it five or six years, and its utility has exceeded my most sanguine anticipation. The reason why the needles have not been more used is, I think, because they are not properly employed. I have myself gained efficiency in their use only after months of persistent practice. I depend upon the sense of touch almost entirely in transfixing redundant tissues. I would not exchange the needles for the galvano-cautery, chromic acid, or any other measure designed for the removal of turbinated tissues. They are, of course, always employed in conjunction with the wire-snare. I have also noticed, as Dr. MacCoy has pointed out, that if, before attempting to snare a posterior turbinated hypertrophy, cocaine is applied, the attempt will prove a failure, the cocaine invariably causing contraction of the cavernous tissue. My rule is to first draw the wire around the hypertrophy, and then to apply the cocaine. I am surprised that the question of the unfailing utility of chromic acid should have been brought up, for it is now well known that this is not so harmless an agent as some proclaim it to be. I have seen it produce œdema of the fauces and severe turgescence of the turbinated tissues. A number of patients have been driven to my office by laryngologists simply because they had insisted upon using chromic acid, despite the knowledge of its baneful effects. By the use of the needles I can accomplish in a few seconds or a few minutes all that could be accomplished during weeks by chromic acid, and without the unpleasant results of the latter. It should not be forgotten that chromic acid has even set up dangerous erysipelas, and such a result is liable to follow the use of any caustic in the nose.

Dr. C. C. Rice, of New York: I think this one of the most important subjects which have been discussed during the session, for it concerns something which calls for treatment every day.

I agree with Dr. MacCoy, and not with Dr. Jarvis. I have used the needles, but have finally given them up. The turbinated tissues are difficult to transfix, the operation is painful to the patient, and in many patients it is very difficult to apply the posterior loop because of the condition of the septum. Dr. Jarvis has not spoken of hæmorrhage, but one gentleman has recommended operating slowly to prevent this, while another tightens the wire rapidly, and then plugs the nostrils. Now, the danger of hæmorrhage I think is not great, but, at the same time, if the necessity for the patient going about two or three days with the nose plugged could be avoided, I think it would be an advantage. I have not seen the disadvantages of chromic acid spoken of by Dr. Jarvis, although I have used it often with most satisfactory results.

Dr. DONALDSON, of Baltimore: I agree entirely with Dr. Rice regarding chromic acid. Neither I nor Dr. Donaldson, Sr., have seen any trouble follow its use. I have not had favorable experience with the needles.

Dr. D. BRYSON DELAVAN: Mr. President, I have studied the comparative merits of the snare, the galvano-cautery, and chromic acid for some time past, and find that patients, almost without exception, prefer the two former, and object to the acid on account of the pain and irritation which it excites, and which are apt to continue for a long while after the application is made. As to the danger of hæmorrhage after removal of posterior hypertrophies by the snare, I have never seen any which was not readily controlled.

Dr. JARVIS: To attempt to remove a posterior hypertrophy when the nostril is obstructed by a deformed septum is exceedingly poor surgery. The septal deformity should first be overcome. Moreover, I have never found it necessary to attack a turbinated body after removing a deflected septum; its turgescence will subside after nasal respiration has been restored.

Dr. MacCoy said that evidently the remarks of Dr. Jarvis concerning his (the speaker's) use of the needles could be applied to Dr. Jarvis's use of the chromic acid. The acid could not have been applied by him in the way the speaker had recommended. If it was applied from behind the palate without having it properly guarded, it was very likely to touch healthy tissues and do harm. Used in small amount, and put on with precision, it would cause scarcely any disturbance. It should be neutralized immediately after its application.

The Treatment of Atrophic Rhinitis by Applications of the Galvanic Current.—Dr. D. B. DELAVAN, of New York, read a paper with this title (see page 458).

Dr. T. A. DE BLOIS, of Boston: I was glad to hear Dr. Delavan's paper on this subject, as I have had opportunity to employ the method in two cases—one a case of hypertrophic, the other a case of atrophic, rhinitis. In the atrophic case there was also almost complete loss of smell and taste. The patient was under the treatment about six months, coming about three times a week. I did not measure the current, but I usually used from two to four small cells and the interrupted current. I had a positive electrode which I usually applied to the tongue; the negative electrode I made myself, passing brass wire through a small gum catheter, the terminal end being tipped with platinum. With this electrode I would start at the posterior part of the nose and draw the electrode along until it reached the anterior nares. The improvement was very great after two months. It is now six months, and there has been no return of his catarrhal trouble. His smell has become quite good; the taste has improved a little. The hypertrophic case was not very much relieved. In that case there was considerable swelling at the orifice of the Eustachian tube, together with a good deal of deafness. I would pass the inductor entirely through and around these swellings, but very little improvement resulted.

Dr. F. I. KNIGHT, of Boston: I would ask the gentlemen what their experience has been with Gottstein's method. I am induced to do this because at first I was not inclined to give trial even to his method of treating atrophic rhinitis by plugging the nares. It seemed rather ridiculous in theory, but some time afterward, on putting it into practice, I found that in some cases it gave the greatest amount of satisfaction to patients and their friends, because of doing away with the disagreeable odor. I plug one nostril with absorbent cotton or plain cotton three hours in the morning, and the other three hours in the afternoon. The relief in some of the most offensive and intractable cases has been great in my hands, causing entire disappearance of the disagreeable odor. It seems to me that in these chronic atrophic cases the plug can do no harm. In fact, we try to excite irritation. I have never seen any irritation which was objectionable; although in some cases there has been sufficient irritation to change the character of the secretion and to make it less offensive, I have never known it necessary to discontinue the treatment.

Dr. J. N. MACKENZIE, of Baltimore: I have tried all sorts of plugs in the nasal cavity, and have found that they are excellent irritants, but nothing else. If you exclude the air from the inflamed surface in the acute variety of nasal inflammation you will give relief, but you can do that as well with a little piece of cotton. My experience with all forms of plugs in the nasal chambers has been bad.

Dr. F. I. KNIGHT: I do not think it quite fair to suggest that any reasonable man would suppose he was curing an ozæna by stopping up the nose. That is not what Gottstein, Mackenzie, of London, or any man means when he says the odor is removed by this method; they mean, as I mean, that when the patient goes out afterward without any plug in his nose he is free from any odor. He is not obliged to go about with his nose plugged up. He wears the plug a few hours at home, and then, when he goes out into society without it, the disagreeable odor is not perceptible.

Dr. J. H. HARTMAN, of Baltimore: Some years ago a paper was read before this association on the treatment of atrophic rhinitis. I then spoke of Gottstein's plugs, having myself tried them in a number of cases. I think the benefit is from stimulating the tissue and altering the character of its secretion. And I have no doubt that in the treatment with the galvanic current the same result is accomplished. It may be more thoroughly done in that way, but I believe that all the results which we get in the treatment of atrophic rhinitis come from stimulation of the parts and keeping them thoroughly cleansed from secretions.

Dr. C. E. SATORS, of Philadelphia: I observed that Dr. Delavan made use of the negative pole in the nose. Now, of the two poles the negative is the more irritating, which goes to show that the benefit derived from galvanism is by stimulation. Further proof that the beneficial effect of treatment is due to stimulation is shown, I think, by the results of chronic acid, which I have employed in a few cases. I simply allowed the acid to be exposed to the air for some time, which gave me a saturated solution, and applied the latter over the atrophied surfaces about twice a week. In two cases so far it has given absolute relief. One of the patients I saw about seven months ago, and there had been no recurrence of her symptoms.

Dr. J. O. ROE, of Rochester: I quite agree with Dr. Mackenzie that Gottstein's plugs act as irritants. I have used them in several cases with no other effect than to keep the offensive odor in and to cause irritation instead of stimulation, which latter effect Gottstein alleges for them. The attempt to remove or prevent the odor of ozæna by these plugs suggests to me the quack who went about the country guaranteeing to cure otor-

rhœa at one sitting. His patients who were so speedily cured found shortly afterward that their ears had simply been filled with plaster of Paris to prevent the discharge from escaping. In atrophic rhinitis stimulation is what we want. I have recently used galvanism in several cases, and believe it to be, as Dr. Delavan has so clearly pointed out to us, the best stimulant we have in this affection, and in all these cases I have obtained most excellent results by its employment. In fact, in some most aggravated cases the patients have been so far benefited that they no longer suffer any unpleasant symptoms, and the odor has entirely disappeared. I have also employed, as a stimulant in these cases, with most excellent results, a weak solution of nitrate of silver (from five to ten grains to the ounce). The nose should be *thoroughly* cleansed and the solution applied, with cotton wound on a small probe, to every portion of the diseased membrane. Some cases of atrophic rhinitis may be so far advanced that there are very few glands left to secrete mucus, but I believe that by thorough and persistent treatment all these cases can be so far improved that all offensive odor will disappear, and the patient be relieved from all unpleasant symptoms other than those occasioned by the accumulation of mucous secretions over the parts where the mucous glands have been obliterated.

Recurrent Naso-pharyngeal Tumor.—Dr. R. P. LINCOLN, of New York, related the history of a case (see page 459).

Dr. D. BRYSON DELAVAN, of New York: I had the pleasure of seeing on two occasions the patient whose case has just been related. When I saw him during the latter part of July, 1886, the growth had been absorbed to such an extent that its site alone was demonstrable. As to the treatment pursued by Dr. Lincoln, it seems unfortunate to me that the merits of this method, as well as those of the operation by means of the galvano-cautery, so brilliantly and incontestably established both in this country and in Europe, should be persistently denied by many general surgeons. It has been my privilege during the last fifteen years to witness a considerable number of operations for the removal of retro-pharyngeal tumors by the more severe surgical procedures, and from what I know of them I am forced to believe that many unsuccessful results have been allowed to go unrecorded. In other words, I think it more than probable that the actual rate of mortality has been higher than would appear from the published records.

Dr. S. W. LANGMAD, of Boston: It seems to me this is a most interesting case. I do not know how often this operation has been done, but everybody familiar with these tumors knows how destructive they are, and how necessary it is to remove them, and, when they are removed by the snare, galvano-cautery, or section of the bones of the face, how frequently they return.

Dr. GLASGOW and Dr. COHEN thought the excellent results of the treatment of these naso-pharyngeal growths by electrolysis obtained by Dr. Lincoln, and the dangers attending the cutting operation, spoke highly in favor of giving the former method a more extensive trial.

Dr. HOOPER referred to the case of a boy who had a malignant form of myxo-sarcoma in the naso-pharyngeal space, which had been removed with both the hot and the cold snare, but which had recurred repeatedly, notwithstanding the attempts to keep it down by all known measures excepting electrolysis.

Dr. COHEN further said that he thought the great advantage of the treatment by electrolysis was the fact that an open wound was avoided, and consequently there was asepsis, and in addition thereto absorption of the whole tumor was brought about; therefore the electrolytic was far preferable to the galvano-cautery method of treatment.

Dr. LINCOLN replied to Dr. Cohen that the reason why he

used but one needle after the first treatment was that the tumor had shriveled considerably, and he thought the influence would extend sufficiently far from the one point. He was in grave doubts as to how much of the result from this treatment should be attributed to electrolysis and how much to cauterization. It was on the border between cauterization and electrolysis. The chemical action diminished rapidly as we receded from the needle. A slight groove was left after the disappearance of the tumor, showing that there seemed to have been complete absorption of it. The influence of the current in this treatment was far-reaching, and was not limited to the tissues with which the wire or electrode came immediately in contact. It extended to the nerves and blood-vessels, producing obliteration far beyond the point of contact.

Stenosis of the Larynx treated by Divulsion and Systematic Dilatation.—Dr. M. J. ASCH, of New York, related the history of a case (see page 460).

Dr. J. SOLIS-COHEN, of Philadelphia: My experience in the treatment of these stenoses has not been very extensive. The first case I reported occurred twenty years ago—that of a patient in whom I removed a morbid growth from the interior of the larynx by thyrotomy, having first used the galvano-cautery. This was probably the first time the galvano-cautery was used in this country. I had tried to remove the growth by the forceps, etc., and then made use of a galvano-cautery specially prepared. The patient experienced so little pain by this method that he would accept no other treatment. The growth was examined in different cities, and was pronounced to be epithelioma. But this was a mistake, for the man is still living. But because of that diagnosis I stopped my other treatment, separated the thyroid cartilage, and removed the tumor with most of the vocal band to which it was attached. Preliminary tracheotomy had been performed ten days before. After the parts had healed there was adhesion of the sound vocal band to the tissues on the opposite side. I then devised an instrument very much like the more recent one of Whistler's, modeled upon the urethrotome, having a tapering point, and with it divided the web, and afterward used the galvano cautery. I have used that instrument since, but I have never had the courage to attempt dilatation without preliminary tracheotomy. I know it has been done in several cases, and also that immediate tracheotomy has become necessary. I think it is better to perform tracheotomy first so as to have nothing interfere with the breathing of the patient, and then proceed in the most active way of treating it. Under antiseptic surgery the tracheal wound heals up in a very short time, with trifling risk to the patient. The experience which I have had with the Schrötter dilators has been that after a little while the parts contract again, and, unless the patient can be retained under almost continuous observation for many months, the results are not apt to be permanent. One reason why I have not treated many patients with stenosis is, not so much that they have not presented themselves, but that I have impressed them with the fact that they must put themselves under treatment six months, with a prospect of extending it to eighteen months, before they could be promised much permanent relief.

Dr. F. I. KNIGHT: This method of treatment has been very slowly popularized, in this country at any rate. I know of very few cases in which dilatation of strictures has been attempted, probably for the reason that everybody fears subsequent contraction and prolonged disagreeable treatment. I would particularly object to the name which has got into literature—chorditis inferior hypertrophica. There is no chorditis and there is no hypertrophy. It is a subglottic laryngitis, sometimes a perichondritis of the cricoid. I think it would be better to call it simply subglottic laryngitis.

Dr. E. C. MORGAN, of Washington: I have recently treated an instructive case of laryngeal stenosis. During a period of eight or more months I was enabled to control the advances of the disease by the administration of potassium iodide internally and by intra-laryngeal applications of iodo-glycerin. The disease, nevertheless, on several occasions advanced so far and the dyspnoea became so urgent, in spite of the medical treatment and the use of dilators, that tracheotomy was advised, to be followed by systematic dilatation. The patient, although fully warned of his peril, postponed the operation from week to week, continuing to have suffocative spells nightly, to one of which he finally succumbed. I think that, if a preliminary tracheotomy had been allowed and subsequent dilatation had been practiced, the patient, who was of good physique, would have been living to-day.

Dr. D. B. DELAVAN, of New York: The treatment of chronic cases of stenosis is likely to undergo a radical change by the introduction of O'Dwyer's method of intubation. I think that this measure has a most brilliant future before it. It seems hardly necessary for me to give the reasons for this opinion. The tube can be worn for any length of time, respiration goes on meanwhile, and dilatation is kept up for a considerable interval. I know that Dr. O'Dwyer has had some experience in this direction, but, on account of his modesty and the fact that a description of the tube for adults has not yet been published, we have heard little about it. It seems to me this is the coming method for the treatment of these cases, either with previous forced dilatation or incision or without.

Dr. ASCH: With regard to Dr. Solis-Cohen having found this method unsatisfactory in most cases, and advising tracheotomy, I would say that, to me, the beauty of this operation is that in employing it we avoid tracheotomy. In this case it certainly did seem as if tracheotomy would be necessary, but most patients have such a horror of any bloody operation that they would much rather undergo divulsion, even if it is more troublesome. I told this patient, as Dr. Solis-Cohen tells his patients, that the treatment would take a long while, and it did take from May of one year until February of the next. In a case of syphilitic stenosis of the larynx in which I attempted this method, but without success, because the man would not remain long enough in the city, the relief was instantaneous; he would, in fact, insert the tube, such was the relief he experienced, and I believe he would have tried it alone had I not feared he might set up acute inflammation. With regard to the name referred to by Dr. Knight, I simply quoted from another writer. I think the proper name for it is subglottic inflammation, or subchordal hypertrophic laryngitis. Regarding O'Dwyer's tubes, they seemed to be indicated in this case, and I tried them, but the patient for some reason was not able to tolerate them. The tube was coughed out with violent spasm, and I gave it up after making two or three attempts. The objection to the method I should suppose would be the difficulty of swallowing.

Book Notices.

Vaso-renal Change versus Bright's Disease. By J. MEINER FOTHERGILL, M. D., Edin., Physician to the City of London Hospital for Diseases of the Chest (Victoria Park), etc. New York: G. P. Putnam's Sons; London: Baillière, Tindall, & Cox, 1887. Pp. xii+218. Price, \$2.50.

This book is written in the usual easy style of Dr. Fothergill, and, as might be expected, is rather agreeable reading. It

can hardly be called a contribution to scientific medicine any more than much else that has emanated from the same source. It is full of trite and apt allusions to symptoms and signs of gout and nephritis, and contains many interesting historical data and many quotations from the writings of able contemporaneous writers; but it can not be said to contain anything new, either of fact or of surmise, that is valuable. Books of this description, written in popular style, acquire a position with medical men which is creditable neither to the writer nor to the reader. It is partly because we are in a perpetual hurry, and are therefore pleased to find positive views expressed in a concise way, and partly because we are not well enough educated in scientific medicine to recognize the difference between the work of the earnest and deep thinker and that of the dilettante, when the latter is really clever. A certain pleasing cleverness is visible from the beginning to the end of this book, but it can lay claim to nothing more than this. It adds nothing to our understanding of nephritis to say that the liver forms uric acid because it reverts to a former and lower stage of functional power; and to divide types of men into Arabic and Norse without the slightest ethnological warrant, but merely on fancied external resemblance, is neither scientific nor useful. The conclusions of the writer, like his Latin, are not always sound. "Nos mutantur," while a striking inaccuracy, is really no worse than much else which is perhaps less likely to catch the eye.

This writer, we thought, took leave of the audience when the curtain fell upon his recent production of some four years ago; at all events, he said so. We can not feel that he had any warrant for again appearing before the footlights.

Nobody doubts that vascular changes take place in Bright's disease, and nobody thinks that it is a good plan to name a disease after the man who first describes it; but it is certainly better to retain a name which is already universally associated with a certain nexus of lesions and symptoms until another is offered which will be sure to cover the entire field. "Vasorenal" may very well be shown in the near future to apply to only a small part of the essential lesions and symptoms of Bright's disease; and yet we are asked to adopt it at once and forget the other.

The reviewer has usually felt it incumbent upon himself to give some idea of the contents of a book in writing his opinions of it. He has rarely done otherwise, but on this occasion he feels that exception must be made in deference to the space at his command. Nothing contained in the book needs to be written in these pages.

That it will make an impression on the lay mind from the semi-scientific style in which it is written there can be no doubt; and that the same cause may enable it to pass for wisdom in some other quarters is unfortunately equally probable.

Practical Urine Testing: A Guide to Office and Bedside Urine Analysis, for Physicians and Students. By CHARLES GODWIN JENNINGS, M. D., Professor of Chemistry and of Diseases of Children, Detroit College of Medicine, etc. Detroit: D. O. Haynes and Company, 1887. Pp. vi-9 to 124.

This is a useful little book for those who have not the time nor the inclination to consult larger works on the subject. Though in a very much condensed way, all the more recent methods of determining the pathological states of the urine are plainly stated. We can heartily recommend the book for the purpose announced on its title-page.

What to do in Cases of Poisoning. By WILLIAM MURRELL, M. D., F. R. C. P., Lecturer on Pharmacology and Therapeu-

tics in the Westminster Hospital, etc., London. First American from the Fifth English Edition. Edited by FRANK WOODBURY, M. D., Fellow of the College of Physicians of Philadelphia, etc. Philadelphia: The "Medical Register" Company, 1887. Pp. 158.

This is a little brochure that should be in the hands of every practitioner, whether practicing in the city or in the country. The arrangement is excellent, the symptoms of intoxication by the various drugs and poisons are well stated, and the instructions what to do are to the point and concisely and clearly given. Everything in connection with the emergencies that may arise in cases of poisoning is touched upon, and the author goes so far as to tell us what the fee should be in such cases. Had he gone a step further, and told us how always to collect the fees, he would have earned for himself the gratitude of a much-abused profession. There is a touch of quaint humor in the preface, where it is stated that the author disclaims all responsibility for the work having been so well received that a fifth edition was called for.

BOOKS AND PAMPHLETS RECEIVED.

Manual of Clinical Diagnosis. By Dr. Otto Seifert, Privatdocent in Würzburg, and Dr. Friedrich Müller, Assistent der 11. med. Klinik in Berlin. Third Edition, revised and corrected by Dr. Friedrich Müller. Translated, with the permission of the Authors, by William Buckingham Canfield, A. M., M. D. (Berlin), Fellow of the American Academy of Medicine; Member of the Medical and Chirurgical Faculty of Maryland, etc. With Sixty Illustrations. New York and London: G. P. Putnam's Sons, 1887. Pp. xi-173.

Biology of Tumors. A Lecture delivered at the College of Physicians and Surgeons, Chicago, Ill. By N. Senn, M. D., Ph. D., Milwaukee, Wis.

Differential Diagnosis: A Manual of the Comparative Semeiology of the more Important Diseases. By F. de Havilland Hall, M. D., Assistant Physician to the Westminster Hospital, London. Third American Edition, thoroughly revised and greatly enlarged. Edited by Frank Woodbury, M. D., Professor of Therapeutics and Materia Medica and of Clinical Medicine in the Medico-chirurgical College of Philadelphia, etc. Philadelphia: D. G. Brinton, 1887. Pp. xi-17 to 255.

New Inventions, etc.

A SIMPLE DEVICE FOR OPERATING-TABLE DRAINAGE AND THE SURGEON'S PROTECTION.

By T. H. MYERS, M. D.

A good many of the New York surgeons wear long rubber aprons reaching to within a few inches of the floor to protect themselves from the blood and the fluids used for irrigation, while some even wear rubbers also in order to keep their feet dry.

To avoid the trouble and discomfort of this I have had a rectangular frame made of three-eighth-inch metal rod, ten inches longer and three inches broader than the *width* of the table.

The two shorter ends, with two inches of the side-bars adjoining, are bent up now at about 75°. The frame is laid across the table under the cushions in such a manner that the projecting ends will be above the level of the cushions.

Ordinary rubber sheeting is pinned to these ends and carried in the shape of a funnel under the table into a pail.

If no cushions are used on the table in question, or if the frame is placed on instead of under the cushions, the rods should be flattened considerably, thus allowing the patient to lie on them without discomfort; and in this case the side-bars need not be bent up so much.

According as you place the frame with its short or long diameter across the table, the distance between the rubber sheeting and the edge of the table may be made to vary from one to six inches.

The frame is inexpensive, is not in the way, can be easily shifted to any part of the table, and is efficient, or it would not have been retained two years at St. Luke's Hospital as it has been.

12 WEST FIFTY-THIRD STREET.

Miscellany.

The Gynæcological and Obstetrical Society of Baltimore has recently elected officers as follows: President, Dr. H. P. C. Wilson; vice-presidents, Dr. F. E. Chatard, Jr., and Dr. John Morris; secretary, Dr. C. O'Donovan, Jr.; treasurer, Dr. Robert T. Wilson.

The Hartford, Conn., County Medical Association.—The following was announced as the programme for the autumn meeting, which was held at the Hartford Hospital on Wednesday, the 19th inst.: "The International Medical Congress," by Dr. E. P. Swasey; "Malignant Pustule," by Dr. E. F. Parsons, the discussion to be opened by Dr. G. W. Avery; "Treatment of Urethral Stricture by Electrolysis," by Dr. O. C. Smith, the discussion to be opened by Dr. M. Storrs; "Antifebrine," by Dr. F. T. Simpson, the discussion to be opened by Dr. A. E. Abrams; "Emmenagogues," by Dr. G. C. Segur, the discussion to be opened by Dr. P. H. Ingalls.

The American Public Health Association.—The fifteenth annual meeting will be held in Memphis, Tenn., on Tuesday, Wednesday, Thursday, and Friday, November 8, 9, 10, and 11, 1887. The following topics have been selected by the Executive Committee for consideration: 1, "The Pollution of Water-Supplies"; 2, "The Disposal of Refuse Matter of Cities"; 3, "The Disposal of Refuse Matter of Villages, Summer Resorts, and Isolated Tenements"; 4, "Animal Diseases Dangerous to Man." It is announced that this selection does not preclude the presentation of papers upon other subjects, and that the secretary has already been notified that papers upon other interesting topics will be presented.

The Health of San Francisco.—It appears by the Health Department's "Condensed Statement of Mortality," for the month of September, that the total number of deaths reported during the month was 427, including 9 from cholera infantum, 5 from cerebro-spinal meningitis, 17 from croup and diphtheria, 1 from erysipelas, 9 from typhoid fever, 1 from remittent fever, 1 from intermittent fever, 1 from measles, 1 from whooping-cough, 2 from pyæmia, 2 from scarlet fever, 3 from septicæmia, and 1 from small-pox.

The New York Academy of Medicine.—At the next meeting of the Section in Laryngology and Rhinology, Tuesday evening, October 25th, Dr. O. B. Douglas will read a paper on "A Novel Operation for correcting Deflections of the Septum Narium where there is a Redundancy of Tissue."

At the next meeting of the Section in Obstetrics and Diseases of Women and Children, Thursday evening, October 27th, Dr. J. Lewis Smith will present the subject of "Asphyxia Neonatorum," and Dr. George T. Jackson that of "Impetigo Contagiosa."

At the next meeting of the Section in Materia Medica and Therapeutics, Friday evening, October 28th, Dr. Andrew H. Smith will demonstrate the use of Henocque's hæmato-spectroscope, and Dr. Edward L. Keyes that of Hayem and Næchet's *hématomètre*, with remarks on its employment in the treatment of syphilis.

The Mutual Relations of Physician and Pharmacist.—The "Pharmaceutical Era," of Detroit, offers a prize of \$50 for the best essay on this subject, under the following conditions: 1. Any one interested in the subject may compete. 2. The essay must not exceed 2,000 words in length and must be received previous to January 1, 1888. 3. The MSS. must be free from the author's name, address, or other marks of

identification. 4. The author's name and address must be inclosed with the manuscript on a separate paper. 5. All the essays submitted in competition for the prize are to be the property of the "Pharmaceutical Era," to be published or not, at the discretion of the editor, but names of authors will be suppressed if requested. 6. A committee consisting of five representative men chosen from the medical and pharmaceutical professions, to whom the essays shall be submitted anonymously, shall award the prize, and the names of the committee will be announced with their decision. Address D. O. Haynes & Co., Box 583, Detroit, Mich.

A Centenarian Physician.—Dr. Neklewitsch, of Loske in Poland, has lately died at the age of one hundred and nine years, having a quarter of an hour before his death seen and prescribed for a patient. Sixteen years ago he had a paralytic stroke, affecting both his feet, so that he has since that time been obliged to confine his professional advice to the consulting-room.—*Lawet.*

How Scarlet Fever comes to Michigan.—We have received the following circular:

"The Michigan State Board of Health has received information from Dr. Sifton, health officer of Sutton's Bay township, which illustrates in a striking way how this country gets contagious diseases from the old countries. On October 2, 1887, a family arrived in Sutton's Bay, Leelanaw county, direct from Norway. The family came over in the steamship Ohio, of the Inman line, reaching New York September 30th. Scarlet fever was on board the steamer during the passage, one child dying before the landing, and 'several more were sick in the same way.' One child of this family was taken sick with scarlet fever the day after reaching New York. The family, however, proceeded over the New York Central and the Lake Shore and Michigan Southern to Michigan; then over the Detroit, Grand Haven, and Milwaukee, and the Grand Rapids and Indiana to Traverse City; then to Sutton's Bay. Another child of the family has since come down with the disease. The family had a certificate, signed by the surgeon of the steamer, that they had been protected by vaccination against small-pox; so they passed without detention the quarantine authorities at the port of New York after they had been exposed to a contagious disease which causes more deaths by far in this country than small-pox causes."

Gleditschine, the New Local Anæsthetic.—Messrs. Parke, Davis, & Co. announce that they are thoroughly investigating at their laboratory the properties of the alkaloid derived from *Gleditschia triacanthos*, or honey-locust, which, under the name of "Stenocarpine," has been alleged to possess greater anæsthetic power than cocaine, and mydriatic effects exceeding those of homatropine. Anticipating that the fluid extract of *Gleditschia triacanthos*, in view of the anæsthetic action of its alkaloid, may, like the source of cocaine (*Coca erythroxyton*), possess valuable medicinal properties, they are prepared to supply physicians with samples of the fluid extract for investigation and clinical trial, and with a working bulletin containing all the facts regarding this drug and its application, collated from the reports from their scientific department and those that have appeared in current medical literature. They hope to be able also in a short time to supply the alkaloid.

The Use of Hot Water in Surgery.—In Dr. Varick's article with this title, published in our last issue, an error crept into one of the tables. In the first table on page 434, the mortality percentage given opposite Dr. Ashhurst's name should have been 28.0, instead of 0.28.

THERAPEUTICAL NOTES.

The Treatment of Asthma.—At a recent meeting of the Berlin Medical Society ("Berlin. klin. Woch.," "Ctbl. f. klin. Med."), Lazarus read a paper in which, among prophylactic measures, he laid stress on the cure of stenotic affections of the upper air-passages in children, such as enlargement of the tonsils, adenoid vegetations in the pharynx, and chronic nasal catarrh. For the treatment of the disease after it had become established, he recommended the simultaneous use of potassium iodide and chloral, not less than 15 grains of each, once or twice during an attack. He had also used cocaine and the induced current (according to Schäffer) with success. For sequelæ, such as

emphysema, he recommended the pneumatic cabinet, and for chronic catarrh with profuse secretion, terpine hydrate. In the discussion, Patschkowsky reported good results from external applications of tincture of iodine, and Lublinski spoke favorably of pyridine, amyl nitrite, sodium nitrite, and nitroglycerin.

Creasote in the Treatment of Pulmonary Phthisis.—Fraentzel ("Dtsch. med. Woch.," "Gaz. hebdom. de med. et de chir.") has used this remedy since 1878, chiefly in cases without fever, cough, or complications. The following formula was employed:

Creasote.....	13 parts;
Tincture of gentian.....	30 "
Brandy.....	250 "
Sherry, enough to make.....	1,000 " filtered.

A tablespoonful is given two or three times a day, in a glass of water, and at the same time two tablespoonfuls of cod-liver oil are given daily. The patients are kept, day and night, in freely ventilated rooms and are fed abundantly. Improvement is manifested by gain in weight, increase of the appetite, diminution of the cough, expectoration, and pain, a reduction of the area of dullness, and the disappearance of bronchial souffles. Out of four hundred patients treated by this method, a hundred and fifty have been permanently benefited.

A Tincture of Strophanthus.—The "Unofficial Formulary of the British Pharmaceutical Conference" ("Brit. and Colon. Druggist") gives the following formula: Pack 1 oz. of strophanthus seeds, reduced to No. 30 powder and dried at 110° F., in a percolator, and moisten with pure ether (sp. gr., 0.720). Macerate for twenty-four hours, then allow percolation to proceed, continuing the addition of ether until the liquid passes through colorless (about 8 or 10 fl. oz. suffice). Remove the marc from the percolator, and dry it, gradually heating it to 120° F. Powder it again, repack the percolator with it, and moisten with rectified spirit. Macerate for forty-eight hours, then pour on successive quantities of spirit, percolating slowly, until a pint of tincture is obtained. The dose is from 2 to 10 minims.

Phthalate of Morphine is highly recommended, as compared with other morphine salts, by Bombelon ("Pharm. Ztg.," "Brit. and Colon. Druggist"). It dissolves in five parts of water, and does not cause irritation when injected subcutaneously. Care is necessary in the preparation, as it is not obtained by crystallization, but by partial evaporation and scaling.

Quinine Injections in Gonorrhœa.—Ledetsch ("Prag. med. Woch.," "Breslauer ärztl. Ztschr.") reports striking successes with quinine injections in the treatment of gonorrhœa, particularly in chronic cases. His formula is as follows:

Quinine bisulphate.....	1 part;
Glycerin.....	25 parts;
Distilled water	75 "

Three injections are given daily at first, then two, and finally only one.

Potassium Permanganate as a Preventive of Diphtheria.—Johannsen ("St. Petersburger med. Woch.") argues that the secretions of the mouth and nose accumulate during the night and undergo more or less decomposition, thus favoring the action of the diphtheria germ. He therefore advises washing out the mouth and the nasal passages of children every night with a clear-red solution of potassium permanganate. He thinks his observation warrants the statement that the practice is efficient.

Poisoning with Iodol.—Pallin ("Hygiea," "Utrbl. f. Chir.") gives an account of a case of necrosis of the clavicle in which an operation was performed for the removal of a sequestrum and 75 grains of iodol were applied to the wound. During the evening of the same day the patient became delirious, and on the following day his temperature was 102.2° F., his pulse was 136, small, and irregular, and he vomited and was apathetic. The urine showed traces of albumin and a weak iodine reaction. Although the dressing was changed at once, all the iodol being washed out of the wound and bismuth applied in its place, the symptoms of poisoning lasted four days longer, and for a fortnight iodine was to be recognized in the urine.

Coumarin as a Corrigent of Iodoform.—A. Langlebert ("Gaz. de gynéc.") recommends coumarin both as a deodorizer of iodoform and

as an adjuvant to that drug as an antiseptic. About 1 part of coumarin should be used for every 5 parts of iodoform.

ANSWERS TO CORRESPONDENTS.

No. 61.—See the answer to No. 41, in our issue for September 17th.

No. 62.—In the County of Erie, midwives are subject to a special law passed two years ago, by which they are required to pass an examining board. We are not aware that there is any law in force in the other counties of the State bearing explicitly upon midwives, but our impression is that an unqualified midwife might be debarred from practice under the provisions of the general act regulating the practice of medicine in the State. We advise you to bring the matter before your county medical society, whose duty it will be to take legal advice, without expense to you.

No. 63.—Antifebrine is simply a fanciful name for acetanilide, and it ought not to come into use.

No. 64.—We learn that the book will be published in about two weeks.

No. 65.—We are decidedly of the opinion that the report is incorrect.

To Contributors and Correspondents.—*The attention of all who purpose favoring us with communications is respectfully called to the following:*

Authors of articles intended for publication under the head of "original contributions" are respectfully informed that, in accepting such articles, we always do so with the understanding that the following conditions are to be observed: (1) when a manuscript is sent to this journal, a similar manuscript or any abstract thereof must not be or have been sent to any other periodical, unless we are specially notified of the fact at the time the article is sent to us; (2) accepted articles are subject to the customary rules of editorial revision, and will be published as promptly as our other engagements will admit of—we can not engage to publish an article in any specified issue; (3) any conditions which an author wishes complied with must be distinctly stated in a communication accompanying the manuscript, and no new conditions can be considered after the manuscript has been put into the type-setters' hands. We are often constrained to decline articles which, although they may be creditable to their authors, are not suitable for publication in this journal, either because they are too long, or are loaded with tabular matter or prolix histories of cases, or deal with subjects of little interest to the medical profession at large. We can not enter into any correspondence concerning our reasons for declining an article.

All letters, whether intended for publication or not, must contain the writer's name and address, not necessarily for publication. No attention will be paid to anonymous communications. Hereafter, correspondents asking for information that we are capable of giving, and that can properly be given in this journal, will be answered by number, a private communication being previously sent to each correspondent informing him under what number the answer to his note is to be looked for. All communications not intended for publication under the author's name are treated as strictly confidential. We can not give advice to laymen as to particular cases or recommend individual practitioners.

Secretaries of medical societies will confer a favor by keeping us informed of the dates of their societies' regular meetings. Brief notifications of matters that are expected to come up at particular meetings will be inserted when they are received in time.

Newspapers and other publications containing matter which the person sending them desires to bring to our notice should be marked. Members of the profession who send us information of matters of interest to our readers will be considered as doing them and us a favor, and, if the space at our command admits of it, we shall take pleasure in inserting the substance of such communications.

All communications intended for the editor should be addressed to him in care of the publishers.

All communications relating to the business of the journal should be addressed to the publishers.

Lectures and Addresses.

AN ADDRESS

DELIVERED TO THE GRADUATING CLASS OF THE
CHARITY HOSPITAL TRAINING SCHOOL FOR NURSES,

October 12, 1887.*

By ROBERT W. TAYLOR, M. D.,

SURGEON TO THE HOSPITAL.

THE managers of the Training School have requested me, as a member of the medical board of this hospital, to say a few appropriate words to you upon this the day of your graduation. Before entering upon the train of thought which the occasion suggests to my mind, I am impelled to speak of the conditions under which you receive your diploma from this Training School. For many reasons you should be thankful for your good fortune, which has been greater than that of any of your predecessors. You entered the school when it was no longer in its infancy, but in its full maturity, its various systems perfected, its routines of teaching greatly increased and systematized, and its whole *régime* brought to a status which, as an institute of learning, study, and experience in the care of the sick, makes it a power in the land. Under the able and efficient guidance of the Board of Managers of this school, and under the fostering care and unrelenting energy of its chairman, with the hearty co-operation of the superintendent, all this good work has been accomplished. Such is the rigid scrutiny which is now exercised in accepting a nurse that those chosen may well be thankful and proud. I think I may say, without fear of contradiction, that in no other school in this country are nurses so thoroughly taught, not only in general medicine and surgery, but also in the Maternity Hospital, in the uterine wards, in the eye, ear, and throat services, and in the care of children. Such a curriculum commands all praise, and those who have pursued it successfully are certainly to be envied.

And, fortunate as you are in this thoroughness of your course of training, you have reason to be doubly thankful for the watchful care which has been exercised in the interest of your health, comfort, recreation, and general well-being. Among the very many wise and beneficent acts of the honorable Board of Commissioners the one which gives the nurses a separate spacious home appeals to the heart in enthusiasm and to the head in its kindness and wisdom. There you have had well-furnished, well-ventilated, and ample apartments. There you have had a bright, cheery home, which impresses one who enters it with a sense of refinement, happiness, and comfort. Then, as a relief to the arduousness of your duties, means of recreation have been provided in the cozy parlor, with its various interesting games and its library and musical instruments, while outside on the lawn you have been able to enjoy tennis, croquet, and other healthful exercises, and, last but not least, the opportunity for salt-water bathing and swimming has

been provided for you. Providence has certainly smiled upon you, and, while your senses have been trained and your intellects expanded by the course of study, your bodily health and comfort have been carefully looked after.

Having now passed through the required period of training and study, and having acquitted yourselves worthily at the final examination, it remains for the officers of the school to present to you your diplomas, as signs and seals of your worthiness and fitness as nurses.

With your diplomas you enter upon a serious, perhaps the most serious, epoch in your life; from this time on you must fight the battle of life alone and unaided, and you will stand or fall according as you prove yourselves equal to the occasion. While students you have been sheltered within the protective arms of this great institution; here you have been guarded by a jealous care and treated with kindly forbearance; here any errors which you may have made have been among friends, associates, and sympathizers; here you have those to whom you may go for advice and encouragement, and your duties are largely routine. Beyond these walls all this will be changed. You enter the household of the sick as a stranger ready to perform delicate and arduous duties. There you have to maintain your position and acquit yourself with credit and to the satisfaction of the sick persons and the relatives and friends, who may or may not be kindly and forbearing, and very often censorious, exacting, and even unreasonable, and who certainly will not overlook errors in acts or judgment, condone oversights, or extenuate breaches, however small, of deportment, speech, or manners. The duties, instead of being routine, will be varied, changing, and unexpected. In none of the walks of life do I know of a more delicate position, nor one which requires more prudence, self-balance, tact, common sense, foresight, and presence of mind than that of a nurse thus thrown upon her own resources.

The fortitude which has been shown by women in assuming such delicate and arduous duties, and the zeal and singleness of purpose which have characterized them in their performance, happily have had their due weight with the world, and the trained nurse is now generally received with confidence, respect, and honor. This feeling of confidence and appreciation, I am happy to say, is to-day deeply rooted in the minds of the people, and is rapidly extending to all communities. It is pleasant to contemplate the position she holds in the hearts of the people. Friends of patients are often heard to say with much confidence that, besides the experienced physician, they have a trained nurse, and their manner convinces you that they think all is well, and that all that can be will be done. I regret that I can not leave this general statement in an unqualified manner, and that I can not say that there are not those who do not entertain such gratifying views as to the value of the trained nurse. It will be for your benefit to know the adverse criticisms made upon your fellows, since they contain subjects for deep reflection on your part. The London "*Lancet*," whose great influence you all know, in an editorial on trained nurses thus speaks: "As we have more than once pointed out in these columns, there is a class of

* Published by request of the Board of Managers of the Training School.

trained nurses which must be regarded as one specially developed or evolved by the practical ignorance of details in respect to the needs of the sick-chamber, who have obtained all the bedside knowledge they possess at hospitals, without being inducted personally to their work as attendants on private families. We hold, and do not hesitate to affirm, that attendance on the practice of a hospital is not in itself a sufficient preparation for the treatment of patients in their homes. What nurses are trained to do could be as well done by ordinary servants if the practitioner would and could give precise instructions as to details. As matters stand, the sick are often at the mercy of a class of women who have been taught a system not good in itself, and wholly unsuited to the need of the majority of patients, and who are puffed up with a little knowledge to an extent dangerous to those poor sick folk over whom they usurp and exercise an authority which is irrational and mischievous. They are happy who have wives, sisters, or even servants to tend them in their hour of helplessness, and who are not under the care of a nurse who stands between doctor and patient to the injury of both."

Under the title "Post-graduation Hints to Nurses" we find an editorial in a recent number of the able and conservative "New York Medical Journal," which contains the following: "What the ordinary graduate of a nurse's training school most needs when she emerges from the hospital, and undertakes private nursing, is to have her technical training supplemented, and perhaps to some extent rectified, by sound advice on the ethical and prudential aspects of her calling. For lack of this, many a woman has made herself a nuisance in place of a treasure among those who have been unlucky enough to employ her. The time is rapidly approaching when these women of excellent attainments will be forced by competition either to train themselves anew, or give way to their better-advised rivals."

I am not of the belief that hospital training does not properly fit a young woman for private nursing, nor do I think that, as a rule, servants make good nurses, even when the physician has time to teach them, and further think that, in general, relatives and friends are not efficient in the sick-room for obvious reasons. The gravamen of the "Lancet's" remarks, however, is to the effect that nurses become puffed up with a little knowledge, and that they exert an irrational and mischievous authority over their patients. Those who have attentively read the remarks of the "Lancet" must draw the conclusion that they emanate from an experience other than happy with trained nurses, in which, undoubtedly, the latter acted foolishly, without thought and judgment. In the editorial in the "New York Medical Journal" the thoroughness of the hospital training is not called in question, but it is clearly shown that the student curriculum should be supplemented by sound advice on the ethical and prudential aspects of your calling. As I look back I can recall many nurses who have impressed me with their unfitness, and others again, I am happy to say, who have proved themselves to be born nurses. Let me briefly sketch some of the characteristics of nurses who have in my experience—and I am sure others have met with them—presented objectionable qualities.

First, the gossiping nurse. She is usually bright, alert, and prompt in her duties, but takes every chance to gossip with the patient, when strong enough, and with the members of the family, and, I am sorry to say, with the servants. In this way she gets many of the family secrets, sees many a skeleton in the closet, and in most instances comes to know by heart the whole genealogy of the family. With this choice budget she often comes in a confidential manner to the doctor or to acquaintances, and most undoubtedly retails it in the bosom of the next family in which she is engaged. It is needless to say that after a time her sphere of usefulness or uselessness is very limited.

Then there is the hyper-sympathetic nurse. In some the effusiveness is due to an emotional nature, in others it is assumed under the delusion that such a course will more thoroughly ingratiate her with the family. She applies the most endearing epithets to the sick person, and also to the female members of the family, particularly to old ladies. Any increase in the patient's suffering calls forth a flood of endearments, and in the event of a crisis in the case, all of the members of the family come in for a full share. She is always moved to pity, and with children her sympathy seemingly borders on grief. Such a nurse is usually not efficient, prompt, and reliable. Instead of being guided by common sense, she is controlled by her emotions.

Then we have what may be called the reminiscent nurse. Her failing is in being absorbed with a most exalted idea of and a great gratitude to the physician who recommended her. She is usually bright and in most respects efficient. But before she has been installed in her position twenty-four hours she will have told all about Mrs. Brown's last accouchement and what wonders the doctor accomplished. Then during the latter's visit to his patient she will see and suggest some point of resemblance in the symptoms or course to those of Mrs. Jones, whom she and he had previously cared for and who was miraculously saved; or, perhaps, with a tender cadence of the voice she will ask whether you have seen or heard lately of Mrs. Robinson's child who was once at death's door and saved as if by a miracle. And thus she goes on her way, repeating these lugubrious histories, to the annoyance of the family and to the disgust of the doctor.

The officious nurse is also not infrequently met with, and her objectionable qualities have their origin in a mistaken idea of performing her duties in a most thorough manner. She aims at a high mark and overreaches herself. She is always on the move, bustling, fussy, and so attentive to her patient that often she is importunate and even annoying; while to the doctor, whom she waylays and stops on every possible occasion, she makes suggestions, dilates on trivial matters, discusses in many words symptoms, signs, and treatment, till he wishes that she was far away. Such a nurse usually fritters her time away in trifles and does her duty in an unsatisfactory manner. She is soon dropped from the physician's list.

In marked contrast to the officious nurse is the diffident, timorous nurse. Such a nurse lacks self-confidence; she is timid in speech and action, and appears awkward and often not bright. She is usually willing and industrious, but her

shortcomings of nature weigh her down and act as a bar to her success. Such a nurse should be treated by the physician with much consideration, should be aided by kindly words of advice, and stimulated by evidences of interest in order to help her to overcome her natural infirmity.

Finally, among the objectionable classes of nurses there is the self-opinionated nurse, or the one who thinks that she knows everything. It is this kind of a nurse which has called forth the strong language used in the London "*Lancet*," and who is to be found, I am glad to say, only infrequently on this side of the Atlantic. She is usually exacting, unsympathetic, even cold in her manner. She goes about her duties in a lofty, self-satisfied way, jarring to the feelings of the patient, relatives, and physician. She is intolerant of suggestions and perverse in her own course, and often implies or says that she knows more than the doctor. She does her duties in a routine manner, grudgingly adapts herself to new and varying requirements, and tries to give the impression that she is a superior being. Her austerity, the absence of any mildness in her disposition, and her obtrusive self-reliance, make her an object of dread, and through her the trained nurse's calling is brought into disrepute.

These examples which I have given you of the errors of nurses may serve as danger-signals, consequently they should be avoided by you, since they will inevitably impair if not destroy your usefulness. Think well, therefore, of the lessons which these cases teach, and apply them to your conduct. With these drawbacks to your success in mind, what further must you do when you assume the duty of a private nurse? After your installment don't try to revolutionize the household, and don't indulge in violent innovations. If changes are necessary, lead up to them gently, in a suggestive rather than in a firm manner. Thus, in performing your duties in a correct and unostentatious way, you will win the confidence and esteem of the patient and relatives, and then your course is clear.

Be observant of ways of the household and endeavor to create as little friction as possible. Bring your tact, prudence, and common sense to guide you in your relations with the patient, the relatives, and the servants. Be mild and gentle, not brusque in your ministrations, and constantly cultivate a delicate touch. While in their distress and suffering you should be tender and sympathetic, don't go beyond the bounds into the maudlin. Try to be firm, kind, patient, and good-tempered under all circumstances, even when your patient is petulant or unreasonable. Maintain your position always by firmness mixed with compassion and kindness. Be orderly, thorough, systematic, and prompt in the discharge of your duties. Never procrastinate, for the habit increases as you grow older. Lend your best efforts to make the sick-room cheery and attractive, and hide from view all evidences of illness, such as medicines, instruments, etc. Be careful that the ventilation is perfect and unattended with injury to the patient. Study to perform the various duties upon the person of the patient in the most delicate and least annoying manner, and administer the medicines in a way as pleasant and as little repugnant as possible. Don't forget the priceless lessons in antisepsis

which you have learned in your maternity service; expand and elaborate upon them as your cases require, and you will confer a great boon upon the patient, the relatives, and the physician. Attend to no cases in a routine manner; cultivate your minds and senses by study, observation, and reading. Should emergencies arise, keep cool, act promptly according to the dictates of common sense and education, and wait till help comes. Cultivate a serious but not dismal demeanor; never be exuberant or flippant, but rather bright and hopeful, and carefully avoid familiarity. Never, by word, deed, insinuation, or implication, be disloyal to the attending physician. Assiduous as you should be in your professional work, you should remember that you owe solemn duties to yourselves. Do not, in your zeal and ambition, attempt to do more than is proper; be careful of your health and husband your strength. Work during your allotted hours, and then rest, and you will do more in the long run than you would if you allowed your sympathies to sway you and undertook to do extra duty. Preserve in future the neatness and simplicity of dress which are peculiar to the hospital; it is pleasing to the eye and cheering to the heart. Take every opportunity for fresh air and exercise, and be regular at your hours for meals. By so doing you will be better fitted to pass through the ordeals which will often be your lot.

In this hospital you have ministered to the wants and sufferings of the poor and the lowly; you graduate from a school of mental and moral training; your surroundings have been those which "tend to elevate the thoughts, temper the feelings, and touch the heart."

Go forth, then, and prove yourselves worthy of your noble calling. Remember that you are the handmaidens of charity and mercy, which "droppeth, as the gentle rain from heaven, upon the place beneath. It is twice blessed. It bleaseth him that gives and him that takes."

Original Communications.

GASTROTOMY

FOR THE DIGITAL EXPLORATION OF THE OESOPHAGUS
AND REMOVAL OF A FOREIGN BODY.

RECOVERY.*

By WILLIAM T. BULL, M. D.,

SURGEON TO THE NEW YORK HOSPITAL; ADJUNCT PROFESSOR OF PRACTICE OF SURGERY, COLLEGE OF PHYSICIANS AND SURGEONS, NEW YORK.

THE introduction of the finger into the pyloric orifice of the stomach for exploration and the dilatation of that orifice when constricted has been successful in the hands of Loreta, who first attempted it, through the means of a small incision in the stomach.

The cardiac orifice and the oesophagus above it have also been found accessible to instruments after a gastric fistula has been established; and dilating instruments have been introduced in that way from below upward in the course of

* Read at a meeting of the New York Surgical Society, held October 12, 1887.

treatment of strictures. But in only one instance thus far recorded has the effort been made to explore the œsophagus through the stomach. That was in a successful case reported by Richardson, of Boston.* In a man who had a plate with false teeth impacted in the lower end of the œsophagus for ten months, he opened the stomach by a small incision, and attempted to reach the body in the œsophagus with the finger. This being unsuccessful, he enlarged the incision (five inches) to admit the hand and forearm. The plate was detached by introducing two fingers into the œsophagus and drawing it first into and then out of the stomach. A prompt recovery followed this operation.

The feasibility of this procedure was demonstrated afterward by Dr. Richardson in a series of measurements and experiments on the cadaver. In twelve subjects he found the distance from the center of an incision starting from the outer edge of the rectus muscle, and running five inches parallel to the costal cartilages and one inch below them, to the œsophageal opening in the diaphragm, to be 7.55 inches. When the stomach was drawn as far as possible out of the abdominal wound, the hand and forearm were inserted into its cavity through an incision five inches in length, and the index and middle fingers could be passed two inches and a half into the œsophagus. He found the distance from the teeth to the œsophageal opening in the average subject to be fifteen inches, and concluded that a body whose position when arrested in the œsophagus is not less than thirteen inches, could be reached from below by the hand introduced as described. Cheever's statement that through the wound of œsophagotomy the finger could reach as low as the level of the arch of the aorta was confirmed, and in four cadavers he was able, by passing one index finger through an œsophagotomy wound downward and the other upward from the stomach, to bring the two fingers into contact. Fortified by these observations, and the success of the case referred to, he urges with propriety the resort to gastrotomy for bodies impacted at a distance of no less than thirteen inches from the teeth, after other means have failed.

These valuable observations of Richardson's were fresh in my mind when a boy presented himself with a peach-stone impacted in his œsophagus thirteen inches from the teeth. During forty-eight hours I made two efforts to dislodge it with instruments through the mouth. I discarded œsophagotomy. The situation of the body, allowing six or seven inches for the distance from the teeth to the œsophagotomy wound, would leave six or seven inches of œsophagus to manipulate through. One could accomplish no more than through the mouth. Deciding on gastrotomy, I considered the best method of performing this with least injury to the parts, and was led to these reflections:

1. That large incisions in the abdominal wall and stomach, together with the manipulation of that organ outside of the abdominal cavity, and the introduction of the hand into it, ought to be avoided if possible. They would be very dangerous in so young a subject.

2. That the exploration could be effected by the finger alone, introduced through a small wound, if the anterior wall of the stomach were invaginated, so as to fold itself about and behind the finger entering the œsophagus.

3. That the nearness of the œsophageal opening in the diaphragm to the vertebral column would make that structure an easy guide to the orifice, and, moreover, an incision in the median line would be nearer to that orifice than one parallel to the border of the ribs. This incision was in general preferable, and the hand or finger manipulating through it would be less incumbered by the overhanging ribs.

4. That the nature of the body, it being smooth and free from sharp corners, made it probable that it would be safe to push it up from below, or to draw it up, in case it was not easily dislodged downward into the stomach.

L. Coles, colored, sixteen years of age and in good general health, was admitted to the New York Hospital, August 25, 1887. His mother stated that he had swallowed a peach-stone on the 20th of August, five days before admission. On drinking immediately afterward, the water was regurgitated, and from that moment he had been unable to retain any nourishment. He had lost much flesh and was weak, and complained of thirst and occasional nausea, but vomited only when he attempted to swallow, and had no pain. A physician had passed a probang, but could not reach the stomach. The bowels had moved once in five days, and urine been passed as usual.

I saw the boy immediately after his admission, and was struck by his anxious expression and feeble appearance. Though of spare habit, he was decidedly emaciated. He had no fever, and the pulse was a little quicker than normal and of small volume. He was given a glass of water, swallowed it, and immediately rejected it. There was no swelling of the neck to be seen or felt. An œsophageal bougie with ivory bulb at end was passed to a distance of thirteen inches from the incisor teeth, where it struck against a hard body. The sound made by a light impact could not be distinctly heard, but the sensation communicated to the finger was unmistakable. The examination was well borne by the patient, and I tried at once to dislodge the body with coin-catchers of different sizes. These only grazed its surface. Attempts to get beyond it with fine gum elastic and whale-bone bougies were equally unsuccessful, and after ten minutes' gentle manipulation the boy was put in bed. I ordered rectal enemata every six hours of peptonized milk, $\frac{3}{4}$ ij, and whisky, $\frac{3}{4}$ j; and bits of ice by mouth.

August 26th.—The rectal injections are well borne and are continued. The manipulations of yesterday were repeated for fifteen minutes, but without result. An attempt to grasp the body with an œsophageal forceps failed. I thought it dangerous to make further efforts, and advised gastrotomy, which the parents consented to.

29th.—The operation was done with the assistance of the house staff and in the presence of Professor William H. Carmalt, of New Haven, and several physicians. It was just one week since the body had been impacted.

After the ether narcosis was complete I passed an œsophageal bougie with an ivory-bulb tip and ascertained that the body was still in place, thirteen inches from the teeth. One or two gentle taps were made upon it with the bulb, in the hope that with the relaxation caused by the ether it might drop into the stomach. This and a further cautious attempt to get beyond it with the coin-catcher and a slender bougie were unsuccessful. The abdominal cavity was opened by an incision three inches in

* "Boston Med. and Surg. Journal," December 16, 1886.

length extending from the level of the ninth costal cartilage to two inches above the umbilicus. The upper limit was determined by noting the point where the percussion dullness of the liver disappeared. This exposed a part of the anterior wall of the stomach and its greater curvature about two inches and a half from the pylorus, while the lower edge of the left lobe of the liver was seen in the upper angle. The index finger passed over the under surface of the diaphragm could feel the motions of the heart, but detected no foreign body at the situation of the œsophageal opening. The stomach was empty. The pylorus was identified, and a part of the anterior wall selected for incision. This was about three inches distant from the pylorus and midway from the greater and lesser curvatures, as estimated by the fact that the superficial vessels were least conspicuous there. I drew this part out of the abdominal wound and put two loops of silk through it, two inches apart in a vertical line, and made an incision one inch and a quarter long between them. This permitted the escape of a little gas and a few drops of brownish fluid. I fixed two more loops of silk into the edges of this wound in order to control it thoroughly, and, protecting the edges of the abdominal incision with flat sponges, passed the index finger directly backward till the vertebral column was felt, then upward till it entered the œsophagus. The finger stopped up the wound so that nothing could escape had there been fluid present, and this encouraged me to depress the abdominal wall and to crowd the finger as far up as possible. In this manipulation the anterior wall with the loops of silk followed the finger into the cavity and was folded on itself like the invaginated scrotum in examination of the inguinal canal. The body could not be felt till a finger was passed and pressed gently on it from above. Then one of its flattened surfaces rested against the tip of the finger with a "collar" of mucous membrane below it. I made an effort to tip it with the finger-nail so that its edge would present downward. I immediately passed upon the finger a curved œsophageal forceps till it reached the body, and then drew out, by means of the loops of silk, the anterior wall, the finger following it and still blocking the opening. One or two efforts to grasp the stone with this and a straight forceps introduced in the same way, although it could be plainly felt with the tip of the blades, were unsuccessful. Therefore I determined to push it up from below. Reintroducing the finger, a slender bougie was passed over it and projected from the mouth. A sponge half an inch in diameter and one inch and a half long was tied to the lower extremity with strong silk, one end of which was left long. The sponge was pulled through, meeting with slight resistance, but the foreign body, while apparently dislodged, was not "brought up." A larger sponge was then tied to the long end of the silk and drawn through. This brought the stone into the mouth, where the finger met and extracted it. In these last manipulations the anterior wall was held by the loops of silk two inches above the level of the abdominal wall, while the loops in its edges, manipulated by my assistants, Dr. Lines and Dr. Adams, of the house staff, were useful in securing easy access to the interior of the stomach. A few drops of turbid brown fluid escaped from time to time, but were absorbed by two sponges held on either side of the stomach wound. No blood was seen in the mucus surrounding the stone or the sponge, and I concluded that no injury had been done to the œsophageal mucous membrane. The gastric mucous membrane was sutured with eight catgut sutures, the peritoneal coat with ten or twelve Lembert sutures of fine silk (carbolyzed). The punctures above and below the incision occupied by the loops of silk were each closed with a single Lembert suture, for I was in doubt whether they extended through all the coats or not. The abdominal incision was closed with a continuous peritoneal suture of catgut, and interrupted silk sutures

through the other layers. The duration of the operation was one hour and a quarter, and at its close the general condition was satisfactory. The dressing was of bichloride gauze covered with absorbent cotton and a roller bandage.

The boy made a rapid recovery without accidents. The temperature was never above 99° F., and there was no pain, nausea, or vomiting. He was quite weak, with pulse of 110 to 120, of small volume, on the third, fourth, and fifth day, but gained rapidly after the seventh day, when he was allowed to eat anything he wished. The rectal enemata (peptonized milk $\frac{3}{4}$ ij, brandy 3 ss.) were discontinued on the fifth day. For the first twenty-four hours he received nothing by the mouth, during the second day brandy and water and beef-tea at frequent intervals, on the third day ice-cream and milk and tea, then soft-boiled eggs and toast. His appetite was quite poor, and he had no desire for food till watermelon was offered him in addition to his other diet on the fifth day. The wound healed entirely by primary union without any pus, and there was no decided tenderness in its vicinity. He sat up on the tenth day, and walked about fully as well as ever a week later.

I submit the patient for your inspection, and have traced one or two lines on his dark skin to show (Fig. 1) the rela-

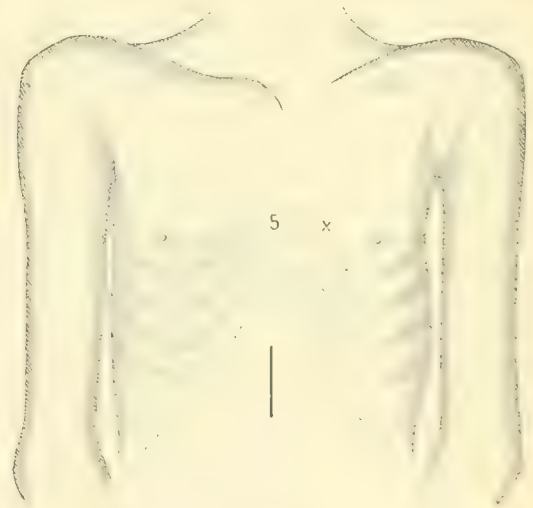


FIG. 1.

tive situation of the foreign body (opposite the level of the upper border of the fifth rib), and of the incision in the linea alba. At the time of operation the abdominal wall, as a result of his week's starvation, was thinner and softer than now, and could be more easily depressed so as to lessen the distance in a straight line from the abdominal incision to the œsophageal opening at the cardiac orifice. This condition and the moderate proportions of the boy permitted the finger to enter that orifice and reach the body *without introducing the hand into the cavity of the abdomen*. In fact, *at no time was more than one finger in the abdomen*. A diagram (Fig. 2) indicates clearly the nature of this manipulation. The loops of silk by which the anterior wall of the stomach was drawn out of the cavity, and which held the edge of the stomach wound closely plugged by the finger, are not shown.

In the adult it would doubtless be necessary to introduce the hand into the abdominal cavity to carry before the finger, or to invaginate, the anterior wall of the stomach. This procedure is made clear by Fig. 3.

I likewise present the peach-stone and the sponge attached to the string which was drawn through the œsoph-

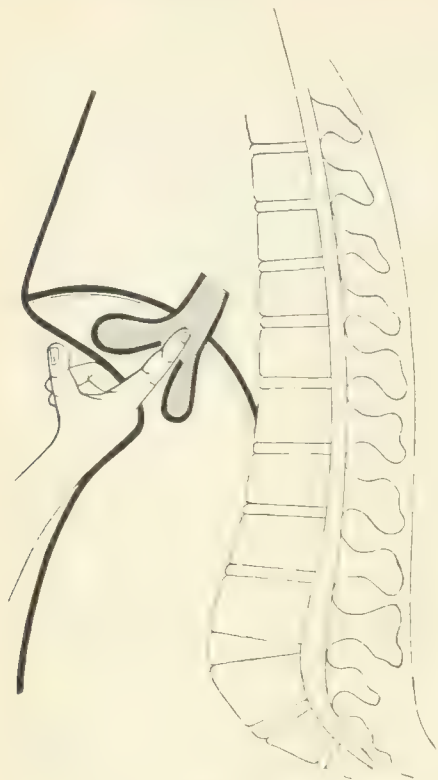


FIG. 2.

agus. The stone is of average size and sharp at only one end, and measures one inch in its long and five eighths

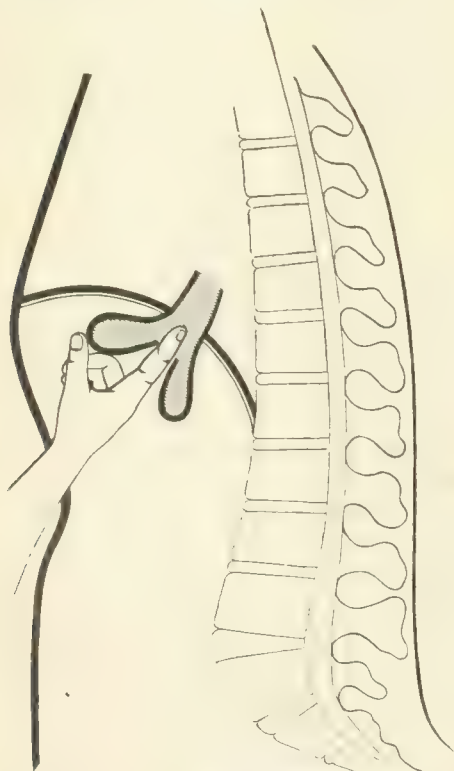


FIG. 3.

of an inch in its short diameter, and has a circumference of two inches and five eighths.

In connection with this case the following features seem to me worthy of attention: 1. The small wound in the stomach, one inch and a quarter, just sufficient to admit the index finger. 2. The invagination of the anterior wall of the stomach. 3. The use of the loops of thread, intrusted to assistants, by traction on which the edges of the wound in the stomach were kept close against the finger, so that it acted as a plug and prevented the escape of any fluid. 4. The moderate manipulation of the stomach itself; at no time was it drawn more than two inches beyond the abdominal wall. This was at the time instruments were introduced. As soon as they reached the cavity, the wall, with finger and instrument, was at once thrust upward, and the œsophageal orifice reached by following the vertebræ and middle line as a guide. The finger only traversed the cavity of the stomach; the instruments passed almost directly from the wound to the œsophagus, and did not wander about over the surface of the gastric mucous membrane.

Each of these features is in itself a small "point," but they make in combination an important part of that sure and delicate technique which is essential to success in operations on the abdominal organs. Furthermore, I think that the plan of not making any prolonged effort to draw the stone into the stomach was of great advantage. Aside from the fact that much time would have been spent, one would have directed one's efforts against the stone lodged in the part of the canal where it had rested for seven days, and where the mucous membrane might have been inflamed, softened, or ulcerated, and easily perforated. In drawing it from below upward, one had the advantage of a larger caliber, and a sound mucous membrane, which neither the smooth body nor the soft sponge was likely to injure.

I have always regarded Dr. Richardson's contribution as an invaluable addition to our store of knowledge, and hope this society may be of the opinion that, in following his example, I have helped to demonstrate that in gastrotomy we have an additional resource in the management of foreign bodies in the œsophagus. The comparative safety of the operation may be judged from tables of cases of gastrotomy for foreign bodies in the stomach recently reported by Bernays* and Richardson.† In twelve instances bodies have been removed from the stomach, which was uninjured and not adherent, and in two cases (including my own) from the œsophagus. All but two cases were successful. These figures are more favorable than the statistics of œsophagotomy reported to the society last year by Dr. Markoe ("Med. News," May 1, 1886). These show eighty-two cases, of which sixty-three recovered and nineteen died.

The marked difference in the death-rate suggests to my mind the advisability, in cases where one is in doubt of the ability to safely extract the body by œsophagotomy, of resorting promptly to opening the stomach. Such a doubt may arise from the difficulty in estimating the exact situation, from ignorance of the nature of the body, or from the circumstance that no instrument can be passed beyond it. It is certainly dangerous to use forceps which open in the œsophagus where bodies completely occlude its lumen, and

* "St. Louis Med. and Surg. Journal," January, 1887.

† "Boston Med. and Surg. Journal," Dec. 16, 1886, p. 573.

those which are flat and lie crosswise can only be caught by specially contrived instruments, or withdrawn by getting such an angular instrument as the coin-catcher beyond them. Pressure from below with a large bougie, or traction toward the mouth, would disengage any sort of body. As a general rule, one can deal with all bodies by the operation in the neck, if they are impacted within the reach of the finger manipulating in the œsophagotomy wound. That distance is six inches from the cricoid cartilage, according to Richardson's measurements. Beyond this point gastrotomy would be necessary, and probably safe and efficient.

ACETANILIDE AND ANTIPYRINE IN THE TREATMENT OF EPILEPSY AND CERTAIN ALLIED DISORDERS.

BY JOSEPH LEIDY, JR., M. D. (UNIV. OF PA.),
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ALREADY medical journals are in receipt of communications the tenor of which is to decry the use of antipyrine and acetanilide; it was hoped that these remedies had proved exceptions to the majority of new drugs, in that they had come to stay. It is not, however, the object of the present article to discuss their use as antipyretics, but in the treatment of epilepsy and certain allied affections, with the hope that the conclusions drawn may be of some value to those already interested in the action of these powerful remedies.

The control which antipyrine and acetanilide manifest over the nervous system has led many observers to use them in the treatment of a variety of nervous affections. Medical journals at home and abroad have devoted no small space to the reports of cases so treated. So fragmentary are they, however, covering so few cases, that conclusions could hardly be drawn with any hope of acceptance by the general profession.

Within the past few months the writer has had an opportunity of giving these drugs a pretty fair trial in several cases of epilepsy, hystero-epilepsy, hysteria, insomnia, paræsthesiæ, and various crises of *tabes dorsalis*, nervous headaches, neuralgias, sciatica, lumbago, and rheumatism, with results which, though encouraging, are hardly sufficient to warrant their maintaining the position which many have alleged for them.

Much material has been obtained from private hospital and dispensary practice; the greater part has been utilized. The reports of many more carefully selected cases from American and foreign journals have been reserved for statistics.

The cases of epilepsy were selected irrespective of their causation or variety. Those of *tabes dorsalis* were all of syphilitic origin. Headaches were mostly of the congestive type.

Neuralgias consisted of the trigeminal, intercostal, visceral, and suboccipital varieties. Cases of insomnia were the result of over-work and nerve exhaustion; two cases were of obscure origin, with an hysterical element.

The following concise notes are given of a number of

the more interesting. Want of space prevents full reports of all the cases treated:

CASE I.—Ab. N., aged twelve. Father and brother epileptics. When a year old, received a severe injury on the back of his head from a fall of nineteen feet; was picked up unconscious; developed epilepsy two years ago. At first the attacks were simply epileptoid, numbering three or four a week; they gradually increased in number and violence until he averaged one or two a day. Gastric and brachial aura well marked. The convulsion begins in the left hand, extending upward and involving the left side, and finally becoming general; lately he has developed a well-marked post-epileptic mania. On July 2, 1887, he was trephined, with negative results; bone and membranes normal. Has been treated with bromides separately and in various combinations, with nitro-glycerin, without the slightest effect, and antipyrine, which proved useless. Up to September 11th had never gone over five days without a seizure. On that date acetanilide, gr. iv, three times a day, was ordered. On the 12th he had a slight seizure. On September 24th he had another. An interval of twelve days having elapsed, the dose was increased to gr. viij. On October 4th there was another slight seizure. It was now noticed that he had frequent tremors, beginning in the left hand and gradually involving the left side, without loss of consciousness. Post-epileptic mania disappeared entirely. At the present time (October 20th) perfect freedom still exists.

CASE II.—William K., aged forty-three; family history good. Epilepsy developed four years ago, one year following an attack of scarlet fever. Seizures preceded by buzzing in the ears, four or five attacks a day. Has been on bromides, nitro-glycerin, and acetanilide, with negative results. Antipyrine was ordered September 30th. Since then, the attacks have been reduced to three a day.

CASE III.—Joseph R., aged twenty-three; family history good. Has had fits for three years, with an hysterical element. Acetanilide was ordered in January and continued until May 7, 1887, during which time he was perfectly free from attacks. Medicine was now stopped. Between May 7th and May 20th he had nine fits. Acetanilide was ordered again, and since then he has had no fits.

CASE IV.—Mrs. M. L., aged fifty. Fits since twenty-four years of age, two or three a week. Bromides afforded no benefit. Acetanilide, gr. vj four times a day, was given, which benefited her for two weeks, when the attacks became very violent and increased in number.

CASE V.—Robert B., aged seven, convulsions when a year old; usually has one every week. Acetanilide, gr. iv, t. i. d. Convulsions increased to three and four a night.

CASE VI.—Charles H., aged seventeen; father an epileptic; has had fits for ten years; averages two or three a week; interval between them never longer than four days. Acetanilide was ordered, followed by an interval of three weeks; he then had four fits in one week; since then, ten weeks ago, has had no seizures.

CASE VII.—M. J., aged thirty-four; hysteria; felt badly all the time. Ordered acetanilide. Took the medicine for two weeks with no benefit. Antipyrine was now ordered. Says she feels better, but does not know whether it was the medicine or not.

CASE VIII.—Martin S., aged thirty-five, male, insomnia, with hysterical elements. Acetanilide was ordered at bedtime, with desired results.

CASE IX.—John M., aged thirty-four, melancholia, with delusions of persecution. Antipyrine and acetanilide of no value; seemed to feel worse afterward.

CASE X.—J. Me., aged forty-two, tabes dorsalis; specific history; came under treatment when the disease was far advanced, was greatly benefited by the usual antisyphilitic treatment, but suffered greatly from formication, which symptom resisted all treatment, including galvanism. Put on acetanilide in April, 1887; experienced great relief after the fourth dose; has not been troubled since. I saw this patient in the latter part of August, and he was still free from this symptom.

CASE XI.—Mary S., aged forty-eight, tabes dorsalis; specific history: the gastric crises, attended with excessive vomiting and headache, were greatly relieved by acetanilide; on stopping the administration, the symptoms returned, but were finally controlled.

CASE XII.—Mrs. M. J., aged thirty-five, operated upon for laceration of cervix, complains greatly of suboccipital headache and extreme nervousness. Antipyrine afforded no relief. Acetanilide relieved the headache and nervousness. Patient better than she has been since the operation, six weeks ago.

CASE XIII.—Laura M., aged nineteen, headache due to sexual excitement; much pain at menstrual periods. Antipyrine negative. Acetanilide relieved the headaches completely, and afforded great relief at menstruation.

Of thirty-six patients with epilepsy, fourteen were greatly benefited by acetanilide and three by antipyrine. Acetanilide aggravated the attacks in four cases.

In five cases of hysteria, antipyrine proved itself a useful remedy, and worthy of further trial; the results from acetanilide were negative.

In three cases of hystero-epilepsy, the results from both drugs were negative.

In four cases of insomnia the use of acetanilide was attended with some benefit. Antipyrine failed signally, although in one case, due to nervous exhaustion attendant upon sexual excesses, it proved effectual in relieving the headache and producing a refreshing sleep.

In fifteen cases of supra-orbital and suboccipital neuralgia, nine were greatly relieved by acetanilide and four by antipyrine.

In two cases of intercostal neuralgia, acetanilide gave immediate relief.

In five cases of nervous headache great benefit was obtained from acetanilide. Antipyrine proved of doubtful utility.

Of seventeen patients with sciatica, acetanilide benefited eight; negative results with the remainder.

Of ten cases of lumbago, seven were relieved temporarily and two permanently by acetanilide.

In six cases of rheumatism, pain was greatly relieved by acetanilide, and in one case by antipyrine.

In five cases of tabes dorsalis the gastric crises and headache were relieved by acetanilide, formication disappeared in four cases under observation, in one case no benefit was derived.

In conclusion, it may be said—

1. *In epilepsy*, when acetanilide does good, its action is rapid; it does so by diminishing the violence and number of the attacks, and, as it has a tendency to aggravate the disease in some cases, the nature of which could not be determined, although it occurred only in those cases with a marked hereditary predisposition, its use should not be continued over two weeks unless some benefit has been obtained.

Cases of *petit mal* prove the more amenable to treatment, though in two cases of *haut mal* the drug was of great service. Antipyrine has proved itself inferior in every respect to acetanilide. Neither remedy is to be used as a substitute for the bromides, but simply as an addition to the limited number of drugs now at our command.

2. *As an analgesic*, acetanilide has proved itself a valuable remedy; the majority of the cases treated have been benefited. Antipyrine appeared beneficial in several cases, though it is not to be ranked with acetanilide.

3. *As a hypnotic* further experimentation is needed, but from the cases under observation both drugs are of doubtful efficacy.

In the administration, acetanilide was used first and considered the safer drug. From acetanilide there are no objectionable after-effects, except it be cyanosis, which only occurs after the ingestion of large doses, and usually in cases attended with marked elevation of temperature; on the other hand, collapse, disturbances of the gastro-intestinal tract, respiration, and circulatory apparatus, with fatty metamorphosis of the liver and kidneys (Dr. Porter, in "New York Medical Journal"), prove sufficient objections to the use of antipyrine.

The dose of acetanilide varied from gr. iij to x; that of antipyrine from gr. x to xv.

In conclusion, I wish to express my hearty thanks to Dr. Pepper and Dr. Osler for their kind assistance, also to Dr. Burr, of the Orthopædic Hospital, and to my colleague, Dr. Harvey Shoemaker.

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UNIVERSITY HOSPITAL.

BLACK MEASLES:

FOLLOWED BY GASTRIC ULCER AND FATAL HÆMORRHAGE.*

BY ROBERT ABBE, M. D.

In February last a young lady of twenty-two years, in the prime of health, was attacked by what at first seemed to be measles of average severity, but which at the end of a week was accompanied by marked depression of the heart's action and much prostration, a disposition to syncope, rapid wasting, sallow skin, and a striking loss of tone in the skin, which, when pinched up, sluggishly returned to its place.

Coincident with this, all the exanthematous patches on the lower extremities and hips and back, and, in a less degree, those on the trunk and arms, became hæmorrhagic. The stains of these patches remained two or three weeks. With much care, and the judicious use of stimulants, including strophanthus, which acted well as a heart tonic, she rallied from the prostration into which she had fallen.

Convalescence was slow, and a purulent bronchitis seemed for a time about to degenerate into phthisis. Two months spent in the South, however, improved her condition greatly.

* Read before the New York Clinical Society, September 23, 1887.

When she returned to New York in May she was quite well again.

On the 16th of May she had taken a trip out of town, and in the evening attended a social dinner, and enjoyed herself greatly, feeling that she was in excellent health again.

On the following morning she seemed equally well, except for one thing—namely, that after breakfast she felt some pain in her abdomen, which was relieved by bending over for a few moments and pressing both sides with her hands. It was *now* recalled that she had for some weeks past felt this same *growling* pain (never *sharp* or *cutting*), especially after breakfast, and lasting only a few moments, and she said that after lunching with a friend a few days before some ginger tea was made for her, as the pain came on, and was thought to be a slight indigestion pain. She was never nauseated, and had no dyspeptic eructations.

On May 17th she ate her breakfast with her usual relish, but her father afterward recalled that she pressed her hands to her sides while talking with him, though she complained of no pain. We may therefore infer that there was no more than a sense of discomfort present.

About noon she thought her stomach felt unsettled, and her mother was about to prepare her a little soda to drink, when the young lady rushed to the bath-room and vomited a basin half full of what seemed pure blood. Her mother quickly followed, and found her about to fall, and ashy pale. Her syncope was almost complete. I was at her bedside in fifteen minutes. Her face was still blanched, her pupils were widely dilated, and her pulse was scarcely to be felt at the wrist and beating 102. Extremities cold and clammy. Mind acting well but slowly. Speech slow. Her only pain was a slight one in the *right* epigastric region, where pressure showed tenderness. Abdomen flaccid. Epigastrium resonant. Stomach probably empty. I administered a small hypodermic of morphine and atropine, with several of brandy and some digitalis. Hot bottles everywhere. Cracked ice to suck, and a small epigastric ice-bag. There was no more vomiting for twenty-four hours. She gained a little pulse during the day, but her breathing continued shallow, and there was a constant call for "more air," and complaint of a sense of "sinking away" into the pillows, the result of the hæmorrhage.

Examination of the ejecta showed three pints or more, of which at least *one pint* could be estimated to be pure blood, something like two tumblerfuls of jelly-clots being mixed with the blood-stained mass.

The morphine eased her, and she remained absolutely quiet during the day. Toward evening she was allowed one tablespoonful of milk, with one minim of Magendie's solution and two of tincture of digitalis every hour.

In twenty-four hours she was feeling very weak, and was allowed a little peptonized milk every hour. Just twenty-four hours after the hæmorrhage she had a large tarry movement of the bowels, characteristic of the digested blood.

She was still quite prostrate. An opiate once, and hypodermics of brandy several times, were all the medication for the day. As it was desired to keep the stomach as empty as possible, a nutrient enema of beef peptonoids and milk was ordered, after consultation with Dr. Weir and Dr. Kinnicutt.

The nurse was in the act of inserting the enema tube when the patient suddenly went again into syncope, became pulseless, and vomited half a teacupful of bloody fluid, and half an hour later the balance of a teacupful and a half, of which there was two thirds of a cup of clotted blood. Her condition was at once more desperate. I fortunately was in the house, and administered hypodermics of brandy, ammonia, strophanthus, and morphine, and, in addition, one of ergotin. By dint of these stimulants, elevation of the foot of the bed, and constant fanning, the

patient kept up for a few hours, and gained gradually, so that by Friday (the first hæmorrhage having been on Tuesday) she was gaining a little color in her lips, and was free from epigastric pain. Her complexion looked considerably darker, which I attributed—whether rightly or not I do not know—to the blood absorption by the bowel. She had three large fluid, tarry movements after the second hæmorrhage. Nutrient enemata were continued three or four times a day—at first beef peptonoids and peptonized milk (which seemed to cause wind), and, later, starch-water with beef peptonoids or the whites of eggs and water, with laudanum and brandy and other variations.

At the end of the fourth day her temperature was 101° F., pulse 120. She had slept but little. With the morning enema thirty grains of urethane were given, and she had two or three hours of refreshing sleep. Her face lost the dark tint. Tongue pretty clean. Nothing was being taken by the mouth but a few tablespoonfuls of iced Vichy in the day.

Urethane, thirty grains, was given again in the evening with a larger enema, and she slept lightly all night. The pupils, which had been dilated until now, became more natural.

On the fifth day she was quite uncomfortable from ulnar neuralgia and cramps of the left upper and lower extremities.

On the sixth a small, tender swelling appeared below her right ear, not larger than a bean, and lying on the front of the sterno-mastoid muscle. This swelling rapidly enlarged, and took in the whole parotid gland. In thirty-six hours the temperature rose to 103°, the side of the face and neck being greatly swollen and brawny, without fluctuation. Suppurative parotiditis was diagnosticated, and a careful but free incision was made by Dr. Weir, which liberated pus. The temperature quickly fell 2°, and it was hoped further trouble had been averted, and, as far as this parotid abscess went, it was. Whether this was a septic abscess secondary to absorption from gastric ulcer, or the result of an embolus from some common cause, such as might have originated the gastric ulcer as well, or whether it was simply a sympathetic parotiditis, such as has been shown by Paget to be a not uncommon occurrence in cases of ulcers and other lesions of abdominal viscera, was a matter of some uncertainty in the minds of the consultants. Our presumption, however, was that it was septic.

Though her temperature had fallen, it now became evident that it was to be a fight to gain strength, the enemata not having given her what we hoped for.

It was now six days since the last hæmorrhage, and it was deemed safe to begin a little feeding by the mouth; indeed, it was evident that she would not survive a day or two unless some aid was thus obtained.

A pint of milk and two or three ounces of cream were, therefore, given by the mouth during twenty-four hours, and retained; three ounces of brandy, also, by one or the other method. Occasionally small hypodermics of morphine were necessary to allay nervousness. The motions of the bowels, though small, were natural again in color until the tenth day, when some blood was again seen in the stool. The patient grew weaker in spite of increased nourishment. Extremities cold, pulse feeble. The evening temperature rose each day somewhat higher, with a morning remission without sweating. Finally, on the thirteenth day, the temperature rapidly mounted to 105°, and the patient quietly passed away without further evidence of hæmorrhage.

Though we had at hand a transfusion apparatus from the first hour of her illness, there seemed to be no time when, in the opinion of Dr. Weir, Dr. Kinnicutt, and myself, we could use it without more harm than good. The diagnosis agreed upon from the first was ulcer of the stomach. Dr. Kinnicutt even

venturing so far as to locate it "probably on the posterior wall in the cardiac end."

An autopsy was made by Dr. Ferguson, who writes me that no more interesting case has occurred to him in an extensive experience.

The autopsy showed, in addition to marked anæmia of all the organs, a stomach which was normal in size and location; the cardiac and pyloric orifices were normal in size and perfectly free. The mucous membrane was smooth and very pale in color. In the posterior wall, 6 cm. from the œsophageal orifice, and just to the right of a line drawn parallel to the œsophagus, was an apparent loss of the mucous surface, circular in shape and 6 mm. in diameter. In its center was a hard nipple-shaped elevation, and beside this elevation, extending transversely across the implicated area, was a vessel with thin walls partially filled with blood. There was no elevation of the edges of the area, and by the unaided eye it could not be identified as an ulcer. Microscopic examination of the area showed a total loss of the mucous membrane to the extent of the measurements given above. At the base of this ulcer were seen an artery and vein of considerable size. The walls of the vein were everywhere intact. The hard, nipple-like elevation already described was the ruptured wall of an artery. Sections carried along through the entire ulcer showed a rupture of the artery involving one half of its wall. The other half showed no evidence of disease. A mass of fibrin and blood clung to the ruptured wall, and for a short distance on either side of the rupture the wall was split up and contained fibrin and blood. There was a zone of small, round cells surrounding the ulcer, and at the bottom the capillaries were filled with blood, and the round cells of inflammation infiltrated the connective tissue. Sections made in other parts of the stomach revealed no lesion of its coats or vessels.

Correspondence.

LETTER FROM PARIS.

Verneuil on Imaginary Ulcerations of the Tongue.—Garcin's Hydrofluoric-acid Treatment of Tuberculosis.—Copper in the Treatment of Tuberculosis.—Dr. Skinner's Treatment of Sea-sickness.—Statistics of the Paris Hospitals.—A Crematory in Père Lachaise.

PARIS, October 3, 1887.

PROFESSOR VERNEUIL always has something new to tell when he makes a communication to the Academy of Medicine, and his latest, on "Imaginary Ulcerations of the Tongue," is no exception to his rule. Velpeau years ago described the imaginary tumor of the breast, and most physicians have met with cases where there is some pain, with a slight lesion sometimes, which is very difficult to distinguish from the regular normal anatomical disposition. This consists of small granular bodies of no gravity at all, and the pain mostly comes from a slight intercostal or mammary neuralgia, or even a brachio-thoracic neuralgia. The present affection, however, that Dr. Verneuil treats of relates to the tongue, and it also consists of two factors, one being pain, and the other a pseudo-anatomical lesion, a natural peculiarity that is taken for a sore or tumor. Five such cases have been observed lately, and, as they are all much alike in character, one will serve as a type of all such cases. A lawyer, forty-two years old, without the slightest pathological antecedent, such as syphilis or any other disease, except that he was of a gouty family, comes to see M. Verneuil in regard to a pain which he suffers from in a certain circumscribed spot on his

tongue, and which sometimes extends to one half the organ, being increased with mastication and speech. On examination, the tongue presents nothing at all abnormal. The patient, however, insists and points to the anterior and external part of the region of the circumvallate papillæ, but, except that one of these papillæ seems slightly enlarged, nothing can be found to justify the pain; so that a diagnosis is made of simple lingual neuralgia. Slightly touching the part with cocaine, together with the usual treatment for an arthritic constitution, cures most of the cases, with strong moral advice to the effect that there is really nothing the matter with the tongue; but Dr. Verneuil is in favor of instituting some more effective treatment, as often the moral is not enough. He proposes, therefore, cauterizations with Paquelin's cautery and perhaps sublingual injections. A number of the members had seen such cases, and had had patients running to them for imaginary cancers of the tongue, and Professor Fournier, in particular, had been much bothered with this class of patients with imaginary chancre of the tongue, if they had ever been afflicted with the slightest venereal trouble. Dr. Fournier said that the principal cause was, no doubt, the gouty diathesis, and a second cause was artificial teeth plates, no matter how small they were. Perhaps there were other causes, and it was well that Professor Verneuil had brought up this hitherto undescribed malady, which was certainly a much more common trouble than one would think at first.

The star of Bergeon's treatment waning a little, new forms of cure for tubercular patients are being found with unabated vigor, and M. Garcin comes to the front with hydrofluoric acid. This new method consists in placing phthisical patients for an hour every day in a small cabinet which contains six cubic metres of air that is saturated with hydrofluoric acid. This saturation is obtained by pumping a current of air through a gutta-percha bottle that contains 100 grammes of the acid to 300 grammes of distilled water. The quantity of air pumped in is renewed every fifteen minutes, as the effect is quickly exhausted. The system has been tried for a year past in a number of cabinets that M. Garcin has had fitted up in a room in his own house, and during the month of August a hundred patients were submitted to the treatment. Of this number, fourteen remained as before, forty-one were improved, and thirty-five were cured, while ten died. It is stated that under the influence of this form of medication the attacks of coughing diminish and finally cease. The Koch bacilli can not resist this acid, as they at first are found to diminish in number and soon they no longer segment; at last they entirely disappear from the secretions. The general state of all the patients was much improved, the appetite was increased, the night sweats ceased, and some patients treated over a year ago remain well. It seems that the workmen at the celebrated glass manufactory at Baccaret had first noticed that the hydrofluoric acid they employed had good effects on the health of consumptive persons.

Professor Luton, of Reims, in a recent long article, concludes that the cure of tuberculosis can generally be obtained by means of the phosphate of copper, which, however, must be in the nascent state and soluble in an alkaline body. For twenty-five years Dr. Luton has sought for this cure, and he thinks he has found a specific. He employs the following formula:

Neutral acetate of copper..... 0.15 grain;

Crystallized phosphate of sodium..... 0.75 "

Glycerin.

Powdered licorice, } each, a sufficient quantity.

This is for one pill.

A double decomposition takes place in the stomach, and there is a specific action on the part of the copper, with a dynamic action on the part of the phosphorus in the preparation.

Dr. W. Skinner, a ship's surgeon and an American-Paris graduate, makes a communication to a Paris journal in regard to a new method of treatment of sea-sickness. He thinks that it must be admitted that the blood-pressure is lowered in this affection, and that the cause of this defect must reside in the great sympathetic nervous system. Be this as it may, he has met with great success with the following treatment:

Sulphate of atropine,	} each.....	0.60 grain;
Sulphate of strychnine,		
Mint water.....		600.00 grains.

Fifteen minims of this solution are injected subcutaneously; in children, one sixth of the amount is enough. At another time the following was used:

Caffeine.....	60 grains;
Salicylate of sodium	45 "
Water, enough to make	10 c.c.

Dissolve with heat, and inject four minims.

Dr. J. Russell Harris, writing to the "Lancet" for September 21st, comes to the conclusion that sea-sickness is caused by the presence of bile in the stomach. This gives rise to a peculiar burning sensation in the epigastrium before the actual onset of vomiting, which goes away afterward, as he infers from actual experiment on himself and from the statements of many persons who have suffered from the annoying *mal de mer*. Dr. Russell thinks that the nervous system is powerfully exhausted, and that the pyloric sphincter, under the influence of the nerves distributed to it, relaxes enough to permit a regurgitation of bile into the stomach. He thinks that a pad on the epigastric region and one on the back, with a mild electric current passing between them, ought to right the trouble, and he adds that strychnine ought to be beneficial. This, then, may account for the benefit of Chapman's ice-bag applied to the spine, and seems to explain the wonderful cures that our countryman, Dr. Skinner, has effected with his hypodermic injections of the strychnine prescription.

According to statistics just published, there are in Paris thirty-nine hospitals, or twenty-six large hospitals and thirteen small ones. The medical service consists of ninety-nine physicians, thirty-seven surgeons, ten accoucheurs, twenty-two drug-clerks, and one hundred and ninety-eight internes, with twenty-two *sages-femmes*. The number of beds in all is twenty-three thousand eight hundred and thirty-eight. Of these, eleven thousand five hundred and twenty-six are for acute diseases, nine thousand nine hundred and sixty-two for old and infirm patients, one thousand five hundred and sixty for insane people, and seven hundred and ninety for children.

Next month there is to be inaugurated a large cremation building in the Père Lachaise Cemetery here. The edifice is a very fine one, with the general aspect of a massive parallelogram, three stories in height, surmounted by two large columns, which are the two great chimneys. There are three domes on the roof, that resemble the domes of a church. Under these are the great cremation chambers, with the ovens constructed on Govini's system. The front is in black and white marble, while spacious rooms are set apart on each side for the reception of the families and invited spectators. This fine monument is the most complete structure of the kind known to modern days. It was not constructed exactly as a public crematory, for the original intention was only to cremate all the *débris* of the Paris hospitals, and the remains of about four thousand five hundred bodies after the dissections of the year. These remains have been buried up to the present time, but Professor Brouardel, the celebrated hygienist and present dean of the Paris faculty, induced the government to build a cremation building to burn these remains. Once the building was commenced, a very fine one was made that will serve for general use for those who ap-

prove of this method of disposing of their remains. Last year the Chamber of Deputies passed a bill to allow it, and approved of the legality of incineration of cadavers; it now only remains for the Senate to agree and the President to sign the bill, when Americans can find a new advantage in Paris—they can be buried or burned, as they like.

LETTER FROM BIRMINGHAM, ALABAMA.

The New Southern Surgical and Gynecological Association.

BIRMINGHAM, ALA., October 20, 1887.

THE Alabama Surgical and Gynecological Association held its annual meeting in Birmingham on the 11th, 12th, and 13th of October, and, pursuant to a previous call, a special meeting was held to consider the advisability of organizing an association of like character, to embrace all the Southern States. This meeting was prompted by the many urgent requests of the most prominent physicians in the South that the Alabama association would extend its membership so as to include all the Southern States. With this plan in view, the secretary of the Alabama association corresponded with a number of the leading men of each State, asking them to be present at the meeting of the Alabama association on the 11th of October, to consider the advisability of organizing such a society. At this meeting there were representatives from a number of Southern States, including a large delegation from Alabama, and, besides, the secretary had been requested to present the names of many who could not be present, but who, in anticipation of the formation of the society, had asked to have their names enrolled as members. Dr. H. N. Rosser was made temporary chairman, and Dr. W. E. B. Davis secretary. The constitution and by-laws submitted by the Committee on Organization differed from those of the State association only in some minor particulars made necessary by the enlarged scope of the new organization. The association includes all the Southern States, and its meetings will be held at such places as may be selected, on the second Tuesday of September of each year. The annual dues are \$10. A judicial council consisting of five members will have charge of all applications for membership and of all judicial and general business affairs pertaining to the organization. Dr. W. D. Haggard, of Nashville, was elected president, and, on being conducted to the chair, said that he had no words to express his appreciation of the honor conferred upon him, that he deemed it the highest compliment of his life, and that he could only promise that his best energies should be devoted to the interests of the association. The following additional officers were then elected: Dr. R. D. Webb and Dr. J. W. Sears, both of Birmingham, first and second vice-presidents respectively; and Dr. W. E. B. Davis, of Birmingham, secretary, by a unanimous vote. The president, having announced Dr. Davis's election, said that he recognized the position as being the most important in the organization, and that Dr. Davis's excellent record as secretary of the State association would be sufficient guarantee of his efficiency in the new and wider field. Dr. H. P. Cochrane was elected treasurer, and Dr. W. F. Hyer, of Holly Springs, Miss., orator. The following named gentlemen were elected to compose the judicial council: Dr. John T. Cain, of Nashville; Dr. Hunter McGuire, of Richmond; Dr. J. M. Taylor, of Corinth, Miss.; Dr. De Saussure Ford, of Augusta, Ga.; and Dr. B. A. Kinloch, of Charleston, S. C. Birmingham was selected as the place for the next meeting. Much interest is being manifested in the new organization by the profession of the South, and it promises to be one of the most scientific bodies in the country. The South has excellent material, and this organization will doubtless afford an incentive to much valuable work.

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GLEDITSCHINE.

A FEW weeks ago, Dr. J. Herbert Claiborne, Jr., of New York, announced that a veterinary surgeon, Mr. M. Goodman, had accidentally discovered that the leaves of a certain Louisiana tree, made into a poultice, had anæsthetic properties; that Dr. Allen M. Seward, of Bergen Point, N. J., had analyzed the leaves, and, having found by exclusion that their anæsthetic property must reside in an alkaloid that he had discovered in them, had prepared a two-per-cent. solution of the alkaloid and proved by experiment that the solution acted as a local anæsthetic; finally that he (Dr. Claiborne), in conjunction with Dr. Seward and with the co-operation of several medical men, had satisfactorily ascertained that the substance, in question really possessed anæsthetizing properties. Dr. Claiborne's communication was published in the "Medical Record" for July 30th, and several articles on the subject have since appeared in that and other journals. The substance said to have been obtained from the Louisiana tree, known in that State as the tear-blanket-tree, and elsewhere as the honey-locust, has been considered as a peculiar alkaloid. At first it was named stenocarpine, because the tree, the botanical character of which had not then been determined, was said to resemble the *Acacia stenocarpa*, an Egyptian tree that furnishes Suakin gum arabic; now, however, it seems to have been settled that the tree is the *Gleditschia triacanthos*, and accordingly the name of the supposed alkaloid has been changed to gleditschine.

The general purport of the various experiments that have been reported is that, used topically, gleditschine seems to have properties almost if not quite identical with those of cocaine in so far as its anæsthetizing action is concerned, but that, when used upon the eye, it produces great dilatation of the pupil (sometimes with contraction of the opposite pupil). This mydriatic effect is said to last no more than half as long as that produced with atropine. On this account, the new drug has been thought to promise to be of special service in cases calling for both an analgesic and a mydriatic, particularly if prolonged dilatation of the pupil is to be avoided. The statements thus far published have excited general interest, as is exemplified by the preparations made by some of our leading pharmacologists to subject the leaves to thorough examination, and by the measures taken by Dr. Mattison, of Brooklyn, for a systematic comparison of the physiological effects of gleditschine with those of cocaine.

Prominent among the pharmacists who have set to work to study the *Gleditschia triacanthos* are Messrs. Parke, Davis, & Co., the well-known manufacturers, of Detroit, the substance of whose brief announcement to that effect we published last

week. It is now somewhat startling to find a statement from that firm implying that "the stenocarpine sensation" is probably to be classed with "the hopeine fraud." Messrs. Parke, Davis, & Co. state that their own examination of the two-per-cent. solution furnished by Messrs. Lehn & Fink, of New York (to whom, they say, they were "referred by the discoverers" for a supply of the solution "with which the experiments thus far recorded have been made"), shows that it contains six per cent. of cocaine and a sulphate which further experiment is likely, they think, to prove to be that of atropine. They also cite Mr. F. A. Thompson's declaration, founded on experiment, that the leaves of the *Gleditschia triacanthos* "contain only an infinitesimal percentage of an amorphous alkaloid devoid of anæsthetic or mydriatic properties." In the light of these investigations, Messrs. Parke, Davis, & Co. say that it seems probable that "the physicians who have already published reports regarding gleditschine, or stenocarpine, have been the victims of a clever hoax."

It is not to be supposed that Messrs. Parke, Davis, & Co. would make such emphatic statements unless they were convinced of their truth, and it is not probable that their investigations have been erroneous. Nevertheless, before it is decided that there is no such anæsthetic alkaloid as gleditschine, it will be well to wait for further researches to be concluded, and that need not occupy much time. In any event, Dr. Claiborne is to be commended for the carefulness and conscientiousness with which he has studied and written upon the solution with which he has experimented and the tree from which its active ingredient purported to be derived.

THE NEW YORK QUARANTINE STATION.

THROUGH its committee on hygiene, the Medical Society of the County of New York keeps diligent watch over the sanitation of the city and port of New York. Last Monday evening, Dr. John C. Peters reported to the society that the committee had appointed him to visit Hoffman Island and Swinburne Island, and to report to the society what he might observe. He had made but one visit, but on that occasion he had remained from early in the morning until late at night, the quarantine authorities having been informed of his proposed visit some hours beforehand. He had found the lower island in admirable condition. Hoffman's Island was very cleanly, but he thought the rooms were somewhat dingy. Whether or not the cleanliness that he had found was kept up when visitors were not expected, he could not say. There was no resident physician on either island. With one exception, all the cases of cholera that had lately developed on the island had appeared among the most filthy of the three classes into which, on a scale of comparative filthiness, detained immigrants were divided, and most of them in particular parts of the building. The food, on the day of his visit, was of good quality and well cooked, but it seemed not to be the custom to provide the inmates with knives and forks, and groups of them had to eat from a common dish, using their fingers or their pocket-knives—a mode of eating that would certainly favor the ingestion of

any cholera germs that might be lurking about their persons. The front portions of their clothing were exceedingly filthy, as if they had been used for napkins. The speaker had omitted to inform himself as to the facilities for bathing, but the basins that he had seen contained no water.

Dr. Peters estimated that it would not require more than five thousand dollars to equip Hoffman Island properly. It was true, as Dr. Daniel Lewis had stated in the discussion, that the law did not require the expense of keeping the buildings in order to be met from the health officer's fees, also that the State's direct appropriations for the purpose were apt to be withheld or made insufficient whenever the political party in power was not in accord with the health officer. It was the speaker's conviction, however, that the income of the quarantine department was sufficient, if not diverted to political purposes, to equip the institutions completely and keep them in good order, and it was unjust to tax the people twice for the purpose.

It is not a very satisfactory state of things that Dr. Peters depicted, but there is some consolation for the public in his having said, in reply to a question, that he did not think cholera would appear in this country next summer, unless there was a fresh importation. We do not see how any different opinion could be entertained.

MINOR PARAGRAPHS.

THE SOUTHERN SURGICAL AND GYNÆCOLOGICAL ASSOCIATION.

THE organization of this association, as set forth in the letter from Birmingham, Ala., which we publish in this issue, can hardly fail to promote the advance of those branches in the Southern States; indeed, it will probably exert a notable influence on progress in surgery in gynæcology throughout the country. Many of the most illustrious names in the annals of American surgery—particularly gynæcological surgery—both of the living and of the dead, are those of men who were either born or educated in the South; and we look upon this movement as a token that that part of the country may be counted on to keep up its prestige and stimulate the North to still warmer emulation.

THE CONGRESS OF AMERICAN PHYSICIANS AND SURGEONS.

THIS is the title that seems to have been settled upon for the confederation of national special societies to which we have alluded on several occasions, and of which we give in this issue a definite outline of the plan of organization. All the well-known societies that were asked to take part in the movement appear to have consented to do so, with the single exception of the American Gynæcological Society. At that society's recent annual meeting, Dr. Busey, on behalf of the committee appointed to take part in a preliminary conference, reported favorably upon the question of the society's entering upon the movement. The report failed of adoption, but that was not owing to any distrust of the success of the confederation or the desirability of its formation, but simply to the fact that the society was perfectly satisfied with its own condition and indisposed to enter upon experiments. Notwithstanding this exception, the congress is strong enough in its constituency, and will

doubtless achieve the objects of its promoters. It has certainly shown wisdom in choosing Dr. Billings as its first president, and its first meeting will doubtless be looked forward to with great interest by the profession.

A MEXICAN DOCTORA.

LADY practitioners are held in high esteem in Mexico, if we may judge by an account given in one of the Mexican newspapers of a recent festal occasion in the life of an *ilustrada doctora*, Señorita Montoya. It occurs to us, by the way, that the title *doctora* suits a woman far better than doctor. Numerous gifts were sent to Miss Montoya on the day in question, comprising a great number of bouquets, a treatise on diseases of children (by her preceptor, Dr. Soriano), a stereoscope (by her fellow-student, Dr. de Guevara), a elastic anatomical plate, a number of verses and musical compositions, and a card bearing the autographs of several young ladies of the United States.

A FRENCH EDITION OF DR. MUNDÉ'S "ELECTRICITY IN GYNÆCOLOGY."

DR. P. MÉNIÈRE, the editor of the "Gazette de gynécologie," has just brought out a French translation of Dr. Paul F. Mundé's work on "Electricity as a Therapeutical Agent in Gynæcology," with notes prepared by himself. It is in the form of a brochure of seventy-two large octavo pages, published by M. Doin. In his preface, Dr. Ménière calls attention to the fact that no work on the subject has previously been published in France, and speaks in terms of deserved praise of Dr. Mundé as a writer and teacher. The book is handsomely printed and well illustrated. Several of the cuts have been added by the translator, and his foot-notes are to be found on almost every page. It is gratifying to observe this new example of the increased frequency with which American works are being placed within the reach of those who do not read English.

POISONING WITH NON-POISONOUS MUSHROOMS.

POISONING as the result of eating non-poisonous fungi, paradoxical as it may seem, is met with now and then. In a recent issue of the "Deutsche Medizinal-Zeitung," Dr. Goldschmidt gives a summary of the history of a case in point, observed by M. Prevost, and originally published in "La France médicale." Such cases of poisoning, says Goldschmidt, are due to some collateral circumstance—often to the ova of poisonous flies, sometimes to decomposition, and again to insufficient cooking. But, in the instance in question, the result must have been owing to some peculiarity of the patient, for five or six other persons ate of the same fungus with impunity. The patient was a lady, forty-nine years old, previously quite healthy. In the course of a few hours after she had eaten the mushrooms she was seized with abdominal cramps, followed by constipation of four days' duration, which finally yielded to castor-oil. Then bloody dejections occurred, succeeded by vomiting and increasing prostration, and death took place.

AN ANTISEMITIC CHARITY.

THE "St. Petersburger medicinische Wochenschrift" states that the Charkow Infirmary of the Society of Charitable Sisters of the Red Cross has decided to discontinue the free issue of medicines to Jews. It is suggested that this course was adopted in consequence of the frequency with which Jews sell the medicines that have been ordered for them by prescription. This, of course, does not warrant the plan settled upon; it would probably be quite as effective, and certainly just, to refuse to

give medicines to any person, Jew or Gentile, on satisfactory proof of his having resorted to the device complained of.

ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending October 25, 1887:

DISEASES.	Week ending Oct. 18.		Week ending Oct. 25.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever.....	44	8	30	6
Scarlet fever.....	61	9	59	11
Cerebro-spinal meningitis....	2	3	2	2
Measles.....	14	3	16	1
Diphtheria.....	103	30	105	24
Small-pox.....	1	0	3	1

The Health of New York City.—During the five weeks ending Tuesday, October 25th, the following numbers of cases and deaths from infectious diseases were reported to the Sanitary Bureau of the Health Department: Typhoid fever, 210 cases and 47 deaths; scarlet fever, 275 cases and 49 deaths; cerebro-spinal meningitis, 17 cases and 14 deaths; measles, 68 cases and 10 deaths; diphtheria, 491 cases and 169 deaths; small-pox, 7 cases and 3 deaths.

The Medical Society of the County of New York.—At the annual meeting, held on the 24th inst., it was reported that the expense of issuing the society's "Medical Directory" had been more than covered by the receipts from advertisers. Dr. Daniel Lewis received a vote of thanks for his services in connection with the publication. Like action was taken in the case of the treasurer, Dr. O. B. Douglas, who declined a re-nomination. Officers for the ensuing year were elected as follows: President, Dr. Laurence Johnson; vice-president, Dr. L. Bolton Bangs; secretary, Dr. Wesley M. Carpenter; assistant secretary, Dr. Charles H. Avery; treasurer, Dr. Alexander S. Hunter; censors, Dr. Daniel Lewis, Dr. J. S. Warren, Dr. R. Van Santvoord, Dr. W. E. Bullard, and Dr. William Stevens. The report of the board of censors stated that during the year over three hundred cases of alleged illegal practice had been investigated, and that twenty-four prosecutions had come to trial, with the result of twenty-four convictions. Dr. John C. Peters presented a report from the committee on hygiene.

The New York Hospital.—Dr. Bulkley resumed his clinical conferences on diseases of the skin on Wednesday, the 26th inst. The course, which is free to the profession, will consist of about twenty conferences.

The New York Skin and Cancer Hospital.—Exercises appropriate to the opening of the new buildings will be held at the country branch, at Fordham Heights, this afternoon. A special train will leave the Forty-second Street station of the New York Central and Hudson River Railroad at 2 o'clock. The programme includes an address on "Cottage Hospitals" by the president of the medical board, Dr. A. Jacobi.

The Kings County Medical Association.—At the next meeting, to be held on Tuesday evening, November 1st, Dr. T. M. Lloyd will read a paper initiatory of a discussion on "Antipyretics."

An Association of Ex-Resident Physicians of Blockley Hospital.—A meeting, at which Dr. S. W. Gross presided, was held in Philadelphia on Tuesday, the 25th inst., for the purpose of effecting a permanent organization. A committee, consist-

ing of Dr. S. W. Gross, Dr. W. H. Parish, Dr. R. W. Deaver, Dr. W. G. Porter, Dr. W. A. M. Dorland, and Dr. D. F. Willard, was appointed to prepare and report a plan of organization and to arrange for a banquet to be held during the coming winter. Dr. Dorland stated that the hospital had been in operation since 1742, and that the centennial of the entrance of the first resident physician would occur on June 6, 1888.

The Congress of American Physicians and Surgeons.—A meeting of the executive committee, for the purpose of organization, was held on October 5th in the Hall of the College of Physicians of Philadelphia. The special societies were represented as follows: American Surgical Association, Dr. Claudius H. Mastin, of Alabama; American Otological Association, Dr. Cornelius R. Agnew, of New York; American Ophthalmological Association, Dr. D. B. St. John Roosa, of New York; American Laryngological Association, Dr. J. Solis-Cohen, of Pennsylvania; American Neurological Association, Dr. L. Carter Gray, of New York; American Dermatological Association, Dr. I. E. Atkinson, of Maryland; American Climatological Association, Dr. A. L. Loomis, of New York; Association of Genito-urinary Surgeons, Dr. John P. Bryson, of Missouri; American Association of Physicians, Dr. William Pepper, of Pennsylvania. The committee was organized by the election of Dr. Pepper as chairman, and Dr. Bryson as secretary. It was decided to hold the congress of 1888 in Washington, D. C., on Tuesday, Wednesday, and Thursday, September 18th, 19th, and 20th. The sessions of the congress will be held in the evenings, leaving the mornings and afternoons free for the sessions of the special societies participating. The following officers of the congress were elected: President, Dr. John S. Billings, of the army; vice-presidents, the presidents-elect of all the participating societies; treasurer, Dr. W. H. Carmalt, of Connecticut. The arrangement of the programme for the sessions of the congress was referred to the president, the secretary, and the chairman of the executive committee.

Scarlet Fever in London.—Lack of space compelled us to omit the following paragraph from our London correspondent's last letter: "For some weeks past London has been suffering from the most serious epidemic of scarlet fever that has visited it for many years. On September 28th there were over 1,400 patients in the hospitals belonging to the Metropolitan Asylums Board, and of course to these must be added the number of those who are being treated at home or in private hospitals, such as the London Fever Hospital. This number it is practically impossible even to guess at, in the absence of a well-conducted system of compulsory notification, but the total number of cases in the metropolis must be very large. So far as I know, however, the type of the disease is not a bad one, and the mortality has not been unduly great."

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from October 9 to October 22, 1887:*

ALEXANDER, CHARLES T., Lieutenant-Colonel and Surgeon. Relieved from duty as attending surgeon and examiner of recruits at St. Louis, Mo., and ordered for duty at Fort Meade, Dakota. S. O. 235, A. G. O., October 8, 1887.

CUNNINGHAM, T. A., Captain and Assistant Surgeon, died October 12, 1887, at Fort Lewis, Colorado.

WOLVERTON, W. D., Major and Surgeon. Detailed as member of army retiring board at Washington, D. C., convened by S. O. 78, A. G. O., April 5, 1887, vice

BYRNE, C. C., Major and Surgeon, hereby relieved. S. O. 241, A. G. O., October 15, 1887.

GARDNER, EDWIN F., Captain and Assistant Surgeon. Relieved from duty at Fort Reno, Indian Territory, and ordered for duty at Fort Lewis, Colorado. S. O. 241, A. G. O., October 15, 1887.

COCHRAN, JOHN J., Captain and Assistant Surgeon. Now on duty at the Presidio of San Francisco, Cal., is assigned to temporary duty at headquarters Division of the Pacific as assistant to the medical director of that division. S. O. 244, A. G. O., October 19, 1887.

EWING, C. B., First Lieutenant and Assistant Surgeon. Granted leave of absence for one month on surgeon's certificate of disability. S. O. 112, Department of the Missouri, October 18, 1887.

Appointment.

JARVIS, NATHAN S., to be Assistant Surgeon, U. S. Army, with the rank of first lieutenant, October 14, 1887.

Society Meetings for the Coming Week:

TUESDAY, *November 1st*: Kings County, N. Y., Medical Association; New York Obstetrical Society (private); New York Neurological Society; Elmira, N. Y., Academy of Medicine; Buffalo, N. Y., Medical and Surgical Association; Ogdensburg, N. Y., Medical Association; Hudson, N. J., County Medical Society (Jersey City); Hampden, Mass., District Medical Society (Springfield); Androscoggin, Me., County Medical Association (Lewiston).

WEDNESDAY, *November 2d*: Harlem Medical Association of the City of New York; Medical Society of the County of Richmond (Stapleton), N. Y.; Penobscot, Me., County Medical Society (Bangor); Bridgeport, Conn., Medical Association; Philadelphia County Medical Society (regular).

THURSDAY, *November 3d*: New York Academy of Medicine; Medical Society of the County of Orleans, N. Y. (annual—Albion); Society of Physicians of the Village of Canandaigua, N. Y.; Boston Medico-psychological Association; Obstetrical Society of Philadelphia; United States Naval Medical Society (Washington).

FRIDAY, *November 4th*: Practitioners' Society of New York (private).

SATURDAY, *November 5th*: Clinical Society of the New York Post-graduate Medical School and Hospital; Manhattan Medical and Surgical Society (private); Miller's River, Mass., Medical Society.

OBITUARY NOTES.

Professor Bernhard Rudolf von Langenbeck, of Berlin, a nephew of the great surgeon and anatomist, Konrad von Langenbeck, died on the 29th of September, at the age of seventy-seven. According to the "British Medical Journal," the cause of his death was apoplexy. Von Langenbeck was the recognized leader of German surgery, the editor, in conjunction with Billroth and Gurlt, of the "Archiv für klinische Chirurgie," and the perpetual president of the Association of German Surgeons.

James Knight, M. D., the founder and the chief medical officer of the Hospital for the Ruptured and Crippled, died on Monday, the 24th inst., at the age of seventy-seven. The deceased was a native of Maryland, and received his medical degree from the Washington Medical College, of Baltimore, in 1832. He spent a few years in practice in Baltimore, and the remainder of his life in New York, where he was highly esteemed for his conscientious and beneficent management of the institution which he founded.

Letters to the Editor.

THE NEGLECT OF HOSPITAL ATTENDANCE BY MEDICAL STUDENTS.

NEW YORK, *October 21, 1887.*

To the Editor of the New York Medical Journal:

SIR: It has seemed to me right, before leaving your hospitable shores, to put in writing some of the impressions that I have derived from a careful study of your hospitals and other medical institutions; and, if you see fit to publish my remarks, I shall feel convinced that you believe that I speak in all sincerity and with no desire to criticise in a hostile spirit. I have during my stay in New York been most hospitably entertained, and I shall carry away with me most agreeable impressions of the warm heart of my professional brother on this side of the Atlantic. I have seen much that is novel and instructive in your new hospitals and your new college buildings—much that I would fain see imitated on my side of the water. I have been especially impressed with the fact that you have among your younger physicians and surgeons not a few Athenians who are worthy to bear the palm in any intellectual combat. Many of them are as accomplished teachers—especially clinical teachers—as any of the older universities can boast; but what has been especially painful to me to witness is the fact that their services and abilities seem to be unappreciated. In one of your newest hospitals, a few days ago, I heard a gentleman giving most excellent bedside instruction. His material was of the best; he had evidently studied it carefully, by the assistance of an admirably trained corps of resident medical officers and very efficient nurses, and his manner of presenting his views was lucid, concise, and thoroughly scientific. It was painful to me to see that his audience numbered only about a dozen men. I supposed that this was because the hospital fees were very high, and that most of the students could not afford to attend. Inquiry, however, informed me that there were no fees whatever in this hospital, and that every medical student in the city could profit by its teaching absolutely without price. Not only this, but an actual money bonus is paid, so I am told, for a good report of the clinical lectures which are delivered there.

Considering that there are several thousand medical students at work in New York at the present time, I was entirely at a loss to account for this state of affairs.

Can it be that clinical teaching is considered of no account here? Is it possible, with your grand medical advantages, that you rely on didactic teaching solely?

It would seem as though your students *seek a degree rather than an education*, and that your examining boards do not compel them to learn the art of medicine as well as the science.

Some years ago the medical world was shocked by the assertion that in Philadelphia a student of medicine might get his degree without ever having seen a patient. That charge was indignantly repudiated through the medical press. But I really believe that it is not only possible, but a matter of frequent occurrence here in New York. If I am mistaken I shall hope to be corrected, but I fear that I am not.

It is with all sadness that I write these lines, and in no carping spirit. It is so much a matter of surprise to me that I can not withhold expressing it to you, in the hope that I may be wrong.

I have met many American doctors in England and upon the Continent, and have found them uniformly cultivated, well-educated men, and I have been greatly surprised to see the low estimate placed upon an American degree in Europe. But if this painful discovery of mine is not entirely erroneous, I fear

that the imputations of Europe upon American medical science are not without foundation.

Pardon the length of my communication. I could not forbear to lay before you what has been to me the greatest surprise in all my American experience.

I have the honor to be your obedient servant,
A TRAVELER FROM NEW ZEALAND.

THE ABORTIVE TREATMENT OF GONORRHOEA.

159 EAST THIRTY-SEVENTH STREET, October 21, 1887.

To the Editor of the New York Medical Journal:

SIR: Will you kindly allow me sufficient space for the correction of certain misquotations in an article on "The Abortive Treatment of Gonorrhœa," published in the Journal for October 8th? The author (Dr. E. T. Osborne) states that "Currier in his various articles on 'Gonorrhœa in the Female' at first recommended strong corrosive injections of nitrate of silver, as strong as 60 per cent., but in an article in the 'New York Medical Journal' for October 24, 1885, he disapproves of strong injections altogether, and recommends an injection of bismuth and glycerin (3j to 3j). He believes in the gonococcus, and says this bismuth injection does not kill the germs, but starves them. He afterward states that the glycerin and bismuth so deplete the mucous membrane that the germs have nothing on which to feed, and thus starve. This is certainly difficult to believe, although the treatment may be good." There is simply a question of fact in the case, and, if the writer who did me the honor to quote me had read my statements with a little more care, he would have found ("New York Med. Journal," January 24, 1885, p. 90) that I never recommended nor approved of "strong corrosive injections" in the treatment of gonorrhœa, but precisely the contrary. I did state that I had many times used a *sixty-grain-to-the-ounce* solution of nitrate of silver and with good results. That was used, not as an injection, but as an intra-uterine application upon a film of cotton-wool. Much more extensive experience, since the article in question was written, has confirmed my opinion of the great value of nitrate of silver as a destroyer of the gonococcus. In regard to the use of the bismuth and glycerin mixture, which is one of the most satisfactory combinations for the purpose that I have ever seen, it was stated ("New York Med. Journal," October 24, 1885, p. 454) that it was used as a dressing upon a vaginal tampon, that its function was to deplete the congested tissues and act as an astringent, and that, while not directly destructive to gonococci, it so modified the secretions of the tissues that it deprived them (the secretions) of the qualities which are necessary to cultivation fluids, thus causing the microbes to die of starvation. I shall be much pleased if the author is convinced by these references that I had no intention of saying anything that he quoted me in his paper as saying, except that I believed in the gonococcus. It would also have been pleasant if the other borrowings from my paper, to which he referred, had received some acknowledgment.

ANDREW F. CURRIER.

GLEDITSCHINE (STENOCARPINE).

314 STATE STREET, BROOKLYN, October 15, 1887.

To the Editor of the New York Medical Journal:

SIR: The fact, seemingly well proved by the experience of Dr. Seward, Dr. Claiborne, Dr. Knapp, Dr. Jackson, Dr. Mitchell, and others, that the newly discovered alkaloid, gleditschine (stenocarpine), is largely like cocaine in its power as a local anæsthetic, has prompted me to determine whether it has a value

akin to the coca alkaloid as a stimulant in the treatment of opium habitués, and I am now experimenting in this direction, using a two-per-cent. solution, exclusively by subcutaneous injection. That cocaine, hypodermically, is a valued aid in treating the opiate neurosis, is beyond question, in my opinion, though it is not a specific, and should never be given for this purpose by the patient himself, be he physician or layman. Should gleditschine have a similar value, it may be found free from the ensnaring danger of cocaine, though, assuming the fact of its stimulant power, this freedom from risk will not be likely, and we shall note, probably in the not far distant future, baneful effects from its abuse, and gleditschine inebriety will be added to the list of toxic neuroses.

It has been stated by Dr. Seward that "he has observed antitidal effects to gleditschine from morphine," and Dr. W. H. Mitchell asserts that "it is a direct antagonist of morphine and opium, ten drops of the two-per-cent. solution neutralizing one grain of morphine or six of opium." Experiments on rabbits now being made by myself will, it is to be hoped, sustain these statements.

The two-per-cent. solution can be obtained from Messrs. Lehn & Fink, New York, at a present wholesale price of six dollars an ounce.

I shall be pleased to receive and report the experience which any reader of your journal may have on this subject.

J. B. MATTISON.

DR. CORNING'S METHOD OF GENERAL ANÆSTHETIZATION

266 MADISON AVENUE, October 25, 1887.

To the Editor of the New York Medical Journal:

SIR: Dr. J. Leonard Corning omitted what seems to me to be a very important point in his letter concerning a method recently devised by himself for facilitating the "rapid and safe induction of anæsthesia," published in your issue of the 22d inst. As the doctor states, he first tried the method upon a patient of mine in the Manhattan Eye and Ear Hospital, upon whom I was about to perform an iridectomy preliminary to cataract extraction. A large number of the hospital staff and other physicians were present, all of whom seemed pleased with the ease and quickness with which the patient was anæsthetized, as well as with the rapidity of his recovery from the effects of the ether as soon as the tourniquets were removed from his thighs.

Every person who gives ether frequently now and then meets with a case in which alarming symptoms suddenly show themselves. The patient stops breathing and becomes livid or turns black in the face, and it is painfully evident to all present that something must be done, and done quickly, or the patient will die.

The practice is to pull forward the patient's tongue, to lift up his lower jaw, to try to induce breathing by making pressure at intervals upon his diaphragm or chest, or by turning him upon his side. Sometimes the galvanic battery is applied if at hand, and sometimes, though in very exceptional instances, the patient does actually die.

Now, if on such an occasion we could suddenly let into the general circulation about one third of the entire blood which had been dammed up in the reservoir of the limbs, and was, consequently, entirely free from the contaminating effects of the anæsthetic, it would instantly mix with the blood which was supersaturated with the ether, and thus, diluting it, would probably do away with all alarming symptoms at once. That is what would practically occur on removing the tourniquets from the limbs.

DAVID WEBSTER.

Proceedings of Societies.

NEW YORK SURGICAL SOCIETY.

Meeting of October 12, 1887.

Gastrotomy for the Digital Exploration of the Œsophagus and the Removal of a Foreign Body; Recovery.—Dr. WILLIAM T. BULL read a paper with this title (see page 481).

Dr. L. A. STIMSON asked the reader if he had been able to determine why the body lodged just where it did in the Œsophagus.

Dr. BULL replied that the position of the body was determined by the presence of a concentric projection or collar of mucous membrane, which was situated about an inch and a half above the pyloric orifice; the body was lodged just above this constriction.

Dr. R. F. WEIR asked if the narrowest part of the Œsophagus was not usually situated higher up.

Dr. BULL said that it was, but that if a foreign body succeeded in passing the point opposite to the arch of the aorta, it was usually arrested at the position described in his case.

Dr. WEIR believed that the caliber of the Œsophagus was larger than was generally represented, especially by French writers. He had passed bougies having a diameter of twenty-one, twenty-two, and, in one instance, twenty-three millimetres.

Dr. STIMSON thought that, while the method employed had been in the highest degree judicious and successful, it seemed possible that it might sometimes be found as difficult to push the foreign body upward as to push it downward, under circumstances, that is, in which the impaction is due to the shape rather than to the bulk of the body, to its length and angularity rather than to its breadth. In the present case the stone could not be forced downward through the lower part of the Œsophagus, although the finger, which was as thick as the stone, could be passed upward to it. It is conceivable that in pushing a long body upward its upper end might diverge from the axis of the canal and catch in the mucous membrane in such a way that every effort to dislodge it from below by pressure on its lower end would only make its fixation more firm. In withdrawal by an instrument which grasped the anterior end of the body this difficulty was less likely to be encountered, although, of course, the use of the forceps had dangers of its own. Experience might show that this difficulty would restrict the generalization of the method so successfully employed by Dr. Bull.

Dr. T. M. MARKOE said that every surgeon who had had experience in searching for foreign bodies in the Œsophagus with forceps had found that little could be accomplished. He had noted this especially after Œsophagotomy. He could readily conceive how Dr. Bull failed to grasp the body with forceps. He might have feared to open them sufficiently wide through a dread of tearing the mucous membrane.

Dr. BULL thought that most foreign bodies of irregular shape, such as plates with teeth, could be removed from above by means of an instrument such as a coin-catcher. There was some danger in these manipulations, but it might be offset to some extent by care and delicacy of touch on the part of the surgeon. A sharp body could not be safely pushed upward from below, while the removal of a smooth body from above by means of forceps was always more or less risky. He had about a year before perforated the Œsophagus while endeavoring to extract a horse-chestnut with forceps. If we accepted the belief that a small wound in the abdominal wall and also in the stomach could be made with a minimum of risk, why should

we not perform gastrotomy at once? There was absolutely no reaction after the operation in the case reported.

Dr. WEIR referred to a case reported in a foreign journal in which a patient had swallowed fragments of wood and glass with suicidal intent. Gastrotomy was performed and the foreign bodies were removed. The patient subsequently repeated the act, and gastrotomy was performed a second time with success.

Dr. BULL asked Dr. Markoe regarding the feasibility of introducing the finger through an Œsophagotomy-wound as far down as the arch of the aorta. The latter replied that he had never been able to reach so far.

Dr. WYETH said that he knew a country practitioner who, being obliged to rely upon his own resources, dislodged a pin from the Œsophagus by feeding the patient with balls of corn-meal mush containing fine pellets of cotton. The mush was digested, and the cotton remained in the stomach. The patient was then given an emetic, and vomited the cotton, in which was imbedded the pin.

Dr. SANDS stated that a physician had once brought to him his child, who had swallowed a nail. At the father's suggestion the boy was placed on a diet of sweet potato, and soon after he had a copious evacuation containing a mass of potato, in which was found the nail.

Nephrectomy for Cancer of the Kidney; Death from Shock.—Dr. JOHN A. WYETH presented a tumor of the left kidney which he had removed by the lumbar incision. The patient was a woman, aged thirty-eight, who had suffered from urinary trouble for five years. She had at intervals of a few weeks or months an obscure pain in the left lumbar region, followed by hæmaturia. During the past three years she had been confined to her bed, and last May she was placed under his care through the courtesy of Dr. McWilliams, of this State. Upon examination, a tumor of the left kidney was detected, which Dr. Wyeth thought was due to cystic degeneration of the organ, resulting from calculous pyelitis. The patient was reported to have passed calculi, but none had ever been seen by her medical attendant. Dr. Janeway saw her in consultation and thought that the tumor was a neoplasm, although he declined to give a positive opinion as to its character. Nephrectomy was performed in May. The usual lumbar incision was made, and, as there was only three inches between the last rib and the crest of the ilium, a transverse incision was made, the latter being carried down to, but not through, the peritonæum, which was folded back toward the median line. There was no hæmorrhage of consequence. The mass was easily separated and the pedicle was secured with an elastic ligature, which was applied entirely by the sense of touch. The vessels were then divided and ligated. The operation lasted two hours, and the patient died of shock fifteen hours later. There was no autopsy. The mass measured about ten inches in its smallest circumference and was eight inches in length. A microscopical examination showed that the growth was a medullary carcinoma, which grew from the upper third of the organ. Dr. Sands asked regarding the condition of the other kidney. Dr. Wyeth said that it was inferred that it was healthy, as the patient passed a fair amount of urine (which could not have come from the organ destroyed by disease) which contained only a trace of albumin and no casts. The sound kidney could be felt during the operation.

Dr. BULL suggested, from the relation of the neoplasm to the upper extremity of the kidney, that it might have sprung from the supra-renal capsule.

Dr. WYETH thought that a careful examination of the specimen would show the intimate relations of the tumor to the kidney itself.

Dr. C. K. BRIDGES called attention to the fact that the œs-

currence of hæmaturia would seem to have proved that the kidney itself was affected.

Dr. WEIR asked if laparotomy would not have been a safer and more rapid procedure, considering the size of the tumor.

Dr. SANDS agreed with Dr. Weir's criticism. He thought that the anterior section would certainly give more room than the lumbar incision. In the case of a suppurating kidney, however, the objection might be raised that, if the former method were adopted, the pus might escape into the peritoneal cavity.

Dr. BRIDGON cited a case in which he had tried to remove a tumor, larger than the one exhibited, through a lumbar incision, and was obliged to abandon the attempt and to perform laparotomy; it was easily removed by the latter method. He suggested that it might not be a bad idea to make a lumbar, in addition to the abdominal, incision, since the former could be utilized for drainage.

PHILADELPHIA COUNTY MEDICAL SOCIETY.

(Continued from page 471.)

The President, Dr. J. SOLIS-COHEN, in the Chair.

Notes on Three Cases of Leprosy, with Presentation of One Case.—Dr. VAN HARLINGEN read the following paper:

CASE I. *Anæsthetic Leprosy of Mild Type.*—(I am indebted to my friend, Dr. Curtin, for the opportunity of seeing this case, and of following the course of the disease for a year or more.) Señora R. was first seen by me on February 1, 1883. The patient, a native of Cuba, had only been in this country a few months, and could not speak English. She was a stout, lymphatic person, about fifty years of age. Her history, obtained with some difficulty, was essentially as follows: She had always enjoyed good health until about a year previously, when she was suddenly attacked by vertigo and syncope, followed by a general swelling, affecting chiefly the head, arms, and trunk. A little later, small macular lesions began to show themselves, at first over the forearms, and afterward elsewhere. The lesions, at first brownish-red, grew in size and became annular, leaving a dead-white condition in the center. Usually beginning singly, the lesions coalesced as they grew larger. The patient's general health had not failed materially.

On examination, the eruption was found to affect the following regions: face, neck, shoulders, back, flexor surface of arms and legs, with some few lesions on the feet. They were macular and maculopapular, most of them being raised above the skin, rather sharply defined, of a dusky reddish-brown color, smooth, and without scales. The smaller lesions, from the size of a pea to that of a finger-nail, were papular, raised above the skin, and sensitive to the prick of a pin. The larger lesions, from the size of a half-dollar to that of the hand, showed a depressed center of smooth, abnormally white skin with a brown, raised margin, giving them a ringed appearance. In some places these rings intersected each other, giving a figured or gyrate appearance. Where the skin was depressed and white it was anæsthetic to a greater or less degree. In places a needle could be thrust in half an inch or more without the patient showing any sign of pain. The tips of the patient's ears showed some slight infiltration and thickening, and the nose was somewhat broadened; but the face had not at that time become so disfigured as to present the characteristic leonine appearance, though the surface was mottled with disease patches. The hands were rather puffy and of a deep brownish-red color, and covered with tubercular lesions. Anæsthesia existed to an extreme degree; a pin could be driven deeply into the back of the hands without causing pain. There was no change in the palm of the hand, nor any referable to a diseased condition of the ulnar nerve, although a general numbness of the finger-tips occurring at times was complained of. The feet were somewhat puffy, but no distinct disease was observed here. The eyebrows and other hairy parts seemed unchanged. There were no general symptoms, excepting languor with occasional headache. There was no history of chills and fever, or of any eruption of blebs.

The patient was at first ordered to take Fowler's arsenical solution

in small doses. This was soon changed to sulphate of strychnine, of which she took one sixteenth of a grain thrice daily for some months, and afterward one eighth of a grain of nux vomica with two grains of quinine four times a day. The affected parts were rubbed daily with a mixture of three parts of oil of cashew with five parts of oil of almonds. Under this medication the patient's general condition improved markedly. She suffered with photophobia, however, and other eye symptoms, including the appearance of a small tubercle near the iris. At this time Dr. Harlan saw her with me. Subsequently she suffered from some mental disorder, for which Dr. Curtin attended her. I did not see her from February, 1885, to January, 1886. She had been in Cuba in the interval, and was in a decidedly worse condition than when I saw her last. The face had begun to assume the peculiar leonine expression due to infiltration with leprosy matter at various points. The nose was markedly broadened. New superficial dusky red nodules appeared here and there, especially on left upper and lower eyelids. On the arms and forearms the white anæsthetic patches were sharply defined, and looked as if red-hot coins of various sizes had been laid upon the skin and had burned in. The left arm was the worst, and most highly anæsthetic. The hands showed the most changes. The fingers were swollen greatly, cylindrical, curved, and claw-like. Numerous tubercular elevations could be seen scattered over the backs of the hands. A lentil-sized subcutaneous nodule of gristly consistence could be felt under the skin on the back of the left wrist. The ulnar nerve could not be felt. Touch normal. The feet showed deposits similar to those on the hands. They were not, however, swollen nor markedly misshapen. The eyes looked worse. There was considerable congestion of the conjunctiva with apparently incipient deposits of leprosy matter. Examination of the oral cavity showed nothing abnormal, though her voice was hoarse. The patient was once more placed under treatment, at first taking one third of a grain of extract of nux vomica thrice daily, and afterward a pill of strychnine, arsenious acid, and quinine. An ointment of pyrogallie acid, at first of the strength of thirty grains and afterward a drachm to the ounce, was prescribed. Ichthyol was also used locally, but the patient objected to the smell and use of the drug, and soon after disappeared from observation.

CASE II. *Mixed Tuberculous and Anæsthetic Leprosy of Moderate Type accompanied by Marked Eye Symptoms.*—Mrs. P. M., forty years of age; born in Pennsylvania of German parentage; always enjoyed good health. Married at the age of seventeen to a native of Brazil. She lived for ten years with her husband in Philadelphia, bearing him two children, now living and healthy. In 1873, fourteen years ago, she went with her husband to Brazil, where she settled in Para, while her husband lived in a small town six days' voyage up the Amazon. She only saw him occasionally, but after six months joined him, and bore a third child while there—the subject of our Case III. She returned with her husband to Para in a year or so, and they lived there some years, the husband being captain of a steamer trading to San Antonio, at the headwaters of the Amazon, for India-rubber. About three years ago, she and her family being at that time in good health, she made her first voyage with him up the Amazon to San Antonio. The patient stayed at this place some days, and on one occasion took dinner with a party of natives from the interior. The strange and peculiar food eaten on this occasion made the entire party sick, and our patient attributes all her subsequent misfortunes to this indiscretion. About fifteen days later her husband was seized with the symptoms of beri-beri, and died in a few weeks. While he was ill our patient began to observe the first symptoms of the disease, or what she supposed to be such—general nausea and loss of appetite, dizziness and somnolence, pain in the hepatic region, swelling of the feet, and a sort of intermittent fever. These symptoms lasted for some months. Meantime other external symptoms began to show themselves. Blotches of a whitish color appeared upon the face, which disappeared, and were followed by an increase of pigment over the face and front of legs. Occasional attacks of redness and swelling of the skin, resembling erysipelas, were also observed. Blebs showed themselves on the soles of the feet, at first one or two at a time, subsequently in crops; crusts or scales formed on the edges of the feet, especially about the heels, and, dropping off, left ulcers behind, which, with the blebs, healed spontaneously. The toe-nails were affected; one nail fell and was reproduced five

times. Loss of hair occurred to a considerable degree during this period, and the patient's face became disfigured and deformed to a marked degree, so that, when she came to this country from Brazil, about two years ago, she was scarcely recognizable.

In the early part of 1886 this patient was sent to me, with her daughter, by Dr. Charles Turnbull, to whom I am indebted for the opportunity of examining and studying the case. Her condition at that time (she had been four months in Philadelphia) was much improved, but so marked and characteristic was the disfigurement that I recognized the character of the disease almost at once by the peculiar *facies*. This presented the peculiar leonine expression so often described by authors. There were marked deposits in the eyebrows, which were thick and heavy. The tissues of the nose were much thickened, and the nose was much broader. The lips were much thickened and board-like to the touch, and were slightly everted. There had been a sore on the upper lip, but this had healed up when I first saw her, and there were no ulcerated surfaces, either at this time or subsequently. The ears were much enlarged and deformed, the lobes being particularly huge and misshapen. The eyelids were thick and infiltrated, the eyebrows and lashes mostly wanting; there was congestion of the conjunctivæ on both sides, and a small opaque patch on the upper segment of the cornea on the left side. There was brown discoloration on the shoulders and arms, with some anæsthetic patches. The hands were puffy, and the fingers thickened and cylindrical. The feet were in the same condition. There were not many anæsthetic patches on the lower extremities.

The patient was ordered a quarter of a grain of extract of *nux vomica*, with a grain of quinine, three times a day. Under the use of this medicine she improved slowly, but steadily, for some time. She seemed brighter and in better spirits, her voice less hoarse, and her condition improved. Her face, however, continued to show signs of some progress in the disease. On December 3, 1886, when she had been eight or ten months under treatment, the nose was broader, especially at the alæ, and there were new deposits in the skin covering the chin. The tongue, now examined carefully, was markedly thickened, with deep fissures, and a smooth, grayish, board-like surface. It had been chapped and painful, but was now better. During the previous month the eye-changes had become more noticeable. There was some opacity of the cornea, with several well-marked nodules of leprosy tissue in the edge of the iris, and projecting into the anterior chamber of the eye. The patient could only distinguish light from darkness with this eye. The treatment was continued until toward the close of the year, the patient declaring that she was constantly improving, but no very perceptible change being manifest, excepting that the hoarseness had disappeared, and her voice was clear, and the feet were not so swollen.

On December 22d the patient was ordered two grains of salicylate of sodium, with three grains of potassium iodide. Within a day or two she was attacked by high fever, with a copious eruption of petechial spots. Fearing this might be due to the medicines, both of which are known to produce such an effect, the dose was reduced one half, under the use of which she improved. About this time the patient was sent to St. Joseph's Hospital, where her general health improved greatly under careful nursing and attendance. Suspicion having been aroused as to the nature of the disease, she was dismissed. Since that time she has been living with relatives, and lately has found employment in a small hotel. Her general health has improved, although she has lost flesh. The leprosy deposits about the ears and face are more marked than before, and I am inclined to think that the utmost that can be asserted is that the patient is losing ground very slowly. She has been taking, since the beginning of the year, a solution containing one twentieth of a grain of sulphate of strychnine, with two grains of quinine, thrice daily.

CASE III. Marked and Severe Anæsthetic Leprosy in its Earlier Stages.—Anita M., daughter of the patient in Case II, aged twelve years and a half, was seen for the first time a year and a half ago. No history could be obtained, excepting that the disease began about the same time as that of the mother. Attention was first drawn to the child by the appearance of a well-marked raspberry-colored circinate eruption on her face, resembling most closely that of erythema multiforme. Only a few of the lesions were at this time decidedly anæsthetic. On

stripping the child, circinate lesions could be seen over the body and limbs. These patches were whitish in the center, slightly sunken, and surrounded by narrow, brownish-red, slightly elevated borders, which had intersected at many points, forming large gyrate figures. The patches on the lower limbs were all more or less anæsthetic, and did not seem to follow the distribution of any particular nerve, but to involve large irregular areas.

The patient was placed upon the use of extract of *nux vomica* and quinine, and afterward, in addition to this, salicylate of sodium in five-grain doses. No very marked change occurred during the summer of last year, but with the approach of winter the child's general condition became markedly worse. She suffered from conjunctivitis, and then from various nervous symptoms, prominent among which was an attack of temporary loss of power in the lower limbs. The little patient's aspect began to change from this time, the lesions in the face taking on a more decided tubercular character, and her aspect being dull and stupid. The anæsthetic areas became more marked, particularly those connected with the ulnar nerves. The hands and fingers became numb, and gradually the fingers, particularly the ring and little fingers, became crooked, and nearly immobile, showing precisely the appearance known as *mains en griffe*. At one time she was seized with pains in the groins, running down the limbs and confining her to bed several days. At another time she had rheumatoid pains in the various joints of the lower limb; and at another swelling in the left hand. There was a cardiac mitral murmur. Chorea followed these attacks in May last, for which I consulted Dr. Mills, who prescribed Fowler's solution, five minims, with four minims of extract of conium, thrice daily. Under the use of this combination the little patient's general health improved, and the choreic symptoms disappeared by the middle of August. The disease, however, has continued to make steady progress. The nodules on the face have somewhat enlarged, and the tongue has shown signs of involvement. The ulnar nerves on both sides can be distinctly felt from the elbow to the shoulder, rolling like large whipcords under the skin. They are quite painful to the touch.

I have brought forward the notes of these cases with the purpose of pointing out the peculiarities of leprosy as it presents itself in the earlier and comparatively mild stages of the disease, and with the view of assisting, in some degree, in familiarizing us with its most numerous symptoms.

The matter is one of practical importance, for there is no question that the disease is on the increase in this country, and before long we may be called upon to decide what course is to be taken for the protection of the community, and, not less important, the care of the unfortunate victims of this disease.

In addition to the fact that centers of leprosy exist in Canada, in Minnesota, in Louisiana, and in California, several cases have been reported as occurring *de novo* in American soil in persons who have been born in and have never left the country.

Under these circumstances it behooves each member of the profession to ascertain and make himself familiar with the appearance of leprosy, so as to be able to recognize it at sight, to make up his mind with regard to the contagious character of the disease, and, finally, setting aside all sentiment and ignorant fear of the malady, to do what can be done for its removal.

I question if, at present, these patients of mine would be received by any hospital in this city were the nature of the disease known. I question if there is any refuge to which these poor lepers can resort when the time comes that those around them shall be aware of the affection from which they suffer. In the face of a disease which has for ages been accounted one of the most dreadful plagues, it is not surprising that uninstructed persons should be struck by blind panic. But it is the duty of our profession to instruct the public in this respect.

Leprosy is, indeed, contagious in my belief and in that of the majority of observers; but contagious in a slow and uncer-

tain manner. Therefore we need have no such fear in approaching it as we should have in coming in contact with syphilis, much less any of the contagious exanthemata.

(To be continued.)

NEW YORK STATE MEDICAL ASSOCIATION.

Fourth Annual Meeting, held in New York, September 27, 28, and 29, 1887.

The President, Dr. ISAAC E. TAYLOR, of New York, in the Chair.

Lupus Serpiginosus of the Cervix Uteri and of the Pudenda.—This was the main subject of the president's address, but, before entering upon it, he made a few general remarks, alluding to the duties of members in contributing to the further prosecution of the objects of the association and to the gratifying success which had attended their efforts hitherto, particularly as exemplified by the library, which now contained 4,600 volumes. Proceeding to the special subject of his address, the president related the history of the case of a woman in whom the disease began in the cervix uteri and extended to the vulva, manifesting itself in the hypertrophic form. It terminated fatally in about two years. A cast of the external genitals was shown. Lupus most frequently appeared on the face, and rarely attacked the genitals in women. During his connection with various hospitals in New York, since the year 1839, he had not seen in any of those institutions a single case of lupus of the genitalia, but he had seen many syphilitic affections resembling it. A special bacterium as distinctly recognized as that of tuberculosis had not been demonstrated to bear a causative relation to lupus. Women affected with lupus had not communicated it to their husbands, and he had failed in an attempt to inoculate it. No one pathological or histological feature had been shown to be characteristic of the disease. Clinically, cancer differed from lupus in that it never healed and left the patient apparently well for a time. The treatment of lupus was chiefly local, sometimes surgical, and depended entirely upon the form which the disease assumed. Where there was a hypertrophic condition, forming a tumor, its removal was indicated. An important point was to avoid doing injury to the surrounding or underlying sound tissues. Eventually lupus of the genitalia would end in death, and the suffering and disfigurement were even greater than when the face was affected.

The Use of Hot Water in Surgery.—Dr. THEODORE R. VABICK, of Jersey City, read a paper on this subject (see page 431).

Bichloride of Mercury; its Use and Abuse.—Dr. CHARLES S. WOOD, of New York, considered the use of bichloride of mercury in phthisis, syphilis, and Bright's disease. The drug could not be introduced into the system with the hope of destroying the germs of disease; its beneficial effects had another basis. In a number of cases the author had known it, with other measures, to check the progress of Bright's disease, diminish the quantity of albumin in the urine, and enable the patients to follow their pursuits comfortably. He administered it in doses of from one thirtieth to one twentieth of a grain three times a day. Perhaps no greater boon had been bestowed by modern surgery than the discovery of the principle upon which the use of antiseptics was based, but this should not lead us to use the bichloride too frequently or without due care.

Hip-joint Disease.—Dr. NATHAN JACOBSON read a paper in which he said that the name hip-joint disease was unfortunate, as the idea which it conveyed of an unusual joint disease was unfounded. The different opinions entertained regarding the origin of hip-joint disease were reviewed. Struma was an indefinite term. If the disease was tubercular in origin, the tu-

bercle bacillus should be shown. He thought traumatism was usually the exciting factor; a tubercular focus might exist and not become manifest until awakened by an injury. The histories of two cases were read, one illustrating treatment in a given class by rest, the other treatment by exsection. In the latter there were changes at the apices of the lungs, which disappeared after relief of the joint affection by exsection. The *Bacillus tuberculosis* was not looked for at the time of the operation, but it was absent in subsequent secretions of the wound. Whether the lung trouble was independent of the hip disease was a matter of conjecture, but he believed the joint affection might aggravate a tubercular condition of the lungs. No treatment could be laid down which would be applicable in all cases. When rest failed to relieve, the pain increased, and visceral complications developed, one should operate, and not wait for rupture of the joint capsule. The presence of pulmonary tuberculosis was an indication rather than a contra-indication for the operation.

Dr. E. M. MOORE, of Rochester, commended the paper and said that he was still firmly of the belief that traumatism, not tuberculosis, was the prevailing cause of hip-joint disease.

Discussion on the Management of Compound Dislocation of the Ankle Joint.—Dr. E. M. MOORE opened the discussion with a lengthy paper, and showed by quotations the difference of opinion which had prevailed and which still prevailed, particularly with regard to conservative treatment and treatment by amputation with the view only of saving the life of the patient. The tendency to conservatism was becoming more manifest, particularly among English surgeons, but it was not advancing so rapidly as it should.

The author showed a plaster cast of the foot and ankle of a woman, illustrating the excellent results obtained by a friend who had treated the compound dislocation on the conservative plan. An ideal result had been obtained, which provoked the inquiry whether such should not be the rule rather than the exception. In five cases of compound luxation of the ankle joint treated by the author, death had resulted in none. In most of his cases he had exsected the astragalus, although it was not fractured. In one of his cases the bandage interfered with the circulation and caused gangrene, and the foot had to be amputated. All the patients recovered with a useful member. If it were in his power to carry out antiseptic measures, it would be a bad case indeed in which he would resort to amputation before trying to save the member. Amputation could be resorted to later should the case progress unfavorably. He expressed his preference for Syme's operation when practicable and the limb could not be saved.

Dr. URI C. LYNDE discussed that part of the subject relating to the question of amputation on the basis of others' writings and his own practice. The ancients were agreed and definite in their advice on the treatment of compound dislocations of large joints—Reduce and kill, or leave unreduced and let die. Regarding this accident at the ankle joint, a few modern writers had been specific enough to be of some value; others, if they had intended to commit themselves, had not succeeded; while no inconsiderable number had succeeded in giving poor advice. The speaker divided the cases into two classes according to the severity of the injury. In the second class were some cases which required immediate operation, and others which did not.

If there was only contusion confined to one side of the ankle and not covering a large surface, he would not amputate, although some sloughing would probably take place. But if the contusion was extensive, and existed on both sides of the ankle, especially if the injury to the bones was severe, it would be our duty to amputate at once. If there was rupture of the posterior tibial artery without extensive injury of the bones, the case should be treated conservatively; but if the bones, in-

cluding the astragalus, were comminuted, amputation would be proper.

It should be remembered that modern surgery had done more to render amputation safe than to render conservative measures safe. Should one make a mistake, it ought to be on the side of conservatism.

Dr. JOSEPH D. BRYANT, of New York, read a paper in which he dealt with the question, If amputation is to be performed, at what point should it be made to render the stump most useful, the risks to be encountered being equal? He said that in his opinion only two methods were to be considered—namely, Syme's amputation, and amputation at the junction of the middle with the lower third of the leg. Syme's amputation should be selected in all cases where the vitality of the soft parts would warrant a reasonable belief that a serviceable stump could be procured by the usual flap procedures. Otherwise amputation at the junction of the lower and middle thirds should be practiced. Leaving the malleolar expansion made it more difficult to fit an artificial foot. He had obtained the opinion of some of the leading makers of artificial limbs regarding the point at which amputation should be performed to afford the easiest and best-fitting apparatus, and all had spoken unfavorably of Pirogoff's amputation.

Dr. CHARLES W. BROWN said that bone should be removed when it protruded considerably and could not be returned to its normal position without further injury to the soft parts, or when a portion of the periosteum had been removed, or when the head of the bone had been broken or crushed. As to the amount of bone which should be removed, much would depend upon the nature of the injury.

Dr. FREDERIC S. DENNIS, of New York, considered the question, What dressing and after-treatment will conduce to the best result with least risk to the patient? He assumed that it had been decided in the given case not to employ amputation.

Where conservatism was to be resorted to it might be necessary to do partial resection, or avoid all operative interference. If partial resection was done, the foot, ankle, and leg should be washed, scrubbed, shaved, and irrigated before the wound was examined. The original wound could then be enlarged, the interior of the joint thoroughly explored, a counter-opening made, and all loose pieces of bone, cartilage, and foreign bodies removed, loose tendon, fascia, or muscle being cut away, and the joint thoroughly irrigated with warm bichloride solution. A rubber drain should be carried directly through the cavity of the joint. Some surgeons thought drainage could be effected without making a counter-opening. If in reducing the dislocation there was resistance by contraction of the tendons, they should be divided subcutaneously. The sort of splint to be used would depend upon the special circumstances of the case. The questions of fracture, of contusion of the soft parts, of the size of the wound, of the age of the patient, and of other conditions would influence the surgeon in the selection of a dressing. In the majority of cases a plaster-of-Paris bandage should be employed. The danger of having the bandage too tightly applied could be prevented with cotton. Finally, we should use irrigation, iodoform sprinkled over the wound, a thin strip of iodoform gauze over the wound, a double bandage wet in bichloride solution on the ankle and leg, and over this a piece of gauze dressing, a layer of borated cotton held by a bandage, over which a dressing of plaster of Paris could be snugly applied. The inner dressing would afford ample elasticity to prevent constriction of the joint by inflammatory swelling. Strips of iron might be used to strengthen the plaster splint.

At the end of three days a fenestra might be cut at the side of the drainage-tube.

Methods of Applying Cold.—Dr. HENRY D. DIDAMA, of Syracuse, after some general remarks on antipyretics and methods of applying cold, illustrated the method which he had practiced with the least amount of expense and trouble, and which had given good results. A rubber cloth was laid upon the mattress, and upon one side of this a pillow and a folded cloth to extend to the thighs of the patient; these were wet in cold water. Over these was spread a second rubber cloth, covered by the bed sheet, upon which the patient lay. When it was necessary to renew the cold, other cloths were placed between the rubber sheets at the other side, and the patient was lifted by wooden bars rolled into the sheet upon which he lay.

Gallstones.—Dr. ROBERT H. SABIN made the point in this paper that gallstones formed only in an acid condition of the system, and that the preventive treatment consisted in rendering the system alkaline as indicated by the alkalinity of the urine. This change was effectually and cheaply brought about with bicarbonate of sodium. To himself, a subject of gallstones, and to others, he administered a teaspoonful of the drug in a tumblerful of water drunk at intervals during the day. He presented a number of stones, which looked much like hulled peanuts, which a female patient was in the habit of passing, as she said, by the teacupful.

Recent and Neglected Cases of Dislocation of the Radius and Ulna upward and backward upon the Humerus.—Dr. URI O. LYNDE said that these dislocations when recent were easily reduced. Either flexion of the forearm, or flexion with the knee in the bend of the elbow, or extension might be practiced with entire success. But the older the dislocation the more difficult the reduction. The author attempted to give the reason for this by describing the anatomical relations of the displaced parts and the changes which had taken place with the lapse of time. In these cases to reduce by overextension was dangerous to the blood-vessels, which had become more or less contracted and had perhaps formed adhesions. Flexion could be practiced with safety, but more easily if the tendon of the triceps was divided. The danger of breaking the coronoid process need hardly be taken into consideration. Some surgeons perforated the coronoid process by drilling subcutaneously, in order to weaken and fracture it, and thus make flexion possible.

Dr. E. M. MOORE believed that overextension would reduce the dislocation in old cases better than any other method. He doubted whether there was much danger to the vessels and nerves.

Nosography.—Dr. J. W. S. GORLEY, of New York, read a part of a work, yet in manuscript, which he had prepared on nosography.

(To be concluded.)

Book Notices.

Differential Diagnosis of the Diseases of the Skin for Students and Practitioners. By CONDUCT W. CUTLER, M. S., M. D., Assistant Attending Physician for Skin and Venereal Diseases at the New York Hospital, Out door Department, etc. New York and London: G. P. Putnam's Sons, 1887. Pp. viii-139. [Price, \$1.25.]

The author of this book, already favorably known by his "Manual of Differential Medical Diagnosis," has creditably performed a difficult task. It is not easy to learn the diagnosis of dermatological diseases without having actual cases for study.

But, with the admirable atlases of Dr. George H. Fox and Dr. Duhring and this little book, it is possible for any one to overcome many of the difficulties, even without living specimens. The form of parallel columns is employed by the author to indicate the points of differential diagnosis. For this he is to be commended, as it is the very best form to employ. By a good system of cross-references the bulk of the book is greatly reduced without injuring its usefulness. The work shows a great deal of painstaking care, the wise use of standard textbooks, and the exercise of critical judgment guided by practical experience. It is very full, and nearly, if not all, the diseases of the skin receive due consideration. We heartily commend the book.

Surgery: its Theory and Practice. By WILLIAM JOHNSON WALSHAM, F.R.C.S., Assistant Surgeon to St. Bartholomew's Hospital, etc., London. With Two Hundred and Thirty-six Illustrations. Philadelphia: P. Blakiston, Son, & Co., 1887. Pp. ix-9 to 655. [Price, \$3.]

This work seems to be designed simply as an aid to undergraduates in obtaining a general insight into theory and practice while they are becoming familiar with surgical details in practical work in hospitals. The details of operative and minor surgery and bandaging are briefly discussed, and the rarer injuries and diseases are only mentioned or entirely omitted, while special prominence is given to the groundwork of the science, and to subjects with which every student should become acquainted. It is divided into six sections, treating of surgical diseases and injuries with reference to pathology, special tissues, and regions. About four pages at the end of the book are devoted to amputations. The style is too concise to form pleasant reading, but this can be tolerated, as by its compactness it will save the student much time—to him a great desideratum. For the advanced student and the practitioner a more complete treatise is necessary, because too many important points are omitted to render this one a safe guide in practical operative work.

GENERAL LITERARY NOTES.

A "CYCLOPEDIA of Diseases of Children," to be published by the J. B. Lippincott Company, of Philadelphia, is in preparation, with Dr. J. M. Keating as the editor. It is expected that the first volume will be ready in the autumn of 1888.

Among recent foreign publications we note the following:

F. ALCAN, Paris.—J. Delboeuf, "De l'origine des effets curatifs de l'hypnotisme." (1fr. 50.) — F. Despagne, "De l'endo-choroïdite suppurative dans le leucome adhérent de la cornée." (2fr.)

J. B. BAILLIÈRE & FILS, Paris.—Sir H. Thompson, "Traité pratique des maladies des voies urinaires." 2d ed., transl. by Campenon and Le Juge; preceded by the same author's "Leçons cliniques sur les maladies des voies urinaires," transl. by J. Hue, E. Gignoux, and E. Le Juge. (20fr.) — H. Bourcu and P. Burot, "La suggestion mentale et l'action à distance des substances toxiques et médicamenteuses." (3fr. 50.) — A. Herzen, "Le cerveau et l'activité cérébrale au point de vue psycho-physiologique." (3fr. 50.) — O. Du Mesnil, "La varicelle à Paris." — V. Vétault, "Etude médico-légale sur l'alcoolisme." (4fr.)

Bureaux du "PROGRÈS MÉDICAL," Paris.—H. Arnaud, "Contribution à l'étude clinique de la surdité verbale." (1fr. 25.) — J. Seglas, "La paranoïa." (1fr. 25.) — M. Budoain, "Traitement des kystes hydatiques du foie." (1fr. 25.) — J. Christian, "Recherches sur l'étiologie de la paralysie générale chez l'homme." (1fr.) — H. Rendu, "Contribution à l'histoire des monopégies partielles du membre supérieur." (1fr.)

G. MASSON, Paris.—E. Chautemps, "L'Organisation sanitaire de Paris: hôpitaux d'isolement, voitures d'ambulance, stations de désinfection." (5fr.) — A. Fournier, "Prophylaxie publique de la syphi-

lis." (1fr. 50.) — P. de Sède, "Conférences sur l'histoire naturelle à l'usage des candidats à la licence et des étudiants en médecine." (8fr.) — G. Carlet, "Précis de zoologie médicale." 2d ed. (7fr. 50.) — G. Sée, "L'Antipyrine." (1fr. 50.)

W. BRAUMÜLLER, Vienna.—I. Neumann, "Atlas der Hautkrankheiten," part 6. (10M.)

H. COSTENOBLE, Jena.—P. Mantegazza, "Die Physiologie der Liebe." Transl. by E. Engel. (4M.) — P. Mantegazza, "Die Hygiene der Liebe." (4M.) — P. Mantegazza, "Anthropologisch-kulturhistorische Studien über die Geschlechtsverhältnisse des Menschen." (7M.)

G. JOVENE, Naples.—G. Monaco, "Manuale di medicina legale." (10L.)

F. VALLARDI, Rome.—D. Barduzzi, "Dermatologia propedeutica." (4L.) — G. Strambio, "Trattato elementare di anatomia descrittiva." 2d ed. (6L.)

BOOKS AND PAMPHLETS RECEIVED.

Ovarian Tumors and Remarks on Abdominal Surgery, with the Result of Fifty Cases. By Edward Boreck, A. M., M. D., Professor of Surgery, etc. St. Louis, Mo. Second Revised Reprint Edition.

Local Treatment of Diseases of the Bronchial Tubes and Lungs. By Benjamin F. Westbrook, M. D., etc. [Reprinted from the "Medical News."]

Persistent Vomiting during Labor relieved by Anaesthesia. By Samuel C. Busey, M. D., of Washington, D. C. [Reprinted from the "Journal of the American Medical Association."]

Transactions of the American Otological Society, Twentieth Annual Meeting, Pequot House, New London, Conn., July 19, 1887. Vol. IV, Part 1.

First Annual Report of the Ophthalmological Department of the State Hospital at Norristown, Pa., for the Year 1886. Ophthalmologist, Charles A. Oliver, M. D. [Reprinted from the "Seventh Annual Report."]

Transactions of the Medical Society of the State of West Virginia. Twentieth Annual Session, held at White Sulphur Springs, July 13, 14, and 15, 1887.

Reports on the Progress of Medicine.

CUTANEOUS AND VENEREAL DISEASES.

By GEORGE T. JACKSON, M.D.

The Study of Skin Diseases illustrating the Doctrines of General Pathology is the title of a series of interesting papers by Hutchinson in the "British Medical Journal." As illustrations of the infectiousness of inflammatory processes he cites erysipelas, eczema, psoriasis, and ringworm—all of which show a tendency to spread more or less rapidly at their borders; some, such as lupus and syphilis, are serpiginous in their course. Another mode of spreading is by "satellites," deposits in the skin at a distance from the original center, as illustrated by *squarrel on cuirass*, brought about by the agency of the lymphatics. This is also seen in lupus. Microbes are regarded as one of the elements of contagion, but not as an essential one. Blood-transmission is active in some cases, as in lupus in childhood, which sometimes becomes widely disseminated as a general eruption. Eczema is at times, when it becomes general, another illustration of blood infection, especially in children where it starts from a local eczema capitis, or in elderly people where it begins in an eczema rubrum of the leg. At the same time it must not be forgotten that eczema may become general from constitutional causes. Where accurate symmetry is marked, we may suspect some deeply placed constitutional cause, such as blood infection. Instances of this are lupus erythematosus, xanthelasma, some forms of nail disease, and, possibly, psoriasis. The symmetry may be due to the same quality of soil on the two sides of the body.

Raynaud's disease is a condition dependent upon functional disturbances of the circulation, which give rise to blueness and, possibly, death of certain parts, which admits of infinitely varying degrees of severity,

and to which many thousands of people are liable in its slighter form. Its causes are of nervous origin, and depend upon the influence which the sensory and vaso-motor nerves exert upon the local blood-supply. It resembles frost-bite somewhat, and we know that one person is far more liable to that trouble than another. So, as predisposing causes of Raynaud's disease, we have inherited peculiarity, malaria, exposure at some former time to severe cold, any exhausting disease, and disturbances resulting from the sexual functions. It comes at a time when the sexual functions are most active, and is often seen in hysterical women who are injuriously influenced by menstruation, and in men who suffer from nocturnal emissions. Xeroderma and ichthyosis are examples of hereditary or family diseases which may affect all the offspring of two parents, neither of whom manifests any tendency to the same. Zoster and herpes are neurotic diseases. Herpes of the pharynx and palate is peculiarly prone to follow syphilis, and may be mistaken for a return of syphilitic sore throat. These two diseases may affect the viscera. Morphea is also dependent upon nerve influence. It may be localized or general, and may affect cellular tissue, muscles, and bone, together with the skin.

The study of skin diseases should be useful in teaching clinical analysis, and it is probable that most of the maladies to which we have given separate names are really composite results the elementary causes of which are few in number. Thus, urticaria pigmentosa is but urticaria occurring in a child with a peculiarly susceptible skin in which the wheals tend to persist, and who is liable, by virtue of the complexion (red hair, brown eyes, much movable pigment, etc.), to tan much more easily than others. Some children have skins which are made itchy by woolen clothing, and some attract fleas in a remarkable manner. If a combination of all these susceptibilities occurs, we have urticaria pigmentosa easily induced. Hebra's prurigo is not a disease *sui generis*, but results from various causes of local irritation in a person of unusual susceptibility and incapable of self-control. It may follow varicella or vaccinia, scabies or eczema, or result from the bites of lice and fleas. *Lupus erythematosus* may possibly have as causal elements an inherited peculiarity of the skin, giving a tendency to chilblains and chaps, combined with an inherited tendency to tuberculosis. In such a subject some slight local injury may set up a local process of disease which, under the law of infective spreading, may develop all the rest. The study of skin diseases is also peculiarly fitted for the study of therapeutics. (Here are given the beneficial effect of arsenic in many skin diseases, the influence of opium upon the skin diseases of the aged, and an account of some drug eruptions.) Skin diseases are also excellent for the study of the laws of heredity. It is probable that a parent's skin disease may, by transmission to the offspring, be changed into a different disease; thus psoriasis of the parent may become ichthyosis in the child.

A Peculiar Disease of the Lower Lip.—Moretti ("Monatshft. f. prakt. Dermat.") has met with a hitherto undescribed disease of the lower lip which occurs quite frequently in the region of Racanati, in Italy. It causes great discomfort, and is most frequent in men over twenty years of age. It consists in a superficial ulceration, with its long diameter parallel to the line of the mouth. Its appearance is preceded by pain, swelling, heat, and sometimes fever. It seems to be parasitic in its nature, and is contagious. It is marked by relapses year after year, and yields to antiseptic treatment.

Abortive Treatment of Furuncles.—Dr. G. Jorissene avows ("Annal. de la société méd.-chir. de Liège") that he always succeeds in aborting furuncles by inunctions of

Lanolin 10 grammes.

Red oxide of mercury 10 centigrammes. M.

This is to be rubbed in for three or four minutes once a day for small furuncles, and several times a day for larger ones. Whitlow and acne are amenable to the same treatment.

The Treatment of Psoriasis with Iodide of Potassium.—Haslund's article is a very careful and important study of the effect of potassium iodide upon psoriasis, and, incidentally, upon the general system when taken in large and continued doses. He believes ("Vierteljahr. f. Derm. u. Syph.") that the iodide is equal, if not superior, to arsenic in the treatment of psoriasis; but that to get its good effect it must be given in increasing doses and for a long period. The initial dose is one table-

spoonful, four times a day, of a 1-to-20 solution. For children it is well to begin with the same dose of a solution of half strength. On the third day six tablespoonfuls are given, and so the amount is increased every third day until the patient is taking the 150 grains daily. Then the strength is increased by 30 grains every third day, the same dose being continued. When reaching the stronger solutions it is best to have the patient take his medicine five or six times a day, taking two spoonfuls at a time, and to follow with a glass of water. Six hundred grains a day are about as much as need be given, though Haslund has given as much as 750.

Fifty patients in all were treated by this method, of whom forty were cured, four improved, and six remained unaffected. The duration of treatment was from seventeen days to thirteen weeks, with an average of about seven weeks. Improvement showed itself in most cases during the fourth or fifth week of treatment, and with a daily dosage of between 300 and 450 grains. The skin usually clears up rapidly when once improvement begins. Most of the patients bore the large doses well, though at the beginning and while they were taking the larger doses symptoms of iodism, such as derangement of the stomach, diarrhoea, headache, coryza, and the like, are met with. These require but a reduction of the amount for a few days, when they will disappear. One patient showed dangerous symptoms of heart failure after he had taken 33,840 grains of the salt. The continued large doses seemed rather to improve the general condition of the patients than the reverse, and most of them increased in weight.

Large doses of the iodide always increased the rapidity of the pulse; the pulse-rate usually reached 100 during the first two weeks, and then slowly rose to 130 or 140. The iodide seemed to exert no effect upon the glands, testes, ovaries, and mammae. As a rule, the appetite was unaffected and the bowels remained regular in their action. In the beginning of the administration of the salt the conjunctivæ became slightly red with some lacrymation, there was some running at the nose, with hoarseness of voice; but these symptoms were not observed with the larger doses. In a few cases salivation occurred, and in nearly all cases there was increased urination. Albuminuria of passing nature was observed in two cases.

Elephantiasis in Children is generally regarded as a very rare disease, but Moncorvo ("Thèse de Paris"; "Mntshft. f. prakt. Derm.") has met with it forty-one times among one hundred and eighty-three cases of the disease in his clinic in Rio de Janeiro.

Leprosy.—At the June meeting of the Medical Society of Hamburg, Dr. E. Arning opened a discussion upon leprosy, a report of which we find in No. 15 of the "Monatshfte für prakt. Dermatologie." Dr. Arning believes that leprosy bears more resemblance in its course and symptoms to tuberculosis than to syphilis. It differs from syphilis in that its virus is not transmissible by means of the semen, the ovum, or the placental circulation; it presents no characteristic disease in the foetus; it has no primary infection, manifestation, nor typical incubative stage; it has a steadily advancing course to the lethal end, and spontaneous recovery is very exceptional; its lesions show less tendency to break down; it spares the central nervous system while it attacks by preference the trophic and sensory nervous systems; its bone lesions are only secondary and depend upon severe trophic disturbances on the side of the nervous system, and there are no bony new growths or primary joint affections; it spares the scalp and scalp hair, and has no predilection for the genitals, the anus, or the mucous membrane of mouth; it is uninfluenced by mercury and iodide of potassium.

The bacilli lepre are not found in the erythematous, papulo-circinate, and bullous eruptions of leprosy, but are present in large numbers in the tubercular forms. All the changes in skin, bone, and muscle of lepra nervorum are due to the implication of the nerves alone. Dr. Arning demonstrates that there are forms of phthisis pulmonum, pleuritis, pericarditis, peritonitis, hepatitis, splenitis, enteritis, or bits, oophoritis, etc., peculiar to leprosy, which are to be distinguished both clinically and anatomically.

In the discussion, Unna laid special stress upon the therapeutics of leprosy, maintaining that we had made great advances in the treatment of the disease, and would yet advance much farther. He had been very successful in causing the disappearance of the tubercles and improving the general condition in his leprosy cases by the use of inunctions with

equal parts of chrysarobin or pyrogallol and ichthyol, to which was added 2 per cent. or more of salicylic acid. Under this ointment a great number of the smaller, younger lesions would rapidly disappear, leaving after a time only the larger tubercles. These last were treated with his salicyl creasote-plaster muslin and caused to disappear by absorption or ulceration. Internally he administered ichthyol continuously. By this treatment the patients' appetite increased and they gained steadily in weight. Unna thinks it possible to break up the lepra organisms in the lymphatics by means of massage, and that thus a good part of their elements, being set free, will enter the blood-vessels and be destroyed, while another part will become embolically caught in the skin and thus come within reach of the inunctions above proposed.

Tubercular Infection.—Lesser ("Fortschritte der Medicin") speaks out boldly for the occurrence of primary tuberculosis of the skin quite apart from lupus and tubercular ulcers, which have been quite generally acknowledged to be of tubercular nature. Other tubercular diseases of the skin are *gonimus scrophulousus*, scrofulous eczema, verruca neogenica, and tuberculosis verrucosa cutis. Though these diseases are considered to be of tubercular origin, and small wounds have been thought to be the entrance places for the tubercular virus, still, up to this time, this theory of infection has had no actual support. Lesser here reports a carefully observed case of tubercular infection of the fingers arising in a wound of the first segment of the thumb. The wound did not heal, but under pustulation grew larger. One year after the beginning of the trouble the first segment of the index finger showed an ulcer like that on the thumb. The disease still continued, and in a year and a half the glands of the right breast became swollen, hard, and painful. Some four months and a half after this there had formed a tumor upon the thorax as large as a child's head, with dilated veins in the skin over it. When this was cut into, it was found to be a retro-mammary cold abscess, the wall of which was covered with a tuberculous membrane. The terminal segments of the thumb and first finger appeared swollen, and, where the skin was not destroyed, dark red. The skin here and there was ulcerated; in other places it was thinned and loosened from the underlying tissues. Granulations sprouted out of the perforations of the skin, bled easily, and were painful. In some places the exuberant granulations seemed to spread under the skin and form subcutaneous swellings. The bone was nowhere laid bare. Microscopical examination of the tissues showed characteristic tubercular appearances.

Lesser further reports a case of lupus, the direct and immediate result of a tubercular disease of the bones and joint, which occurred in a boy twelve years old. This patient at his third year had a coxitis, which took the usual slow course, and formed various fistulous openings. On account of the manner in which he was bandaged, the pus from the diseased joint ran over his skin, and caused an eczema. In the seventh year of the disease the coxitis was cured, but the skin remained raw and refused to heal; the disease even seemed to spread. The surface had become lupoid, with characteristic lupus nodules.

Treatment of Lupus Vulgaris.—Kaposi ("Med. Press and Circular") does not believe that lupus and tuberculosis are at all related, nor that it is advisable in any case to excise the diseased part. Non-excoriated lupus nodules may be made to disappear in about eight months by the application of corrosive sublimate, but this happens in spite of the application, as six to eight months is the typical duration of the nodules. One of the best means of destroying the lupus nodules is by boring into them with a stick of nitrate of silver. In slight cases the nodules may be destroyed by painting them first with caustic potash to remove the epidermis, and then applying a solution of nitrate of silver, equal parts with water. Caustic potash, Vienna paste, chloride of zinc, chloride of antimony, and arsenical paste may be used at times for a change, but they all require care. Pyrogallol acid in 10-per-cent. strength is an excellent remedy. Volkmann's spoon is a valuable instrument for treatment by scraping of all forms but the fine nodular one. The galvano-cautery is also valuable. No one remedy will suffice for all cases, but we must employ different ones to meet different indications.

Alopecia Areata and the Alteration of the Hair in the Same.—Behrend draws attention to the fact ("Virchow's Archiv") that in acute outbreaks of alopecia areata there may be more or less redness of

the scalp and stumps, and that this is wanting in slowly developing cases. Many of the hairs in the border of a patch of alopecia areata show only the appearance of *Beckhaare*—that is, hairs which in their normal evolution are ready to fall, and would fall quite independently of the occurrence of alopecia areata. Besides these, in all the cases there will be found hairs which are characteristic of the disease, remarkable for their various configuration and for infiltration of air down to their deepest part. This infiltration may go so far that the hair substance in places appears fully split up into fibers, and broken through at these places. This extreme infiltration takes place only in the intrafollicular portion, and the hair breaks off close to the surface of the scalp, leaving a stump. These altered hairs are infrequent in chronic cases, abundant in acute ones. The root ends run out into fine points, and above these there are spindle-shaped swellings. Under the microscope the root end is dotted with long or round dark spots lying lengthwise of the hair. At the spindle-shaped swelling, which corresponds to the infundibulum of the hair follicle, the hair shows in its axis a spindle-shaped black spot, occupying at times the entire breadth of the hair, and looking like a spindle-shaped widening of the medullary canal. In many hairs these spots are so numerous that the whole mass of the hair appears quite black, and then its surface will no longer be smooth, but uneven and frayed. These black specks are air globules. The peculiarity of this is that the air is in the root, whither it can not come without destroying the vitality of the hair more or less. It must be derived from the outer hair, and must cause a drying of the cells of the bulb, and put an end to the growth of the hair, which soon falls. If the whole matrix is filled with air, the growth of the hair will cease at once, and it will fall out while preserving its normal form. In this way the shape of the root will vary in proportion to the amount of air contained in it. Almost all hairs in alopecia areata come out without root-sheath. When a portion of the root-sheath does come away, it is not normal, but in the form of a shrunken, dry, transparent mass. The process at work is a drying process; the air is derived from the atmosphere, and penetrates to the root from above downward. This is permitted, probably, by some disturbance of the circulation, so that insufficient nourishment is brought to the hair and its sheath, the sheath becomes loosened from the hair, and both become dry together.

The Pathology and Treatment of Ringworm.—Dr. George Thin, in the "Practitioner," gives us a treatise upon ringworm in the form of a series of articles, beginning in May, 1887. The trichophyton and its stages of development are fully illustrated with wood-cuts. He says that "there is absolutely nothing in the appearance of the spores or mycelium to distinguish them from those of many other microscopic fungi, known and unknown, a fact that has led to errors of observation which have been copied and handed down from one book to another until they have become classic. We only know that we are dealing with the *Trichophyton tonsurans* when we find it associated with the disease that it causes, or when we find that the fungus fulfills the characteristic conditions of growth in artificial cultivation." The trichophyton fungus is a distinct species, does not develop out of other common fungi, and can not be developed into them. It does not grow on all culture media, and is sterile where the penicillium and aspergillus will propagate. It grows readily in aqueous humor, in vitreous humor for a time, and in meat gelatin. (Careful rules are given for the proper experiments in cultivation.) Along with the growth of the trichophyton in the vitreous humor cultivations other well-defined species of bacteria are developed, such as micrococci, rod-shaped bacteria, and sometimes sarcinae. Special forms of bacteria will be found at times peculiar to certain individuals, the hairs of certain children giving rise to a growth of sarcinae, while those of other children do not. In gelatin cultivations the rapid subdivision of the protoplasm of the mycelium does not take place as it should normally. This shows that gelatin is not its native soil. Nevertheless, in many specimens there is an unmistakable tendency to accumulation of protoplasm in something like septa.

The home of the fungus is in certain structures of the skin of some of the mammalia, and only in certain epidermic structures of them, especially the horny layer. It is probable that it requires not only moisture for its development, but moisture of a certain kind, as of certain parts of the body of certain individuals.

In ringworm of the head the fungus enters the hair-shaft near its root, well under the skin, and grows upward into the shaft, and between the sheaths of the hair and the shaft. In some cases all the hairs in a patch are not affected at the same time, and thus we see patches with a few long hairs in them. Eventually they too give way. Special stress is placed, and wisely, by our author, upon disseminated ringworm, when we see diseased hairs here and there over the whole head. He advances as a possible explanation of this variety of ringworm the idea that most of the hairs of such a head have undergone that indefinable change which protects an adult's hair from infection. The successful treatment of ringworm depends on the production of a certain degree of dermatitis. In a child under three years of age begin by using sulphur ointment, one drachm to the ounce. If this is well borne and the disease does not yield, increase the strength of the ointment. If this does not suffice, we must proceed to applications used in older children. For children four or five years of age, in addition to the sulphur ointment, make use of a solution of carbolic acid in glycerin, beginning in the proportion of 1 to 8, first applying the glycerin and then the sulphur ointment. If this does not cure, use the treatment for a child of six or seven or over—that is, by increasing the strengths of the remedies used, and at the first sign of suppurative inflammation suspending them and using boric-acid ointment for a few days. Citrine ointment is also a valuable remedy, and with this we can begin to treat a child of four or five years, using one part of the ointment to six of lard or weak sulphur ointment. The sulphur ointment may be made more stimulating by adding half a drachm of carbonate of potassium to the ounce. It is safest not to apply the citrine ointment to a very large surface. The citrine ointment may be used, like the sulphur ointment, with the carbolic glycerin. Bichloride of mercury is probably the best remedy, but it is dangerous. It is well to have the scalp washed from time to time with soft soap.

Ringworm of the nails is to be treated by scraping the affected nails very thin, and then, if necessary, applying liquor potassæ to soften them. When this is done, creasote or acetic acid may be dabbed on the part, or, better still, a solution of bichloride of mercury, two to five grains in an ounce of alcohol and water. This must be repeated two or three times a day and persisted in.

The Treatment of Chronic Urethritis.—For this obstinate and annoying affection Unna ("Monatshft. f. prakt. Dermat.") proposes to use sounds coated with a salve composed as follows:

Cocoa butter.....	100 parts;
Yellow wax.....	2 to 5 "
Nitrate of silver.....	1 part;
Balsam of Peru.....	2 parts M.

This coating hardens at the temperature of the room, but melts at the temperature of the body. The mass is put into a dark bottle and melted in a water bath, then is allowed to cool while being shaken, and when still fluid is poured over the sound held in a vertical position. He prefers to have the sounds made of tin or pewter, excepting in those of No. 10 to 15 F., which should be made of a stiffer, though still supple, material. While the coating is hardening the sound should be turned between the fingers to smooth the coating, and just before it is used it should be passed through the next or second higher number of the Charrière metal scale, so as to procure an even coating. As light deteriorates the silver, the sounds should be kept in a dark room, or, better, they should be protected by some pigment which absorbs the chemical rays of the daylight. The best for this purpose was found to be the coloring matter of the curcuma; 15 grains of the curcuma powder, being mixed with 1,500 grains of the mass, impart to it a canary-yellow color. The sounds are to be hung up in a vertical position in a cabinet. These sounds, thus prepared, are of special use in case of old stricture, accompanied by a slight amount of discharge, and are contra-indicated where the discharge is profuse. In comparatively recent cases of gonorrhœa the sounds are to be used every second or third day. In very chronic cases of stricture the sound of proper size is to be passed through the same and allowed to remain in the urethra for five to ten minutes at first, afterward for thirty minutes. The sounds are increased in size just as is the custom with the ordinary kind. These coated sounds are recommended also for use in chronic urethritis in women, in rectal strictures, in neuroses of the genitals

arising from conditions of the mucous membrane of the urethra, and in spermatorrhœa arising from relaxation of the ejaculatory ducts.

The Abortive Treatment of Syphilis.—Mannino reports ("Monatshft. f. prakt. Derm.") six cases of the initial lesion of syphilis which he treated with the Paquelin cautery. The diagnosis was made from the history and appearances of the sore in each case. In four of the cases there was no enlargement of the inguinal lymphatics, but in three of these the woman who was the source of contagion was found to have well-marked evidences of syphilis. The four cases in which there was no inguinal enlargement were not followed by secondary symptoms of syphilis. The two others were so followed, which shows that the treatment is useless after the inguinal glands have become affected.

Treatment of Syphilis.—Vidal ("Gaz. des hôp.") places most faith in the inunction plan of treating syphilis, using the following ointment:

Mercurial ointment.....	60 parts;
Balsam of Peru.....	4 " M.

The inunctions are to be made daily on the parts of the body devoid of hair, and to be continued for two or three months. While using this, the teeth are to be kept clean with the following:

Powder of rhatany.....	5 parts;
Powder of red cinchona.....	15 " M.

After about six weeks the frictions need not be made oftener than once in two days. Internally he gives Van Swieten's solution. To infants under two years of age he gives the same solution in milk, while he treats sucking infants by inunctions.

In late secondary syphilis he prescribes:

Biniodide of mercury.....	$\frac{1}{4}$ grain;
Potassium iodide, { each.....	225 grains;
Distilled water, {	
Syrup of cinchona.....	2,750 " M.

Of this two tablespoonfuls are given during the day in peppermint water—one before breakfast and one before dinner, or one morning and night. In tertiary lesions he gives potassium iodide in 30- to 60-grain doses during the meals or afterward, in a large quantity of milk or aromatic infusion. If it is not tolerated by the stomach, it may be given per rectum with the addition of a few drops of laudanum. If it is still not well borne, he substitutes the *sirap iodo-tannique* for it.

Miscellany.

Saccharin.—In a recent editorial article, the "British Medical Journal" says:

"Among the most remarkable of all the marvelous products of the coal-tar industry, as Sir Henry Roscoe has observed, may be ranked the body to which the name of saccharin has been given. This new sweet compound was originally named anhydro ortho-sulphamine benzoic acid—a ponderous appellation truly, and one to be avoided for trade purposes, at any rate; but, at the same time, we do not think the name saccharin, although in some respects appropriate, should have been applied to this body, as the same term has been in use since 1880 to designate the carbohydrate originally discovered by Peligot among the products of the action of lime on glucose or levulose. There is no doubt as to the great value of the discovery of this coal-tar toluene product; but, while not grudging Dr. Fahlberg the well-merited reward of his arduous labors and his brilliant discovery, still we think the statement that saccharin was discovered by him needs some modification, for, according to Rensen, the able professor of chemistry in the Johns Hopkins University, this substance came to light in the course of an investigation undertaken and carried on by Fahlberg under his (Professor Rensen's) direction and superintendence. The new body in question was in fact first described in their conjoint paper in vol. xii of the 'Berichte d. Deut. chem. Gesellschaft.' The manufacture of this saccharin, or benzoic sulimide, as it is termed by Rensen, is now effected on a large scale, and a plentiful supply of the toluene from

which it is prepared is always to be had. This toluene, or methyl benzene ($C_6H_5CH_3$), is obtained in the destructive distillation of coal, as in gas manufacture, being usually prepared by the fractional distillation of that portion of the coal-tar oil boiling at 100° to 120° C. The pure toluene is treated with sulphuric acid until completely dissolved, and the sulphonic acids thus obtained converted in the usual way into their corresponding chlorides, which in turn are changed into amides by treatment with ammoniac carbonate. The ortho-toluene sulphonic amide thus obtained, when oxidized by means of potassic permanganate in presence of caustic soda, yields sodium ortho-toluene, from which, on precipitation with dilute mineral acid, benzoyl sulphuric imide, or saccharin ($C_6H_4\overset{O}{\underset{SO_2}{N}}H$) at once separates out. This new

product is really neither an acid nor an anhydride, although, when an aqueous solution is neutralized with metallic carbonates, salts are obtained. Salts are also formed with the alkalis, which are very soluble, crystallizing in small needles, and having a sweet taste. When fused with potash, it is easily converted into salicylic acid. Saccharin forms a white crystalline powder, which fuses at a temperature of 200° C., when it undergoes partial decomposition, giving off a characteristic odor; it is but slightly soluble in cold water, somewhat more so in warm water, its solubility being, however, greatly increased by the presence of alkalis or their carbonates. Alcohol also furnishes a good solvent for saccharin, particularly 80-per-cent. solutions, and it is likewise freely soluble in warm glycerin; but its most characteristic property is certainly its sweetening power, possessing nearly three hundred times that of cane-sugar, for, while a solution of cane-sugar loses its sweetness when diluted to 1 in 250, a sweet taste is still perceptible in a watery solution of saccharin containing 1 in 70,000. As sugar is a carbohydrate, its solutions are liable to undergo fermentation; but, as saccharin is an aromatic derivative, it is not liable to undergo this decomposition, and hence it may be freely employed without the fear of destructive fermentation occurring. But, besides this, as saccharin possesses considerable antiseptic powers, its use in medicine may often be attended with advantage—as, for example, in cases of alkaline fermentation of urine, upon which it has been shown to exert a strongly retarding influence. Stutzer, Aducco, and Mosso, from their experiments with this body, agree in the belief that it is innocent, so far as the organism is concerned, and Stutzer's experiments further show that its presence has no retarding influence on the digestion of either proteids or hydrocarbons. However administered, saccharin soon finds its way into the urine unaltered, this fluid not being altered thereby. And, while producing no injurious effect on the system, it is found to agree both with invalids and healthy individuals, and no anxiety as to its effect upon the health need be felt, even when taken for lengthened periods. As much as thirty to eighty grains have been administered daily without producing any injurious effect, even upon the appetite. Saccharin may therefore be said to be neither a food nor a poison; but from its peculiar properties it may often be employed therapeutically with advantage. Thus, it may with benefit wholly or partially replace sugar in the diet where the latter is contra-indicated, as in diabetes, general obesity, torpid liver, marked gouty diathesis, chronic glandular diseases of children, and certain senile affections in which various cystic and genito-urinary disorders occur. In two cases of diabetes in which we tried it we found its use attended with marked benefit. From half a grain to a grain and a half of saccharin will sweeten a cup of tea or coffee. Small saccharin tablets, indeed, have been prepared for this purpose, and these are now being supplied, it is said, to the German army; for in a very small bottle of scarcely appreciable weight a soldier can carry enough saccharin for a week's supply. There is a wide field for the application of saccharin to the production of sweetmeats and preserves, and in disguising the taste of bitter and nauseous preparations, as well as in preserving the properties of others. But it must always be carefully borne in mind that saccharin is to be regarded as a condiment, and not as a food like sugar, and can therefore replace sugar only in exceptional cases."

Gleditschine.—Last week we published an announcement by Messrs. Parke, Davis, & Co., of Detroit, to the effect that they were investigating the honey-louse (*Gleditschia triacanthos*), from which an alkaloid

termed gleditschine was alleged to have been obtained that had properties remarkably like those of cocaine. We have since received a communication from Messrs. Parke, Davis, & Co. in which they state that an investigation in their laboratory of a solution purporting to be a two-per-cent. solution of gleditschine, supplied by Messrs. Lehn & Fink, of New York, has shown that this solution, with which the experiments thus far recorded have been made, contains six per cent. of cocaine and a sulphate of a base which they think further experiment is likely to prove to be atropine. They add that Mr. F. A. Thompson, a pharmaceutical chemist, reports, after careful experiment with the leaves of *Gleditschia triacanthos*, that they contain only an infinitesimal proportion of an amorphous alkaloid devoid of anæsthetic or mydriatic properties.

The Medical Society of Virginia.—At the eighteenth annual meeting, which was held in Richmond last week, the general interest in the proceedings was greater than our representative remembers ever to have seen before at a medical meeting. An excellent address was delivered by the president, Dr. Bedford Brown, in the course of which he said:

"Intelligent and critical observation is the very foundation of the successful practical study of medicine. The physician who regularly cultivates habits of close observation has greatly the advantage of those who do not. The man of observation who will exert his powers sharply, keenly, and vigilantly in the practical study of his profession will almost certainly attain proficiency and success. Above all others the medical practitioner should cultivate habits of systematic observation not only of morbid action, but of the symptoms of disease, its stages, tendencies, and cause, also of the relations existing between diseases, the constitution, and the peculiarities of his patients. For every patient has as much individuality of constitution as of feature. Those great laws regulating and governing that remarkable and mysterious principle which we term vitality should be made familiar by observation to all. No physician can become a successful student of the constitution and diseases of his race who does not cultivate assiduously habits of observation. It must be a law of his life. When we cease to be observers, we inevitably fall into habits of routinism. Probably no class of men see more of the mysteriously shifting phases of nature, or have a wider field for observation and a fitter one to profit by those means, than the practicing physicians. In truth, every physician to be successful must depend largely on what he observes at the bedside. This is the grand theatre for medical observation. For the books, with all their profound and comprehensive learning, guide us only over a portion of the way, and then leave a vast field, dark, unexplored, and full of mystery, in our travels through which we must depend largely upon our own good sense and personal observations. And it is in this unexplored region of medical science that the practical student most needs his powers of observation. There exists stored up in the mind of every practicing physician, acquired by personal observation in his silent watching of disease, an unwritten experience that must be of incalculable value to himself, upon which he is at liberty to call on all occasions. Every good practitioner possesses a stock of this unwritten experience which is always ready and convenient for application to practical use. I have never conversed or consulted with one of my own profession, however unpretentious or moderate in intelligence he may have been, provided he had experience in his vocation, that I could not derive some information of value, some fact of interest, which I did not previously possess. Therefore every man is a learner and can be a teacher on occasions. I am persuaded that every intelligent practitioner could, if so disposed, give to the profession useful and valuable information, derived from his own observation and experience, which no other possesses. But it is sadly true that some men never observe. Some observe superficially, while others are profound and analytical observers of everything that comes within their mental range. It is the latter who accumulate valuable and useful information from every source, and who become conspicuous as men of resource and practical worth."

A Naval Medical Examining Board is now in session at the Naval Hospital, Philadelphia, for the purpose of examining candidates for admission to the medical corps of the navy. Circulars of information can be obtained on application to the president of the board. There are twelve vacancies in the list of assistant surgeons.

The London Throat Hospital.—We have received an announcement of a plan of systematic courses of instruction in diseases of the throat and nose, each of four weeks' duration, to be given to practitioners by Dr. R. Norris Wolfenden, Dr. James W. Bond, and Dr. Greville Macdonald, the physicians to the Throat Hospital, Golden Square, London. The fee for a month's instruction is 2 guineas. The first course began on the 10th inst.

The Western Pennsylvania Medical College, of Pittsburgh, began its second regular course on the 27th of September, with a class of nearly one hundred students—a fact that is highly significant of the success of the institution. An entrance examination is required, and a three years' graded course is provided.

The New York State Medical Association.—The fifth special meeting of the Fifth District Branch will be held in Richmond County (Staten Island) on Tuesday, November 15th. The notice that we have received does not mention the town in which the meeting is to be held.

The American Public Health Association.—We learn that arrangements have been made by which delegates to the meeting, to be held in Memphis, Tenn., on the 8th, 9th, 10th, and 11th of November, can obtain round-trip tickets from New York over the West Shore Railroad for \$37.20.

The New York Post-graduate Medical School and Hospital.—New appointments in this institution have been made as follows: Dr. Robert Abbe, professor of clinical surgery; Dr. A. M. Phelps, professor of orthopaedic surgery; Dr. Henry D. Chapin, professor of diseases of children; and Dr. J. H. Girdner, instructor in clinical surgery.

The New York Polyclinic.—Dr. Francis J. Quinlan has been appointed instructor in the department of diseases of the throat and nose.

The Health of Boston.—During the week ending Saturday, October 22d, the following numbers of cases and deaths from infectious diseases were reported to the Board of Health: Diphtheria, 16 cases and 6 deaths; scarlet fever, 57 cases and 4 deaths; typhoid fever, 22 cases and 6 deaths; measles, 3 cases and 1 death. There were also 25 deaths from consumption, 17 from pneumonia, 13 from heart disease, 12 from bronchitis, and 7 from marasmus. The total number of deaths was 200, against 177 in the corresponding week last year.

Government Health Reports.—By direction of the Secretary of the Treasury, Dr. John B. Hamilton, Surgeon-General of the Marine-Hospital Service, has issued the following abstract of sanitary reports received during the week ending October 21st:

England and Wales.—The deaths registered in twenty-eight great towns of England and Wales during the week ending October 1st corresponded to an annual rate of 17.6 in a thousand of the aggregate population, which is estimated at 9,244,099. The lowest rate was recorded in Brighton, viz., 12.8, and the highest in Preston, viz., 31.6 in a thousand. Small-pox caused 10 deaths in Sheffield and 1 in Bristol.

London.—One thousand two hundred and forty-four deaths were registered during the week ending October 1st, including 21 from measles, 38 from scarlet fever, 20 from diphtheria, 34 from whooping-cough, 12 from enteric fever, and 43 from diarrhoea and dysentery. There were 219 deaths from diseases of the respiratory organs. Different forms of violence caused 46 deaths, and 6 suicides were registered. The deaths from all causes corresponded to an annual rate of 15.4 in a thousand. In greater London 1,571 deaths were registered, corresponding to an annual rate of 15.1 in a thousand of the population. In the "outer ring" 11 deaths from diphtheria and 9 from measles were registered.

Ireland.—The average annual death rate represented by the deaths registered during the week ending October 1st in the sixteen principal town districts of Ireland was 24.7 in a thousand of the population. The lowest rate was recorded in Lurgan, viz., 0, and the highest in Sligo, viz., 43.3 in a thousand.

Dublin.—Two hundred and nine deaths were registered during the week ending October 1st, including 13 from measles, 3 from whooping-cough, 1 from scarlet fever, 1 from enteric fever, 18 from diarrhoea, and 1 from dysentery. Diseases of the respiratory organs caused 22 deaths. Two accidental deaths were registered, and in 34 instances

the causes of death were uncertified. The deaths from all causes corresponded to an annual rate of 30.9 in a thousand.

Scotland.—The deaths registered in eight principal towns during the week ending October 1st corresponded to an annual rate of 17.7 in a thousand of the population, which is estimated at 1,299,000. The lowest mortality was recorded in Perth, viz., 3.2, and the highest in Paisley, viz., 24.8 in a thousand. The aggregate number of deaths registered from all causes was 442, including 2 from measles, 12 from scarlet fever, 6 from diphtheria, 23 from whooping-cough, 11 from fever, and 17 from diarrhoea.

Germany.—The deaths registered in fifty-two cities of Germany, having an aggregate population of 6,821,222, during the week ending September 24th corresponded to an annual rate of 20.9 in a thousand. The lowest rate was recorded in Stuttgart, viz., 10.7, and the highest in Aachen, viz., 30.

Nice.—Two hundred and seven deaths were registered during the month of August, 1887, including 13 from small-pox and 5 from enteric fever.

Marseilles.—The United States consul, in his dispatch under date of October 6, 1887, relative to the arrival of the steamer *Alesia* at New York on the 23d of September, with several cases of cholera on board, and to the American newspaper reports that the disease was brought from Marseilles, states that "the *Alesia* left this port (Marseilles) on the 30th of August last in perfect sanitary condition, and without a single passenger of any class on board. All the emigrants and other passengers among whom the cholera broke out during the voyage to New York were taken on board at Naples, where the steamer arrived on the 1st of September. The cholera now at the quarantine station in New York bay is an offshoot from the epidemic which is raging in Sicily, and more or less generally throughout southern Italy."

The consul reports for the month of September, 1887, 8 deaths from sporadic cholera.

Rome.—The United States consul, in his dispatch dated September 26, 1887, relating to the sanitary condition of various portions of Italy, states that "cholera has prevailed in certain parts of Sicily since the early spring. With the beginning of summer the disease appeared at some southern places on the main-land, also in the environs of Naples, and finally in that city early in August. Up to the present time neither the government nor other authorities give any information, statements, or bulletins concerning it, with the exception of in Sicily, from whence the associated press of Italy, under government surveillance, telegraphs daily showings for the chief cities of Sicily. Besides these chief cities—Palermo, Messina, and Catania—I have the best reasons for believing that many scattered cases of cholera are now occurring daily, not only in Sicily, but in many ports and places in the southern and central portion of the main-land, notably south of a line drawn from the Mediterranean opposite Rome across to Ancona, on the Adriatic. The various Mediterranean countries have now in force quarantines against Italy, extending from five to twenty-one days for vessels from any port of Italy whatsoever. The sanitary measures of the Italian Government and local authorities are energetically enforced, and are deserving of every praise.

"During the last four years Italy has suffered so much from cholera and from quarantines, both foreign and domestic, that the present action of the government in withholding information relating to certain parts of the kingdom may be attributed to a desire to carry out the results of experience, and not to any lack of good faith. But at the same time it is true that as regards information relating to the disease on the main-land, no facilities are given for arriving at the truth. . . . There is now a quarantine observation of two days for detached soldiers on furloughs coming north of the line of railway between Rome and Ancona. Otherwise there are no restrictions in Italy on commerce or travel by land or sea, except the prohibitory measures against old rags, already reported to the department. Vessels communicate freely between the infected and non-infected ports of the kingdom. As concerns the United States, besides sailing vessels, there are at present three separate lines of steamers running between Palermo and Naples and New York. These steamers, as a rule, make the round of the chief ports of Sicily—say Messina, Catania, and Palermo—then pro-

ceed to Naples, whence they depart for the United States. In addition to cargo, nearly all carry emigrants or third-class passengers, recruited in Sicily and in southern parts of the main-land."

Palermo.—The United States consul, in his dispatch dated September 19, 1887, states that "the number of cases and deaths from cholera during the week ending the 18th instant amounted to 48 and 35, respectively, the same being a decrease of 38 cases and 12 deaths compared with the preceding week."

Under date of September 26th, the consul reports that there were 54 cases and 24 deaths from cholera in Palermo during the seven days ending the 25th instant, the same being an increase of 6 cases and a diminution of 11 deaths compared with the preceding week.

Florence.—The United States consul, in his dispatch dated October 4, 1887, states that "while the authorities do their utmost to keep secret all cases of cholera occurring there, and the health officer continues to grant clean bills of health to vessels leaving that port, cases of cholera are being daily declared by the municipal doctors."

Athens.—The United States consul, in his dispatch dated September 24, 1887, reports that the Greek Government has issued decrees of quarantine against all arrivals from the following-named ports:

A. A strict quarantine of eleven days on all arrivals from Cagliari, in Sardinia.

B. A quarantine of observation of five days on arrivals from other Sardinian ports.

C. A quarantine of observation on arrivals from the eastern coast of the Italian Peninsula, from Manfredonia to the Austro-Hungarian frontier.

MORTALITY TABLE, FOREIGN CITIES.

CITIES.	Week ending.	Estimated population.	Total deaths from all causes.	DEATHS FROM—									
				Cholera.	Yellow fever.	Scarlet fever.	Typhoid fever.	Epidemic fever.	Smallpox.	Diphtheria.	Whooping cough.	Measles.	Other.
Paris.....	October 1.	2,260,045	808	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Glasgow.....	October 1.	545,648	172	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Warsaw.....	September 24.	499,174	246	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Amsterdam.....	October 1.	358,088	143	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Palermo.....	October 2.	250,000	108	12	.....	.....	.....	.....	.....	.....	.....	.....	.....
Belfast.....	October 1.	224,392	95	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Havana.....	October 6.	218,000	171	.....	10	56	.....	.....	.....	.....	.....	.....	.....
Genoa.....	October 1.	179,520	75	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Leipzig.....	October 1.	170,000	61	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Martinique.....	September 24.	165,000	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Trieste.....	September 24.	150,157	92	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Stuttgart.....	October 1.	125,510	39	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Toronto.....	October 8.	120,000	16	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Pernambuco.....	September 20.	111,000	52	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Reims.....	October 1.	95,903	40	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Mayence.....	September 24.	65,701	25	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Guayaquil.....	September 21.	50,000	72	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

UNITED STATES.

New York Quarantine—Cholera.—The following report, under date of the 19th instant, has been received from Dr. William M. Smith, health officer of the port:

"One case has developed among them since the night of the 7th instant. This case, a child, had been closely isolated, with its grandmother as attendant, for two or three days before the characteristic symptoms appeared. The child and attendant were sent to hospital without exposure of any other person. This child was thus closely quarantined on account of several other members of the family having the disease. The patients, seven in number, now in hospital from the Alesia, are all convalescent."

Tampa, Fla.—Yellow Fever.—Deputy Collector Spencer reports under date of October 21, 1887, as follows: "From best data 150 cases reported, 25 deaths. Two deaths, 5 new cases since report." The construction of a temporary hospital building has been authorized by this bureau, and acclimated nurses have been employed to aid the local authorities.

ANSWERS TO CORRESPONDENTS.

No. 65.—We do not regard the periodical which you mention as an authority in such matters.

No. 67.—The Royal College of Physicians and the Royal College of Surgeons, of London, are two separate institutions.

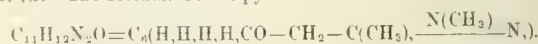
No. 68.—A work entitled "The Rules of Aseptic and Antiseptic Surgery," by Dr. Arpad G. Gerster, professor of surgery in the New York Polyclinic, will shortly be issued by Messrs. D. Appleton & Co. We think it will contain the information you require. In regard to your second question, see the "United States Dispensatory," 15th edition, page 1655.

No. 69.—We shall shortly publish an article on the subject.

No. 70.—Some of the pharmaceutical preparations of saccharin are said to contain a little sugar of milk, but the "Lancet" states that Burroughs, Wellcome, & Co.'s "tabloids" are entirely free from sugar.

No. 71.—One part of bromine should dissolve in thirty-three parts of cold water. Its solubility is greatly increased by the addition of potassium bromide.

No. 72.—The formula of antipyrine is



It was obtained by Knorr by boiling oxymethylquinizine with equal parts of methyl alcohol and methyl iodide. The formula of acetanilide is $C_6H_5.N.(C_2H_5O).H = C_8H_9NO$. It is prepared in several ways, one of which is by heating aniline acetate.

To Contributors and Correspondents.—The attention of all who purpose favoring us with communications is respectfully called to the following:

Authors of articles intended for publication under the head of "original contributions" are respectfully informed that, in accepting such articles, we always do so with the understanding that the following conditions are to be observed: (1) when a manuscript is sent to this journal, a similar manuscript or any abstract thereof must not be or have been sent to any other periodical, unless we are specially notified of the fact at the time the article is sent to us; (2) accepted articles are subject to the customary rules of editorial revision, and will be published as promptly as our other engagements will admit of—we can not engage to publish an article in any specified issue; (3) any conditions which an author wishes complied with must be distinctly stated in a communication accompanying the manuscript, and no new conditions can be considered after the manuscript has been put into the type-setters' hands. We are often constrained to decline articles which, although they may be creditable to their authors, are not suitable for publication in this journal, either because they are too long, or are loaded with tabular matter or prolix histories of cases, or deal with subjects of little interest to the medical profession at large. We can not enter into any correspondence concerning our reasons for declining an article.

All letters, whether intended for publication or not, must contain the writer's name and address, not necessarily for publication. No attention will be paid to anonymous communications. Hereafter, correspondents asking for information that we are capable of giving, and that can properly be given in this journal, will be answered by number, a private communication being previously sent to each correspondent informing him under what number the answer to his note is to be looked for. All communications not intended for publication under the author's name are treated as strictly confidential. We can not give advice to laymen as to particular cases or recommend individual practitioners.

Secretaries of medical societies will confer a favor by keeping us informed of the dates of their societies' regular meetings. Brief notifications of matters that are expected to come up at particular meetings will be inserted when they are received in time.

Newspapers and other publications containing matter which the person sending them desires to bring to our notice should be marked. Members of the profession who send us information of matters of interest to our readers will be considered as doing them and us a favor, and, if the space at our command admits of it, we shall take pleasure in inserting the substance of such communications.

All communications intended for the editor should be addressed to him in care of the publishers.

All communications relating to the business of the journal should be addressed to the publishers.

Original Communications.

THE CORSET:

QUESTIONS OF PRESSURE AND DISPLACEMENT.*

By ROBERT L. DICKINSON, M.D., BROOKLYN,
LECTURER ON OBSTETRICS, LONG ISLAND COLLEGE HOSPITAL.

RIDICULE, argument, and invective have been freely expended upon the artificial small waist since the days of Martial and Galen. Yet the habit of corset-wearing has received little systematic study, and men's opinions are widely at variance. We frequently meet with the statement that corset-wearing works great injury; we discover a catalogue of five-and-ninety different diseases and disorders due to tight lacing; we find Bouvier, who has written the elaborate and interesting history of this article of dress, vigorously asserting that "the modern corset, moderately tightened, is without appreciable influence on the health of the healthy woman"—and we encounter all shades of opinion between these extremes. But unsupported assertion is poor evidence, although a general impression must carry some weight. To obtain clear perceptions of the action of the corset, I have endeavored to measure the amount of pressure it exerts, to ascertain the distribution of the pressure, and to determine the displacements resulting therefrom, studying the subject with as little bias as possible, stating bald facts, and rarely expressing opinions.

First a few words as to past usages. In the day of the primitive man, writes Bouvier, as soon as men were sufficiently elevated above the beast to admire the forms of women, women began to shape themselves to an ideal. Homer's Juno wore a many-layered girdle. The Greek women raised up hanging breasts and bandaged in prominent abdomens. The fascia and strophium of the Roman lady, that the later poets tell of, were accused of deforming a chest, or crowding in an abdomen, or bringing about a curvature as effectually as any tight lacing of our day. These were the bandages, numerous and variously stiffened, that Galen inveighed against. In the dark ages the accomplishment vanished from western Europe, not to reappear until the sixteenth century. Then came the day of the perfect flower of small waists, as they have not been known before or since. The old portraits excite our wonder with good cause. The "corps" or corset of Catherine de Medici and Elizabeth was a "terrible engine," a case or sheath of nearly solid metal, rigid and unyielding. "To make their forms thin as a Spaniard's," cried Montaigne, "what hell will not women suffer, strained and lashed (*quindées et cenglées*) to the very quick?" Deep excoriations resulted from this pressure, and sometimes, he says, death ensued, even as Ambrose Paré also testified, citing his *sectio cadaveris* on a patient who died from such cause, in whom the lower ribs rode over one another (*chevaux-paient*). Before the year 1600, iron, ivory, and wooden busks† are

credited with many abortions and much pulmonary hæmorrhage.

Men wore corsets for a time. The next step was to begin at the cradle. In order to produce men and women of beautiful proportions and new forms one could not commence too early, and "any mother would have laid herself open to the charge of gross indifference to her children's welfare who neglected these early cares, reputed indispensable to any regular formation of body."

The French Revolution swept away the iron and bone cuirass and brought in its stead the comparatively pliable and yielding corset of our time. I find in the journals and current stories evidence that in the early part of this century tight lacing was far more prevalent than to-day. Women occasionally died in the harness. Goodman, of Boston, writing in 1829, speaks of a not unusual practice of wearing the corset at night, tightening it when lying down, and again in the morning on rising. He found servants wearing such busks as to prevent sufficient stooping or crouching to put the kettle on, or place it on any lower level than a bench.

Observations on Corset Pressure.—The first test applied was to determine the external pressure by the manometer.* The bent U-tube carries between its arms a sliding scale, graduated in both directions. All the tubing is practically inelastic. That near the bag and the bag itself are reinforced with cloth so that it is entirely inelastic. The T-branch running downward permits the bag to be filled or emptied without disturbing the mercury. The whole apparatus is filled with water to the perfect exclusion of air; the mercury is poured in so as to displace the water, and the water in the long limb adjusted above the mercury to the same level as that in the horizontal bend opposite. The bag must contain just sufficient water to bring its sides parallel and about one fourth of an inch apart, so that we get four square inches of contact when it is held between two plane surfaces. When the bag is on the same level as the fluid in the tubes, the mercury columns exactly balance; the zero

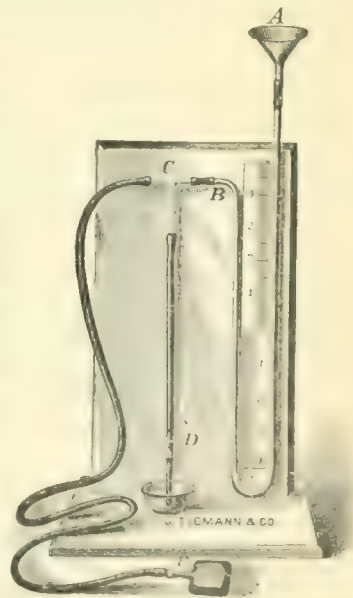


FIG. 1. A manometer for testing the pressure. The bag, *A*, is slipped under the corset.

point of the scale is then adjusted to the top of the mercury; the bag is slipped beneath the corset, the instrument is so held that the bag and tops of the water columns are on the same level, the corset is closed, and the readings

* Read before the Brooklyn Pathological Society, April 28, 1887.

† The "busk" is the front plate of the corset, which may be broad and of one solid piece, or divided and furnished with buttons as in the modern model.

* This apparatus is modified from those of Croon and Schatz.

are made. Care is taken, before every observation, to make sure that the levels are right, since a slight lowering of the manometer sends up the mercury column appreciably. Two inches of mercury displaced—*i. e.*, an inch on each side—will signify a pound of pressure to the four square inches of bag surface. To obtain the number of pounds pressure on one square inch of surface, the reading is divided by eight. The division tends to minimize any error.

Before recording these figures we may glance at other pressures in the body. I prefer to give the figures in pounds to the square inch, inasmuch as confusion arises from one observer speaking of an inch of mercury displacement when he refers to one column only, which would be named by another two inches displacement. If I speak of the mercury column I refer to the difference between the two levels.

The words "tight" and "loose" as applied to corsets need to be defined. They lack precision, but are necessary. We can not determine any limit of contraction in inches as the dividing line, since in cases cited farther on $1\frac{1}{2}$ inch lessening of waist measure with one woman will cause more pressure and more distress than 5 inches in another. The guide must be the patient's sensations—when we can trust her testimony—and signs that are readily appreciated, such as the restricted respiration and movement, evident discomfort when the corset is first hooked, flushing of the face in a warm room, and the indentations in the skin after removal of the corset.

Appearance goes for nothing; a large bust and wide hips or shoulders give an impression of slenderness in the waist which may be entirely deceitful.

TABLE OF VARIOUS PRESSURES IN THE BODY AS COMPARED WITH CORSET PRESSURE.	Pounds pressure to square inch, in decimals.	In eighths of a pound.
Blood-pressure, according to Foster, about	3.5	29
During labor pains, uterine force (Schatz)	1.6 to 5	..
" " " pressure in bladder, average (Croom)	1.88	15
" " " pressure in bladder, maximum	3.2	25
Pressure in rectum in making straining efforts (Schatz)	3	24
Expiratory force of lungs in man (Hutchinson)	2.50 to 3	16
Inspiratory or suction force (Hutchinson)	2	12
Pneumatic cabinet, increase of pressure bearable by patient . . . . .	.5	4
" " decrease of pressure bearable by patient (Westbrook) . . . . .	.5	4
CORSET.—1st, <i>Tight Lacing.</i>		
The maximum pressure recorded was over the cartilages of the sixth and seventh ribs after a deep inspiration	1.625	13
Average pressure over sixth and seventh cartilages after full inspiration	1.25	10
Quiescent condition, over these cartilages . . . . .	.625	5
" " mid-axillary line over sixth and seventh ribs . . . . .	.5	4
" " epigastrium . . . . .	.25	2
" " navel . . . . .	.125	1
2d, <i>Loose Corsets:</i> 0.4 less than the preceding.		

The total pressure exerted by a given corset is obtained as follows: The areas of like pressures are chalked out on the corset by shifting the bag about under the corset, and testing at every move with the manometer. Knowing the number of square inches in an area and the number of

pounds of pressure to the square inch, the pressure exerted on that area is found; adding the pressures in the various areas together gives us a total. This is by no means absolutely accurate, but furnishes a tangible figure. This estimate errs on the side of too low pressure by entirely leaving out of account the pressure below the crest of the ilium laterally and posteriorly.

I give two illustrative cases:

X. Y., habit of tight lacing; four children; lax abdominal wall; corset rather short. Circumference at waist without corset, 29 inches; circumference at waist over corset, 23 $\frac{1}{2}$ inches; difference, 5 $\frac{1}{2}$ inches. The total pressure of her corset is 65 pounds.

A. Z., vigorous, well built; one child eight years ago; has a strong abdominal wall; do not think she has worn tight corsets in some years, as she states; corset long. Waist measure without corsets, 27 inches; waist measure over loose corsets, 27 inches; no difference. Pressure, 40 pounds.

Same patient, waist measure without corsets, 27 inches; waist measure over fairly tight corsets, 25 $\frac{1}{2}$ inches; difference, 1 $\frac{1}{2}$ inch. Pressure, 73 $\frac{1}{2}$ pounds.

The patient X. Y. had a flabby abdominal wall from frequent pregnancies and constant corset pressure. The patient A. Z. has a muscular abdominal wall; she says she works at home without corsets. These facts explain the seeming discrepancy that in the first case, with 5 $\frac{1}{2}$ inches of constriction, the pressure is 65 pounds, while in the second, with 1 $\frac{1}{2}$ inch, it is 73 $\frac{1}{2}$ pounds. In one the parts readily yield; in the other firm resistance is encountered.

The least pressure I have estimated from a corset is 21 pounds; the greatest pressure I have found is 88 pounds.

A notable point in the use of the manometer is the distinct fall of the mercury during the first twenty seconds after the primary rise that occurs when the corset is hooked. This fall is followed by a slight rise or reaction before the mercury steadies itself. The main fall averages one inch (one eighth of a pound to the square inch), and must be due to the displacement of organs and the expulsion of blood from the liver and abdomen and of air from the lungs.

Within the half-minute that follows any exertion, such as rising, lying down, turning over, or straining, the mercury rises from $\frac{1}{2}$ to 1 $\frac{1}{2}$ inch, then gradually falls to its steady level. The reasons for these facts we may best study farther on in connection with the two cavities and their contained viscera.

On taking off a corset, one often observes that if the circumference of the waist is taken at once, and again a few minutes later, an increase of about an inch will have occurred.

Waist Measure.—Six inches difference between the circumference of the waist over the corset and the waist with the corset removed is the greatest difference I have measured. Five and a half and five I have met with once each. The least difference is in those cases where the measurement with and without is the same.

The average contraction of the 52 cases given in the table is 2 $\frac{1}{2}$ inches. The maximum there is 4 $\frac{1}{4}$ inches, the minimum 1 inch.

In the woman who wears no corsets the many layers of

bands about the waist on which heavy skirts drag are sufficient to cause considerable constriction, as Dr. Mosher states.

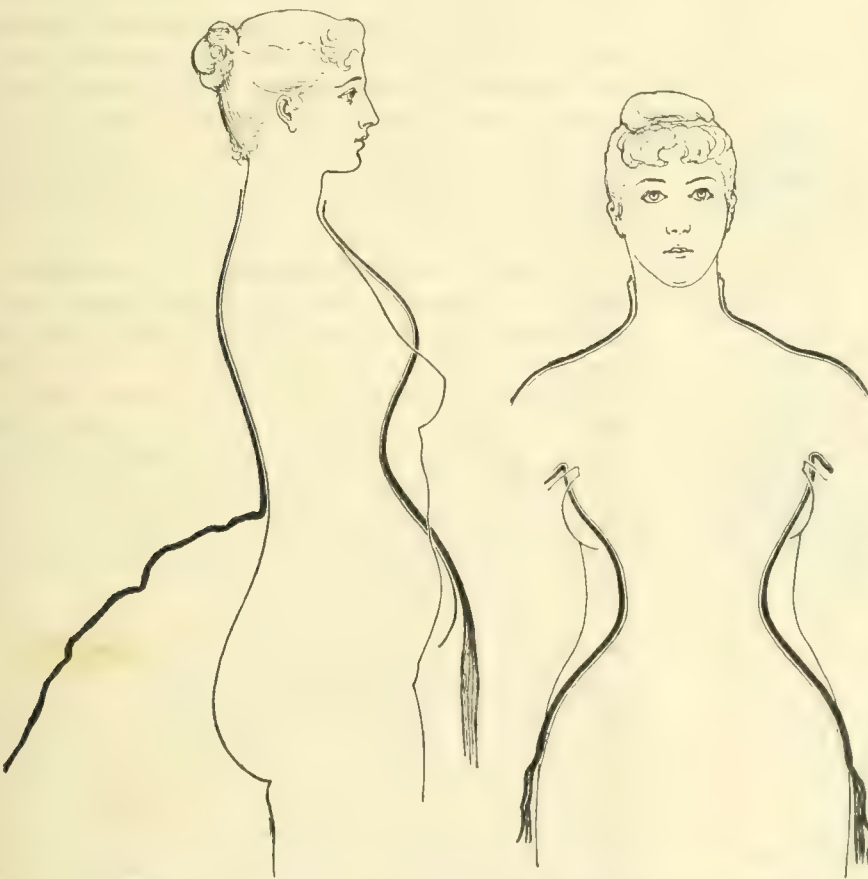
We have seen that the amount of contraction at the waist bears no constant proportion to the amount of pressure exerted by a corset; we shall see that it bears no constant proportion to the diminution of vital capacity, excepting a very general one. The shape of the corset and the strength of its bones are other factors we must know, and the habit of the individual, the resisting or yielding nature of the abdominal walls, and the readiness with which organs are displaced, bear largely on the problem.

Effects of Pressure on the Thorax and Abdomen.—The “statical and dynamic mechanism of the thoracic and abdominal cavities” differ widely, as Walshe remarks. The chest may be said to be filled with air, the belly with water. Schatz connected a glass tube filled with water with the water-filled lower bowel, and found that the fluid in the tube was always on a level with the highest part of the abdominal cavity,* whether the patient stood, sat, or

of the changes in contour of the thorax and abdomen were made by accurately ascertaining the normal and the corset outline in the same subject by blackboard tracings or shadows thrown on manilla paper. These seemingly exaggerated proportions have been verified by caliper measurements, and I have been careful to undervalue rather than to overstate my fact. The organs were filled in from the frozen sections of Braun, Ruedinger, and Hart, from the valuable atlas and illustrated writings of Sibson, and from Frerichs.

The thoracic cavity suffers less diminution in size and alteration in shape from corset-wearing than the abdominal. The principal constricting effect is exerted below the fifth rib. In the mid-axillary line the lung does not descend below the sixth rib in tranquil breathing. Below this level the “chest-wall” practically is the cover for the abdominal viscera, and it is on these that the corsets bear. “The transverse diameter of the chest from the seventh rib to seventh rib, instead of being greater than that from fifth to fifth, as it is in males, is in females considerably less.

The difference is greater or less according as the stays are worn more or less tight” (Sibson). Below the seventh rib the transverse diameter of the bony cage normally dwindles (Sappey), and from eleventh to eleventh is from one to one inch and a half less than the transverse diameter at the seventh or eighth. Bouvier measured one hundred and fifty subjects of both sexes and all ages, and found this relation constant. The corset increases this difference, and starts the downward taper at the fifth rib instead of at the seventh. Narrowing of the triangle between the cartilages of the lower ribs to a groove of the width of a finger is the extreme that Engel has sometimes seen. The inferior edge of the lung is therefore compressed, and its ability to distend the lower part of the pleural cavity seriously crippled. Compensation in part is effected by the tendency of the corset when firmly adjusted to raise the shoulders—which I find quite constant—forcing the upper lobes to do the breathing, as Sibson has proved, raising the thoracic, or five upper ribs, widening the interspaces (also



FIGS. 2 and 3.—The heavy outline is the tracing of the corseted woman; the light, the same without corsets.

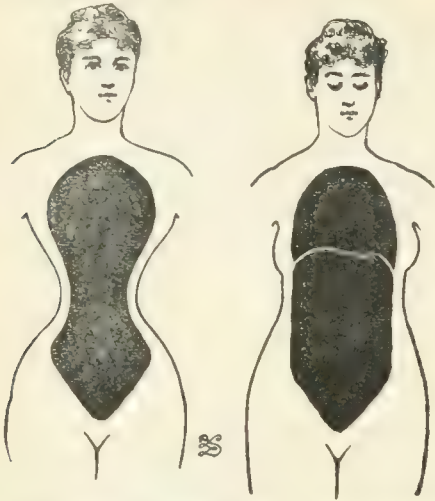
lay down, and whether much or little water was injected. The thoracic organs may readily accommodate themselves to a pressure that simply squeezes out some residual air; the abdominal viscera must be displaced. Accommodation can only be favored by expulsion of blood from the cavity and reabsorption of the gases distending the intestine. Let us first consider the cavity of the chest.

Effect on the Chest—Alteration in Shape.—My sketches

* With certain allowances easily explained.

a constant condition in the female), and in this way expanding the highest part of the conical thoracic cavity. This broadening above and constriction below are shown in Figs. 2, 4, 5, 6, and 7. Freer play of the apices in women who wear corsets would lead one to expect consolidation at these points to be relatively less frequent than in men, while affections at the base should be more commonly met with. An increased tendency to emphysema of the upper lobes might also be anticipated.

One other change may be noted in some frozen sections, and is occasionally observed in examination of the chest—



FIGS. 4 and 5. The shape of the cavity when the corsets are tight; the same without corsets.

namely, a more marked inward curve in the lower part of the sternum than is usually found in men, whereby the an-

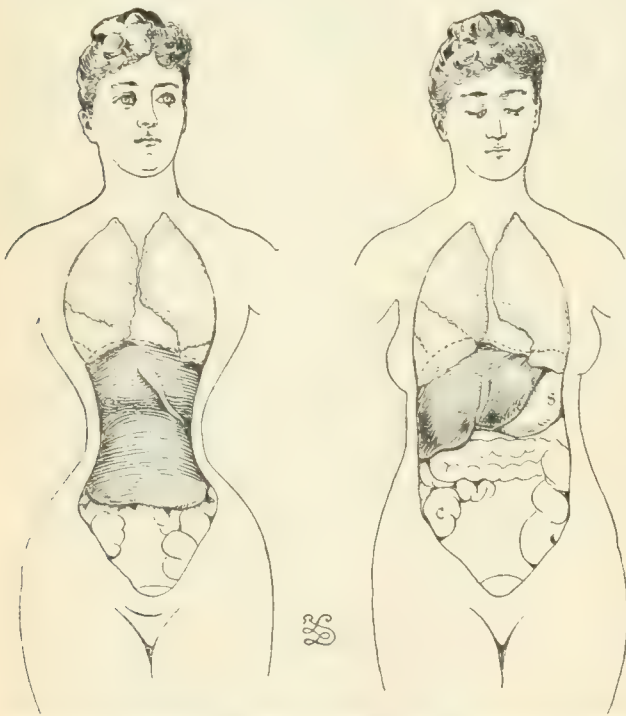


FIG. 6.—The displacement of viscera (tracings). FIG. 7.—The normal position of the organs (tracings).

tero-posterior diameter of the lower part of the chest is somewhat diminished.

The Thoracic Breathing of Women.—May the peculiar character of the respiration in women be attributed to the use of corsets? Two observers who are especially qualified to testify have stated the case so forcibly that I quote them entire. Sibson has made by far the most extended of all the studies of the mechanism of respiration. His painstaking accuracy is Teutonic. Walshe's opinion carries great weight. Sibson says:

"In the adult female the form of the chest and abdomen and the respiratory movements are often undoubtedly modified by tight lacing.

"The form of the chest and the respiratory movements do not differ perceptibly in girls and boys below the age of ten. Although the form of the chest remains nearly the same until the age of twelve, the abdominal movement is then somewhat less and the thoracic somewhat greater in girls than boys. At this age and earlier stays are worn, and though they do not compress the body materially, yet they restrain the free expansion of the lower ribs during free exercise. After the age of fourteen the form of the chest and the respiratory movements differ materially in females and males.

"When stays are on there is a great exaggeration in the thoracic movement, the second ribs moving forward from 0.06 to 0.2 inch, while, when the stays are off, they only move forward from 0.03 to 0.1 (that is, one half as far). On the other hand, the movements of the lower ribs are much more restrained when the stays are on—the abdominal movement then being 0.06 to 0.11 inch, whereas when they are off it is 0.08 to 0.2 inch. The difference at the waist when measured with the tape is very striking, the increased measure during extreme inspiration being 0.05 to 0.3 of an inch when they are on, and from 0.6 to 1.5 when off (from two to thirty times as much). I have found the circumference at the waist from one to two inches less when stays were worn than when they were taken off. . . .

"I think it probable that in females, even if they wore no stays, the thoracic respiration would be relatively greater and the diaphragmatic less than in man; but this is only surmise."

Delicate men, he says further, approximate to the female thoracic breathing, vigorous women to the male abdominal breathing, and long-distance runners have the least thoracic breathing of all men (in the quiescent condition).

The diaphragm would seem, therefore, to be a muscle capable of developing to meet increased demands as much as any other that the athlete strengthens.

Walshe objects to the supposition that the sexual difference is "preordained to meet the difficulties of pregnancy," as Boerhaave maintains, and asks whether ascitic females escape dyspnoea. "If we were forced," he says, "to the admission that the activity of infra-clavicular respiration-movement in the female is in the main designed by nature"—for which no cause can be detected—"and independent of extraneous influence, still I can not help thinking that the great excess of that movement and the limitation of thoracic play to the upper thorax in the civilized adult female are due in no small part to the unyielding cases interfering with inferior costal and phrenic action. The agricultural woman, who knows not stays, breathes more like a man than the town female. Besides, during sleep the conditions of pectoral and ventral action of the female are much less strikingly different from those in the male than in the waking state; the waist is relieved for a time from constriction. And, further, the male and female dog breathe almost exactly alike, as do the horse and mare; the action is abdominal and lower costal."

Dr. Mays, of Philadelphia, has recently studied the respiratory movements of Indian girls in the Lincoln Institution. They had always worn loose clothing. They ranged between ten and twenty years of age. Tracings from their costal and abdominal respiratory movements showed a very close analogy to those of the civilized male, and that, "so far as the Indian is concerned, the abdominal is the original type of respiration in both male and female, and that the costal type in the civilized female is developed through the constricting influence of dress around the abdomen. This is markedly shown in the greater prominence of the costal movements in those girls who were either one half or three fourths white, and who were hence dominated to a greater or less extent by the influence of civilized blood. . . . It is also evident that the costal type of respiration in the civilized female is not due to the influence of gestation."

"The expansion of the lower ribs," says Sibson, "is much more impeded than the descent of the diaphragm." By measurements to be detailed farther on, I find that, comparing full inspiration and complete expiration, the pelvic floor has a range of respiratory movement about one fourth less when the corsets are fairly tight than when they are off, whereas the lower ribs are so firmly incased as scarcely to expand at all. An old, broken, or very loose corset allows some inferior costal play; but, since this is the location of the ring of most marked constriction, even these cripple it considerably.

In what degree the total expansion is limited by this article of dress I have attempted to work out by studying the vital capacity * with and without corsets. To compare the expansion as measured ordinarily in men by passing a tape-measure about the chest is scarcely accurate when applied to women, since the soft parts vary in thickness, the mammae being pushed upward by the corset and hanging down without it. The spirometer test is not open to any serious objection. I am greatly indebted to Dr. L. M. Hall for the labor involved in working out for me the following table:

Table showing the Effect of Corsets on Expansion in Fifty-two Women.

	Age.	WAIST.		Diff'r. ence.	VITAL CAPACITY.		Diff'r. ence.
		With.	Without.		With.	Without.	
Totals	1,100	1,245½	1,378¾	133¼	6,944	8,487	1,543
Averages	21.15	23.95	26.52	2.57	133.54	163.21	29.67
Extremes	13	21	23½	1	80	100	5
	35	29	30½	4½	220	260	75

The average age is twenty-one. The average waist with the corset off measures 26½ inches. The average measurement over the corset is 24 inches, or 2½ inches less. The average vital capacity is 163 cubic inches without corsets. The average vital capacity, wearing the corset, is 30 cubic inches less.

The individuals upon whom these observations were made were servants of the best class. One half were native-born, the other half Irish (seventeen), German, Swedish, and English. Except on festive occasions, our immigrants

have rarely worn corsets before reaching this country. All these are women who work, and, consequently, should have a more vigorous muscular system and better expansion than wealthier corset wearers, although Dr. Hall states that these servants lace tighter and are less healthy in appearance than the young ladies of the institution in which the observations were made. Among women who lead less active lives, while wearing closer-fitting street- and evening-dresses, it might be expected that the interference with expansion would be greater and of more serious import. In the cases given above the limitation is three sixteenths, or nearly *one fifth*.

We must remember always that our witnesses are inclined to perjury. The testimony is made to favor the corset, if possible, and to prove that it is not tight.

This table contains no instance of the eighteen- or sixteen-inch waists of which we hear accounts. The least measure is 21 inches. Nineteen inches and a half is the smallest circumference I have measured over the corset; the patient's normal measurement was 24 inches.

To ascertain whether there was any constant proportion or relation between the amount of constriction and the diminution of the vital capacity, I worked out a number of tables, which showed that the lessening of the circumference of the waist and the lessening of the vital capacity bore no constant relation. The problem is not so simple. Hutchinson found in his study of vital capacity (in 4,800 males) that the chest circumference bore no direct relation to the vital capacity. In a man of five feet one inch the vital capacity averages 175 cubic inches, and it varies eight cubic inches for each inch in height. I have not been able to find the average height of woman, or any statements relating to her vital capacity as compared with man's. From occasional measurements in gymnasiums, however, I know that it is less than man's in proportion to her height.

Effects of the Pressure on the Abdomen.—The abdominal cavity has far greater pressure and much more marked

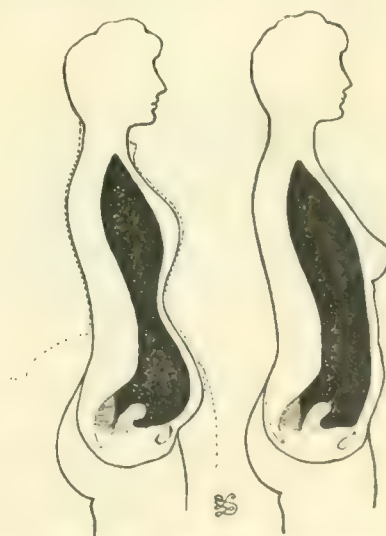


FIG. 9. Antero-posterior section: shape of cavities with and without corsets.

alteration in shape to suffer than the thoracic. The change in its lateral walls has been considered in part, and figured in Figs. 3 and 4. In antero-posterior section (Fig. 9) the

* Hutchinson employed "vital capacity" to indicate the total number of cubic inches of air a man could expel from his lungs after the deepest inspiration.

deformity to which I would especially direct attention is the close approximation of the belly-wall to the spinal column, and the bulging of the hypogastrium. I have pictured no exaggerated instance, but give the tracing from a muscular young woman who has never been pregnant, with an abdominal wall of better vigor than common.

It will be seen that without the corset the breasts project beyond the abdomen, just as in a finely developed man



FIG. 10.—Section through umbilicus, least pressure: the black spaces indicate the empty intestines.

the pectorals first touch a perpendicular; whereas, when the corset has raised the "bust" and crowded the abdomen

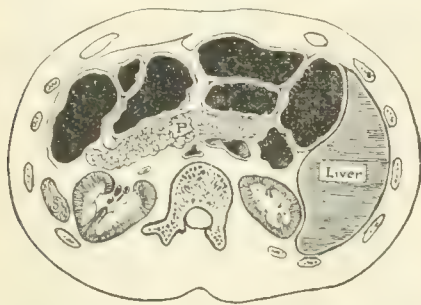


FIG. 11.—Through first lumbar vertebra, great pressure: the intestine (black) is the colon.

down and out, the supra-pubic wall becomes the most prominent and projecting part of the profile.

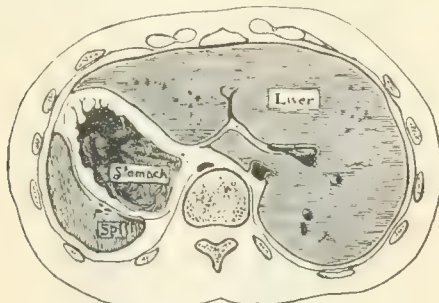


FIG. 12.—Section through epigastrium, area subjected to greatest pressure.

In transverse section the abdominal area at the level of the ensiform (Fig. 12) is normally about twice as great as that at the umbilicus (Fig. 10)—above, deep, roomy, bean-shaped; below, narrowing and contracting to scarcely more than a slit that curves about the broadened mass of the spinal column and psoas muscles.

The corset reverses this. The constriction binds closest the broadest part; the viscera are displaced downward; the

lower umbilical region swells out; the greatest area must grow small, and the smallest enlarge.

The point of greatest pressure, we have seen, was over the cartilages. On both sides the liver will be pressed upon, and this at a point where it is covered by lung only during deep inspiration (Fig. 12). The lateral pressure will crowd liver and spleen toward the median line. The stomach will be pinched between its more solid neighbors, though both liver and spleen mold readily under pressure.

Two inches lower, the section (Fig. 11) contrasts strongly with the first. That showed nearly solid viscera; this presents large air-filled spaces. Here the pancreas, kidneys, and a small part of the liver only would receive stress, and they are protected by large air-cushions in front.

Again, two inches lower, the section greatly differs from the second. At this level, that of the navel, there are no viscera, except intestines distended with gas.

So that we find that (1) where the solid organs are, the greatest pressure comes; (2) where the hollow viscera lie, little pressure comes; (3) on organs that are comparatively fixed in their places, much stress is brought to bear; and (4) on organs freely movable, like the intestines, less direct displacing force is exerted.

Effect of Pressure on the Abdominal Wall.—Long-continued compression of the wall of the abdomen in the epigastric and hypochondriac regions gradually brings about a thinning of its adipose layer.* Below the ring of constriction the fat accumulates. The woman who abhors "a stomach" yet adopts the most effective means of cultivating one. Flabby, old, or obese persons are especially prone to pile up panniculus adiposus below the navel. I have examined many stout young men in good condition, and have yet to find one in whom this tendency is evident. On the contrary, the fatty layer above the umbilicus is usually thicker than that below it. These men wear suspenders. In eleven healthy women below thirty who have been in the habit of wearing corsets (of varying degrees of tightness) the fat below the navel has always been found to be more than twice as thick as that above, while one to three is no uncommon ratio. That this is not normal is proved by the fact that in two teachers of gymnastics, measured for me by Dr. Mosher, the fatty layer was thicker above.

The two sections in Fig. 13 speak for themselves. The man and woman were each twenty-one years of age. The woman, Braun says, was well developed and finely formed, and her abdominal wall had never been stretched by a pregnant uterus, as one would suppose at first glance. Above the pubes the wall is four times as thick as it is higher up.

That the compression acts on muscle as well as fat is clear when we call to mind the contrast between the hard abdominal parietes of the average man and the lax belly of most women. How could the gynæcologist make his bi-manual were it otherwise? Engel reports cases in which the peristaltic movements could be watched through walls thinned from tight lacing. Of course disuse and the less need of constantly balancing the body has much to do with the atrophy of the abdominal muscles of the female. If

* First mentioned, I believe, by Larget. "Thèse de Paris," 1827.

Schroeder and his followers are right in attributing the expulsion of the head after it reaches the pelvic floor mainly to these muscles, we must credit the necessity for the use of forceps in a large number of cases to the practice of corset-wearing. It is worth noting that the figure given by Schatz as the intra-abdominal pressure not uncommon in man during straining efforts is nearly the same as the *maximum* pressure in the bladder during expulsive pains (Croom), which the uterine wall has some part in augmenting by its forward displacement.

Effect of the Pressure on the Pelvic Floor.—With the corsets snugly adjusted the general cavity of the trunk is cased in walls that are nearly unyielding at all places but two. The ribs, spinal column, and corset-bones sheathe the body as far down as the iliac crests laterally and the hypogastrium in front. Of the supra-pubic projection we have spoken. The other outlet for the pressure is the pelvic floor. It can be studied only in the horizontal position, either by tracings taken from the thin lead strip passed along the groove from symphysis to sacrum and

Fig. 13.—Sections of the anterior abdominal wall of the young female (F) and male (M), showing thinning from the pressure of corsets. (Braun, frozen.)

accurately molded, or by measurement of the projection of the floor by the instrument of Dr. Frank P. Foster. This

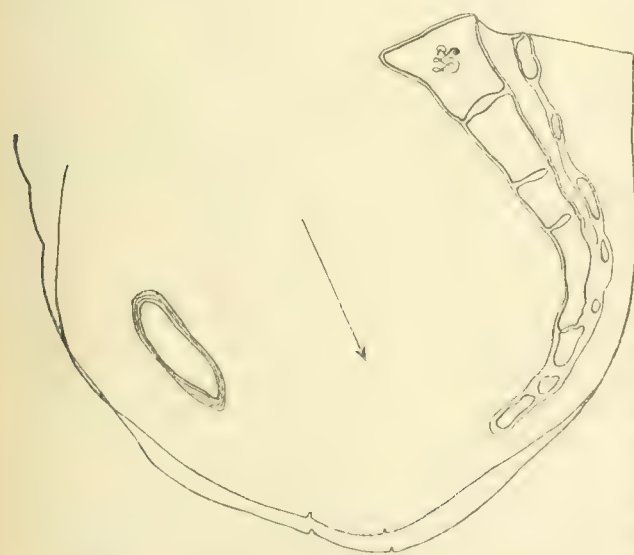


Fig. 14.—Tracing from the pelvic floor with and without corsets.

projection is measured on a perpendicular erected on a line joining the tip of the coccyx and the lower edge of the symphysis pubis. In Sims's position, while the patient

"has her clothing on but the corset unbuttoned,"* the average projection was determined by Dr. Foster to be 2.5 cm., or one inch. I find that tight lacing increases this projection over one third—the average of 5 cases measured being 0.9 cm. (0.8 cm. minimum, 1.1 cm. maximum). This is twice as much depression as the deepest inspiration causes (0.4 cm.), and often is very close to the *extreme yielding* of the pelvic floor brought about by straining or bearing down, which is in the neighborhood of 4 centimetres, or one and a half inch plus.

I quote the figures in a well-marked case (Sims's position):

Pelvic Floor Projection.

	Without corsets.	With corsets tight.
Quiet.....	2.6 cm. (1 inch).	3.7 cm. (1½ in. scant).
Deep inspiration.....	3.2 cm. (1¼ inch).	4.1 cm. (1½ in.).
Straining.....	4.0 cm. (1½ plus).	4.3 cm. (1½ in.).

I am inclined to believe that after a large number of cases have accumulated I can show that it is those women having roomy pelves, or pelves of less inclination than usual, whose pelvic floors sag most under pressure from above.

Effect on the Uterus.—This displacement of the pelvic floor and this abdominal pressure, acting on a cavity probably governed by the laws of fluid pressure, bear largely on the moot question of the importance of the corset as an agent in producing uterine disease and displacement. I think there can be no question that the uterus must descend with the structures about it. With a corset that is "quite tight," but not so tight as the patient "could bear it, as in a new dress or at a ball," this displacement is a third of an inch. The distance seems insignificant, and may only be considered of importance in view of the following facts:

1. That this is almost the deepest position to which the structures can be forced by straining down.
2. That the long-continued action of the depressing force is exerted during the period of growth.
3. In view of the results likely to ensue in case of weakened and enfeebled supports, in case of increased size and weight of the uterus—normally present during menstruation—and in case of incipient displacement. It naturally follows:
4. That this forcing downward is sufficient to render the uterine supports tense (be they ligament, "column," or pelvic surroundings in toto), and that in their taut condition any extra or added stress, like deep breathing, or exertion, or bending, might well be enough to each time slightly overstrain these stretched supports. Slowly and steadily as this force acts, yielding must in time occur.

In fact, Engel states that in every one of thirty autopsies in which evidences of tight lacing were found, prolapsus was present in some degree, except where adhesions had prevented it.

It might be noted that the ovarian veins, which usually are valveless, run upward into the region of greatest pressure to empty there, and that the hemorrhoidal branches of

* Letter from Dr. Foster, April 8th.

the portal vein, which also lack valves, will suffer from the damming back that must be caused by the severe compression of the liver.

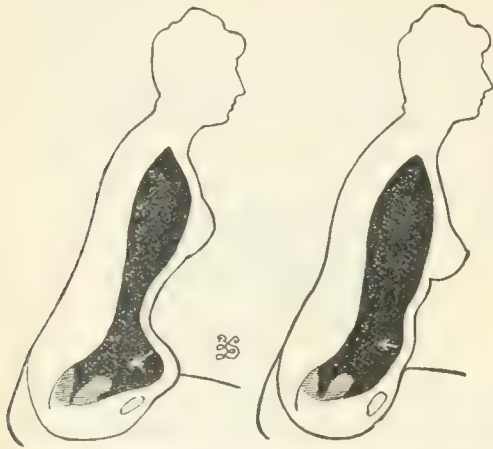


FIG. 15.—The effect of bending forward, when seated, with and without corsets.

The distortion of Fig. 15 does not need much commentary. The more this damsel bends, the greater the downward and backward push of her busk. Will not this account in part for the uterine troubles of women supposed to be due to many of their sedentary occupations, such as sewing-machine work? The man bending forward relaxes his abdominal wall and enormously lowers his intra-abdominal pressure by so doing (Schatz), but the corseted female, who writes or sews, produces the opposite effect. In some cases



FIG. 16.—The heavy outline with corsets, the thin outline without corsets, the patient seated and bending forward.

I have recorded that in this position the pressure over the navel is about double that in the erect position, notwithstanding the abdominal relaxation. The exceptions to this

augmentation of pressure are found where the corset-bones are broken or weakened and bend in into the epigastrium, and out again away from the pubes.

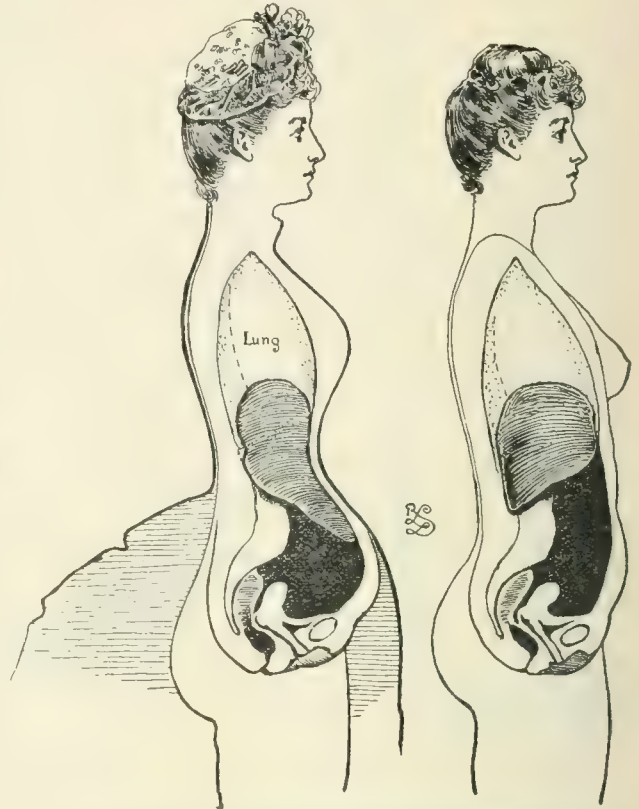


FIG. 17.—The tilting of the liver in certain cases of tight lacing. How the furrow of Fig. 6 is produced.

Effect of the Pressure on the Liver.—In viewing the transverse sections (Figs. 11 and 12) we saw that the zone of most marked pressure was over the liver. Laterally the ribs may be resistant enough to counteract this strain to a considerable extent; but over the cartilages, where the strongest compression of all is exerted, and in the epigastric region, the force must act with greater directness to push the anterior edge downward. Corbin, who has studied this displacement post mortem, states that, as this viscus is fixed behind, its anterior part drops, so that the surface, normally superior and horizontal, becomes anterior and vertical. . . . This effect is constant and is found in all, however loose the lacing may have been."

"On the face that is anterior there exists in most women a transverse depression or gully, more or less pronounced, so marked in some cases that the liver looks almost cut in two. The bottom of this groove is at times whitish in color from thickening of the peritonæum, capsule, and cellular tissue." In the discussion following the reading of this paper instances were cited to show that a habit of wearing about the waist a very tight cord or belt by men will cause like furrows, and that such fissures may result in more or less complete detachment of portions of the organ.

Indeed, Braun asserts that "it is open to proof that the form of the liver is not an independent one, but varies with the pressure and volume of neighboring organs; so that in

a normal condition it must possess a softness of structure which can be compared with fat and connective tissue, and which yields to the movements and change of position of the organs in contact with it."

I am the more inclined to believe this on account of the exceeding great blood supply of the organ. It is said to contain about one fourth the blood in the body. This peculiarity would allow of very marked fluctuations in size and in shape. The very distinct fall of the mercury column—one half to one inch and a half—twenty seconds after hooking the corset may be due in part to the liver emptying itself of blood.

The earlier corsets are worn, the more the liver would be affected, since it is proportionately much larger in the child than in the adult. Previous to puberty its weight may be as much as one thirtieth, or even one twentieth, of that of the entire body; in the adult it averages one fortieth.

"The practice of tight lacing," says Murchison, "may cause displacements and malformations of the liver which may simulate enlargement and which are of considerable importance in diagnosis. Tight lacing may act on the liver in three ways—according to the situation, the tightness, and the duration of the constricting cause.

"a. The liver may be displaced upward or downward according as the pressure is applied below or above. The precise situation where the pressure is applied will vary with the prevailing fashion of dress; but most commonly in this country the displacement is downward, and this may be to such an extent that the lower margin reaches the ilium, and the liver appears to fill up the whole of the right side and front of the abdomen." [Frerichs and other writers speak of this amount of change in location.]

"b. In consequence of lateral compression the liver may be elongated in its vertical diameter so that a larger portion of it is brought into apposition with the abdominal and thoracic walls. This is a very common result of tight lacing" (Figs. 6 and 17).

"c. When the pressure is exerted by a tight cord, it may produce deep fissures in the substance of the liver, as the result of which portions of the organ may be more or less detached, and may even be felt as movable tumors through the abdominal parietes."

"Apparent enlargements of the liver from tight lacing are far more common than is generally believed."

Though it is somewhat of a repetition, I must give an epitome of some thirty autopsies that Engel reports.

The lower edge of the liver, he says, is often displaced below the iliac crests. It is nothing unusual to find the fundus of the gall-bladder at the level of the crest. The furrow is often a hand wide. It rarely runs into the left lobe. The portion of hepatic tissue connecting the two parts is scarce over a finger's breadth. Not seldom scar-like bands and obliterated vessels of large caliber traverse the isthmus. Yet adhesions at this point are of the rarest occurrence.

Above the furrow, in the upper division of the right lobe, which is often much thinned from pressure, one sometimes encounters two deep indentations which run from behind

obliquely or directly forward. In these the peritonæum and underlying hepatic tissue are normal.

The portion below the transverse groove may be thicker than that above. Its lower edge is blunt and rounded. Behind, it is strongly concave.

The ligamentum rotundum is displaced to the left. These changes are shown in Figs. 6, 7, and 17.

If, from the testimony of these five observers—Braun, Corbin, Engel, Frerichs, and Murchison—the extreme mobility of the liver has been proved, although we grant that these extremes result from tight lacing, are we not justified in believing that even a loosely adjusted corset must definitely displace so mobile an organ? The difference between the loosest corset and the tightest is less than might be imagined. I have not been able to double the pressure on requesting a patient to lace her loose corset to the utmost she could bear.

Engel found the *stomach* displaced in the following remarkable manner: It was shoved to the left. Its long axis, from a horizontal or oblique direction, was changed to a vertical, so that the lesser curvature ran down directly to the left of the spinal column. The pyloric end was depressed as far as the fourth lumbar vertebra. Constriction not unlike the liver-furrow was occasionally met with, but without pathological changes in the walls. The *pancreas* may be dragged down to a perpendicular position on the face of the vertebral column, reaching down to the promontory. These were extreme cases, of course.

A few of the most palpable changes brought about by corset pressure have thus been briefly described. There are many others as much more important as they are more subtle and difficult of proof, such as the disturbances of abdominal circulation, the effect on digestion, the limitation of exercise, and the slowly increasing action on the general health—questions of disturbed physiology which I hope to attack in the future. The necessary observations accumulate slowly. The conclusions reached at this time may be tabulated as follows:

Conclusions.

1. The maximum pressure at any one point was 1.625 pound to the square inch. This was during inspiration. The maximum in quiet breathing was over the sixth and seventh cartilages, and was 0.625 pound.

2. The estimated total pressure of the corset varies between thirty and eighty pounds—in a loose corset about thirty-five pounds, in a tight corset sixty-five pounds.

3. Within half a minute after hooking the corset such an adjustment occurs that a distinct fall in pressure results.

4. The circumference of the waist is no criterion of tightness. The difference between the waist measure with and without corsets gives no direct clue either to the number of pounds pressure or to the diminution in vital capacity. Relaxation and habit seem to affect these factors largely.

5. The capacity for expansion of the chest was found to be restricted one fifth when the corset was on.

6. The thoracic character of the breathing in women is largely due to corset-wearing.

7. The thoracic cavity is less affected by the corset than the abdominal.

8. The abdominal wall is thinned and weakened by the pressure of stays.

9. The liver suffers more direct pressure and is more frequently displaced than any other organ.

10. The pelvic floor is bulged downward by tight lacing one third of an inch (0.9 cm.).

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CANINE RABIES.

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OBSERVATIONS and experiments on rabid dogs, extending through twenty-five years of residence in India, are the subjects of this article.

These observations have been made on not fewer than fifty non-domestic mad dogs that I have shot, and on some twelve of our family dogs, several of which have been the subjects of experimental treatment.

In 1840 and subsequently, Dr. O'Shaughnessy, one of the professors in the Calcutta Medical College, prosecuted a series of experiments on hydrophobia in human subjects with such patients as presented themselves at the college hospital. *Cannabis indica* was the remedy employed, and with these results: His patients invariably died, but the disease was deprived of its terror and suffering, they having been taken through all its stages with almost complete consciousness, and in a happy frame of mind.

The knowledge of these results led me to institute experiments on dogs, as human subjects did not come within my reach.

My first experience commenced with a mad jackal. We had a favorite family dog—an Irish terrier—and a puppy. On a certain night the dog was repeatedly disturbed by something coming to the house, and the puppy, much fright-

ened, had taken refuge under our bed. I had been out once or twice with my gun, but it was too dark to distinguish anything clearly. At about four o'clock in the morning some animal rushed into the room, followed by the dog, and seized the puppy, which, with a single yelp, fell dead. Then commenced a fearful contest under the bed. The yellings made night hideous. Moved by a frenzy for my favorite dog, I sprang from the bed, seized a heavy bamboo cane, and, with the aid of the night-lamp, crept partly under, and drew a random blow at the head of something, which fell senseless. On dragging it out, it proved to be a jackal. The dog was badly bitten. On a certain day, six weeks after, it had accompanied the children on their customary morning walk, and came in faint and languid, refusing both food and water. As I was absent at the time, my wife had him chained until my return, two days after. I found him greatly emaciated, with a dull, heavy look of the eye, the jaw dropping somewhat, and slight frothing. He had not offered to bite, and had been quiet, with the exception of an occasional moaning howl. I took him out and shot him. He was sensible to the last, answering my call, and giving a shriek of terror when the gun was pointed at him. I came to the conclusion then that I would never again shoot a rabid family dog, unless peculiar circumstances demanded it, without first making it the subject of experiment.

The first experimental case was with two English terriers, bitten by a wandering rabid dog. These cases were so nearly identical in treatment and results that I shall speak of but one. The dog was running by the side of my horse after a shower, when we came to a pool of water in the road. He put his nose to it and shuddered, and as he passed it seemed agitated. On returning home I had him chained, and offered him water and food, both of which he refused. His eyes and countenance assumed that woe-begone expression that we usually see in hydrophobia, and I felt fully satisfied that he was mad. I gave him fifteen grains of *Cannabis indica*, leaf and flower pulverized in a little molasses. This was put into his mouth as it was held open, and he was forced to swallow. In an hour he was thoroughly narcotized. Stertorous breathing continued for some time, after which he became perfectly quiet, the most careful observations only detecting a very slight, quiet breathing. I fancied I had given an overdose, and that he would never rally. The ants gathered, and filled his mouth. After twelve hours' sleep, however, he revived, and seemed none the worse for the narcotism. After a few hours the dose was repeated, with like results—the same deep sleep, and ants returning to their work. After his reviving the second time a cathartic was given, which operated freely, and from that time he slowly regained strength and recovered.

The next cases that came under treatment had different results.

While I was on a visit to Calcutta a friend presented me with a large English bull-terrier. A few days after, on returning home one evening, I found he had suddenly gone mad. A servant had secured him, but not before he had bitten two other dogs. I found him raging, and biting everything within his reach. As no one could approach him with

safety, he was shot, no treatment being instituted. The two bitten dogs were taken home and carefully watched, and subjected to preventive treatment. One grain of calomel was given every other day, with an occasional cathartic. After the first month they began to pine, appetite failed, derangement of the bowels with dysentery set in, and both died about four months after being bitten. There were no signs of hydrophobia, and I was in doubt whether they died from the treatment or from the insidious effects of the poison diverted from its ordinary course by it.

The next case of interest was that of two puppies from the same litter. There was no definite knowledge of their having been bitten, but, after their death, it was remembered that they had been worried by a strange dog a few weeks before. One morning we were starting for a picnic three or four miles away, and the young dogs were allowed to go along. As they were running by the side of the horses they were observed to be very frolicsome, biting each other as little dogs are wont to do. Soon it was noticed that their biting was becoming severe, and they made each other cry out with pain. We became suspicious, and watched them. At times during the day they were quiet, sleeping as usual, and then, when brought together, would snap and bite angrily. When we reached home in the evening they were unmistakably mad, dashing about and biting everything within their reach, but still quite under control, a sharp word instantly recalling them to their senses. They were placed in a cage, and carefully fed and watched. They died on the third day, not having had any medical treatment.

The last case I will mention, a recent one, has peculiar interest. We have had for three or four years a large English setter, our favorite house-dog, the pet of the children, noted for his intelligence and goodness, and particularly for his gallantry, usually on the alert to guard on their way home any ladies who might have called in the evening. It was known that he had had a fight with a strange dog that had strayed into our premises, but I had no reason to suppose he was mad. He had been with me for a morning ride, and on coming home he met his mate, a small female terrier, and commenced biting and rolling her over, apparently in play, yet very roughly. I had to speak to him sharply to call him off. An hour later, at breakfast, he was observed to be snapping at the naked legs of the servants as they came about. Suspecting mischief, I had him securely chained. The first sure indication of madness was that, on my presenting my cane near his nose, he seized it violently. Ten grains of extract of *Cannabis indica* were given at once, concealed in a little moistened bread, which he swallowed without difficulty. This was repeated during the day, and again on the day following. As these large doses produced no narcotism, and the extract when old is apt to be uncertain, I regretted that I had not given the plant in substance; but after the first few hours it was not safe to go near him. During the first day he took rice freely, but vomited it immediately. Moistened bread, milk, and water, in small quantities, he took and retained. The only difficulty seemed to be in swallowing. There was a contraction of the muscles of the throat and neck that indi-

cated pain. By the second day the pupils were red, like burning coals, indicating to my mind engorgement of the retina. The general expression of the eye was dull, except when he was aroused and his mouth was dry. The gums assumed a deep blood-red color, gradually deepening so as to look almost black. The voice from the second day decidedly changed to a hoarse, wild, distressed yelp, heard occasionally, and without apparent cause, during day and night. All these indications continued with increasing severity until death, on the fourth day. Consciousness remained complete until near the last. He would recognize and call me at a distance of two hundred feet, and would respond to my call at a greater distance. The disposition to bite violently at anything within reach continued throughout, and no calling would cause him to desist. The strength of jaws was wonderful. I had placed a large deal box on one side to protect him from the sun. He seized the inch-thick board and tore it in pieces as if it had been paper. At times he would regard an object with that earnest, quiet look of watching for game, and seize it with the greatest fury the instant it came within reach. Throughout there were no indications of suffering, except those I have mentioned in connection with swallowing. Death came on gently, without convulsion. A partial post-mortem examination revealed nothing abnormal, except the redness of the gums and a slight enlargement of the parotid gland.

SUMMARY OF SYMPTOMS.—It is worthy of remark that very few of the symptoms of hydrophobia are constant and absolute. They vary largely with the variations of breed, climate, natural disposition, and physical condition. In some animals only one or two may be prominent, while in others they may be more marked and decisive. In dogs of high caste and strong physical development the symptoms are more demonstrative, with a tendency to furor, while the refined and delicate, as well as the weak and imbecile, are likely to be more quiet. The diagnosis must often be made, not so much from the combination of a number of symptoms as from the marked character of one or two. I shall notice such symptoms as I have observed them, and much in the order in which they occurred.

1. *Lassitude.*—For a day or two before the appearance of the more marked symptoms there is usually an expression of weariness. The dog is out of sorts, is easily roused when spoken to, but prefers to remain quiet in a secluded place, and, if undisturbed, sleeps most of the time.

2. *Loss of Appetite.*—He may eat moderately, but does not seem to relish either food or drink, though he swallows both without much difficulty. These symptoms are often accompanied by vomiting, either immediately after eating or after a short interval.

3. *Dread of Water.*—I think the popular idea in regard to this symptom—*i. e.*, as the result of nervous excitement—is an erroneous one. That condition which is supposed to indicate “fear of water” is the result of soreness of the throat, and consequent difficulty in swallowing. I have seen this in a few instances only, and in only one instance have I seen what might be taken for nervous agitation; in that case the symptom was by no means well marked. In most cases water is taken without material difficulty.

4. *Relaxation of the Muscles of the Jaws, giving Rise to a "Woe-begone" Expression of the Countenance.*—This is sometimes accompanied by a discharge of slimy mucus, but oftener by a dry, parched mouth, and in the later stages by a deep redness of the gums and tongue. By the second or third day the more decisive symptoms appear. Reason loses its control. Any one, by observing a healthy dog carefully, may see that every act or motion is dictated by some motive—i. e., he has some purpose in view. The rabid dog may run or walk, bark or bite, but his motions are purposeless.

5. The recognition of rabies by other dogs is a prominent peculiarity. If a truly rabid dog comes about the house, it is pretty sure to be reported at once. There is a yelp of terror from the other dogs such as we never hear under other circumstances, and, though they may be faithful in the contest, yet their peculiar agitation does not cease while their enemy is in sight. This may be accounted for by the strange motives of the rabid animal, much as the presence of an insane person carries terror to many minds. There is a popular notion, of the correctness of which I have not been able to satisfy myself, that dogs detect the condition of rabies by the sense of smell. The test is to induce the suspected animal to swallow a piece of meat with a string attached, and after a moment to draw it up again. If rabies exists, no other dog will touch it; otherwise it will be eaten greedily.

6. I have observed in a few cases a fiery red color of the pupil, like a burning coal, indicating a peculiar condition of the retina, which I have never seen except in rabies, and hence have come to regard this as a symptom.

7. Death within four or five days of the induction of the first or positive stage, or within two or three days from the appearance of the active symptoms, may be regarded as the most important and conclusive sign in our diagnosis of this disease.

Treatment.—A few suggestions on the treatment of rabies may not be out of place.

What is the character of the poison? Does it enter the blood at once, and there remain inert for a season till it has reached its mature stage, like the poison of some other diseases? Or does it remain in the wound until it has reached its maturity? These questions remain unanswered, though each hypothesis has its advocates. In view of our want of definite knowledge on these points, our wisest course is to endeavor to meet both conditions as far as may be practicable. Hence,

1. A person, on being bitten, should instantly endeavor to remove the poison from the wound. If it is within reach of the mouth, suction should be resorted to at once. If it is on a remote part of the body, continued washing, accompanied with pinching and pressing, should be practiced, so as to promote a free discharge of blood.

The next step should be to excite a local irritation in the wound. This may be done by the actual cautery, nitrate of silver, carbolic acid, or, indeed, any irritant that may be at hand. By some means the wound should be kept in a state of inflammation for a month at least.

2. It is said that mercury is a popular remedy among

the negroes of the West Indies, though in what form and in what doses I have not been able to learn.

From my earliest Indian experience I have frequently been called upon to prescribe for persons who had been bitten by suspected dogs or jackals. Not being willing to leave such to the influence of their fears, I have adopted the following as a tentative remedy: Calomel in one-grain doses, one dose to be taken every alternate day until ten grains have been taken. The results are, of course, purely negative, but, in the absence of anything more positive, may have some little value. I have prescribed this in perhaps a hundred cases, and in no instance, so far as I am aware, has a person so treated suffered from hydrophobia. One case, or rather collection of cases, was regarded as quite conclusive at the time. A man came in from the country reporting that fifteen men had been bitten in one night by a rabid jackal, and asked for medicine. The necessary doses of calomel were prepared as above mentioned and sent out. Some months after he returned with this report: Fourteen men of the fifteen had taken the medicine and suffered no harm. One man said he did not think the jackal was mad, and declined taking the medicine. He died of hydrophobia. This proves nothing, to be sure, but, in the absence of all proof, I prefer to adhere to this treatment.

3. At the outset of the active form of the disease vigorous and persistent remedial measures should be instituted. Dr. O'Shaughnessy's experiments with *Cannabis indica* clearly show that all distressing symptoms may be prevented by its moderate use, and, if my experience with dogs has any weight, we may reasonably infer that more complete narcotism by that drug might afford still more hope.

At the present state of our knowledge my opinion is that the most profound narcotism consistent with safety to life should be at once induced, and continued as long as possible, in order that the nervous system may be withdrawn from the scene of action and have the most oblivious rest, and thereby allow the poison to become neutralized, or to expend its virulence. I know of no reason why *Cannabis indica* should have the preference over other narcotics and anaesthetics, except that its narcotism may be continued more regularly and with less danger to life.

In conclusion, I would remark that it is of the utmost importance to save persons bitten by suspected animals from the horrors of doubt and suspense. If a dog becomes rabid two or three days after having bitten some one, that person need have no fears of hydrophobia. To kill a dog on suspicion after he has bitten a person is a terrible mistake. That person may, perhaps, be left to groundless horrors of suspense through long and weary months, till life itself becomes a burden. Preventive measures should be undertaken, even on slight suspicion, but the conclusive diagnosis of rabies, in many instances, can not be made without the death of the animal by the natural course of the disease.

The Seventh International Congress of Hygiene and Demography.
—It was decided at the meeting recently held in Vienna, for an account of which our readers are referred to our Vienna letter, to hold the next meeting in London in 1891.

REMARKS UPON SPINA BIFIDA;

WITH THE REPORT OF FOUR CASES.*

By L. EMMETT HOLT, A. M., M. D.,

NEW YORK.

THE subject of spina bifida has had fresh interest lent to it since the introduction by Morton of the treatment by the iodo-glycerin solution, and more particularly since the exhaustive report of the committee of the Clinical Society of London in 1885. I desire to put the following cases on record as a small contribution to our knowledge of this deformity and its treatment:

CASE I. Lumbar Tumor, Paralysis; Aspirations; Injection of Morton's Fluid at Six Weeks, followed by Convulsions; Decided Improvement for Two Weeks, then Relapse, and Injection repeated; Death from Convulsions Two Hours Later.—A male child, fifteen days old, referred to me for treatment by Dr. Gibney, March 15th. No other deformity in the five other children or in the parents. Nothing unusual occurred during the pregnancy. At birth the tumor was of the size of an English walnut. It had grown steadily since that time, and when seen it was as large as a good-sized tomato, measuring two inches and a half by two inches and a half, vertically and transversely, and projecting about one inch. It occupied the lumbar region. The sac was tense, the tumor translucent, no cord or nerves could be seen by the light-test, and the non-tegumentary portion, of about the size of a silver dollar, was ulcerated and covered with granulations. Straining efforts made the sac more prominent, and it was thought that pulsation could be detected. There were evidently paralysis of the rectal sphincter, probably also of the vesical, and incomplete paraplegia. There was no hydrocephalus, and no other deformity. The child was well developed and nursed well.

Elastic compression was applied for a week, but, as the tumor increased in size notwithstanding, at the end of that time I drew off with an aspirator one ounce and a quarter of colorless fluid, this being apparently about one third of the contents of the sac.

Compression was continued for three weeks longer without any manifest result, except that the granulating surface was cicatrizing and smaller. The feet had by this time assumed the position of a marked calcaneus from muscular contraction.

A second aspiration was now performed (April 14th), and three ounces and a quarter were removed, the sac collapsing. The elastic pressure was continued. No reaction followed, but in five days the tumor had nearly regained its former dimensions, and, with Dr. Frank Hartley's assistance, after withdrawing two ounces of fluid, a half-drachm of the iodo-glycerin solution was slowly injected, the child being kept on its back. Bromide and chloral were ordered. General convulsions developed shortly after we left the house, and continued for some hours. They passed away without treatment and did not recur, nor did any inflammatory reaction follow. In four days the tumor was as large as before, but at the end of a week the case looked more promising. The central granulating surface was nearly cicatrized. The sac was not so tense; it was thicker, and one side was somewhat shriveled. This improvement continued nearly a week longer, and then the sac began to increase again, and on May 10th the injection of the iodo-glycerin solution was repeated, this time a drachm being introduced. Two hours after, convulsions developed, and continued five hours until death. In spite of the most careful instructions being given

about keeping the child absolutely quiet after the injections, this was not secured, which may have been an element in the fatal result.

CASE II. Sacral Tumor; no Paralysis; Cure by a Single Injection of Morton's Fluid.—This patient was treated in conjunction with Dr. Gibney, who reported the case in full in the "Detroit Lancet" for August, 1885.

It was a first child, a female. The tumor was smaller than the preceding, and was sacral. There was no paralysis. After three aspirations, the last of which removed two ounces of fluid, half a drachm of the iodo-glycerin solution was injected. The patient was now seven weeks old. No reactionary symptoms of any kind followed. In ten days the tumor was reduced to one half the size, and it continued to shrink until, four months later, it was only a hard cicatricial nodule. The child died of cholera infantum five months after the operation, after three days' illness.

CASE III. Brother of the Preceding; Lumbo-sacral Tumor; Paralysis; Death from Convulsions on the Fifteenth Day.—Eighteen months after the preceding I saw the brother, two days old. He presented a spina-bifida tumor in the lumbo-sacral region, about as large as an English walnut. There appeared to be paralysis of the sphincter ani, as meconium was oozing steadily, and partial paralysis in both legs, to what degree it was difficult to determine. The feet were both in extreme calcaneus, with slight valgus. The thighs were held tightly flexed on the abdomen, and the legs on the thighs. The sac of the tumor was almost perfectly translucent, but no nerves could be distinguished in its cavity.

There was no hydrocephalus or any other deformity. The child was so small and weak that it was decided for the time being to protect the tumor and wait. There was no special change until the fourteenth day. The child nursed fairly well, and was much of the time cross and worrying. The tumor remained about the same, except that the granulating surface over its center was growing smaller. The bowels now only acted twice a day, so that paralysis of the sphincter was somewhat doubtful. On the fourteenth day the child was found in convulsions, temperature 103° 8' F., and he died two hours later. No autopsy could be obtained.

I learned afterward that the mother had been quite ill, and was delirious the night before; the child was nursed about that time. Could this have had anything to do with the convulsions?

These two cases are of special interest as being in the same family. A careful search into the family history on both sides revealed the existence of no other congenital deformity. It is worthy of mention that the parents were cousins.

Since the two preceding, the mother has given birth to a healthy, well-formed child, which is now eleven months old.

Demme, in his statistics of fifty-seven cases which came under treatment at the Children's Hospital at Berne, mentions two in which hare-lip was present in the mother, and three in which the father had club-foot, but no cases in which another case of spina bifida had existed in the same family of children, nor do I remember to have seen such a coincidence reported elsewhere.

CASE IV. Sacral Tumor; Rupture of the Sac; Death from Convulsions on the Third Day; Autopsy.—Two weeks ago there was brought to my dispensary clinic a male child, a few hours old, with a sacral spina-bifida tumor of the size of a small tomato.

* Read before the New York Clinical Society, September 23, 1887.

From this case the specimen I now present to the society was taken. It was a ninth child. No deformity could be traced in parents, other children, or collateral members of the family. The mother had been attended by a midwife, and the labor was a natural one. The child was large, plump, and otherwise well developed. Its legs were strongly flexed on the thighs, and the thighs on the abdomen. The feet were in calcaneus of a mild degree, the deformity being from contraction of the anterior tibial group of muscles, and readily overcome. The child appeared to move both legs and feet freely. The tumor measured two inches in its vertical and the same in its transverse diameter. Its lower margin was within an inch of the anus. Rupture had taken place in the thin central portion not covered by integument, and from a rent, a fourth of an inch long, a pale, serous fluid was oozing freely. Enough had already escaped to saturate quite a large napkin. Iodoform was dusted over the surface, and a large pad of absorbent cotton and a bandage were applied.

The child was quiet, and showed no irritability or tendency to convulsions.

Arrangements were made to operate upon the child the following morning, but, owing to a mistake in the address given, the patient was not seen again alive. Convulsive movements were noticed on the evening of the second day. The following morning these became severe, and the child died in convulsions when a little over forty-eight hours old.

Autopsy, seven hours after death.—Body well nourished. Over the sacrum was a tumor; sac collapsed and empty, which measured two inches in each diameter. The head was normal in size; no evidence of hydrocephalus; the feet were in slight calcaneus.

Only the lower half of the spine and tumor were examined. The spinal canal was laid open in front, and the sac posteriorly. The following relation of parts was noted: The first sacral vertebra was not bifid. The cord entered the sac at the second sacral vertebra just as it gives off the second sacral nerve. The *dura* in the canal was healthy, and could be traced in front to the lower part of the sacrum, where it blended with the periosteum. The *pia* in front continued normally to be attached by its processes to the bone. The cord curved backward from the *pia* as it entered the sac, so that the *pia* alone formed its anterior wall—*i. e.*, in the median line.

The cord terminated in the cauda equina soon after entering the sac, and continued backward free to the central cicatrix; here nerve filaments blended with the other tissues in an indefinite mass, from which again, with tolerable distinctness, nerve filaments could be seen to pass across the wall of the sac to re-enter the spinal canal. These afferent and efferent nerves, and the *pia* they carry with them, formed several septa which composed a smaller sac within the larger one of the spina bifida proper. The sacs seemed to have been very nearly or completely separated, if not originally, at least by inflammatory products, as a layer of lymph and pus was found in the secondary sac, but there were no signs of an inflammation in the larger one. The large sac was very clearly a dilatation of the anterior subarachnoid space, and freely communicated with the same space in the cord above. It did not appear that the smaller sac communicated with the subarachnoid spaces of the cord, although this was not certain.

The membranes lining the sac were, of course, those of the cord. They were congested in the canal, but there was no lymph or pus anywhere, except that in the sac above alluded to. The cord itself appeared normal to the naked eye.

This was, then, an example of meningo-myelocoele, the most common variety of spina bifida.

Spina bifida, according to Humphrey, is due to a failure in development early, before the cord is segmented from the epiblastic layer, from which both it and the skin are formed. The structures which normally develop between the cord and the skin are wanting altogether or rudimentary. We meet with various degrees of segmentation. The membranes only may be protruded and attached to the skin, or the nerves may be in the sac alone or with the cord itself. The cord may run free to the central cicatrix, or it may blend with the sac along its central line. In most of the specimens the fluid has accumulated in the anterior subarachnoid space. It is the general belief that the bifid spine is the result and not the cause of the accumulation of fluid.

In the report of the Clinical Society of London, already referred to, the following anatomical varieties are made:

1. Syringo-myelocoele, a dilatation of the central canal of the cord to form the sac of the tumor. This, formerly supposed to be the rule, is now known to be the rarest form.

2. Spinal meningocele, or a protrusion of the membranes alone, the cord and nerves being normal. This is usually found in the cervical and dorsal regions.

3. Myelo-meningocele, a protrusion of the cord (or its nerves) and membranes. This is by far the most common form (32 of 57 cases—Demme), and is the one usually met with in the lumbar and sacral regions.

Without surgical interference of some sort, a fatal termination is almost universal; only a few instances of spontaneous recovery are recorded. It is too rare to be expected in any given case. Of thirty-two patients not surgically treated at the Children's Hospital at Berne, twenty-five died within the first month, and only one lived two years. The causes of death were rupture of the sac, purulent meningitis, marasmus, and complications.

It is generally held that hydrocephalus and marasmus contra-indicate all operative interference. I have seen one child recover where hydrocephalus existed, although it died of the latter disease a few months later. A very bad symptom is the bulging of the anterior fontanelle when the tumor is compressed, and *vice versa*.

Simple meningocele is manifestly more favorable for injection or any other operation than either of the other varieties. It becomes, then, a matter of the greatest importance to make the differential diagnosis, especially between the commoner forms—meningocele and meningo-myelocoele. This is in a large number of cases a matter of the greatest difficulty and always of some uncertainty.

The absence of a palpable fissure in the spine, perfect translucency, and a pedunculated tumor, all point strongly to meningocele. Paralysis of the sphincters and the lower extremities, umbilication at the center of the tumor where the cord is attached, a sessile tumor, and the presence of a palpable bony fissure, indicate meningo-myelocoele. If the sac is sufficiently thin to permit the cord or nerve trunks to be clearly seen, this, of course, is a demonstration. Translucency I have found not to be of great value; the sac is often so thickened as to make all observation very indefinite, and, on the other hand, when the cord is attenuated from pressure and fused with the sac, its recognition by the

light-test is well nigh impossible. Paralysis of the bladder, rectum, and lower extremities—one or all—seems to me the most trustworthy evidence that the cord or nerves are in the sac—to what degree, the extent of the paralysis would probably determine.

There is one point in examination which appears not to be so much made of as it deserves—viz., palpation of the sac after it has been completely emptied by aspiration. In the cases here reported aspiration was practiced a number of times, and in no instance was there the slightest disturbance from it. With ordinary care and clean needles it seems extremely improbable that there should be any, provided the fluid is slowly withdrawn. When this has been done the condition of the bones can be made out with tolerable accuracy, and the cord and nerves can be felt quite as easily as they can be seen by the transmitted light.

There is one anatomical point which should not be lost sight of in making the differential diagnosis in these cases. The cord at birth in a healthy infant reaches only to the bottom of the third lumbar vertebra. A spina bifida occupying the lower lumbar or sacral region would not seem likely to contain any part of the cord. But in this deformity the adhesion of the cord or its terminal nerves to the central cicatrix prevents it from rising, so that it often extends some distance into the sacrum, as in the last case reported.

Of twenty-five patients operated on in the Berne Hospital, seven recovered, fifteen died, and three left the hospital not cured.

The Clinical Society's "Report" gives the mortality of cases treated by Morton's iodo-glycerin solution at between 50 and 60 per cent.

Time and a wider experience are necessary before we can arrive at a proper estimate of this operation. This can only come when its failures as well as its successes are recorded.

15 EAST FIFTY-FOURTH STREET.

Correspondence.

LETTER FROM VIENNA.

The Sixth International Congress of Hygiene and Demography.

VIENNA, October 6, 1887.

DURING the past week our beautiful *Kaiserstadt* has been not only the scene of earnest scientific work, but also the center of varied and splendid festivities which gave it an exceptional charm. About 2,346 persons from the various quarters of the world were assembled to take part in the discussions on hygiene and demography. Men like Virchow, Pettenkofer, and Brouardel must indeed have proved a powerful attraction to those who thought of attending, but undoubtedly not the least of the attractions was *das schöne Wien*. The weather was favorable during almost the entire session, and was particularly charming on the opening day, when the illustrious patron of the congress, the Crown Prince Rudolphus, declared the meeting opened. The splendidly decorated *Musikvereinsaal* was

crowded to overflowing with those who were desirous of attending the opening ceremony. The ladies of the members' families had gathered in the galleries, and the aspect of the imposing number of those present—among whom were representatives of the foreign diplomatic corps, the ministers of the Empire, and the most distinguished scholars of our profession—was very interesting and attractive, especially by reason of the presence of numerous beautiful ladies in their festival dresses. Among the representatives of our profession I may mention Virchow (Berlin), Pettenkofer (Munich), Brouardel (Paris), Frankland (Reigate), Douglas Galton (London), Westphal Bull (Paris), Janssens (Brussels), Lacassagne (Paris), Lépine (Paris), Jahnsen (St. Petersburg), Boeckh (Berlin), Köhler (Berlin), Lummitzer (Buda-Pest), and Luizianan (Mexico). At eleven o'clock the Crown Prince, conducted by Professor Ludwig, the president of the congress, and Professor von Gruber, the general secretary of the organizing committee, entered the room, and was received with enthusiastic and repeated cheers. Professor Ludwig, addressing the Crown Prince in the name of the organizing committee, said that, only ten years before, the first international health congress had been held, in Brussels, under the patronage of His Majesty the King of the Belgians, and that the congresses of Paris, Turin, Geneva, and the Hague, and at length the sixth, in our beautiful capital, had succeeded each other rapidly. The fact that scientific men from almost all the civilized countries of the globe had gathered together for earnest work in common, governments and communities having sent more numerous representatives than ever before, was highly satisfactory evidence that the recognition of the great importance of the science of hygiene was making continual progress. Could it be otherwise? Hygiene and demography had undertaken the task of inquiring into and combating the social evils which our century had especially produced in so high a degree, by means of exact scientific methods; and in both directions permanent and important successes had been obtained. These congresses had been characterized by a special happy feature of our modern times, that of subjecting to common investigation questions in which all mankind were interested; they aimed at advancing science and at spreading interest in hygiene by the personal interchange of opinions. Following its traditions, the congress would at its present session submit for discussion a series of important questions in the domain of hygiene and demography—questions that had been most carefully prepared by prominent men. Taking into consideration this preparatory work, together with the high scientific position of the participants in the meeting, we might hope with confidence that this gathering also would contribute much to the solution of questions of very great importance to mankind. The president then thanked the Crown Prince for the dignity with which he had invested the meeting by charging himself with its patronage, whereby the aspirations of those assembled had been highly encouraged.

The Crown Prince, in his turn, assured the assemblage that he considered it an honor and a joy to be at the head of the Sixth International Congress of Hygiene and Demography. The most precious capital of nations and societies was the human creature, and to keep men sound as long as possible was not only a command to humanity, but also the duty of communities in their own interest. The work of those present had to do with the house, the school, the village, the town, war, the industries, etc.; that fact, together with the participation of such illustrious representatives of all nations, was an evidence of the really international importance of hygiene. It was a great source of satisfaction to him to have the opportunity of saluting the members in Vienna, a city which was a center of animated scientific work and earnest investigation.

Dr. Köhler, director of the German sanitary board, and Professor Brouardel, of Paris, saluted the patron and the congress in the name of the German and French governments, after which Professor Brouardel read an elaborate paper "On the Different Ways of Propagation of Typhoid Fever." He discussed the most recent observations that had been made upon this subject and the deductions to be drawn from them, his purpose being to show that it was possible to make the disease much more infrequent and even very rare. It was spread by means of drinking-water, the air, polluted clothing, and the hands of nurses. This had been known to Hippocrates, Van Swieten, and all epidemiologists of past centuries, but it was not until the present time that we had known the part that each of these factors played. An epidemic prevailed in Geneva in 1884, and its increase and diminution corresponded exactly with the different water-supplies of various parts of the town. It decreased decidedly in October, and assumed a greater intensity again in November and December. A single village in the neighborhood, Mont-Ferrand, presented the same conditions, while two adjoining villages, Royat and Chamalières, were entirely free from the disease. Mont-Ferrand was supplied with water from the same spring as Clermont-Ferrand, but a cloister at Clermont, which had a spring of its own, had only one case of typhoid fever—that of a person who had visited his relations in the town. It was known that Paris was in part supplied with excellent drinking-water, but, owing to its insufficiency, the water of the Marne, the Seine, and the Ourcy Canal had to be resorted to. On the 20th of July, 1886, such an occurrence took place, and a week later the number of those affected with typhoid fever was four times as great as before. On the 7th of August recourse to the streams mentioned was discontinued, and the effect was seen at once in a rapid decrease of the epidemic. A like occurrence was observed in the month of January of the current year. There was still another way in which it was strikingly shown that the drinking-water was the chief source of dissemination of typhoid fever. Régnier had registered the cases in the different *casernes* of Paris, and had observed that in the newly constructed *caserne* of Château Sardon, in which the soldiers drank the unfiltered water of the Marne, the number of cases amounted to 17 per cent., while in the old *caserne* of Jean Jacques Rousseau, which was supplied with good Baune water, they amounted to only a tenth of one per cent. Since the new *caserne* had been supplied with spring water, in 1886, the number of cases had amounted to only 2 per cent. As to Pettenkofer's theory, that the prevalence of typhoid fever varied with the level of the underground water, there was a good deal of truth in it, but it was still far from complete. Direct contagion also could not be doubted, but its occurrence was relatively rare. But these generalizations were not enough; we ought always to be able to draw practical conclusions from scientific investigations. Ninety times in a hundred cases it was the drinking-water that was at fault, and it was our duty to guard it against pollution. Fortunately, this was far easier than if we had to prevent the air from "licking up the polluted dejections."

Professor Pettenkofer, the famous German hygienist, then mounted the tribune, and was greeted with hearty applause, even before he had begun his address on the teaching of hygiene. The paper contained numerous important features referring to instruction at universities and in high schools. For lack of space, however, I shall have to defer more detailed mention of it, as well as of the work in the sections, until I write again. It closed the first general session, and then several of the distinguished physicians present were presented to the Crown Prince. In all, there were two general sessions and four meetings of sections, lasting four days.

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IS TUBERCULOSIS INFECTIOUS?

By a number of carefully conducted experiments, M. Cadéac and M. Mullet have undertaken to determine if the air expired by patients suffering with pulmonary tuberculosis can produce the disease by inhalation or by inoculation. They publish an interesting account of their experiments in a recent number of the "*Revue de médecine*." The method which they adopted in the first series of experiments was as follows: A caoutchouc bag, having a capacity of from forty-five to fifty quarts, provided with a stop-cock, was partially filled by being breathed into by a patient in an advanced stage of phthisis. It was then filled to its utmost capacity with pure air, and in that way a vitiated atmosphere was created like that which is usually to be found in a phthisical patient's room. Rabbits, the susceptibility of which to tuberculosis is well known, were made to breathe in the air contained in the bag for an hour or two hours every day, by means of a certain muzzle fashioned after the mouth-piece of Paul Bert's anæsthesia inhaler. This was repeated for several days, and the three rabbits upon which the experiments had been performed were killed after the lapse of from twenty to forty days, and their organs examined. The results were entirely negative; all the viscera were found perfectly healthy. In another series of experiments, rabbits affected with catarrhal bronchitis were treated in the same way, but in them also the results were negative.

The objection might be raised that in these experiments the degree of infection of the mixed air was variable and the exposure too limited in duration. To exclude this source of fallacy, a third series of experiments was undertaken. A small box was divided into two compartments in such a way that animals put into the two compartments had to breathe the same air, but could not come into bodily contact. Rabbits in which artificial tuberculosis had been produced were put into one of the compartments, and guinea-pigs affected with induced bronchitis were placed in the other. Thus, for periods of two or three months, the non-tuberculous guinea-pigs had to inspire the emanations from nineteen tuberculous rabbits; yet not one of the guinea-pigs showed any signs of tuberculosis, either during its life or after being killed. In a fourth series of experiments, the vapor contained in the expired air of phthisical patients was condensed, and the resulting liquid was injected under the skin in rabbits, with antiseptic precautions. Twelve rabbits were thus treated, and the results were negative in all, with a single exception; in the rabbit that proved the exception, two gray granulations, of the size of a pin's head, were found in the left lung. Thirteen guinea-pigs were treated in the same way, and in none of them did infection take place.

The authors pushed their experiments still further. There were two wards in the hospital, one of which was 120 feet long, 24 feet wide, and 21 feet high, containing about forty consumptive patients, and the other was 105 feet long, 18 feet wide, and of the same height as the first, having about twenty-nine patients. The majority of the patients expectorated freely, and no precautions were taken with regard to the sputa. Several of the patients were in such an advanced stage of phthisis that they had to keep their beds constantly. Air collected from these wards, quite close to the beds occupied by patients, was subjected to condensation of its aqueous vapor, which was used in the same way as in one of the other series of experiments. Twelve guinea-pigs were employed in these experiments, and the results were negative in all but two of them. In one of these two, a few small gray granulations, containing tubercle bacilli, were found in one of the lungs; in the other, there were numerous foci of tubercular granulations in both lungs and in some of the glands of the body.

Although these experiments do not entirely disprove the infectiousness of tuberculosis, it must be said that they afford strong presumptive evidence of the innocuousness of the air expired by consumptive patients. The two instances of positive results obtained in the last series of experiments emphasize the necessity of disinfecting the sputa of phthisical patients, whether in a large hospital ward or in small apartments occupied by the sick and the healthy.

RHAMNUS FRANGULA AND CASCARA SAGRADA.

We have been favored with advance proofs of an editorial article for the November number of the "American Lancet," of Detroit, in which the author takes the well-known manufacturing pharmacist, Dr. Edward R. Squibb, of Brooklyn, severely to task for his animadversions upon other pharmaceutical manufacturers for "florid advertising," and implies that such criticisms ill become one who has done so much adroit and effective, although disguised, advertising as, the article alleges, Dr. Squibb has done for years. Dr. Squibb's course, the "Lancet" thinks, has been designed to make the medical profession believe that, in not advertising in medical journals or by traveling agents, he has been actuated by ethical motives, whereas he has really only adopted what was to him, a member of the profession, a cheaper and more telling system of advertising his wares by reading papers at medical meetings and by means of his "Ephemeris." The writer cites instances in which Dr. Squibb's published statements seem to imply an intolerance of competing manufacturers, and to have been intended to create the impression that they were not pursuing their business with that strict regard for the advancement of scientific pharmacy that he has generally been credited with. Some of the passages cited from Dr. Squibb's writings may be held to justify this interpretation, and even to show that he considers the medical profession less independent of advertisers' statements than it ought to be in coming to conclusions concerning the comparative merits of different drugs and pharmaceutical preparations. For many

readers, it will be difficult to determine whether or not Dr. Squibb intended to convey these impressions, or to what degree if at all he may have had them in mind when he wrote. For our part, we should be sorry to think that he deliberately took such a position, but we will say that we think it an error to take it for granted that a pharmaceutical manufacturer who is not a physician, and who advertises his products through the usual trade channels and submits them to the medical profession in fair and open competition with others, is necessarily less worthy of esteem and confidence than a pharmacist who happens to have been a medical practitioner, and who chooses to forego all forms of advertising except those which his connection with the medical profession affords.

The "Lancet's" article appears to have been called forth by remarks that were published in the October number of the "Ephemeris," relating to the comparative value of *Rhamnus frangula* and *Cascara sagrada*. Dr. Squibb thinks that one or the other of these trees is superfluous as an article of the materia medica, and he intimates that the choice ought to be given to the *Rhamnus frangula*, although he states that its bark has to be given in rather larger doses than that of the *Cascara sagrada*. So far as it goes, that fact would seem to the ordinary mind to favor the adoption of *Cascara sagrada*, but Dr. Squibb makes other statements which go to show that a better quality of rhamnus bark is generally obtainable than of cascara bark. However, he has had fluid extracts of the two barks made by the same process, one that he regards as the most suitable, and has placed specimens of them "in the hands of many close and careful observers who are as little prejudiced as may be by the florid advertising which one of the agents has received." He hopes that their observations will lead to conclusive testimony as to the comparative value of the two drugs. We hope so too, but we should have been rather more hopeful if Dr. Squibb had seemed to feel confident that he had furnished the products to men altogether unprejudiced. We have not the slightest doubt that plenty of such men could have been found.

MINOR PARAGRAPHS.

THE CASE OF THE CROWN PRINCE OF GERMANY.

LIKE the Garfield case and the Grant case, that of the German Crown Prince derives none of its medical interest from the exalted station of the sufferer. Indeed, except for its having afforded a shining example of Sir Morell Mackenzie's operative skill and an occasion for Virchow to make certain statements concerning pachydermia laryngis, it is of no interest whatever to medical men. Recently, however, an ethical question, purporting to be founded on an alleged slight to the Prince's German physicians, has been raised in a stupid anonymous communication addressed to the editor of the London "Times." The allegations and insinuations contained in the letter are really too destitute of foundation to call for even a summary in our columns, and we mention the matter only that we may express our gratification that one of Sir Morell Mackenzie's colleagues in laryngology, Mr. Lennox Browne, has most loyally and conclusively set the question at rest in a letter likewise published in the "Times."

THE NEW YORK QUARANTINE.

A REPORT lately made at a meeting of one of the Philadelphia medical societies contained corroborative evidence of the existence of the defects recently reported to the Medical Society of the County of New York by Dr. John C. Peters, of the committee on hygiene. This is only one of a number of indications that the people in various parts of the country are beginning to realize the importance of the best possible management of sanitary matters at the chief ports of entry. Perhaps, therefore, the shortcomings that have been pointed out, and that seem to be incurable under the present state of things, may before long be remedied by the quarantine being taken out of the hands of the State of New York, and its control assumed by the General Government.

A PIECE OF NEWSPAPER EFFRONTERY.

AN outrageous prostitution of the columns of one of the New York newspapers in the interests of a nostrum and at the expense of a member of the medical profession has been brought to our notice. A lecture having been given by the physician before an educational association, a cunningly prepared article purporting to be a condensed report of what he said, embellished with a wretched woodcut portrait of the lecturer, was inserted among the reading matter, the latter part of the article being a fulsome laudation of a certain nostrum. While it is not specifically stated that the lecturer gave utterance to any such nonsense, it was plainly the writer's intention that the readers of the newspaper should infer that that was the case. No member of the profession will be deceived, but probably the majority of readers really believe that a reputable and distinguished physician said just what the article was concocted to imply that he said. The affair is exceedingly discreditable to the newspaper in question, and we trust that means may be found to show newspaper men that it is at their peril that they take such liberties with the rights of individuals.

THE FOREIGN VISITORS AT THE NINTH INTERNATIONAL MEDICAL CONGRESS.

OUR general impression has been that, on the whole, the foreign gentlemen who attended the recent Washington meeting of the congress found themselves very comfortably provided for. We are glad to see this impression corroborated by a writer in the "British Medical Journal," who speaks particularly of the excursion to Niagara. It is amusing to observe, however, that he should have considered it worth mentioning that some of the party found to their cost that the hotel bedrooms at Niagara Falls were not safe places of deposit for purses and the like. The fact that they labored under the contrary supposition seems to show that they are not yet in a condition to dispense with the paternal government that in this country is considered superfluous.

ITEMS, ETC.

The Medical Jurisprudence of Inebriety is announced as the subject for discussion at the next meeting of the Medical-legal Society, to be held at the Buckingham Hotel next Wednesday evening. Papers by Dr. Norman Kerr, of London, Dr. Joseph Parrish, of Burlington, N. J., Dr. T. D. Crothers, of Hartford, Conn., Dr. Wright, of Bellefontaine, Ohio, Dr. E. C. Mann, of Brooklyn, Dr. O. H. Hughes, of St. Louis, and Mr. A. R. Dyett, Mr. Clark Bell, and Mr. W. J. Mann, of New York, are expected to be read.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending November 1, 1887:

DISEASES.	Week ending Oct. 25.		Week ending Nov. 1.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever.....	30	6	31	8
Scarlet fever.....	59	11	64	12
Cerebro-spinal meningitis....	2	2	6	6
Measles.....	16	1	30	3
Diphtheria.....	105	24	131	49
Small-pox.....	3	1	1	1

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from October 23 to October 29, 1887:*

GREENLEAF, CHARLES R., Major and Surgeon, will proceed from this city to the places hereinafter named, in the order in which they are named, for the purpose of investigating the methods of examining recruits at the depots and rendezvous located thereat, and of instructing recruiting officers in matters pertaining to such examinations: Baltimore, Md.; Philadelphia, Pa.; Camden, N. J.; New York City and David's Island, N. Y.; Boston, Mass.; Portland, Me.; Albany and Buffalo, N. Y.; Cleveland, Ohio; Detroit, Mich.; Chicago, Ill.; Milwaukee, Wis.; St. Paul, Minn.; Jefferson Barracks and St. Louis, Mo.; Cincinnati and Columbus, Ohio; and Pittsburgh, Pa. S. O. 248, A. G. O., October 25, 1887.

CLEARY, P. J. A., Major and Surgeon. Ordered to proceed from Fort Huachuca to Fort McDowell, and report to the commanding officer for duty as post surgeon. S. O. 111, Department of Arizona, October 18, 1887.

BROWN, PAUL R., Captain and Assistant Surgeon. Leave of absence extended one month. S. O. 250, A. G. O., October 27, 1887.

BURTON, H. G., Captain and Assistant Surgeon. Ordered from Plattsburg Barracks, N. Y., to Watervliet Arsenal, N. Y. S. O. 249, A. G. O., October 26, 1887.

MERRILL, J. C., Captain and Assistant Surgeon. Ordered from Watervliet Arsenal to Frankford Arsenal, Pa. S. O. 249, A. G. O., October 26, 1887.

RICHARD, CHARLES, Captain and Assistant Surgeon. Granted leave of absence for one month, to take effect when his services can be spared by his post commander. S. O. 247, A. G. O., October 22, 1887.

JARVIS, NATHAN S., First Lieutenant and Assistant Surgeon. Ordered for field duty in the Department of the Platte. S. O. 246, A. G. O., October 21, 1887.

JARVIS, NATHAN S., First Lieutenant and Assistant Surgeon. Ordered from the Department of the Platte to the Department of the Missouri for duty in the field. S. O. 249, A. G. O., October 26, 1887.

Marine-Hospital Service.—*Official List of Changes of Stations and Duties of Medical Officers of the United States Marine-Hospital Service for the three weeks ending October 29, 1887:*

BAILHACHE, P. H., Surgeon. To proceed to Buffalo, N. Y., Erie, Pa., Ashtabula, Cleveland, Sandusky, and Toledo, Ohio, as inspector. October 14, 1887.

FESSENDEN, C. S. D., Surgeon. Detailed as chairman of board for the physical examination of cadets, Revenue-Marine Service. October 15, 1887. To proceed to Cape Charles Quarantine Station as inspector. October 26, 1887.

SAWTELLE, H. W., Surgeon. Detailed as chairman of board for the physical examination of officers, Revenue-Marine Service. October 27, 1887.

IRWIN, FAIRFAX, Passed Assistant Surgeon. To inspect unserviceable property at Boston, Mass., and Portland, Me; to proceed to Vineyard Haven and New Bedford, Mass., as inspector. October 8, 1887.

MEAD, F. W., Passed Assistant Surgeon. Detailed as recorder of board for the physical examination of cadets, Revenue-Marine Service. October 15, 1887.

WHITE, J. H., Passed Assistant Surgeon. Leave of absence extended four days. October 21, 1887.

CARRINGTON, P. M., Assistant Surgeon. Detailed as recorder of board for the physical examination of officers, Revenue-Marine Service. October 27, 1887.

FATTIO, J. B., Assistant Surgeon. Granted leave of absence for seven days. October 28, 1887.

PETTUS, W. J., Assistant Surgeon. When relieved at Savannah, Ga., to proceed to Galveston, Texas, and assume charge of the service. October 17, 1887. Granted leave of absence for thirty days. October 21, 1887.

KINTOUN, J. J., Assistant Surgeon. Granted leave of absence for fifteen days. October 19, 1887.

Society Meetings for the Coming Week:

MONDAY, November 7th: New York Academy of Sciences (Section in Biology); Medico-chirurgical Society of German Physicians; Morrisania Medical Society (private); Brooklyn Anatomical and Surgical Society (private); Utica, N. Y., Medical Library Association; Boston Society for Medical Observation; St. Albans, Vt., Medical Association; Providence, R. I., Medical Association; Hartford, Conn., City Medical Association; Chicago Medical Society; Tri-States Medical Society (Memphis).

TUESDAY, November 8th: New York Medical Union (private); Medical Society of the County of Rensselaer N. Y.; Newark, N. J. (private), and Trenton, N. J. (private), Medical Associations; Medical Society of Camden County, N. J. (semi-annual—Camden); Norfolk, Mass., District Medical Society (Hyde Park).

WEDNESDAY, November 9th: New York Surgical Society; New York Pathological Society; American Microscopical Society of the City of New York; Medico-legal Society; Medical Society of the County of Albany, N. Y.; Pittsfield, Mass., Medical Association (private); Worcester, Mass., District Medical Society (Worcester); Philadelphia County Medical Society.

THURSDAY, November 10th: New York Physicians Mutual Aid Association (annual); Society of Medical Jurisprudence and State Medicine; Brooklyn Pathological Society; Medical Society of the County of Cayuga, N. Y.; South Boston, Mass., Medical Club (private—annual); Pathological Society of Philadelphia.

FRIDAY, November 11th: New York Academy of Medicine (Section in Neurology); Yorkville Medical Association (private); Medical Society of the Town of Saugerties, N. Y.

SATURDAY, November 12th: Obstetrical Society of Boston (private).

OBITUARY NOTES.

William M. Chamberlain, M. D., of New York, died at Summit, N. J., on Monday, October 31st. He had been in poor health for a number of months, and his death was not unexpected. The deceased was a native of New Hampshire, and received his degree from the medical department of Dartmouth College in 1853. At different times he practiced medicine in Concord, N. H., and in Hartford, Conn. In 1863 he came to New York, where he succeeded in acquiring an excellent practice, and where he occupied a number of honorable positions.

At the time of his death he was sixty-one years of age. Dr. Chamberlain was highly esteemed in the profession, both for his attainments as a physician and for his qualities as a man.

Letters to the Editor.

THE PREVENTION OF PUERPERAL FEVER.

104 EAST SEVENTY-FOURTH STREET, October 21, 1887.

To the Editor of the *New York Medical Journal*:

SIR: Dr. B. A. Watson, in his article on "Septicæmia" in Pepper's "System of Medicine," recommends, "in all cases where there is reason to anticipate the development of septic diseases, the administration of the alkaline sulphites or hyposulphites as soon after the receipt of the injury as practicable." I would suggest the applicability of this treatment to cases of confinement as a preventive of puerperal fever—that is, the administration, as routine treatment, of small doses of the sulphite of sodium for the first five days after labor.

DAVID PHILLIPS.

THE ABORTIVE TREATMENT OF GONORRHOEA.

NEW HAVEN, CONN., October 31, 1887.

To the Editor of the *New York Medical Journal*:

SIR: With your permission I will answer through your columns the letter of Dr. A. F. Currier in the October 29th number of your Journal. I have for the first time to-day carefully read the very excellent paper by Dr. Currier on "Gonorrhœa in the Female." Before writing my paper on the "Abortive Treatment of Gonorrhœa," I read only such parts of his paper as pertained to abortive treatment. My error in quoting him as using a 60-per-cent. solution, instead of a 60-grain-to-the-ounce solution, of nitrate of silver, occurred in copying manuscript from notes, and I hereby express my regrets for such misquotation.

Dr. Currier's allegations of unacknowledged "borrowings" from his papers are wholly without foundation. I quoted once or twice from authors he had quoted, which unavoidably gives similarity.

For instance, he quotes largely from Sanger, while I attended Sanger's lectures and clinics for one year.

If I appropriated any of Dr. Currier's own ideas without acknowledgment, I wish that he would point them out. If I had read his entire paper, I should certainly have quoted from it, but with acknowledgment.

O. T. OSBORNE.

THE NEGLECT OF HOSPITAL ATTENDANCE BY MEDICAL STUDENTS.

NEW YORK, October 29, 1887.

To the Editor of the *New York Medical Journal*:

SIR: I hope that you will allow me a little space in which to reply to the letter of "A Traveler from New Zealand," which appears in your issue to-day. I fear that, like most travelers, he took only a superficial view of the novelties that he observed on his tour. He seems to have inferred that because he observed a small number of students attending a clinical lecture in one hospital, therefore clinical teaching is defective or omitted in our medical schools. This is what we call generalizing from insufficient data.

I have been long connected with the cause of medical education here, and long identified with medical teaching, and I think I am speaking within the bounds of truth when I say

that to medical students there is offered good clinical material well worked up. It is offered to them in various hospitals, and, as your correspondent says, without price. In this fact, that it is given without price, lies, in my judgment, its greatest weakness. Anything that the student pays for he is likely to appreciate, and conversely that which he receives gratuitously, he is not likely to consider of value. Again, the clinical teachers who are working without salary lack the chief incentive to regularity and painstaking work. The teachers who give didactic instruction in our schools are nowhere adequately compensated for their time, talents, and experience, if we compare their incomes with those of teachers in other branches of science in endowed institutions of learning in this city. In fact, these medical teachers are often forced to eke out a scanty income by engaging in other work besides their teaching—often work of a character not allied with the subjects which they teach, and not at all congenial to them. It would therefore be manifestly unfair to ask them to surrender a part of their income in order that it might be devoted to the improvement of clinical facilities. Where, then, are we to seek relief? Whence is assistance to come?

At present medical education here is upon the same plane as all the other commodities which the New York market affords. Its supply, both in quantity and in quality, is regulated by the demand for it. The public does not demand here a high grade of medical education in the sense in which that is understood in Europe, but it is safe to say that the public gets all that it demands and all that it pays for. But those of us who know what medical education in Europe is have long since thought that the public should receive *more than this*. The public does not know what it should demand in matters of science. Nowhere in the world does science flourish where its supply is regulated by the popular demand for it. Like art, science must be fostered, especially in a young country like ours. *We must have endowments* if we would make good doctors. Nowhere in this city is there an endowed medical school, or even a single endowed chair in a medical school; and nowhere in the world is medical education on a higher plane than it is here, except where handsome endowments exist to foster it.

It is a singular fact that men of wealth and judgment have only within a few years thought it desirable to help medical education *in any way*; but thus far not a single professorship has been endowed in this city among the medical colleges.

Good buildings are very useful—are indeed a primary necessity, of course; but good buildings without an adequate endowment are like a steamship at sea without coal or food. We are doing the best that we can now with sails; but the craft is heavy and the progress is necessarily slow, and, moreover, we are all very hungry.

Although your correspondent from New Zealand seems to have been guilty of hasty generalization, I must admit that he has touched upon a tender spot in our medical organism. Clinical education *is* defective here.

Graded courses do not exist in medical colleges; and until medical colleges are endowed here his strictures will be likely to apply to us with unpleasant force. Clinical teaching is *deferred*; but clinical knowledge is *not exacted* of a candidate for a degree, as proved by a clinical examination.

JOHN SMITH, M. D.,
Professor, etc.

NEW YORK, October 29, 1887.

To the Editor of the New York Medical Journal:

SIR: I notice in your Journal, received to-day, an article by "A Traveler from New Zealand" on the "Neglect of Hospital

Attendance by Students." It is to be hoped that our foreign friend has since visited our post-graduate and polyclinic schools, where the aim is clinical teaching throughout, and also the wards of Bellevue Hospital, where clinical teaching to a limited number of students is carried on throughout the teaching sessions of Bellevue College and the medical department of the University of New York. There are also classes of various sizes held by the younger members of the profession connected with different dispensaries in this city; and the amphitheatres of many of our hospitals are open to students, who attend surgical clinics.

In the Long Island College Hospital the students are daily in contact with the sick, studying every phase of disease, and they are graduated on their knowledge in the practical examination and treatment of patients.

We can not, however, close our eyes to the fact that in New York medical teaching is very largely didactic, and that students do not, except to a very limited degree, avail themselves of the clinical material in our hospital wards. There are several reasons for this neglect of teaching at the bedside, among which we may enumerate: 1. That students have been for so long a time drilled in didactic teaching at the expense of clinical work. 2. That medical clinics in the amphitheatre are practically the same as didactic teaching, the classes being so large that those in the front seats only can avail themselves of the signs and symptoms elicited. 3. That students are graduated after an examination on the didactic instruction, and not on their knowledge of the art of medicine as taught at the bedside. And we might further add that clinical teaching has been prohibited by the governing boards of many of the institutions for the sick in New York. The clinical material in hospital wards in New York is ample for the thousands of medical students yearly studying for degrees, but on the one hand that material ought to be thrown open more freely for clinical purposes, and on the other hand students ought to be taught to appreciate its value. The best way to stimulate interest in clinical study in the student is not by an eloquent discourse on signs and symptoms and morbid conditions, but by making him, under competent supervision, elicit signs and symptoms for himself and accustom himself to the treatment given; and, in the event of death, making him conduct the autopsy in a systematic way, under competent supervision.

To replace, in a measure, didactic by clinical teaching will necessitate radical changes in our present methods of teaching medicine in New York. No one man can hope to teach the *art* of our profession successfully, in any of the practical departments of medicine, to five or six hundred students.

To increase our staff of teachers in medicine, to divide the classes of students into sections, to seek to render the material of all our hospitals available for clinical purposes, and to make the practical examination and treatment of patients a *necessary feature of the examination* for the degree of doctor of medicine, seem to be propositions the importance of which is self-evident, if we would insure a thorough drilling in the art of medicine for medical students.

DUNCAN ROSS.

BROOKLYN, October 29, 1887.

To the Editor of the New York Medical Journal:

SIR: I have just received your Journal of to-day, and have read the letter from "A Traveler from New Zealand" in reference to the neglect of hospital attendance by medical students in this country. The writer of that letter criticises most severely medical education as he professes to have seen it in New York city, and, from his observation of medical schools and medical students in that one city, condemns *in toto* medical edu-

cation throughout the United States. Whether it is true, as he alleges, that it is not only possible but a matter of frequent occurrence in New York for students of medicine to receive their degrees without ever having seen a patient, I do not know. That is a charge which the New York schools can best answer, but I do know that it is not the fact at the Long Island College Hospital, and had your correspondent crossed the Brooklyn Bridge I am sure he never would have written the letter which appears in your issue of to-day, or, if he had, would have excepted this college from the medical schools in which didactic teaching is solely relied upon, and clinical teaching considered of no account. Had he visited the Long Island College Hospital, he would have found a class of one hundred and thirty students spending a large part of each day in direct contact with hospital patients, seeing in the course of their three years of study every form of sickness and injury over and over again, and having opportunities to study these cases in every detail. He would also have seen abundant opportunity for the study of practical obstetrics, some of the students witnessing twenty confinements before they receive their degrees. It is true that, situated as most colleges are, this is not possible in them all, the college buildings and the hospitals not being under the same roof, as they are at the Long Island College Hospital; but I can but think the statement an exaggerated one that medical students in New York graduate "without ever having seen a patient."

It would be very gratifying to the faculty of this college, and an act of justice which he owes to the medical profession of the United States, if your correspondent would, before his departure, visit the Long Island College Hospital and inspect the clinical and other advantages which it offers to medical students. We feel sure that we should be able to convince him that the opinion of medical teaching in America which he has formed from his visit to New York does not apply to Brooklyn.

J. H. RAYMOND.

Proceedings of Societies.

NINTH INTERNATIONAL MEDICAL CONGRESS.

SECTION IN GENERAL SURGERY.

(Continued from page 442.)

Discussion of Papers on Abdominal Surgery.—Dr. W. N. HINGSTON, of Montreal, said, speaking of laparotomy for wounds, that it had been stated that hæmorrhage and shock were misleading, and he agreed to this. Fæcal discharge clearly indicated operation. The rule to operate when in doubt was a good one, for the exploratory incision could not add to the risk. With reference to the length of time required for operation, while it was desirable to operate with all possible speed, all hurry should be avoided. Time was not of so much moment as was generally supposed. It had been asserted that gangrene was not the result of interference with the arterial supply. This was contrary to all his previous ideas, but he was not in a position to deny it. Dr. Senn's paper was, without exception, one of the ablest he had ever listened to. Dr. Homans had spoken of having observed ventral hernia in 10 per cent. of his cases. This proportion struck him as large, and he would ask how he closed the abdominal wall—whether he sutured only the skin and peritoneum, or included everything. He would direct attention particularly to Dr. Homans's statement that he had performed five operations of removal of the ovaries for nervous disease with only one success. This was quite different from

the reports usually made. The removal of normal ovaries appeared to be epidemic in certain places. He had never removed an ovary weighing less than fifteen pounds. The immunity that attended abdominal section had made these operations very frequent.

Dr. J. B. MURPHY, of Chicago, said that in the three cases which he had had there had been no shock, and no appearance of fæcal matter in the wound, although in one case there were eleven wounds. While in the majority of cases the median incision was the best, there were cases in which enlargement of the wound was to be preferred. The operation should be done early, for after severe peritonitis had set in it would be of little service. If there was penetration, an exploratory operation would not add to the danger, and if the intestine was wounded death was certain without it.

Dr. W. F. BECK, of Davenport, Iowa, reported a case in which he had opened the abdomen of a man apparently suffering from intestinal obstruction. He found a portion of the ileum strangulated under an adherent vermiform appendix. He tied the appendix in two places, and divided it. The patient made a complete recovery. There were no antiseptic precautions adopted in this case. With an experience of seventy-eight cases of ovariectomy, it seemed to him that our results were improving, and, as we devoted ourselves more to aseptic surgery and less to antiseptic surgery, that our results would be better. In the treatment of the pedicle he did not use a ligature, but relied on the actual cautery, not having the iron too hot, and applying it to the pedicle held between clamps. After the application the pedicle was allowed to remain five minutes undisturbed, and the clamp was then carefully removed. There was no fear of hæmorrhage after this procedure.

Dr. S. C. GORDON, of Portland, Me., had seen but three cases of ventral hernia in eighty operations. These were due, he thought, to the use of silver wire in closing the abdominal wound. It was difficult to twist silver wire so as not to strangle the tissues. If the part was strangulated, absorption was likely to occur. He now always used silk, and included the transversalis fascia and linea alba. In hysterectomy he had treated the pedicle in an intra-peritoneal way, and 90 per cent. of the patients had recovered. In regard to so-called normal ovariectomy, he had seen patients cured by the operation in which all other measures had failed. He had done Tait's operation in thirty-three cases, with three deaths. Twenty-five of these patients considered themselves well; four or five had not been benefited.

Dr. CORDIN, of Rock Island, Ill., remarked that Dr. Senn had stated that overdistension of the bowel caused longitudinal rupture of the peritoneum. Some years ago he suffered intussusception in his own person, the invaginated portion reaching almost to the anus. After other measures had been resorted to, he injected the bowel through a long rubber tube. There was a sudden report, the bowel returned to its position, and the water entered. In his case the injection evidently passed through the ileo-cæcal valve.

Dr. KREICHER, of Springfield, Ill., would add to the cases of Dr. Parker a successful case of laparotomy for gunshot wound of the intestine in the practice of Dr. David Prince, of Jacksonville. He had seen four cases of intestinal obstruction. The first was one of acute obstruction. He saw the case one week after the onset of the symptoms, and proceeded to the operation. The intestine was in such a condition that the operation was abandoned, and the patient died. In the second case there was, in connection with the obstruction, extensive miliary tuberculosis of the peritoneum, and it was impossible to proceed with the operation. The third case was one of strangulated hernia, although there was no external evidence

of the condition. The patient died eighteen hours after operation. The fourth case was one of one week's duration. An operation was recommended, but not accepted. It was his opinion that cases of intestinal obstruction which did not yield to ordinary medication, injections, and massage, should be submitted to exploratory incision, and the operation should not be delayed.

Dr. SATTERTHWAITE, of Louisville, Ky., remarked that the first thing to determine was whether or not the abdominal cavity had been opened. This could only be done by careful exploration. There might be a valvular opening which would not permit a probe to pass. If penetration was ascertained, the wound should be enlarged and the opening in the intestine closed by sutures, including only the peritoneal and muscular layers. If shock and the passage of feces were waited for, the case would usually prove fatal.

Dr. LINK, of Terre Haute, said that gunshot wounds of the intestine, even if not operated on, were not necessarily fatal. The presence of food in the peritoneal cavity was not of necessity fatal. He believed that many cases of pistol shot wounds of the abdomen with perforation of the intestine ended in recovery without operation. A probe should not be introduced into the opening until we were ready to proceed with the operation.

Dr. PALMER, of Jonesville, Wis., said, in reference to the passage of fluids injected into the bowel through the ileo-cæcal valve, that he had performed a number of experiments on dogs, producing invagination artificially. Rectal injections were then resorted to, with the effect of relieving the invagination in the majority of cases. The same procedure had been resorted to in the human subject with satisfactory results in two cases. If we could relieve intussusception by fluid or gaseous injections, we did away with the need for the knife, and, if they failed, the knife could be used afterward.

Dr. A. C. BURNAYS, of St. Louis, said he would mention, in connection with Dr. Senn's recommendation of intestinal anastomosis, a suggestion which he had made in 1883. In order to form a communication, say between the stomach and intestine, an elastic ligature might be passed into the stomach and brought out a short distance from the point of entrance. The needle with the ligature was then passed into the bowel, brought out, and the ends tied together. Adhesion took place, and the ligature cut through in from twenty-four to thirty-six hours. This would do where one could wait, but, where a communication had to be established at once, Dr. Senn's operation was eminently useful.

Dr. GILMAN, of Lowell, Mass., said that he had seen three cases of pistol-shot wound of the abdomen without operation. In the first case there was a wound of the intestine with death from peritonitis. The second patient had a wound of the stomach, and recovered without a bad symptom. The third case resulted fatally from peritonitis.

Dr. T. G. RICHARDSON, of New Orleans, had recently seen a case in which there was undoubted wound of the intestine, and the patient recovered without operation. The records of the Charity Hospital showed that more than one half the negroes with penetrating abdominal wounds recovered, while more than half the whites died.

Dr. RIDGE, of Kansas City, had seen several cases of knife wound penetrating the stomach, in which recovery had followed without operation, and he thought that he had seen as much damage from the knife as from waiting.

Dr. DAWSON, of Cincinnati, had made several experiments on the cadaver with reference to the possibility of passing fluids from below through the ileo-cæcal valve. In twelve cases he had found it impossible. In one case fluid appeared in the

mouth. Examination showed the valve to be imperfect. In the normal condition it would not allow fluid to pass.

Dr. PARKES, of Chicago, said that the results of his experiments on animals showed the necessity of bringing large surfaces of peritonæum in contact. With regard to Dr. Senn's suggestion for the treatment of multiple wounds of the intestine, he thought that it was not necessary, for the plan of treatment by the continuous suture was sufficiently rapid, and answered the purpose.

Three Cases of Laparo-nephrotomy.—Dr. DONALD MACLAIN, of Detroit, reported the following:

CASE I.—Mrs. A., aged twenty-five years, presented herself with what had been diagnosed as an ovarian tumor. There was a cystic abdominal tumor of about the size of the uterus at the seventh or eighth month of pregnancy. There was no history of renal trouble and there was no evidence that the tumor was connected with the kidney. The patient insisted that it had begun to grow from below. The operation was done with the expectation of removing an ovarian tumor. The left ovary was found enlarged to the size of a goose-egg and was removed. The large tumor was found to arise from the kidney and it was removed. The patient did well for a time, and then suppuration with the formation of a fecal fistula occurred, but the patient finally made a perfect recovery.

CASE II.—Mrs. T., aged forty years, presented herself with a tumor of the left side of the abdomen, which had been discovered six years previously. The enlargement had gradually increased. The tumor when first seen was too high for the ovary and too low for the spleen. The urine was normal. A diagnosis of tumor of the left kidney was made. It was decided to adopt the trans-peritoneal method of operating. A large cyst of the kidney was found. During removal it ruptured, with the escape of a material like soft soap. The posterior layer of the peritonæum was brought together with sutures. The patient did well until the eleventh day, when the temperature went up until it reached 104° F. Examination showed fluctuation in the lumbar region. An opening was made, with the escape of a large quantity of pus. Symptoms of collapse followed this operation, but these were overcome and the patient made a gradual recovery.

CASE III.—A female infant, twenty-two months old. The family history was good. There was a tumor in the right hypochondriac region. This was movable and free from tenderness and pain. Tumor of the kidney was diagnosed and removal recommended. The incision was made just external to the rectus muscle. No difficulty was experienced and the operation was completed in seven minutes. The posterior layer of the peritonæum was closed with catgut sutures. For several days the case progressed favorably, but the temperature remained high. On the fifth day a careful examination was made to determine the cause of the elevated temperature. During the examination the child coughed and the abdominal incision gave way, allowing the intestines to escape. These were replaced and a search failed to show the source of the trouble. The wound was reunited. The temperature continued high and the child died on the ninth day. At the autopsy the posterior layer of peritonæum was found united, and in the space occupied by the tumor a small collection of pus was found surrounding the ligature on the pedicle of the tumor.

The speaker said that, while the lumbar operation might be the safer, there were cases in which the trans-peritoneal operation was preferable. These cases pointed to the necessity of securing efficient drainage, although antiseptic precautions were adopted.

Dr. HERFF, of San Antonio, Texas, quite agreed with Dr. MacLain that in suitable cases laparo-nephrotomy was the proper operation. Some years ago he had had a case of a young woman who was newly married, and when about two months pregnant she discovered a tumor on the right side which was nearly as large as a child's head. She had no pain, and, except that she had this tumor, she was in good health. The tumor, however, annoyed her very much, and she insisted on an operation being done. He therefore opened the abdomen

in the median line and removed the tumor. The remarkable thing about the case was that the tumor, which he had thought an ovarian one, proved to be the kidney and supra-renal capsule. From the lower end of the tumor the lower part of the kidney was hanging, while the upper part consisted of the supra-renal capsule enormously enlarged. Sections of it presented under the microscope the appearance of the long cells of myoma. The patient made a good recovery, and two years after the performance of the operation she was in perfect health. This, while a case of removal of the kidney, was also a removal of the supra-renal capsule. This made the case more remarkable to him because he had never read of its removal for disease.

Dr. HUGHES had had precisely the same number of cases of kidney disease as Dr. MacLain, and he perfectly agreed with him in all but one thing, and that was as to the site of operation. He seemed to prefer the abdominal incision, while in all cases where it was practicable the speaker would give the preference to the side, between the ribs and the crest of the ilium. He had operated in his first case by means of the abdominal incision, the only way that he could do, as the tumor was so large a one that it could not have been brought through the opening between the ribs and the crest of the ilium. The second case was only a tumor of about the size of the fist, and he had operated in the space between the ribs and the anterior crest of the ilium. He had also operated in the third case by incising the lumbar region, and from these last cases he obtained the best results and also avoided opening the peritonæum.

Dr. EDMUND OWEN, of London, remarked that there were at least three factors which must influence the choice of the operation in each case. First, if there were doubts as to the exact nature of the tumor, the anterior operation would be chosen, and, second, if the tumor was very large, the anterior incision must be chosen. Lastly, there was the line of practice of the individual surgeon. The gynæcological operator would naturally prefer the trans-peritoneal incision, even for a small tumor, because that was to a certain extent his own province, while the general surgeon would choose the space between the last rib and the iliac crest, because for some reason, rather indefinite, he did not care to touch the peritonæum if he could avoid it. In a case of diseased kidney which he had removed successfully, he had made the incision through the linea semilunaris.

Dr. HARDEN remarked that he had had a case somewhat similar to one which had been related. In his case he had made the anterior section, but had not removed the tumor, on account of an enormous flow of blood, which would have become so alarming if he had attempted to separate the tumor from its connections that he feared the patient would die, so all further operation had been stopped. The tumor was shown, after the death of the patient, to be a kind of fibro-cystic tumor of the kidney.

Dr. LANGE, of New York, said that a large number of tumors of the kidney where there was fluctuation were pyo-nephroses, usually of very large size. He had operated several times for the removal of the kidney, and performed both the anterior and posterior operations. In the small tumors, and in some of the larger ones, he preferred to make a small lumbar incision, empty the contents of the tumor out as far as possible, and then wait until the remainder of the tumor lessened in size, which it would be very apt to do, so that it could be removed through even a very small incision. Sometimes in renal calculi he had performed laparotomy, or rather the operation in the lumbar region, and then, after making this incision, by placing the patients in bed, lying on their stomachs on a pillow, the kidney would float up when the wound was made, and could then be easily raised and the calculus removed.

Dr. MACLAIN said he had been misunderstood in the discussion, because he chose his operations in the front of the belly, instead of the lumbar incision. There had been very good reasons in each of the cases he had had why the anterior operation should be chosen; the tumors were all too large for the lumbar incision.

Gastrotomy for Foreign Bodies in the Œsophagus.—

Dr. M. H. RICHARDSON, of Boston, read a paper with this title, in which he said that this operation was intended only for the removal of foreign bodies in the œsophagus which had passed so far down as to be lodged near the cardiac orifice. In regard to the length of the incision, it was not fixed; it might be only a very short one, or it might be made large enough to put the hand inside the stomach, so as to reach up into the œsophagus, if that should be necessary in order to extract the foreign body. The incision through the skin should be made over the cardiac end of the stomach, or might be made in the median line, and the incision through the walls of the stomach should be made in the cardiac end of the organ. All the caution necessary in making this was to get the incision made without wounding the convexity of the lesser curvature of the stomach, and, in order to avoid this, the better way was to put the lesser curvature on the stretch. After the opening into the stomach was made, instruments might be introduced for the dislodgment of the foreign body, or, if they were insufficient, the fingers and hand might be passed in, which would enable one to relieve the œsophagus of its burden. As to the scope of the operation, while it was chiefly applicable to the removal of foreign bodies, it might be useful in other ways, as its capabilities were considerable, as had been demonstrated by his experiments on the cadaver. He concluded that if the foreign body was lodged within six inches of the lower edge of the cricoid cartilage, it was best removed by an operation from the side or above, but, if it was situated more than six inches from the cricoid cartilage, gastrotomy was the best thing to be done. He then exhibited a patient from whom he had removed a plate of false teeth by means of gastrotomy.

NEW YORK ACADEMY OF MEDICINE.

Meeting of June 2, 1887.

The President, Dr. A. JACOBI, in the Chair.

Intubation of the Larynx.—Dr. F. HUBER opened a discussion on this subject with a paper embodying a study of forty-seven cases. On the question of the choice between intubation and tracheotomy he referred feelingly to the vain attempts of a child in its exhausted and painful state to make its wants known before intubation enabled it to express those wants in audible tones. O'Dwyer's method was practicable at an age when tracheotomy could not be done. Of his forty-seven patients, twenty-nine were under three years of age, and eleven of them had recovered. Eighteen were three or more years old, nine of whom recovered. In his own practice he had not found it necessary to resort to intubation in cases of laryngeal stenosis treated from the onset in more than about one out of every three or four cases. The cases of recovery which he reported had occurred in patients who, in the judgment of the physicians present, would have died from stenosis but for intubation. One should be sure that the dyspnea was laryngeal before resorting to intubation. The tube might be removed as early as the third, fourth, or sixth day, and exceptionally it was necessary to leave it in ten or eleven days. It was shown that the O'Dwyer tube could be dispensed with sooner than the tracheotomy tube. The author did not favor frequent removal of the tube to administer nourishment; if necessary, it was

easier to insert the stomach tube for that purpose. Medicinal treatment was continued after the introduction of the tube; alcoholic and other stimulants should not be neglected. Intubation gave the patient every advantage afforded by tracheotomy, besides being free from certain objections to the latter. Of twelve cases in which he had performed tracheotomy in children, ten had had a fatal ending.

Dr. JOSEPH O'DWYER discussed the question of feeding after intubation, and showed some tubes modified to overcome the difficulty in feeding. The modifications made in the tube for the purpose of overcoming difficulty in swallowing were various. Those for overcoming certain other difficulties were also explained. They related to the size and shape of the head of the tube, the form of the shaft, the weight, etc. In a recent one the head was made concave, and, while it did not seem to make much difference with regard to swallowing, it possessed the advantage of being more readily extracted. The last modification of moment which he had tried was to give the upper portion of the tube a double backward curve, whereby it was hoped to obviate ulceration of the trachea by the lever action of the lower end of the tube. The difficulty in swallowing was sometimes apparent, not real. It might be due to the fact that the child disliked a given diet, or that it had no appetite, in which case it would reject food even after the tube had been removed. Sometimes swallowing was actually improved after intubation, probably because the child during its dyspnoea was too much exhausted to make any effort at taking food. As a rule the longer the tube remained in the larynx the better the patient could swallow. This was shown in the case of laryngeal stenosis in adults, where the tube had to be worn weeks and months. When the patient was old enough he instructed him to drink as rapidly as he could, and then to cough in order to expel any liquid which might have entered the tube. In only a few cases had he been compelled to resort to the stomach tube in order to give the patient nourishment. The speaker gave some reasons for believing that food was never the cause of pneumonia. There was not evidence, he thought, to prove that the food ever entered the bronchi; it was promptly expelled by cough when it entered the tube. He mentioned cases in which the tube had been worn for months by adults without being followed by inflammatory changes in the lungs or bronchi; on the contrary, in one or more cases an existing bronchitis had been recovered from after the introduction of the tube. The speaker then showed two hard rubber tubes of different sizes for use in stenosis in adult life, varying in make from the metallic tubes only in the fact that the caliber was larger and the tubes were lighter, being of about one fifth the weight of the metallic tubes. The choice between the two materials would probably depend largely upon the peculiarities of the different cases. One of his patients had been better able to wear the heavy tube, another could wear only the lighter one.

Dr. DILLON BROWN presented some statistical records of intubation. With regard to the accidents connected with the tube, they were many, but the unavoidable accidents were few. With the exception of pushing false membrane before the tube, which was a rare complication, the accidents were not important or could be avoided. In two cases which had come under his notice a false passage was made by the exercise of undue force in the introduction of the tube. As to the tube slipping into the trachea, this accident could not happen with one of the later tubes of proper size. In one of his cases the tube was coughed out on several occasions, and, spasmodic dyspnoea recurring, it was necessary to introduce it again. On the twenty-eighth day, however, it was coughed out again, and by the time he reached the patient, two hours afterward, death had taken

place, probably from spasm of the glottis. There was no apparent cause for the dyspnoea.

The pathological anatomy of the laryngeal tract after death from laryngeal diphtheria and intubation was dealt with by Dr. W. P. NORTHRUP, in a paper giving a summary of the facts contained in a paper which he had read before the Academy some months before. Since that time, or within the past four months, there had occurred in the foundling asylum twenty deaths in patients who had had laryngeal diphtheria. In all, there had been measles and pneumonia; eight had scarlatina with measles and pneumonia; thirteen had well-marked nephritis. These points were mentioned to show the severity of the epidemic, which in four months had added twenty cases to the former record of eighty-seven. In this severe epidemic he had found, what he did not before find, deep ulcers, laying bare the tracheal rings at the lower end of the tube, due to the fact that at each act of swallowing the lower end of the tube rubbed against the trachea. These ulcers were sufficiently well marked to be of some moment in five of the twenty fatal cases. He had never seen ulcers worthy of consideration made by the head of the tube. In no case had he seen any evidence that milk had found its way through the tube and down into the finer bronchi. He thought that some harmless substance, such as bone-black, might be put into the milk which would leave its traces in the bronchi or alveoli should any of it enter through the laryngeal tube. He further said that the pneumonia was of the lobular and not of the lobar type, and in not more than one fourth of the cases, he thought, was it the cause of death.

A case of laryngotomy after intubation was reported by Dr. IRWIN H. HANCE, who cited others in which laryngotomy or tracheotomy had been performed after intubation. In his case, O'Dwyer's tube was introduced three or four times, but was coughed up, or removed because of symptoms of obstruction. After laryngotomy the child, aged twenty months, had no further difficulty with breathing, but it died of systemic poisoning from scarlet fever and diphtheria. Of the nine reported cases of tracheotomy after intubation three had ended in death and five in recovery; in one the result was not noted. Some of the reasons for resorting to tracheotomy or laryngotomy after the use of the tube were intolerance on the part of the larynx to the tube, inability to take nourishment, coughing up of membrane obstructing the tube, recurrence of the dyspnoea, and wedging of the tube in the larynx so that it could not be removed through the mouth. Fortunately, something could usually be done to prevent these accidents. The only really serious danger from intubation was pushing membrane before the tube. The speaker would resort to tracheotomy only after intubation had failed.

Dr. O'DWYER, in reply to questions by the president, said that within the last two or three years he had found it necessary to resort to tracheotomy in only one case after intubation, but he would like to see tracheotomy performed in every case in which intubation failed. He presented an instrument for introduction into the larynx and trachea to withdraw obstructing membrane.

The PRESIDENT mentioned a class of cases in which neither intubation nor tracheotomy would give relief to dyspnoea. He had performed tracheotomy in a number of such cases, and no relief had followed the operation because the difficulty lay below the artificial opening. He had understood that both Dr. Northrup and Dr. O'Dwyer maintained that there was no such thing as aspiration pneumonia after intubation. But when it was known how frequently such aspiration pneumonia took place at all ages, he thought it would be well to gather more material regarding its occurrences after intubation.

Dr. O'DWYER said that, while he had no proof that fluids

entered the tube and caused pneumonia, he thought that what amounted to practically the same thing was, that the secretions, being retained in the bronchial tubes, were aspirated into the air cells and were productive of pneumonia. As the secretions could not be expelled with the same amount of ease with the tube in as through the normal larynx, in that way he thought the tube might to some extent be the cause of aspiration pneumonia. Sudden death from dyspnoea after removal of the tube, two cases of which had been reported, he attributed to diphtheritic paralysis.

Dr. A. CAILLÉ had performed tracheotomy twenty-one times with five recoveries, and intubation sixteen times with six recoveries. The cases in which he would choose tracheotomy were those in which, judging by former experience, the preservation of life after overcoming stenosis would depend upon stimulation and nutrition.

BROOKLYN PATHOLOGICAL SOCIETY.

Meeting of April 28, 1887.

The President, Dr. BENJAMIN F. WESTBROOK, in the Chair;
Dr. A. H. BUCKMASTER, Secretary.

The Corset: Questions of Pressure and Displacement.

—Dr. R. L. DICKINSON read a paper on this subject. (See page 507.)

Dr. ELIZA M. MOSHER remarked that the point of greatest interest in connection with the subject was whether the loose corset injured the health of the wearer, and, if so, what could be offered as a substitute. Most girls, according to her experience, wore them sufficiently tight to limit respiratory movements. It was difficult to measure the injury done, since the chest was already crippled and its expansion was below its possibilities. In addition to the thinning of the abdominal wall described by Dr. Dickinson, there was atrophy of the entire surface covered by the corset, with lack of development of muscular tissues due to restricted movement. This was apparent by the often-repeated remark of ladies that they could not sit up straight without their corsets. It was often observed how useless were the arms of most young ladies for any manual labor, even though their lower extremities were capable of long-continued muscular movement. A well-developed nipple was almost an unknown thing with a woman or girl who had worn a corset for any length of time. The respiratory murmur below the fifth rib was very faint compared with the sounds above, and these ladies found it impossible, as a rule, to move the strength "spirometer" the fraction of a degree. From these facts, she concluded that the capacity of the chest had become limited, and the muscular fiber of the diaphragm impaired by the unyielding walls of the corset prison. Not very great compression upon the line of attachment of the diaphragm was required to interfere with its contractile power. Loss of strength in the abdominal muscles and diaphragm prepared the way for a slow and painful, if not instrumental, labor. Loss of respiratory capacity implied increase in rapidity of the heart's movements; this meant weakening of its force, and thus came the cold extremities and easily chilled skin so common in those who wore corsets. She had not been able to demonstrate the displacement of the liver spoken of, because doubtless the examinations were made with the corset off. With a large experience in treating girls suffering from displacements of the uterus (mainly retroversion and downward crowding), little could be done to relieve the sufferers until the corset was laid aside. Active muscular movements and corsets were not compatible, and, unless the corset and its equivalent, tight clothing, were discarded, she was not sure but girls were better off without ac-

ive physical exercise. What could we substitute for the corset which, without producing pressure or displacement, would give the trim and tidy look so much admired by the sterner sex? A good dressmaker had more to do with this matter than the corset had. An under-waist without bones, with skirts snugly fastened to it; a dress-waist well shaped, containing a few bones and loose enough to permit a long breath without limitation—would make nine girls out of ten look just as trim and tidy as a corseted waist. If something more supporting was demanded, the "Ferris waist" was all that was required. Without steels in front, and without bones, if worn loosely with the skirts attached, it might be accounted healthful.

Dr. R. G. ECCLES spoke of the comfort women derived from the corset. He had noticed that the more intelligent the women, the more they were corset-wearers.

Dr. JEROME WALKER spoke of the evils of corset-wearing, among which he mentioned the shallow breathing as particularly objectionable.

Dr. WILLIAM ANDERSON thought if we educated the women to despise the corset it would disappear.

The PRESIDENT remarked that we did not use our chests to their full capacity except when making unusual exertion. A woman under ordinary circumstances had her breathing but little restricted. If the servant laced herself in her ordinary working costume as she did on Sunday, she would suffer severely.

Book Notices.

A Manual of the Physical Diagnosis of Thoracic Diseases. By E. DARWIN HUDSON, Jr., A. M., M. D., Professor of General Medicine and Diseases of the Chest in the New York Polyclinic, etc. New York: William Wood & Co., 1887. Pp. xii-150.

This posthumous work is an enlargement of a small book which was published for the use of the author's students at the New York Polyclinic, and is now adapted for the use of the profession. The first three chapters are devoted to the general principles of physical diagnosis, and to percussion of the healthy and abnormal chest. Chapters IV, V, and VI treat of auscultation and chest acoustics, with a synopsis of respiratory diseases. In Chapters VII and VIII cardiac diseases are taken up, while the closing chapter is devoted to the relation which the pulse bears to diseases of the heart.

Throughout the entire work brevity of expression is one of the conspicuous characteristics, and yet this condensation is not done at the expense of clearness, as is seen in the pages devoted to the synopses of diseases. The different respiratory and cardiac diseases are treated of in tabular form under the divisions of definition, pathology, cause, symptoms, physical signs, diagnosis, prognosis, and a brief outline of treatment. This is one of the best manuals yet published, and deserves a place in the library of every practitioner.

BOOKS AND PAMPHLETS RECEIVED.

Functional Nervous Diseases: their Causes and their Treatment. Memoir for the Concourse of 1881-1883, Académie Royale de médecine de Belgique, with a Supplement on the Anomalies of Retraction and Accommodation of the Eye and of Ocular Muscles. By George T. Stevens, M. D., Ph. D., Member of the American Medical Association, of the American Ophthalmological Society, etc. New York: D. Appleton & Co., 1887. Pp. xiii-5 to 217. [Price, \$2.50.]

Operative Surgery on the Cadaver. By Jasper Jewett Garmany, A. M., M. D., F. R. C. S., Attending Surgeon to Out-door Poor Dispen-

sary of Bellevue Hospital, etc. New York: D. Appleton & Co., 1887. Pp. ix-150. [Price, \$2.]

Insanity: its Classification, Diagnosis, and Treatment. A Manual for Students and Practitioners of Medicine. By E. C. Spitzka, M. D., President of the New York Neurological Society, etc. New York: E. B. Treat, 1887. Pp. 17 to 423. [Price, \$2.75.]

Pathology and Treatment of Ringworm. By George Thin, M. D. London: J. & A. Churchill, 1887. Pp. 7 to 87.

The Diagnosis and Treatment of Eczema. By Tom Robinson, M. D., L. R. C. P. Lond., M. R. C. S. Eng., etc. London: J. & A. Churchill, 1887. Pp. 136.

Wintering Abroad. By Dr. Alfred Drysdale, of Cannes. Second Edition. London: J. S. Virtue & Co., 1887. Pp. 7 to 63.

On the Treatment of Felon without Incision. By L. Duncan Bulkley, A. M., M. D., etc. [Reprinted from the "Journal of the American Medical Association."]

Grand Canary as a Health Resort for Consumptives and Others. A Paper read before the British Medical Association. By Mordey Douglas, L. R. C. P., M. R. C. S. Eng., etc. London: J. & A. Churchill, 1887.

Cholera and Water in India. By M. C. Furnell, M. D., F. R. C. S., etc. London: J. & A. Churchill, 1887.

On the Existence of "Dermatitis Herpetiformis" (of Duhring) as a Distinct Disease. By L. Duncan Bulkley, A. M., M. D., etc. [Reprinted from the "Journal of Cutaneous and Venereal Diseases."]

Hay Fever. The First Prize Essay of the United States Hay Fever Association for 1887. By Seth S. Bishop, M. D., etc. [Reprinted from the "Journal of the American Medical Association."]

A Study of the Considerations relating to the Classification of Skin Diseases, with an Attempt to construct a Logical System in accordance with Fundamental Principles in Etiology. By Edward Bennet Bronson, M. D., etc. Read before the American Dermatological Association, September 1, 1887. [Reprinted from the "Journal of Cutaneous and Genito-urinary Diseases."]

Les sulfureux dans la tuberculose laryngée. Par M. le Docteur Charazac.

New Inventions, etc.

A SET OF INSTRUMENTS DEvised TO CONTEND WITH THE IMMEDIATE DANGERS INCIDENT TO THE ADMINISTRATION OF ANÆSTHETICS.

By EDWARD N. LIELL, M. D.

For some time past I have felt the need of appliances to cope promptly with the dangers not infrequently arising, with but little warning at times, in the administration of anæsthetics.

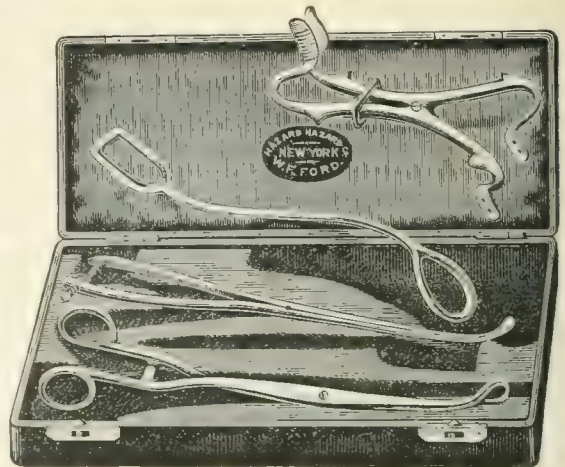
The accompanying cut illustrates a set of instruments designed for the purpose, composed of tongue-depressor, tongue-forceps, sponge-holder, and mouth-gag. So far as I can ascertain, these instruments are the first devised for the purpose, and for the suggestion of which I am indebted to Dr. J. A. Wyeth.

The convenience of such an arrangement not only will commend itself to all surgeons, but can be best appreciated by those who have met with these dangers, be they greater or lesser.

It is only necessary here to refer to the various complications arising not infrequently, during and immediately following the administration of anæsthetics, which interfere with or obstruct respiration, such as rigidity of the maxilla, falling back of the tongue, vomiting, with entrance of food into the larynx and trachea, spasm of the glottis, and vicarious bronchitis from excessive secretion and collection of mucus and saliva, with the consequent dangers arising from a failure to meet these indications immediately.

The tongue-depressor, the instrument one is most frequently called upon to use, is simply a Sims's uterine depressor, somewhat smaller in size and slightly modified, in that one end is oblong in shape, giving a firmer purchase of the palm of the hand upon the instrument, while the

oval end is curved to an angle of about forty-five degrees to meet the required curve of the tongue and pharynx. The employment of the tongue-depressor enables one not only to depress the base of the tongue,



but also at the same time to press it forward, thus raising the epiglottis from its position across the glottis, facilitating inspiration and expiration.

The tongue-forceps is modified after the hæmorrhoidal lock-forceps of Allingham, being not only much lighter in weight and finish, but less resisting to guard against a too firm hold upon the tongue, being also gently curved toward the triangular ends or blades to facilitate its application.

The sponge-holder, unlike any heretofore devised, enables the sponge to be firmly clasped by the separation of the handles of the instrument to their fullest extent and so retained by means of a nut and screw placed between and near the end of both handles. To have the sponge more firmly in the clasp of the instrument, three small teeth project from the inner surface of the sponge-blades into the meshes of the sponge. The mouth-gag has the practical advantage of being a double gag, one not infrequently used, the fulcrum being placed slightly away from the center of the instrument, sufficient to produce both a smaller and a larger gag, and causing both to be self-retaining when in position.

My efforts have been so well rewarded in meeting exigencies arising, and experience has so fully demonstrated the value of these instruments in averting impending danger, that I feel warranted in suggesting their use where such indications present themselves. And, finally, the surgeon who has provided himself with these instruments will find that he will be enabled to cope promptly with the various complications arising not infrequently, both during and immediately following the administration of anæsthetics. These instruments, arranged in a neat case, ten by four inches, so that it may be carried in the coat-pocket, are manufactured by Mr. W. F. Ford, of Messrs. Hazard, Hazard, & Co., Twenty-fourth Street and Broadway, for whose kind attention to details I am deeply grateful.

268 WEST THIRTY-EIGHTH STREET.

Miscellany.

The Hospital for the Ruptured and Crippled.—We learn that Dr. V. P. Gibney has been appointed surgeon in chief, in place of the late Dr. Knight.

The American Association for the Cure of Inebriety will hold its semi-annual meeting at the Turkish Bath Hotel, Brooklyn, on Wednesday, the 9th inst., at noon. Besides the president's address, "On the Responsibility of the Inebriate," by Dr. Joseph Parrish, of Burlington, N. J., papers will be presented by Dr T. D. Crothers, of Hartford,

Conn., Dr. Norman Kerr, of London, England, Dr. J. T. Searcy, of Tuscaloosa, Ala., Dr. J. B. Mattison, of Brooklyn, Dr. T. L. Wright, of Bellefontaine, Ohio, Dr. C. H. Shepard, of Brooklyn, Dr. Albert Day, of Boston, and Dr. D. McGregor, of New Zealand.

The New York Academy of Medicine.—At the next meeting of the Section in Neurology, Friday evening, November 11th, Dr. L. Putzel will read a "Report, with Specimens, of a Case of Myelitis of Pott's Disease which had been mistaken for Cancer of the Vertebrae."

At the meeting of the Section in Surgery, Monday evening, November 14th, Dr. Willy Meyer will read a paper "On Neuropathic Inflammation of the Knee Joint, Arthropathia Tabidorum, with a Case," and Dr. A. M. Phelps will give "A Clinical Demonstration of the Treatment of Obstinate Club-foot."

At the meeting of the Section in Theory and Practice of Medicine, Tuesday evening, November 15th, Dr. Henry N. Heineman will read a paper entitled "What Constitutes a Cardiac Murmur?"

The Medical Society of the State of New York.—We are asked to announce that the business committee for the coming meeting consists of Dr. F. A. Castle, of New York (chairman), Dr. A. Walter Suiter, of Herkimer County, and Dr. J. W. Whitbeck, of Monroe County; and that members and delegates who intend to read papers at the meeting are asked to notify some member of the committee or the president, Dr. Alfred L. Loomis, of New York, before the 20th of December.

The American Exhibition in London.—It is announced in a cable dispatch dated October 25th that Messrs. W. R. Warner & Co., of Philadelphia, received the highest award for the superiority of their sugar-coated pills and effervescing salts.

The Rubinat-Condal Water.—This new aperient has now been long enough before the American profession to enable a judgment to be formed of its value. From the reports that have reached us, and from our own observation, it seems to be as efficient and unobjectionable in its action as any mineral water with which we are acquainted, and to possess a very decided advantage over most of them in the fact that it is not so unpleasant to the taste.

The Washington Obstetrical and Gynecological Society.—The following named gentlemen were recently elected officers for the ensuing year: Dr. Samuel C. Busey, president; Dr. D. W. Prentiss and Dr. W. W. Johnston, vice-presidents; Dr. George Byrd Harrison, treasurer; Dr. Samuel S. Adams, recording secretary; and Dr. G. Wythe Cook, corresponding secretary.

The Smith & Shaw Portable Battery has been used by a number of New York physicians, including Dr. A. D. Rockwell and Dr. Seneca D. Powell, who commend its cleanliness, readiness of action, and general convenience.

The Health of Boston.—During the week ending Saturday, October 29th, the following numbers of cases and deaths from infectious diseases were reported to the Board of Health: Diphtheria, 26 cases and 7 deaths; scarlet fever, 51 cases and 8 deaths; typhoid fever, 26 cases and 5 deaths; measles, 10 cases. There were also 25 deaths from consumption, 14 from pneumonia, 21 from heart disease, 12 from bronchitis, 1 from whooping-cough, and 5 from marasmus. The total number of deaths was 193, against 162 in the corresponding week last year.

Government Health Reports.—By direction of the Secretary of the Treasury, Dr. John B. Hamilton, Surgeon-General of the Marine-Hospital Service, has issued the following abstract of sanitary reports received during the week ending October 28th:

England and Wales.—The deaths registered in twenty-eight great towns of England and Wales during the week ending October 8th corresponded to an annual rate of 17.5 in a thousand of the aggregate population, which is estimated at 9,244,099. The lowest rate was recorded in Wolverhampton, viz., 11.6, and the highest in Preston, viz., 30.1 in a thousand. Small-pox caused 13 deaths in Sheffield.

London.—One thousand two hundred and sixty-five deaths were registered during the week ending October 8th, including 10 from measles, 48 from scarlet fever, 25 from diphtheria, 38 from whooping-

cough, 13 from enteric fever, and 18 from diarrhoea and dysentery. The deaths from all causes corresponded to an annual rate of 15.7 in a thousand. In greater London 1,572 deaths were registered, corresponding to an annual rate of 15.1 in a thousand of the population. In the "outer ring" 7 deaths from diphtheria, 10 from measles, 7 from whooping-cough, and 4 from scarlet fever were registered.

Ireland.—The average annual death rate represented by the deaths registered during the week ending October 8th in the sixteen principal town districts of Ireland was 20.2 in a thousand of the population. The lowest rate was recorded in Sligo, viz., 9.6, and the highest in Kilkenny, viz., 38.1 in a thousand.

Dublin.—One hundred and sixty-four deaths were registered during the week ending October 8th, including 6 from measles, 2 from whooping-cough, 3 from scarlet fever, 4 from enteric fever, 12 from diarrhoea, 1 from dysentery, and 1 from diphtheria. Diseases of the respiratory organs caused 20 deaths. Two accidental deaths and 1 suicide were registered, and in 22 instances the causes of death were uncertified. The deaths from all causes corresponded to an annual rate of 24.2 in a thousand.

Scotland.—The deaths registered in eight principal towns during the week ending October 8th corresponded to an annual rate of 18.1 in a thousand of the population, which is estimated at 1,299,000. The lowest mortality was recorded in Greenock, viz., 12.3, and the highest in Paisley, viz., 26.5 in a thousand. The aggregate number of deaths registered from all causes was 453, including 3 from measles, 19 from scarlet fever, 7 from diphtheria, 17 from whooping-cough, 6 from fever, and 22 from diarrhoea.

Germany.—The deaths registered in fifty-two cities of Germany, having an aggregate population of 6,821,222, during the week ending September 24th corresponded to an annual rate of 20.6 in a thousand. The lowest rate was recorded in Braunschweig, viz., 13.5, and the highest in Darmstadt, viz., 33.8.

Montevideo.—Four hundred and seventy-eight deaths were registered during the month of July, 1887, including 52 from small-pox, 6 from enteric fever, and 79 from diphtheritic croup.

Athens.—The United States consul, in his dispatch dated September 27, 1887, states that the Greek Government has declared a strict quarantine of eleven days on arrivals from all ports on the eastern coast of the Italian peninsula to the Austro-Hungarian frontier.

Naples.—The United States consul, in his dispatch dated September 27, 1887, states that "from the 14th to the 26th inst., both days included, there have been in the city of Naples about 97 cases of cholera, 68 of which were followed by death.

"The number of cases in the surrounding country is not known, but the disease is gradually decreasing."

Rome.—The United States consul-general, in his dispatch under date of October 10, 1887, states that the vice-consul-general has just succeeded in obtaining from an official source the following facts in regard to the cholera in that city:

"From August 16, 1887, to October 7, included, there were buried in the cemeteries of this city 204 bodies of persons certified in a special official register to have died of Asiatic cholera.

"As the ordinary portion of deaths in cases of cholera in Italy during the last four years has been a little less than 50 per cent., it may be safely assumed that there have been in Rome, between August 16th and October 7th, more than 400 cases of cholera. There has been at no time more than 10 burials in consequence of deaths by cholera during any one day since August 16th, and during the week ending October 7th the average number of such burials was less than two per day. On October 6th and 7th there was one such burial on each day. There were on October 7th 10 cholera patients in the lazaretto, and 30 persons detained under surveillance in the house of observation. At one time in August or September there were nearly 300 persons so detained."

Santiago de Cuba.—The sanitary inspector reports for the week ending October 8, 1887, that small-pox has almost disappeared, only 4 cases and no deaths having been recorded for the week. Yellow fever still continues to rage among the troops at the military hospital outside the city limits. Twenty-six cases and 10 deaths have been reported during the week.

Havana.—Ten deaths from yellow fever and 77 deaths from small-pox are reported for the week ending October 15, 1887.

MORTALITY TABLE, FOREIGN CITIES.

CITIES.	Week ending	Estimated population.	Total deaths from all causes.	DEATHS FROM—							
				Cholera.	Yellow fever.	Small-pox.	Typhoid fever.	Etiene fever.	Saltet fever.	Diphtheria.	
Paris	October 8.	2,260,045	829		4			23	1	24	
Glasgow	October 8.	545,078	188					3	6	5	
Warsaw	October 1.	439,174	276			23			10	5	
Calcutta	September 3.	433,219	188							1	
Calcutta	September 10.	433,219	196	12						3	
Amsterdam	October 8.	358,086	143				2	4		5	
Munich	September 24.	209,000	129					1	4	3	
Munich	October 1.	209,000	114							2	
Palermo	October 9.	250,000	88	2						1	
Belfast	October 8.	224,422	77				1	1	3	1	
Genoa	October 8.	179,359	87			9	2			1	
Leipsic	October 8.	170,000	52						1	8	
Trieste	October 1.	150,157	92			9				2	
Stuttgart	October 8.	125,510	37							1	
Toronto	October 15.	120,000	32								
Havre	October 1.	112,074	93					2			
Havre	October 8.	112,074	66					14			
Reims	October 8.	97,903	40							2	
Cienfuegos	October 10.	85,464	25		5	2					
Cienfuegos	October 17.	85,464	21		3	6			1		
Callao	October 1.	34,000	20						1		
Gnayaquil	October 6.	30,000	55			11					
Vera Cruz	October 13.	23,800	15		1						

UNITED STATES.

Sapelo Quarantine Station.—The British ship *Salon*, infected with small-pox, is undergoing quarantine at this station.

Tampa, Fla.—Yellow Fever.—Dr. J. Y. Porter, U. S. quarantine inspector, reports, under date of October 26, 1887, "a total of 225 cases and 34 deaths to date. Fourteen new cases yesterday. About 80 sick now."

New York Quarantine.—The health officer, Dr. William M. Smith, reports, under date of October 26, 1887, as follows: "The steamship *Britannia* was detained in first instance because diagnosis of surgeon of cases died at sea was unsatisfactory. On the 16th instant a case developed that was very suspicious. Autopsy and biological examination confirmed suspicion of cholera—day after conclusion of investigation, 23d, another the 24th. The infection among the *Alesia's* passengers destroyed. There need be no apprehension concerning the *Britannia*."

THERAPEUTICAL NOTES.

Pereirine Hydrochloride as a Substitute for Quinine in cases of malarial fever is highly recommended by Ferreira, of Brazil ("Bull. gén. de therap.," "Med. Chronicle"). In the case of a child to whom quinine had been given, but had been badly borne, on account of irritability of the stomach, two doses of 15 grains of the pereirine salt were given, half an hour apart. In the succeeding twenty-four hours there was a paroxysm, but its duration was shortened, and after a repetition of like doses, the next day, rapid recovery took place, with no further attacks.

Oat Flour in the Treatment of Burns is recommended by Greene ("Brit. Med. Jour."), on the score of its freedom from odor, its soothing and antiseptic properties, its superior healing power, its cheapness, and the ease with which it can generally be obtained at short notice. He directs a paste to be made of equal parts of the flour and fresh (unsalted) lard, to be applied spread on lint or old calico, the application to be renewed every day or every second day, according to the exigencies of the case.

A Fumigation for Asthma.—Sawyer ("Birmingham Med. Rev.," "Lyon méd.") recommends the following as having afforded the best results that he has observed among those of a great number of inhalants:

Potassium nitrate, { each 2 parts;
Powdered aniseed, }
Powdered stramonium leaves 4 "

A thimbleful of the mixture, fashioned into a little cone, is placed on a plate and lighted at the top.

Resorcin in the Treatment of Skin Diseases.—The "Union médicale" credits Ihle with the following formula:

Resorcin 10 to 15 parts;
Castor oil 90 "
Alcohol 300 "
Balsam of Peru 1 part.

This liniment is recommended by the author in the treatment of chromophytosis, eczema marginatum, alopecia areata, and seborrhœa.

ANSWERS TO CORRESPONDENTS.

No. 73.—The society has no legal power of supervision in the matter, but the action it took was quite proper and in the line of its duty to the public.

No. 74.—Address the Smithsonian Institution, Washington.

No. 75.—Dr. E. H. Bradford, of Boston, described the method in this Journal, vol. xxxi, 1880, page 24.

No. 76.—No English translation of the book has ever been published.

No. 77.—Milk is a good vehicle for chloral hydrate.

No. 78.—It was at the Cincinnati meeting, in 1880.

To Contributors and Correspondents.—The attention of all who purpose favoring us with communications is respectfully called to the following:

Authors of articles intended for publication under the head of "original contributions" are respectfully informed that, in accepting such articles, we always do so with the understanding that the following conditions are to be observed: (1) when a manuscript is sent to this journal, a similar manuscript or any abstract thereof must not be or have been sent to any other periodical, unless we are specially notified of the fact at the time the article is sent to us; (2) accepted articles are subject to the customary rules of editorial revision, and will be published as promptly as our other engagements will admit of—we can not engage to publish an article in any specified issue; (3) any conditions which an author wishes complied with must be distinctly stated in a communication accompanying the manuscript, and no new conditions can be considered after the manuscript has been put into the type-setters' hands. We are often constrained to decline articles which, although they may be creditable to their authors, are not suitable for publication in this journal, either because they are too long, or are loaded with tabular matter or prolix histories of cases, or deal with subjects of little interest to the medical profession at large. We can not enter into any correspondence concerning our reasons for declining an article.

All letters, whether intended for publication or not, must contain the writer's name and address, not necessarily for publication. No attention will be paid to anonymous communications. Hereafter, correspondents asking for information that we are capable of giving, and that can properly be given in this journal, will be answered by number, a private communication being previously sent to each correspondent informing him under what number the answer to his note is to be looked for. All communications not intended for publication under the author's name are treated as strictly confidential. We can not give advice to laymen as to particular cases or recommend individual practitioners.

Secretaries of medical societies will confer a favor by keeping us informed of the dates of their societies' regular meetings. Brief notifications of matters that are expected to come up at particular meetings will be inserted when they are received in time.

Newspapers and other publications containing matter which the person sending them desires to bring to our notice should be marked. Members of the profession who send us information of matters of interest to our readers will be considered as doing them and us a favor, and, if the space at our command admits of it, we shall take pleasure in inserting the substance of such communications.

All communications intended for the editor should be addressed to him in care of the publishers.

All communications relating to the business of the journal should be addressed to the publishers.

Lectures and Addresses.

ANNUAL ADDRESS

OF THE PRESIDENT OF THE ALABAMA SURGICAL AND GYNÆCOLOGICAL ASSOCIATION.*

By H. N. ROSSER, M. D.,
BIRMINGHAM, ALA.

It is with no little trepidation that to-day I enter upon the task devolved upon me, as the retiring president of this association, of delivering the "annual message," as required by our constitution and by-laws.

Upon analyzing this feeling, I find that it is not caused by the large attendance of representative men before whom I stand, from other States as well as that of our own, but rather that the eyes of our professional brethren from other sections of the country are upon us, as our association is an innovation, being, as it is, the first of its kind in the Southern States.

This effort of ours is not one of the "new South," but rather emanating from that spirit which has always characterized the men of our section as ready to lead in the van in politics, war, or in science. It is not necessary for me to enumerate the long list of men who have made the history of the South replete with deeds of heroism and of statesmanship. Nor of those in our own profession who have made us justly proud of hailing from the same section of country. It would be out of place, too, for me to attempt to personally mention the names of those who have sought wider fields for the gratification of ambition, and for rendering that relief to suffering humanity which has always characterized the life of the true physician.

The South was the home of Sims, who has been eulogized for his genius at home and abroad, than whom no brighter light ever shone in the galaxy of medical men who have "left their footprints on the sands of time." It would be but a small tribute to his memory if the women of the civilized world, through their united effort, were to rear a monument to his memory, surpassing anything known to ancient or modern history; for it was he, when struggling against the vicissitudes of fortune and of health, who kept ever before his great intellect their sufferings and the means by which they could be alleviated. Nor did he tire; but his efforts were crowned with success, and a new and a wider field for investigation in the diseases peculiar to their sex was opened to the medical world. The mantle of the great Sims has been thrown over a host of great intellects who have not been recreant to the trust, and to-day our section can vie with any portion of the country in the advance of medical thought or of efficiency of surgical operations.

The day has passed when it was necessary for our patients to be sent out of our section for surgical operations or gynæcological treatment, and our local talent stands ready and prepared to give any treatment which may be intrusted to their care.

As the tide of immigration pours in upon us, the physicians, feeling the impetus given to finance, commerce, and the various trades, have prepared themselves for the changed vicissitudes of life, and, knowing the necessity of the hour and recognizing the fact that our population is rapidly increasing, the Alabama Surgical and Gynæcological Association was organized last December, that the physicians of the State themselves, being more intimately associated one with another, becoming acquainted and familiar with their life-work, would give an impetus to the specialties of surgery and the diseases peculiar to women.

We recognize the necessity of thorough organization, and the large attendance at this meeting is but an assurance of the interest manifested in this association and an earnest of its perpetuity.

We have been gratified at the many letters of encouragement received from many of the prominent physicians of the State who were unable, from the press of professional duties, to attend this meeting, but more especially from those of men prominent as surgeons and gynæcologists from other States who have not only encouraged this association, but suggested the feasibility of the formation of a similar association for the Southern States; and, acting upon their suggestion, our secretary with commendable zeal has corresponded with quite a number of physicians of known ability from Virginia, through the Carolinas, Georgia, Florida, and westward across the Mississippi to Texas, asking about the feasibility of organizing an association for the South of surgeons and gynæcologists, and from nearly every one a reply has been received favoring such an organization and promising, if it was formed, to lend his aid toward furthering its success. With this end in view I would recommend that at this meeting a committee be formed to confer with those physicians from other sections of the South who have signified their desire and willingness to organize such an association and to draft plans for a permanent organization. Our Southern ability has already been too long ignored, unless it is transplanted and becomes Northern or Western, and thorough organization is the one plan by which the talent of the South can receive its just recognition.

I can not, in justice to the officers of this association, close this address without first complimenting them for their fidelity, more especially that of our secretary, upon whose assiduity our success to-day has largely depended. His duties have been stupendous, but with characteristic devotion to duty his task has been well performed.

I might with signal propriety refer to many topics which present themselves to mind in this my address to you, but deem it unnecessary, as I have every assurance that the importance of our association to the medical profession at large, and its genial and inexpressible benefits which will ultimately flow to suffering humanity, will soon prove to be axioms, and every avenue to thorough success will be suggested by my medical *confrères*, and the points which I fail to mention will be inaugurated and developed by my colleagues and those who follow me.

I take this occasion to congratulate you that our association one with another has been so pleasant, and that

* Communicated by Dr. W. E. B. Davis, of Birmingham, Ala.

we close our first year of effort with the gratifying assurance that our labors have not been in vain, but will soon culminate, as I verily believe, in a full fruition of the joys which await the workers in every good cause.

Original Communications.

TWO UNIQUE CASES OF

CONGENITAL OCCLUSION OF THE ANTERIOR NARES.*

By WILLIAM CHAPMAN JARVIS, M.D.,

PROFESSOR OF LARYNGOLOGY AND RHINOLOGY IN THE MEDICAL DEPARTMENT OF THE UNIVERSITY OF THE CITY OF NEW YORK.

COMPLETE congenital stenosis of the anterior nasal orifices of the nature I am about to describe must evidently be viewed as an extremely rare condition, inasmuch as, after a careful and conscientious search, I have been unable to find a single case reported in the medical literature of the subject, and the two reported in this paper were the only ones discovered among more than ten thousand patients recorded at my university and Bellevue Hospital clinics, and in private practice. This observation and the fact that I am able to present a case of imperforate nostrils successfully treated by means of my nasal drills and an electric motor, re-enforced by an invitation from our esteemed president to read a paper before this association, are the principal motives which have induced me to infringe upon your valuable time.

The first case to which I shall invite your attention is that of a young man, eighteen years of age, who, though unprepossessing in appearance, showed a fair state of physical development.

He first consulted me in September, 1885, in search of relief from a life-long closure of both nostrils. The gentleman to whom I was indebted for this most interesting case stated that his attention was particularly attracted to the patient's condition by reason of an unfavorable prognosis pronounced in his hearing by a well-known surgeon, which was substantially that the condition of the young man's nose was irremediable, and that he had better submit to the annoying, though not serious, discomfort rather than undergo an operation the successful issue of which was involved in much doubt, a view which appeared quite plausible on making a superficial examination.

On ordinary inspection, the dark outlines of the anterior nasal orifices were seen to be replaced by two cup-shaped depressions about four millimetres in depth. This barrier consisted of a dense, white, glistening membranous wall, fringing the inner face of the alæ nasi, and fusing with the side of the septum lying opposite. The center of the cup-shaped depression in the right nostril was perfectly smooth, not being marked by so much as a wrinkle. A close inspection of the left anterior nasal orifice (Fig. 1) revealed the presence of a diminutive opening, *a*, at its upper portion, capable of accommodating with difficulty the point of a fine probe.

The external nose was large and well developed, excepting an insignificant transverse crease on the right side. An interesting feature was the striking enlargement of both the upper

and lower lips. This peculiarity would appear to afford corroborative evidence of the accuracy of Ziem's view that labial hypertrophy might be present as a result of permanent nasal stenosis. The practice of posterior rhinoscopy was rendered quite difficult, but I finally succeeded in obtaining a satisfactory detailed sketch of both posterior nares.

The vault of the pharynx appeared perfectly free. Each post-nasal opening was distinctly visible; the right one, however, was seen to be imperforate at a point beginning about three eighths of an inch from the free edge of the vomer. The cause of this occlusion was, furthermore, distinctly visible as an extreme deflection of the vomer to the right, even to the point of contact with the opposite nasal wall.

The amplitude of the left choana was naturally increased at the expense of the right post-nasal opening, and it was possible to make out the left inferior turbinated body, although it appeared smaller than usual.

This brief outline will convey a general idea of the anterior and posterior rhinoscopic appearances.

In addition to the patient's personal record of a life-long discomfort from complete stoppage of the nostrils, I was fortunately able to obtain a detailed biography of the individual from the time of his birth.

This information was drawn from the young man's mother, and it might be added to her credit that she proved to be an intelligent and painstaking observer.

I have extracted the following brief notes from the *body* of her narrative, as constituting important evidence of the congenital character of the deformity: About six weeks after the birth of the child her attention was attracted to the infant's nostrils by a slight discharge. Shortly after making this observation she also observed that the child breathed with great difficulty through the nose. She directed the attention of her physician to the nasal difficulty, and, in accordance with his instructions, essayed to syringe the nostril, but her effort in this direction proved futile, for the reason that the fluid immediately rebounded on being projected into the nostrils. Snuff was then prescribed, but it was found impossible to sneeze away the obstruction. During the first year of the child's life she remembers having seen the pin-hole perforation already referred to as occupying the left nostril of the young man. From the moment she first noticed the obstruction in breathing, during the infancy of her boy up to the time of her application to me for relief, her son had never drawn a breath through the nostrils. The misery produced by this condition has proved the burden of her life. Ever and anon has she been aroused from her slumbers by the suffocative sounds made by her son struggling in his sleep for more air.

During these paroxysms the boy's tongue appeared to fall backward into the throat and so block up the only available avenue for the entrance of air into the lungs. It required violent shaking to arouse him from the stupor which accompanied these attacks, which, like similar manifestations observed in children suffering from the obstructive effects of enlarged tonsils, might be attributed to the carbonization of the blood resulting from deficient aeration of the inspired air.

As bearing upon the possibly scrofulous character of this anomalous condition of the nostril, the following notes, given to me by the mother concerning her son's state of health and that of her several children, may prove of interest. Mrs. F. recollects having suffered during her childhood with a nasal difficulty. The present condition of her nostril clearly demonstrates the pre-existence of either scrofulous or syphilitic disease. The external nose is in a state of collapse, a deep furrow running transversely across the dorsum at the level of the nasal bone. The tip of the nose is tilted upward, and anterior rhino-

* Read before the American Laryngological Association at its ninth annual congress.

scopic examination demonstrated the almost entire disappearance of the cartilage of the septum, along with a considerable portion of the vomer and plate of the ethmoid bone. Both nasal cavities are abnormally spacious. She has borne seven children in all. Her first child had been subject to attacks of nose-bleed. One day, while at play, a ball accidentally crushed his nostril, provoking a profuse and persistent hemorrhage, which only ceased with the child's life. The attending physician attributed the fatal result to a ruptured blood-vessel. Another son was subject to severe headaches, which were often accompanied by nose-bleed. He is now fifteen years old and a victim to catarrh. Only three of her children apparently possessed good health.

Diagnostic Conclusions.—Basing my deductions upon the foregoing history and appearances, I would offer the following explanation to account for the origin of this remarkable nasal anomaly: The individual was probably, in the first place, born with a malformed nostril, the evidence of which exists in the form of the misplaced vomer, which could not assume its faulty position either from injury or disease. The right nostril was probably occluded anteriorly by a membranous wall at birth; the left nostril, perfectly free posteriorly, communicated, by means of a small orifice in the anterior nares, with the outside world. Possibly this was cicatricial.

A serofulous coryza, occurring at or shortly after birth, was the probable cause for the discovery of the catarrhal flux and subsequent stoppage of the nasal passage. Contraction of this small orifice of escape evidently rapidly occurred until it was reduced to a mere pin-hole perforation.

The surgical treatment adopted for the correction of the condition just described was commenced on April 26, 1886, the first operation being performed at the University Medical College, before the students. A perforating drill having a quadrilateral cutting face, the four knives being arranged at right angles to each other, was employed to make the preliminary puncture through the dense fibrous membrane. This drill was propelled by an original modification of the common surgical engine. Weber's drill chuck was employed. The right cup-shaped depression having been sprayed with a strong solution of cocaine, the perforating drill, revolving at full speed, was directed against the obstruction, through which it easily made its way, reaching the free space in the deeper portion of the nostril. The instrument being then withdrawn, my rasp drill was introduced within the preliminary opening, which it promptly and freely enlarged laterally. At the conclusion of the cutting, rhinometric measurements showed the transverse diameter of the newly made nasal orifice to be just four millimetres, and the vertical measurement six millimetres. The slight hemorrhage which followed the practice of this procedure was readily controlled by means of a pledget of cotton and did not inconveniently impede the progress of the operation. A free rush of air through the new nasal orifice convinced us of the success of the operation. The edges of the incised obstructing membrane appeared to be about two millimetres in thickness. On a subsequent occasion the right nostril was laid open by a repetition of the above procedure, with slight modifications. My patient, who had been formerly dismissed as cured, called upon me again in April, 1887. An examination of his nostril showed that, whereas the left anterior naris had remained patent, the other nostril had contracted to the size of a useless slit. He had realized so much comfort, however, from the use of his free nos-

tril that he felt impelled to seek relief through another operation for the restoration of the right nostril. In reopening this nostril, I cut more freely with my drills than previously, removing the dense fibrous tissue up to the point of its attachment to the osseous walls of the nose. To insure perfect success, I took advantage of the opportunity and enlarged the already patent nostril to the extent of several millimetres.

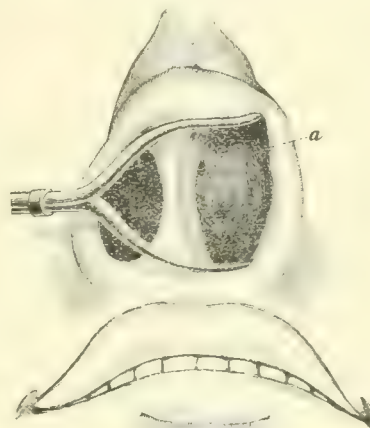


FIG. 1.

These sketches, taken from life, will enable you to appreciate the appearance of the nostrils before and after the performance of the several operations practiced for the relief of this unique and distressing malformation.



FIG. 2.

Electricity was utilized to obtain the motive force for propelling the drill during the second operation. The motor employed by me is known as the C and C motor. Different from the instruments of this kind usually found in the market, the C and C motor is supplied from a single quantity cell or from any ordinary galvano-cautery battery. The armature, which connects directly with the drill, revolves between fifteen hundred and two thousand times a minute. The motor and flexible shaft are manipulated while suspended in mid-air. The motions of the armatures are concealed by means of a metallic shell, which does away with the terrifying effects excited by the sight of the rapidly revolving axes.

By means of an adjustable connecting-rod I am enabled to attach the flexible cable to either side of the armature. It is obvious that this device permits me to use either right

or left cutting drills. The force exerted by the motor is estimated as high as one eighth horse-power.

I also take this opportunity to present two other forms of my tubular drills, which I have termed, respectively, a spiral and interrupted spiral. They are better adapted for cutting through soft tissues than my tubular rasp drill.

The next case to which I shall direct your attention is that of a young woman, aged sixteen, who was brought to me by her step-mother in 1884 on account of an almost absolute stoppage of both nostrils.

As in the case just reported, the nose of this patient possessed neither respiratory nor olfactory value. The girl had been able at times to forcibly expel a little air through the nose. Despite the fact that the patient had never, within the memory of the mother, been able to use the nostrils, there was no deafness. The good hearing possessed by both of these patients would seem to disprove the accuracy of Toynbee's and Lucae's views concerning the injurious tension exercised upon the drum-heads during deglutition in individuals afflicted with nasal stenosis. The general health of the patient was poor. Her intellectuality, I believe, would be placed considerably below that possessed by young women of the same age. Whether this was due to the faulty conformation of her skull or was simply the natural intellectual dullness sometimes observed in individuals afflicted with long-standing nasal stenosis, or both, was an interesting though unimportant question.

Examination.—The first thing particularly noticeable about the young woman was the remarkable expression of her face. This peculiarity resulted from a variety of facial irregularities, conspicuous among which I might mention a flat, retreating forehead, an unusually broad interocular space, and the existence of two extraordinary prominences of the malar bones near each inner canthus. Add to this a drooping lower jaw, and you have a pen-picture of the unsightly physiognomy inherited by this unfortunate girl.

An examination of the anterior nares revealed the cause of the nasal stenosis in the shape of two pale-pink protuberances which appeared to completely block up each inferior meatus. The column of the septal structures was intact, and no portion appeared to be involved in the deformity. My first impression that the two obstructing bodies were extensive turbinated hypertrophies was quickly dispelled upon touching them with a probe. In reality, they were composed of bone, which I afterward discovered was exceedingly dense in consistence. The mucous membrane covering the structures was exceedingly thin. These bodies impinged directly against either side of the septum, and it was found impossible to introduce a probe through the narrow crevice found at the point of contact.

An examination of the naso-pharynx revealed the presence of nothing abnormal in character, and the posterior nares appeared to be spacious and well shaped. Basing my deductions upon the gross appearances just given, and the structural conditions revealed while operating, I felt justified in regarding the formation as a congenital abnormality of the principal bones of the face associated with marked malformation of portions of the anterior nasal framework, especially the inferior turbinated bones.

The bony structure of the turbinated bodies possessed more the character of an eburation than the common osseous shell. Its density was so great that the points of the rongeur forceps frequently clashed together without cutting the bone, although I had succeeded with the same instrument in readily removing ordinary turbinated osseous tissue. These constituted the principal peculiarities of this unusual deformity.

Inasmuch as my surgical efforts did not yield the satisfactory results hoped for, I will not detain you with the details of the operation undertaken for the relief of the patient. It might be worth stating that while she was under the influence of chloroform a channel was cut through the patient's nostril as far as the naso-pharynx, my rongeur forceps being employed for the purpose. The immediate good result—restoration of nasal respiration—proved delusive, inasmuch as the contraction which followed the healing process soon robbed us of the respiratory space we had acquired. Although my proposition to repeat the procedure was not received with favor, I am nevertheless confident that the employment of the electric drill in conjunction with intra-nasal dilators would have been followed by excellent results.

In concluding my remarks, I desire to notice the general significance of congenital occlusion of the nasal passages. This form of nasal stenosis is always referred to as an extremely rare condition. References on the subject are almost exclusively applied to abnormalities situated in the choanæ; or, in other words, in the most obscure and inaccessible portions of the nasal cavities. The majority of these cases were reported as imperforate, the obstruction having the form of a bony plate, which spread like a web over one or both post-nasal orifices, and was directly continuous with the palate bone, of which it formed an integral part. Such a deformity, though demonstrated by a post-mortem examination to be possible, must nevertheless be viewed as almost unique in its occurrence. Though thoroughly convinced of the perfect sincerity of those who have from time to time reported cases of congenital occlusion, I feel, nevertheless, constrained to doubt the accuracy of their conscientious diagnoses.

Furthermore, I may add that I think any one is justified in taking exception to my own or any rhinoscopic diagnosis based upon an examination conducted by means of the finger in place of the mirror. Twenty recorded cases of congenital closure of the posterior nares in otherwise normal noses, many of which were double-sided, and not one of complete bilateral congenital occlusion of the anterior nares, is a disproportion that might well provoke surprise, or even incredulity. An inquiry concerning the unequal existence of these two conditions is most desirable. As one explanation, the strong probability of deflection of the vomer being mistaken for the plates of Luschka might be safely advanced. Congenital deflection of the vomer is a very common intranasal deformity. I have seen the misplaced vomer deflected to the point of contact with the lateral nasal wall. It requires no stretch of the imagination to picture an investigator, whose mind has been preoccupied with the idea of the existence of transverse congenital plates, thrusting his finger against an extreme deflection of the vomer and ratifying this preconceived impression. I consider a diagnosis of congenital transverse osseous plates or membranous occlusion of the choanæ, based upon digital exploration or the use of the probe, little better than mere guess-work. A careful and successful rhinoscopic examination should constitute the only criterion for the formation of such an important diagnosis.

Congenital deflection of the osseous septum has been shown to be an exceedingly common deformity, and therefore requires no especial mention in this connection. I have already considered its hereditary and pathological significance in a paper devoted to the ætiological relations between the malformed septum and pulmonary disease. The septum of heredity is almost invariably associated with an elevation of the roof of the mouth, which can often be traced back to a parental origin.

Finally, in order to indicate the scope of my unsuccessful search for the record of instances of congenital occlusion similar to those just described by me, I might mention the discovery of an interesting case of unilateral anterior stenosis in a cadaver dissected by Delstanche, which proved to be the nearest approach to my own. The left nostril was reported to be intact. The right nostril was imperforate, the *alæ nasi* being absent. Delstanche states that the condition was either congenital or acquired, and he favored the view of its being an inherited condition. It is to be regretted that the most important testimony in this case, the life-history of the individual, could not be obtained.

Instances of acquired stenosis of the nasal passages are exceedingly common, and therefore possess no particular interest for us in this connection. As is well known, they may result from adhesions incident to injuries, ulcerative processes, and abrasions of the septum.

The cicatricial adherence of the septum to the turbinated tissues is a common condition, and often occurs as the result of the free and careless use of caustics, the galvano-cautery, and unskillful operative attempts to remedy the deflected septum. These forms of acquired atresia are merely mentioned to render the presentation of the subject more complete, and to show that they have been properly excluded from the category of congenital occlusions of the anterior nares.

25 EAST THIRTY-FIRST STREET.

ON THE ÆTIOLOGY OF DEFLECTIONS OF THE NASAL SEPTUM.*

By D. BRYSON DELAVAN, M. D.

DEFLECTIONS of the septum, one of the most common conditions of nasal deformity seen at the present day, have been recognized more or less intelligently for many years. Comparing, however, the accessions of knowledge made during the past decade with the amount formerly known of them, we are forced to believe that a new era in their history has been opened, and that the full recognition of their nature and pathological significance has been fairly established.

With regard to their ætiology, however, much obscurity exists, and while this department of knowledge concerning them is full of interest and importance, it is only possible to find here and there a reliable suggestion regarding it. It

has seemed well, therefore, to gather together in one article some of the scattered views upon the subject already advanced, and to bring forward at the same time certain observations and deductions which, in the course of a somewhat careful survey, have occurred to the writer.

And first, as introductory to the main topic and calculated to throw light upon many of its phenomena, it will be well to consider hastily some of the factors concerned in the development of the special and accessory structures which together compose the nasal organ, and to study their possible influence upon the abnormal conditions with which we have to deal. Watson tells us that in the infant the nasal fossæ are relatively smaller in size and much less complex than in the adult, their vertical diameter being remarkably small, the sinuses being not yet formed, and the lateral masses of the ethmoid being still cartilaginous. The cribriform plate of the ethmoid at birth is a mere membranous plane, continuous with the *falx cerebri* of the *dura mater*, and attached behind to the partially ossified body of the sphenoid. The vertical plate of the ethmoid, in other words, is cartilaginous at this period, while the vomer is already ossified. Some months after birth the nasal fossæ extend in all their diameters, and the different sinuses are developed. At the age of two years the frontal sinuses and ethmoidal cells have begun to form, simultaneously with the hollowing out of the antrum of Highmore.

This late development of the central portions of the skull provides not only for a certain amount of mobility in the bones during parturition, but, what is of no less importance, enables the alteration in bulk of the surrounding bones and cavities in the process of growth to go on without any rigid impediment in the center, and the full development of the soft tissues, and especially of the nerves, is possible without the risk of compression by the encroachment of bony deposits in the channels for their transmission.

From what has been said it is plain that, in the history of the development of the nose in the infant, the septum is one of the last parts to assume its ultimate form. Indeed, Zuckerkandl maintains that during this formative period it is always straight, and that deflections do not occur until the seventh year. This latter view, from clinical observation, the writer is inclined to doubt.

Again, the turbinated bones are not formed until a late period in the development of the fetus, the inferior turbinated bone being ossified from a single center, which only appears at birth (Quain).

It follows, naturally, that the tardy development of these parts is succeeded later in the history of the individual by a very considerable activity of growth.

Finally, it will appear that: (a) There is an inequality of development at the outset, the vomer being ossified while the perpendicular plate of the ethmoid is still membranous, and the turbinated bones practically yet unformed. (b) That the process of development goes on with great rapidity at certain periods after birth. (c) That any considerable condition of development is not probable before the age of seven years. (d) Again, the posterior free border of the vomer, looking toward the pharynx, is, as a matter of clinical observation, almost invariably straight. This portion of

* Read before the American Laryngological Association at its ninth annual congress.

the bone is also particularly thick and strong. Its vertical diameter is decidedly less than that of the more anterior part, and it is situated remote from the probability of injury. It therefore seems reasonable to suppose that the straight position is the one assumed at the outset, and that it is maintained posteriorly by reason of the inherent strength of this part of the vomer, by its short diameter, and by its protected situation.

The anterior aspect of the vomer, for exactly contrary reasons, is liable to displacement, and, as a matter of fact, these displacements commonly exist.

These considerations all point directly to the inference that the septum—made up of several plates unequal in strength and in the power of resisting compression, uneven also in development, and, finally, incased in an unyielding cavity closed by the ethmoid above and firmly buttressed by the arch of the palate below—bends in the direction of the least resistance, and, as the process of growth goes on, overdevelopment is attended with a pushing aside of the various parts from their normal planes, and thus the production of deflection results. It is probable that many of the so-called congenital deflections may be thus explained.

The causes of deflection of the septum may be divided into two principal groups:

I. The predisposing.

II. The exciting.

The predisposing causes are:

(a) Race.

(b) Diathesis.

(a) One of the most important and interesting questions connected with this subject is the influence of race upon the development of the nose. That a predisposition toward certain marked characteristics of form should exist among the representatives of a given race is beyond a doubt. Thus, among the ancients, the Assyrian and the Grecian, the negro and the Roman, all presented external characteristics which were unmistakable, and which clearly identified the wearer as belonging to his own particular division of the human family. To-day, as before, the same conditions of race peculiarity prevail, the varieties of form observed among people of the same region being due, in all probability, to the general commingling of races which has occurred throughout many parts of Europe.

Nor is it in the external resemblance alone that this tendency is displayed. The general shape and arrangement of the interior frame-work of the nose seem to follow the example of its outer contour, and the development of deviations from the normal to occur far more commonly in certain types of man than in others.

In the course of studies made upon many thousands of specimens, both in this country and in Europe, the writer has found several suggestive facts:

1. That among European races deflections of the septum are of common occurrence, 50 per cent. of all specimens showing a greater or less degree of deviation.

2. Of the different nationalities of Europe at the present day, the highest proportion of deformed septa is found among the Slavonic and Hebrew races. Thus skulls

of Russians, Bohemians, Poles, and Hungarians are more apt to show deflected septa than those of the Germanic, Celtic, and Norman types.

3. In the anthropological collection of the Peabody Museum at Cambridge, Mass., is a cabinet containing eighteen well-preserved specimens of skulls taken from ancient Roman tombs. Among these there is hardly a single instance in which the septum is straight, while in seven of them the degree of deflection is excessive, and far beyond that usually seen.

From this it would appear that the aquiline type of nose, as illustrated in the Slav, the Hebrew, and the ancient Roman, is particularly apt to be associated with deflection, and there are many mechanical reasons why this statement should be true.

Strange to say, however, the type found by the writer to be freest from deformity of the septum is the American Indian, in whom the aquiline nose is characteristic. Indeed, among hundreds of specimens, it has been difficult to find a well-marked example of deflection, and, of the few discovered, the degree of deflection was generally very slight.

Again, among the Grecian type, deformities of the septum are common, and sometimes severe. These cases, as well as those of aquiline type, are often associated with a high-arched condition of the hard palate; in other words, there is in them a tendency toward the throwing upward of the palatine arch, and a corresponding projection forward of the nasal prominences of the superior maxillary bones.

The general drift of the testimony offered by anthropological collections containing a variety of types is toward the fact that, among primitive types, deformities are rare, while among types representing the highly civilized and luxurious they are of such common occurrence as to become almost the rule. The reason of this may be fairly based upon the following explanation—namely, that in the production of deflections of the septum chronic catarrhal conditions are an important factor, for we know that amid the surroundings of a high state of civilization, or rather of an overcrowded population, there flourish the very conditions of bad hygiene, lack of exercise, overfeeding, mouth-breathing, diathesis, etc., under which catarrh is most apt to occur.

A second predisposing cause of septal deflection is diathesis.

In patients suffering from the rachitic, the strumous, the tubercular, or the syphilitic dyscrasia, deformities of the septum are common, as may be readily observed among such subjects in clinical practice.

II. The exciting causes of deflection of the septum are:

(a) Traumatism.

(b) Local malnutrition.

(c) Occlusion of the respiratory passages of the nose.

(a) *Traumatism*.—In a series of examinations made by Dr. J. W. Robertson, of Detroit, it was found that of two hundred and seventeen subjects of nasal deformity, eighty-three gave histories of injury having been received; and of the ninety-seven remaining, having no such histories, one half had received injuries in early life which had been forgotten, since many of them had dislocations of the cartilages and

fractures of the nasal bones, which could only have been the results of external violence. It would appear from the foregoing that a large percentage was directly due to traumatism. As to the ages at which their deformities occurred, in a total of one hundred and sixty-one children from two to ten years old, only seven deformities existed. Four of these gave histories of injury. In a total of seventy-two children between ten and twenty, there were found twenty-two deformed noses. Of these, six gave histories of injury, while in sixteen the causes were unknown, although five had dislocation of the septum, and one had disarticulation and depression of the nasal bones. A number of these cases were not due to injury gave histories of syphilis, scrofula, or tuberculosis. It would appear, therefore, from these statistics, that a large proportion of nasal deformities manifest themselves between the ages of ten and twenty, a period of great constructive activity, either through the receipt of injuries or through improper development due to malnutrition.

(b) *Local malnutrition*, as was pointed out by Dr. Ingals in his paper read before this association in 1882, is an important factor in the production of deflection. It is even more influential in the formation of the bony spurs, crests, or ridges commonly found at the line of junction of the vomer with the maxillary ridge, and which may so effectually occlude the anterior nares. While it is highly probable that such deformities often originate from injury, it can not be questioned that they are observed to increase regularly in size, under conditions of inflammation of the overlying mucous membrane and consequent supernutrition of the denser parts of the adjacent bone, until dimensions far beyond the original are attained.

Again, deviation of the septum may be associated with general asymmetry of the nasal fossæ.

Such asymmetry, although usually considered congenital, is probably, in most instances at least, due to causes occurring during the growth of the child. The view that stenosis of one nasal fossa may, through the withdrawal from that fossa of its proper nutrition, cause an inharmonious development of that one as compared with its fellow, seems, according to Ziem, to be strengthened by the results obtained by excluding the entrance of air from one nostril in young animals. In these, it has been observed, there was developed a deviation of the intermaxillary bone and of the sagittal suture toward the occluded side; also shortening of the nasal bone, frontal bone, and horizontal plate of the palate bone of the same side; flattening of the alveolar processes; reduction of the distance between the auditory canal and the alveolar process, as well as between the zygomatic arch and the supra-orbital border, and smaller size and asymmetrical position of the vascular and nerve canals on the closed side of the nose, together with inequality of the distance of the two orbits from the median line.

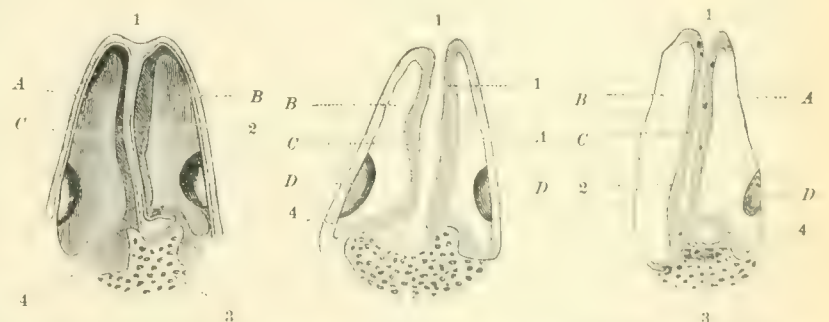
It is easy to believe that occlusion of one nasal fossa in a growing child by a large, turbinate hypertrophy, uni-

lateral hypertrophied tonsil, or adenoid growth at the pharyngeal vault, might, by depriving the occluded side of its proper nutrition, cause general asymmetry, and, with it, serious conditions of deflection.

Finally, occlusion of both nasal fossæ, from any cause, is capable of making the patient a mouth-breather. Now, one of the diagnostic signs of habitual mouth-breathing is the high-arched, narrow, hard palate, associated with which deflection is so often found. The explanation of this must lie in the fact that the septum is crowded upward by the hard palate until it can no longer resist the pressure brought to bear upon it, and deflection results. The cause of the palatal deformity seems most readily explained upon the theory of atmospheric pressure, occlusion of the nasal passages creating in them, through the act of inspiration, a partial vacuum, and thus disturbing the equilibrium of pressure upon the upper and the lower aspect of the roof of the mouth. This inequality of atmospheric pressure, exerted during the infancy and early growth of the child, is sufficient, as seems in many cases probable, to give rise to a permanent condition of deformity of the hard palate, and thus to interfere with the normal development of the septum, which, in turn, is still further distorted by the abolition of the natural process of nasal respiration.

In addition to the more serious conditions of deflection of the bony parts there are commonly found deviations and deformities of the anterior or cartilaginous portion of the nasal septum which are sufficiently pronounced to cause discomfort and to merit attention. They are probably of traumatic origin in nearly every instance. It is not uncommon, either, for the surgeon to see recent cases of actual dislocation of the cartilaginous septum resulting from recognized causes of injury.

Some of these are well illustrated in the accompanying cuts.



Vertical sections through the cartilaginous septum in three different noses. (From Moure, after Löwenberg.)

A, vertical section of the right nasal fossa; B, vertical section of the left nasal fossa; C, section of the septum; D, anterior extremity of the inferior turbinate; 1, cartilage of the septum; 2, Schneiderian membrane covering both sides of the septum; 3, maxillary ridge.

These, however, are more apt to be due to the habitual bending of the tip of the nose in a given direction, as in blowing the nose with one and the same hand, and, since it is a matter of history that misshapen alæ in the young may be made straight by a process of systematic molding, there seems no reason why the converse should not be true. The last-mentioned conditions are important, and deserve more care than they have hitherto received.

From causes so diverse as those which have been herewith presented, and in an organ the size of which is considerable and the relations of which are somewhat complex, it follows that the structural deformities which may occur are greatly varied, both as to character, position, and degree. To discuss them in detail does not come within the limit of this paper, and is besides unnecessary, since they have been well described elsewhere by other writers. It is probable that with a better understanding of the subject the special causes of the different recognized forms of deflection will be more precisely classified. At present we may hazard the following general statement:

1. That deflections of the cartilaginous septum are due, as a rule, to trauma.

2. Bony ridges along the line of suture of the septum with the superior maxillary bone are often initiated by trauma, and subsequently aggravated by supernutrition; otherwise they are due to hypernutrition alone.

3. Deflections of the nasal septum proper may be due either to trauma or to improper nutrition. They are generally due to the latter if situated posteriorly.

In conclusion, it must suggest itself to all that variety of deformity demands variety of treatment, and that to meet the requirements of each case many different expedients must be employed. It is as impossible to relieve all of the various forms of deflection of the septum by any one method of operation as it would be to treat all fractures occurring from the ankle to the hip with one form of apparatus.

ELECTRICITY IN GYNÆCOLOGY.*

By A. D. ROCKWELL, M. D.

I TAKE great pleasure in complying with the invitation of your president to fill one of the evenings devoted by the physicians of Harlem to the consideration of practical medical and surgical topics.

My theme will be the relation of electricity to some of the diseases of women, a subject that of late has excited no little interest, and mainly through the labors of Apostoli, of Paris, the leading apostle of a better therapeutic method in this special department of medicine. At the outset I beg to disclaim any pretensions to expertness in gynæcology. Electricity undoubtedly finds its widest field in neurological cases, to which I have mainly devoted myself, and yet it is by no means to be restricted to these conditions. It is of value in ophthalmology, laryngology, dermatology, and obstetrics, but, aside from neurology, it is in certain gynæcological cases that its greatest efficacy lies. While, therefore, not a gynæcologist in any strict sense, yet my work along the line of electro-therapeutics has led me to see much of the diseases peculiar to women, and I may fairly lay claim to some little experience in that direction. I have for years believed that electricity should hold a far higher position in the armamentarium of the gynæcologist than it has yet held, for long ago, before it had even a foothold in medical science and when blind empiricism was the only basis for its use, it frequently

wrought cures after the failure of known and accepted methods of treatment.

Electricity in its relations to those three cardinal symptoms of deranged menstruation—amenorrhœa, dysmenorrhœa, and menorrhagia—was as capricious and paradoxical as it sometimes proved to be in its application to nervous derangements. It would excite the menstrual flow when absent, decrease it when profuse, and temporarily and sometimes permanently relieve the pain that might be attendant upon these conditions, and then, again, in other cases would fail utterly to accomplish what previous experience had given us every reason to expect. Its action was a seeming paradox in that it relieved diametrically opposite conditions, and capricious because at one time it would relieve and at another fail to do so. As a matter of fact, however, the remedy is neither capricious nor paradoxical in its action.

It works in accordance with certain fixed laws, and its chemical activity is under such perfect control that it will perform for us the exact measure of work desired, so that now, with our better knowledge of its physics and its physiology, and by the aid of correct current measurements, and electrodes properly adapted, it is possible to obtain far better results in the future than in the past. The seemingly capricious action of electricity, then, in conditions of disordered menstruation, is in great measure due to our imperfect knowledge of the various factors that go to make up these morbid states, and as increasing knowledge enables us to fit more accurately the remedy to the disease, so shall we with greater certainty be able to differentiate between those menstrual derangements which can and those which can not be cured by electricity. I will first say a few words about amenorrhœa, dysmenorrhœa, and menorrhagia as they occur independently of any uterine growth.

In amenorrhœa, electricity is more especially indicated in those cases that are dependent on some constitutional cause associated with chlorosis, and upon imperfect development or atrophy of the organs of generation. It is needless for me to say that in chlorosis and anæmia, amenorrhœa is the natural condition, and efforts to force the menses by any form of local treatment would be entirely out of place. On the contrary, it is, I believe, understood that where menstruation persists along with a decided anæmic condition, the lining membrane of the uterus may itself be diseased and call for local treatment for the purpose of *stopping* the flow. It is in amenorrhœa existing as a symptom of anæmia that electricity, through general and not local methods of application, is especially indicated. It is not to be used to the exclusion of iron and other tonics, but in conjunction with them. Treated in this way, cases of long-standing anæmia—with their associated symptom, amenorrhœa—will recover far more rapidly than when internal medication alone is relied upon. Great mistakes are committed in the treatment by electricity of amenorrhœa associated with anæmia in applying the galvanic current directly to the uterus.

Localized galvanization is not indicated in these cases; on the contrary, as I have had abundant occasion to observe, it tends to induce a condition of nervous irritation that is exceedingly unpleasant. It is in these conditions of amenorrhœa where the patient is weak and anæmic, with perhaps

* Read before the Harlem Medical Association, October 20, 1887.

other indications of constitutional disturbance, that the faradaic current is strongly indicated over the galvanic. On the other hand, in those cases of amenorrhœa where the patients are robust and of full habit, galvanism is likely to be of far greater service than either the faradaic current or franklinic electricity.

Another well-recognized cause of amenorrhœa is atrophy, as well as arrested development of the uterus. The well-known power of electricity to variously modify nutrition would indicate its use in these conditions; practically I have found it to be efficacious in several cases, and see no reason why it should not always be of more or less service. In superinvolution, also, it may be tried with expectation of success, provided there is evidence of active ovulation.

If there are no such evidences, the probabilities are that neither electricity nor any other remedy will be of service.

Dr. Fordyce Barker has enumerated the following symptoms at or near the menstrual period as evidence of the existence of ovulation associated with superinvolution: intense headache, flushing of the face and congestion of the eye, pelvic pain and sense of dragging, with nausea, vomiting, etc. It is interesting to note that in the single case of superinvolution that I have successfully treated, all of these disturbing symptoms were present, and all disappeared with the return of menstruation.

I may add that in this case the condition followed a dangerous and difficult labor. For two years menstruation had appeared but once or twice, and upon measurement the uterus was found to be but one inch and three fourths in length.

Dysmenorrhœa.—Speaking from no inconsiderable experience in the treatment of the disorders of menstruation, I confidently assert that the greater number of cases of dysmenorrhœa, taking the cases as we find them in ordinary practice, can be very much relieved by electricity and many of them permanently cured. From this standpoint, therefore, it seems to me not a little singular, as well as a notable defect, that the subject is dismissed with such brief notice, and sometimes not even mentioned, in most treatises and monographs devoted to the diseases of women. Obstruction to the free flow of blood must be regarded as the main cause of painful menstruation, and when this obstruction is due to mechanical causes, such as stenosis, the electrolytic method is to be used.

In the vast majority of cases, however, while there may be often found changes in the lining membrane of the uterus, there yet exists no serious structural change or mechanical obstruction. Whatever the condition of the endometrium, which fails to allow the free flow of blood into the cavity of the uterus, thus causing distension and pressure with pain of greater or less severity, the free and steady flow of the galvanic current through the uterine organs is most efficacious in relieving this congestion and preventing pain.

It should be applied just before menstruation and repeated every day if necessary until the flow appears. In those cases where there is usually a long struggle and great delay I have, by these applications, frequently caused the

menses to appear promptly on time, and without the slightest suggestion of pain.

The faradaic current will occasionally relieve dysmenorrhœa, but for obvious reasons it has no such influence over the condition as galvanism. Another cause of dysmenorrhœa, for the relief of which I have good reason to place great faith in the absorptive action of the galvanic current, is the pressure occasioned by the exudations following attacks of pelvic cellulitis. In these cases the treatment must often be prolonged, and months may be consumed in the efforts to dissolve the products of exudation, but the results that follow more than compensate for the time and trouble expended.

Menorrhagia.—The medical use of electricity has not such influence over excessive as it has over painful menstruation, although electrolytic treatment when uterine fibroids or polypi are the causes not infrequently effect most marvelous changes. I have, however, met with several cases of menorrhagia occurring toward the decline of sexual activity where simple external applications by the method of general faradization have proved most effective measures of relief. These cases are generally associated with constipation, torpidity of the liver, and often with nervous exhaustion, and the indications are excellently met by the powerful constitutional effects of this most valuable method of treatment.

When discussing the subject of electricity, my inclination is always to dwell upon and emphasize the importance of general faradization.

For twenty years it has been an indispensable part of my practice, and the enunciation that I then and have since made of its range of usefulness I see no reason now to change. It is an old story, and I will not further dwell upon it, but would urge every one who uses electricity at all to make himself familiar with the *rationale, modus operandi*, and effects of general faradization.

Fibroids and Pelvic Exudations.—I now come to what I more especially have in mind in calling your attention to the use of electricity in gynæcology, and that is the treatment of fibroids by electro-puncture, and old exudations by currents of greater efficiency than have hitherto been attempted. As I remarked at the outset, and as you are all aware, to Apostoli, of Paris, belongs the credit of boldly overstepping the bounds thought to be safe in treating the uterus and its appendages, and using currents of great power.

Now, while acknowledging the indebtedness of gynæcology to Apostoli, and fully appreciating the great benefit that must accrue from the more general use of the better methods now at our command, I do not believe that a more extended experience will fully confirm all that has, with so much enthusiasm, been maintained by some of his followers. We must not ask of electricity more than it can give, and it has already been very generous. It is not a universal means, and we must not make it a panacea, for fear of falling into charlatanism; let us avoid with care anything that will bring us near it. Hitherto one important defect in the treatment of morbid growths, both internal and external, has been the use of too weak currents. This has

been due partially, perhaps, to a commendable caution in dealing with an agent so potent as electricity, but more to our lack of definite knowledge of the amount of current strength needed to accomplish certain ends, and our inability to readily command more than a certain limited working power from the apparatus in ordinary use. A third obstacle was the absence of any instrument by which the current could be accurately measured, and this to the novice was a defect practically insurmountable in his efforts for anything like uniform results.

The improved milliamperemeter has overcome this difficulty and is indispensable in all electro-surgical operations, besides being a vast aid in all electrical applications. Instead of a strength of current equal to only ten to thirty milliamperes, which was commonly used, and which indeed was all that could be obtained from the appliances in use, it is now no uncommon thing to use currents even of several hundred degrees of strength. For this purpose the external electrode must not only be material of the best conduction possible, but of suitable size and sufficiently flexible to be perfectly adjusted to every inequality of surface which it covers. The strength of current from a given number of cells is directly in proportion to the size of the electrodes.

Thus, if from a series of cells fifty in number we obtain, when the current is passed through electrodes of a certain size, a strength of fifty milliamperes, electrodes of similar pattern, but double the size, will yield a current strength of one hundred milliamperes. As to the quality of the electrodes, sponges are too bulky and offer too great resistance when our object is strength of current.

As a substitute, Apostoli uses sculptor's clay, held in place by gauze. This material holds moisture fairly well, can be adapted closely to the skin, and is undoubtedly an admirable electrode. The electrodes that I ordinarily use, however, for purposes of local application consist of layers of absorbent cotton spread smoothly over flexible metal backs of varying size.

The material is easily obtained, and so inexpensive as to warrant a fresh supply for every patient. In all this, reference is, of course, made to the external electrode, which, in the treatment of the uterus and its appendages, is usually placed upon the abdomen.

The internal electrodes consist mainly of a small metal bulb attached to a long insulated stem for application to such portions of the uterus as can be reached *per vaginam*, of a metal probe electrode for intra-uterine applications, and of needles of varying sizes and lengths for the purpose of electro-puncture.

Much has been written about positive and negative electro-cauterization, by which is meant the application of the bare metal electrode, using a current of sufficient strength to produce actual cauterization. I have no hesitation in saying that by this method, especially when the cavity of the uterus is treated, it is possible to inflict much damage. That it is occasionally a useful procedure, especially in the treatment of stenosis of the cervix, is true; but it can not often be necessary to deal so heroically with the delicate tissues of the interior of the uterus. In all efforts to obtain

absorption of the products of exudation the electrode should be properly covered. In this way currents of great strength can be used possessing remarkable powers of absorption, but with little, if any, tendency to injure the intervening mucous membrane. As illustrative of the satisfactory results that may follow this comparatively mild but efficient method, I will narrate a case that has only lately passed from under my care. It is very similar to a number that I have had, and to one that was reported some time ago.*

Mrs. K., aged twenty-nine, was married at the age of twenty-two, and had given birth to three children.

After the birth of the last, three years ago, she suffered from several mammary abscesses, and also from an attack of pelvic cellulitis.

After the lapse of eighteen months her menses came on, and have since appeared at irregular intervals, being sometimes scanty and sometimes profuse, and always attended with excessive pain. Aside from these local symptoms, the patient was far from well, complaining of an army of symptoms, nearly all referable to the nervous system.

She was sleepless, hysterical, despondent, and was, according to the physician under whose care she had been for the previous six months, and who, strange to say, had never made an internal examination, simply "neurasthenic."

I found an enlarged uterus, and indurations almost encircling the os and extending along the pelvic floor. Covering the internal electrode with a sufficient layer of absorbent cotton, I applied it to the diseased parts, placing the flat external electrode (dimensions, four by six inches) over the abdomen. With the electrodes thus in position, I slowly increased the strength of the current from twenty to fifty milliamperes, continuing the application for ten minutes.

This she bore very well, so that from time to time the strength was increased, until occasionally, for a very brief period, she would receive as high as one hundred milliamperes.

This patient was under my care for four months, and received some forty-five applications similar to those described. After the administration of six of these applications, an entirely painless menstruation occurred, and every menstruation since has been of the same character. Not only has the dysmenorrhœa been subdued, but the courses come on with a reasonable degree of regularity, and are nearly normal in appearance and quantity. The exudations have in great measure disappeared by absorption, and *pari passu* the constitutional symptoms improved.

It is in the treatment of fibroid tumors of the uterus by electrolysis that the new departure in regard to greatly increased strength of current is more especially applicable.

If the tumor is in a position to be readily reached, there is no question of the propriety of resorting to electro-puncture, nor of its good effects, any more than there is of the results that may follow simple local galvanization. The difference between the two is, that local galvanization of the tumor is a slow and tedious method, occupying months to accomplish even a small reduction, while electro-puncture produces far greater effects in a much shorter space of time. It is almost incredible how many symptoms sometimes disappear after the very slightest reduction in the size of a fibroid tumor, or of an enlarged uterus, or of the products of inflammation, and for this reason the

* "Medical Record," December 5, 1885.

simpler, safer, and less disagreeable procedure is by no means to be despised, when, for any reason whatever, the other is not feasible. I have seen a good number of cases where difficulty and pain on micturition—due to pressure on the neck of the bladder, rectal difficulties due to pressure there, dysmenorrhœa, and menorrhagia, together with other pains, and impaired locomotion—have been either cured or greatly alleviated by simple local galvanization, which has only succeeded in dissipating a small fraction of the supposed cause of these symptoms.

Nor will electro-puncture, as a rule, entirely dissipate a fibroid tumor, although it will reduce it far more than the simpler method. But, if it will not entirely dissipate it, it will, to use an expressive term, so shrivel it that it becomes quite harmless, and the patient symptomatically cured.

In the treatment of fibroid tumors, then, if any should desire to test the efficacy of electro-puncture, the following suggestions may prove of service: The first requisite, of course, is an apparatus with a sufficient number of cells, needles for introduction into the tumor, and a proper external electrode. The second requisite is a milliampère-meter with a registration of over a hundred, and at the same time, if possible, one that does not oscillate so persistently as those in common use.

Excepting in those cases where the object is to control hæmorrhage, the needles should be attached to the negative pole, while the positive pole for application over the abdomen should consist of an electrode similar to those that have been already referred to.

Those that I have more recently used consist of a flexible metal back, five inches wide by eight long, and covered by several layers of absorbent cotton, so as to present a perfectly smooth and even surface.

This is placed upon the abdomen, and may be pressed upon and kept in position by the hand of the patient herself, if no assistant is present. The needle or needles are now introduced into the tumor, and the current gradually increased without interruption until the required strength is obtained.

I have myself never used more than one hundred and fifty milliampères, although Apostoli and some others have used currents considerably higher in tension.

The duration of the séance may be from five to ten minutes, and even longer, if the patient bears it well. Too much stress can not be laid upon the necessity of an entire absence of any interruption of the current during the treatment. In trivial operations where the tension is slight this is not of such vital importance, but in the treatment of conditions where a very great strength of current is necessary a shock would decidedly disturb a patient of even strong nerve, and inflict serious damage on many. No one would willingly do this, but there are so many possible disturbing factors to the steady working of the current that, from my personal knowledge of the condition in which physicians too frequently keep their electrical apparatus and appliances, these interruptions are liable to occur at any moment and when least expected or desired. It is to be doubted whether many patients would submit them-

selves to a second trial after having received a shock from a current strength of one hundred milliampères.

Case of a Fibroid Tumor Associated with Dysmenorrhœa, Menorrhagia, and Many Nerveous Symptoms; Electro-puncture with Currents of 100 Milliampères greatly reduces the Growth and Practically cures the Menstrual Disturbances and Associated Constitutional Symptoms.—Mrs. M., aged twenty-nine, consulted me, May 2d of the present year, for symptoms other than uterine.

She suffered a good deal from neuralgia, was decidedly anæmic, and in a poor condition generally. She complained of leucorrhœa and an irregular and unsatisfactory menstruation that was usually attended with much pain and an excessive flow. She incidentally mentioned that she had a tumor, but supposed that nothing could be done for it.

I examined her and found what appeared to me to be a sub-mucous fibroid that had distended the uterus to a considerable degree. I first introduced into the vagina a metal electrode properly covered, and concentrated a current of 50 and finally of 75 milliampères, as nearly as possible, through the fibroid mass.

This I repeated twice a week for a month, and, although the appreciable diminution in size was but very slight indeed, there was an undoubted improvement in the character of the two menstruations that occurred in the mean time.

I now introduced a needle, insulated to within half an inch of the point, well into the tumor, placing the broad external electrode over the abdomen. The needle was connected with the negative pole, and the strength of current gradually increased to 50 milliampères.

One week subsequently I used a current of 75, increasing it at the third treatment to 100 milliampères. At intervals of a week I made four more applications similar to the last, with the result of so reducing the size of the tumor as to lead me to the belief that it was not more than one half its original size. I then found it difficult to further use the needles, and for two months more resorted every few days to applications such as were first attempted. This patient may now be considered well, so far as her symptoms are concerned. The tumor has by no means entirely disappeared, but she suffers no more either from dysmenorrhœa or menorrhagia, and can freely engage in exercise and manual labor almost equal to her best days.

The results following galvano-cautery and electrolysis vary according to the pathological condition, and are worthy of study.

The statements which I here make are based mainly on observations in a great number and a large variety of external tumors, but they are in all probability equally applicable to internal growths.

Many years ago, through the kindness of the late Dr. James R. Wood and Dr. Frank H. Hamilton, I experimented upon quite a number of benign and malignant growths in the wards of Bellevue Hospital, with results that were subsequently of the utmost value to me. I then found that scirrhus cancers, although they could not be cured by electrolysis, could be very much relieved as regards pain, and the size sometimes considerably diminished. I found also that electrolysis, if it failed to do more than relieve the pain, had no tendency, if properly used, to excite ulcerations around the point of entrance of the needle. That it is capable of doing this, however, I had occasion to see the other day in consultation. Quite strong and frequently

repeated currents had been used through large uninsulated needles. The result was a circular raw mass, projecting above the surface, which refused to heal. Myxo-sarcomas act badly under electrolysis. Around the point of entrance of the needles slight ulceration at first appears, and subsequently unsightly fungoid growths. The treatment in these cases undoubtedly tends to hasten rather than to retard their progress. Sarcomas do not ulcerate so readily, but they can not be treated with the same freedom as scirrhus.

Fatty tumors can be treated by electro-puncture and by very strong currents, not only without bad effects, but with the prospect of very materially lessening their size in many cases, and occasionally causing them to entirely disappear. Fatty tumors are, of course, very bad conductors—much worse than the hard fibroids which electrolyze so slowly—yet they do disappear.

This fact leads me, in conclusion, to refer to the two methods of action through which we obtain results from electrolysis. The first and most apparent is the absolute destruction of tissue which takes place at the time of treatment. It is unnecessary for me to enter into the physical details preceding and accompanying the destructive action of the galvanic current. It is sufficient to say that a molecular separation takes place, more or less marked, according to the density or softness and fluidity of the tissues. Some suppuration may follow, and thus, by an actual loss of substance apparent to the sight, the tumor decreases in size. If, however, these were the only active forces in the electrolytic process, the method would lose much of its effectiveness. If this be not so, how can we account for the many well-attested cases where morbid growths have entirely disappeared under simple external applications? Herein is the difference between the electrolysis of organic and inorganic substances. In the electrolysis of inorganic substances the effects cease as soon as the current ceases, the substances remaining in the condition that the current left them. The electrolysis of organic substances, on the contrary, starts a process that continues long after the current ceases to flow. Besides this subsequent effect, this retrograde metamorphosis, as it has been termed, the current penetrates the tissues, and induces various important changes beyond and beneath the eschar, and these combined agencies do far more in many cases to diminish the size of morbid growths and prevent further development than an actual destruction of a limited area.

OBSERVATIONS ON THE CHOLERA BACILLUS AS A MEANS OF POSITIVE DIAGNOSIS.

By S. T. ARMSTRONG, M. D., AND J. J. KINYOUN, M. D.,
UNITED STATES MARINE HOSPITAL SERVICE.

On September 24th it was reported in the public press that the steamship *Alesia* had arrived at the port of New York on the previous day, having had 609 immigrant passengers on board, of whom eight had died of cholera *en voyage*, and several suffering from that disease had been admitted to the Swinburne Island quarantine hospital on arrival. According to the captain's report, the first death had

occurred September 12th, the rest of the deaths occurring and cases developing within eleven days. Subsequently new cases, some fatal, occurred.

At the request of the writers, the health officer, Dr. William M. Smith, accorded the privilege of visiting the hospital, in order to examine the patients and secure material for bacteriological investigation. The patients were first seen by the writers on October 3d, when cultivations were made from excreta obtained at that visit. Plate cultivations were made on the 5th, and characteristic colonies of comma bacilli were found on the 6th, conforming in every particular to the description given by Koch. On October 9th it was reported in the public press that Dr. Shakespeare, of Philadelphia, had, from inoculations made by him from excreta obtained from these patients, also found the comma bacillus.

On October 13th the steamship *Britannia*, belonging to the same company as the *Alesia* and coming from the same points in Italy, arrived at this port with 406 passengers on board. *En voyage* there were three deaths of emigrants; the diagnosis, though pointing to intestinal trouble, Health Officer Smith considered obscure, and held the vessel in quarantine.

On October 17th Dr. Smith requested the writers to visit the quarantine hospital with him, in order "to take some specimens from a suspicious case for cultivation."

The visit was made on the morning of the 18th; the case was that of a boy five years old, in collapse at the time of the visit. Cultivation tubes were inoculated from washings from the bowels, as there were no fecal discharges available. A visit was again made in the afternoon in order to be present at the necropsy, the child having died at two o'clock. No pathological lesions were presented; the small intestine contained liquid feces, with which cultivation tubes were inoculated. The necropsy was made five hours after death.

Plate cultivations were made from the tubes as soon as possible, and on the evening of the 19th Dr. Smith was informed that the comma bacillus was present in the specimen, but a positive diagnosis would not be given until the plate cultivations had fully developed. At Dr. Smith's request, two inoculated cultivation tubes were given to him; these, it was subsequently learned, were submitted to Dr. H. M. Biggs, Director of the Carnegie Laboratory, and Dr. T. Mitchell Prudden, Director of the Alumni Laboratory of the College of Physicians and Surgeons, for examination. On the morning of October 20th, typical colonies of comma bacilli had developed on our plate cultivations. On October 22d, at a conference with Dr. Smith, Dr. Biggs, and Dr. Prudden, it was learned that their cultivations had afforded the same results. Consequently the existence of cholera on the steamship *Britannia* was demonstrated by bacteria investigations.

On October 24th the hospital was again visited on account of the death of a man aged fifty years. He was taken ill, with diarrhoea and vomiting, on the night of the 22d and died on the morning of the 24th. The necropsy was made eleven hours post mortem; no pathological lesions were presented, excepting a slight congestion of the intes-

tines, and the contents of the latter were fluid. Inoculations of cultivation tubes were made, and transferred to the third and fourth dilutions; plate cultivations were made from these, and thirty hours later the characteristic colonies of the comma bacillus were abundant.

On the 25th one of the writers was placed by Dr. Smith in charge of the patients at the quarantine hospital. A woman, aged about twenty-two years, who had been removed from the *Britannia* on the evening of the 24th, was in the hospital, suffering from an acute attack of cholera. A nursing child, about one year and a half old, occupied the same bed with her. Her case was so characteristic that no cultivations were made from her excreta. Under treatment she recovered, and the child has not been ill up to date.

On the 27th a boy, six years old, died suddenly on the *Britannia*. His mother stated that he had slight fever and vomiting for three days previous to his death. The necropsy was made twenty-four hours post mortem. No pathological feature presented, excepting an ascaris protruding from the anus, with a mass of ascarides in the cæcum, the small intestines containing white, glairy mucus. It was regretted that no cultivation tubes were at hand, and consequently inoculations were not made. But the case presented the same appearance as those reported above.

On the 28th a child, five months old, died in its mother's arms while being transferred from the vessel. She stated that the child had been ill for several days, but had no diarrhoea. The necropsy was made twenty hours post mortem. No pathological features were apparent. The small intestine contained liquid faeces; the colon, apparently healthy faecal matter. Inoculations of cultivation tubes were made, and, after being delayed twenty-four hours, specimens were taken therefrom and examined, the cholera bacillus being found in great numbers; in fact, so plenteously, and unmixed with other organisms, that it was not considered necessary to make a plate cultivation.

No cases nor sudden deaths have occurred since that date, and here we rest the case.

The deductions which may be derived from these observations are as follows:

1. That in deaths among emigrants coming from a cholera-infected district, a necropsy is absolutely essential, and cultivation tubes should be inoculated with the contents of the intestine, for the purpose of determining the cause of death.
2. That successful inoculations may be made at least twenty-four hours after death.
3. As the symptoms, in the cases examined, were by no means always well defined, the examinations were confirmatory evidence of the value of bacteria cultivation as a means of positive diagnosis.

November 6, 1887.

The Academy of Medicine and the Board of Health.—Following the reading of Dr. Bryant's paper, an account of which we give in this issue, Dr. Ellsworth Eliot moved the appointment of a conference committee of five, including the president of the Academy, to co-operate with the board of health. The motion was carried.

REPORT OF A CASE OF TUBERCULAR PHTHISIS TREATED WITH THE PNEUMATIC CABINET.

By WILLIAM B. WOOD, M.D.

THIS paper does not enter the field in which the pneumatic-cabinet treatment has yielded the most valuable results—which is in the control and cure of the earlier stages of pulmonary affections—but is simply a record of what it is possible to do with the graver forms of established pulmonary diseases, to give relief and comfort, and to at least prolong life; not merely to extend an existence of chronic invalidism, but frequently to prolong life with such improvement of health as enables a patient to resume the regular daily occupations.

On the 23d of April, 1887, a gentleman, about forty years of age, presented himself at my office for examination. He had just returned from a winter in Florida, where he had experienced steady, and for two months rapid, decline. His case proved to be a typical one of tubercular phthisis. Every one of five specimens of sputum examined contained bacilli in very unusual numbers. There were broncho-vesicular respiration in the right lung from the third interspace to the apex; crepitant râles in the clavicular region; moist râles and softening at the apex. There were creaking friction-sounds; the percussion notes were those of thickened and adherent pleuræ, with some consolidation; there were also infra- and supra-clavicular retraction. In the left lung crepitant râles were heard from the clavicle to the apex. The rational symptoms were such as always accompany the foregoing physical signs: restless nights, racking cough, alternate hectic and clammy stages, the septic expression and complexion, shortness of breath, lack of appetite, loss of digestive and assimilative power, with daily expectoration of from eight to ten ounces, and a progressive loss of vitality, weight, and lung.

At this time the patient was unable to accomplish normal respiration with sufficient vigor to meet the natural demands of waste-repair and up-building.

By normal respiration is meant, of course, the act of filling the lungs in inspiration with pure air and deoxygenated blood, and in expiration that of emptying them of deoxygenated air and oxygenated blood, thus supplying red blood to medulla, mesentery, and mucous membranes. As I knew of but one process—the pneumatic differentiation—which could accomplish this, treatment in the cabinet was recommended as a means of temporary amelioration certainly, and possibly of permanent benefit.

The degree of success to be obtained with the pneumatic cabinet depends largely upon the individualization of the various cases and the fine adaptation of its functions to the age, sex, particular disease, and general physical condition of each patient. The personal equation of the operator is also a most important factor. The results to be obtained by the cabinet depend upon the operator's skill. It is a powerful instrument, but so mathematically exact that it may be perfectly controlled, while its several distinct and separate functions make it an instrument of great scope and power of combination: but those who expected the cabinet, *per se*, would work miracles, have been disap-

pointed; its results, like those of a surgeon's knife, indicate the skill, little or much, that manipulated the instrument.

In all pneumatic-cabinet work an antiseptic and bacillicide spray is used. The breathing tube is kept filled with this spray always, in all treatments. The cabinet itself, and all towels, tubes, and other appliances, are, after each treatment and for every patient, disinfected with bichloride solutions.

With the patient referred to the treatments were begun April 24th. They were given daily and were progressive in the degree of rarefaction and pressure used, as well as in duration of time. The increased breathing capacity which is acquired in a single treatment will be retained after leaving the cabinet for from twelve hours to weeks or months, according to the patient's condition. In the present case the duration of the first treatment was three minutes; as the patient's condition improved gradually with each treatment, this was increased, until at the end of three months he could with advantage take from fifteen to twenty minutes.

In the first three treatments forced inspiration* was used with a rarefaction of three tenths of an inch to one inch.

To produce forced inspiration, the patient is shut in the cabinet; the pressure of the air about him is reduced by rarefaction, which causes the lungs to expand; he is then allowed to fill his expanded lungs with the denser atmospheric air at equilibrium, supplied to him through the tube from without the cabinet, and saturated with antiseptic spray, the expirations being made into the rarefied air of the cabinet.

Each treatment began with a series of these forced inspirations, included residual air expansion, and was followed by another series of forced inspirations combined with forcible expirations—that is, the patient, after having filled his expanded lungs with the current of air inflowing through the tube, breathes out against the force of this current. This act condenses a certain amount of the bacillicide spray within the lungs. The power to make a forcible expiration against an opposing current can be cultivated only gradually, and must be carefully proportioned to the patient's strength.

In one week this patient could without fatigue take this inspiratory differentiation for five minutes under a rarefaction of four tenths of an inch. By the end of the second week he could walk one mile, eat beefsteak, and sleep without the disturbance of cough and sweats.

During the third week the patient was able at the close of each treatment to take for one minute full pneumatic differentiation, which is to breathe in under rarefaction and out under pressure, and thus to receive re-enforcement of power in both inspiration and expiration. This compound act is the test of circulatory and pulmonary capacity. It should at first be used with but two tenths differentiation each way, and only for one or two minutes a treatment. When a patient has acquired lung power enough to take full pneumatic differentiation without fatigue, for from one to three minutes under re-enforcement of six tenths to nine tenths of an inch each way, he soon breathes normally without this assistance.

The patient could now in the third week sleep without waking eight hours a night, walk two or three miles a day, and eat and digest well, showed red blood in the tips of his ears, and expectorated only three to four ounces instead of eight to ten.

* Dr. H. F. Williams, "Jour. of the Amer. Med. Assoc.," May 7, 1887.

At the fourth week the man began to gain in weight, and gained a pound a day for seven days.

At the beginning of the second month the lung gave vesicular respiration without râles or friction sounds up to the supra-clavicular space; the infra- and supra-clavicular areas were fuller. After treatment, the broncho-vesicular breathing was confined to the very apex; before treatment it would extend down almost to the clavicle. All crepitant râles had now disappeared from the left lung.

From June 27th to July 5th no treatments were given. The patient "missed the cabinet badly." When treatments were re-commenced, it was at an altitude of 1,800 feet above the sea. Here an item of importance developed itself. I found that the patient needed to be acclimated to the diminished atmospheric pressure under which he then was; that, although his condition was as good as in previous treatments, three weeks were needed before he could safely bear the same pressure and the same length of treatment which, in New York, had caused no inconvenience.

I think clinical observation will show this to be the rule and not an exception, and that any patient going from sea level to any considerable altitude, whether he has or has not had cabinet treatment before the change, must be managed with great care, and that it will be some weeks before he can obtain progressive benefit from the cabinet.*

The treatments at an altitude were given daily until September 1st, and then discontinued until October 15th. The slight inconvenience experienced by the patient during this intermission, as compared with the serious discomfort caused by the shorter intermission in June, is evidence that something more than temporary amelioration can be effected by cabinet treatment in even graver forms of established pulmonary diseases. Examination revealed more accurately the degree of permanent gain.

The patient showed an increase in weight of six pounds, slept *all night* without waking, and expectorated on an average only half an ounce daily. The whole upper right lung gave softer and stronger respiratory murmur, the broncho-vesicular element was confined to the apex, and the evidence of softening had disappeared.

In the left lung no signs of disease remained.

There has been no abnormal temperature, chill, or night-sweats since June.

Of a large number of specimens of sputum examined, about one half showed no bacilli; the others contained occasional bacilli scattered at intervals. But there is now not one where there were a thousand in the April specimens.

The patient is now, November 1st, walking from three to eight miles a day.

17 EAST THIRTY-EIGHTH STREET, November 1, 1887.

THE DIAGNOSTIC VALUE OF THE CHOLERA SPIRILLUM,

AS ILLUSTRATED BY THE INVESTIGATION OF A CASE AT THE NEW YORK QUARANTINE STATION.†

By HERMANN M. BIGGS, M. D.

THE appearance and continued occurrence of cases of Asiatic cholera at Quarantine in New York Harbor lend a

* Dr. Alfred L. Loomis, "N. Y. Med. Journal," June 12, 1886.

† Read before the Society of Bellevue Hospital Alumni, November 2, 1887.

new interest to the investigations made during the last few years by various German and French observers, and notably Koch, regarding the cholera spirillum and its diagnostic value in this disease. The question of the differential diagnosis of sporadic and Asiatic cholera is an exceedingly important one, and I wish to draw attention by an example in point to the very great value to be attached to the bacteriological examination of the dejecta in doubtful cases of the latter disease.

That there is at least a possibility of the introduction of Asiatic cholera into this country, either during the present autumn or with the appearance of warm weather, is rendered certain by the existence of these cases at our very doors. As is well known, the clinical manifestations are so nearly alike in cases of sporadic and those of Asiatic cholera that the first cases in an epidemic of the latter disease are always doubtful cases, and an absolute diagnosis can often only be made in the actual presence of an epidemic. The vital importance of the early recognition of the first cases, that the extension of the disease may be prevented, needs only mention to be fully appreciated. There is afforded to us in the careful bacteriological examination of the dejecta of cholera patients an absolutely reliable means, and the only reliable means of making a positive differential diagnosis between this and other forms of intestinal disease. The following case illustrates this fact very forcibly:

The steamer *Britannia*, from Marseilles and Naples, arrived at Quarantine on October 14th, with 408 steerage passengers on board, and reported three deaths during the voyage. The clinical diagnoses made in these cases by the ship's surgeon, as kindly given to me by the health officer, were respectively eclampsia, tubercular enteritis, and perforation of the intestines by lumbricoid worms. No autopsies were performed. The earlier arrival of the *Alesia* from the same ports with cholera on board, the apparent incompetency of the surgeon as shown by the diagnoses in the last cases mentioned, and the possible perversion of facts in the interest of the steamship company, aroused the suspicion of the health officer as to the correctness of the diagnosis in these cases. On the day of her arrival a man was removed from the steamer, and died the following morning. At the request of Dr. Smith, I was present at the autopsy in this case, and the cause of death was found to be an extensive lobar pneumonia, involving a large portion of the right lung. The intestines contained formed fecal matter.

On the following day, October 16th, a boy six years of age was removed from the ship suffering with an affection resembling cholera morbus. The characteristic symptoms of Asiatic cholera were not all present in this case, and, in view of the insufficient evidence of the occurrence of any cases of this disease among the passengers since the date of sailing, considerable doubt was entertained as to the nature of the disease. On the 18th the boy died. It was a matter of the gravest importance that an absolute decision should be arrived at as to the nature of the disease in this case. The autopsy did not reveal anything that assisted in deciding the question. Dr. Armstrong, of the Marine Hospital, Stapleton, Staten Island, was present at the autopsy,

and inoculated gelatin cultivation-tubes from the contents of the ileum and the colon, respectively. On the following day transfers were made to other tubes by Dr. Kinyoun, of the hospital, from the growth that had taken place in the tubes first inoculated, and the specimens of this second series were brought to the writer by the health officer on the following day, October 20th, with the request that they be examined. On microscopical examination, bacteria were found that in their morphological characteristics corresponded closely to those of the cholera spirillum. The writer then requested that two days be allowed for the preparation, growth, and examination of plate cultivations, as the morphological appearances are not characteristic enough to serve as a basis for diagnosis. Cultivations were furnished to Dr. Prudden, and independent examinations were made by him, Dr. Kinyoun, Dr. Weeks, and the writer, with exactly the same result—*i. e.*, the discovery and the isolation of an organism corresponding in all its morphological and biological characteristics to the so-called cholera comma bacillus. The case was, therefore, without hesitation declared to be Asiatic cholera, and was so reported to Dr. Smith. The occurrence of other cases subsequently added a confirmation, which, however, was not necessary for the establishment of the diagnosis.

The morphological and biological characteristics of the cholera spirillum, taken together, distinguish it sharply from all other known forms of micro-organisms, and its presence in the dejecta is absolutely pathognomonic of Asiatic cholera. I have given the history of this case somewhat in detail because it was one where an immediate absolute diagnosis was of the greatest importance, and where it could only be arrived at by the biological examination. The alternative was to await the appearance of other cases, and thus incur the danger of sacrificing many lives. The latter method was formerly the only one at our command. This is also, I believe, the first case in this country where a diagnosis of Asiatic cholera has been based upon biological examinations. It has seemed to Dr. Prudden and myself that too much emphasis could not be placed upon the importance and positive value of this kind of examination for the diagnosis of doubtful cases of this disease.

58 EAST TWENTY-FIFTH STREET, November 2, 1887.

Measles Paralysis.—The "Lancet" says: "Although Landouzy, in his excellent work on the 'Paralysis of Acute Diseases,' asserts that, without being exceptional, paralyzes are less frequent with measles than with variola, yet it may be questioned whether measles does not distinguish itself, rather more frequently than is generally supposed, as the efficient cause, in certain cases, of obscure nerve disease among children. There are grounds also for believing that disseminated sclerosis may find a cause in measles. M. Nègre, of Bordeaux, has observed a case of acute ascending paralysis consecutive to measles, and he has published the clinical aspect of the case in the *Bordeaux 'Journal de Médecine,'* No. 3 (August 21, 1887). The child was three years old, and on the tenth day of full convalescence after measles considerable weakness was first discovered in the upper and lower limbs and in the neck-muscles. . . . The paralysis increased in degree, so that sitting was impossible; the knee-jerks disappeared, and the plantar reflexes appeared to be diminished. . . . Paralysis of respiration seemed to be the principal cause of death, which took place five days after the *début* of the paralytic symptoms. . . ."

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FRANK P. FOSTER, M. D.

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HOW NEW YORK PHYSICIANS CAN AID THE BOARD OF
HEALTH.

At the last meeting of the Academy of Medicine, Dr. Joseph D. Bryant, the new commissioner of the board of health, read a paper in which, after comparing the board's past methods with those it had recently settled upon, he particularized certain important points in regard to which the co-operation of individual physicians was likely to be of great service. Special attention was called to the Willard Parker Hospital, at the foot of East Sixteenth Street, at present devoted to the reception and care of patients with diphtheria and scarlet fever. Physicians ought to visit the hospital from time to time, in order that they might personally assure their patients, on the strength of their own observation, that within its walls those who were received for treatment had the advantages of skilled medical attendants and a kindly and efficient service.

Another matter in which the profession ought to co-operate more generally with the board was that of making returns of births and of cases of infectious disease. It was now estimated that from twenty-five to thirty per cent. of the births were not registered, and that from fifteen to twenty-five per cent. of the cases of infectious disease were not reported. In regard to this point, it was significantly stated by Dr. Janeway, a former commissioner, in the discussion on Dr. Bryant's paper, that there were well-known physicians in town who, after having themselves persistently neglected to report their cases, had been so unfair as to reproach the board for the inadequacy of its records when they had subsequently had occasion to resort to them for statistical purposes. Especially ought all cases of infectious disease to be reported promptly when it was apparent that the means of isolation at the patient's home were insufficient.

It was the board's determination, said Dr. Bryant—and in this he was seconded by the president of the board, Mr. Bayliss, who was present by invitation—that its officials should always co-operate loyally with medical men in charge of private patients. The board was not disposed to act in a dictatorial or autocratic manner; it recognized that its most legitimate sphere was in teaching the people and persuading rather than even seeming to force them to avail themselves of its appliances for the prevention of outbreaks of infectious disease.

Under any circumstances, it would be discreditable to the physicians of New York if they allowed Dr. Bryant's most reasonable suggestions to go unheeded, but doubly so in the face of the excellent understanding which he was able to report as now existing between the board and the plumbers. Although

they had been somewhat unmanageable in the past, the plumbers were now, said Dr. Bryant, as the result of recent conferences, willing to go to the utmost extent desired by the board. We have mentioned only the main points in Dr. Bryant's admirable discourse; if they are properly taken to heart, co-operation in the minor matters he spoke of, such as the reporting of nuisances injurious to the public health, and of damaged or adulterated products put upon the market as articles of food or drink, follows as a matter of course.

THE AIR OF SEWERS.

It has been a matter of knowledge for some years, certainly since Letheby's report on the subject, in 1858, that the air of sewers ("sewer gas") is not of itself usually deleterious—*i. e.*, that no poisonous gas is ordinarily contained in sewers in sufficient amount to injure the health of any person who inhales it. Scavengers and men who work in sewers are generally healthy and long lived, plumbers seldom die of zymotic disease, unless pneumonia can be classed as such, and sewer rats grow gray in their subterranean quarters. Sanitary officials can recall many instances in their experience where constant exposure to the air escaping from untrapped sinks and basins has been followed by no bad consequences. On the other hand, many cases of sickness have been recorded in which the evidence seemed to prove indisputably that they were caused by just such exposure, and so much has been said about them that sewer air is now the great sanitary bugbear. How are these apparent discrepancies to be accounted for?

It is easy to say that sewer air is dangerous only when it contains the germs of specific diseases, but it has seemed in many instances to be the sole cause of persistent sore throats, headaches, and diarrhoeal troubles without the development of any well-defined disease. In a remarkable case recently reported by Dr. Playfair, in the "Lancet," serious symptoms were developed in a puerperal woman which were undoubtedly due to exposure to foul air from the house-drains, all attendant circumstances having been carefully analyzed in such a manner as to render that conclusion irresistible. It is easy to say that sewer men and plumbers acquire immunity by exposure, but, if that is the case, why should not the tenants of a house with defective pipes acquire a similar immunity? It must be confessed that most, if not all, the cases of disease believed to be caused by sewer air are contracted in houses and not outside of them. The houses are often entirely disconnected from the street-sewer, in England by interposing a small cess-pool in the front area, and in this country by the house-trap. Any sickness due to defective pipes and drains, therefore, is caused by poisons developed in the house itself.

In a recent paper on "The Air of Sewers," by Professor Thomas Carnelly and J. S. Haldane, M. B. ("Proceedings of the Royal Society"), it is shown that sewer air is comparatively free from noxious gases, and contains proportionately fewer micro-organisms than the outer air of the same locality. The authors' experiments were made in large sewers (large

enough for a man to enter) through which the air was constantly circulating by means of ventilating manholes and open grids at the street corners. Under the circumstances it is not surprising that they should have satisfied themselves that most of the micro-organisms found were not developed in the sewer itself, but were drawn in from the outer air. They also have shown that all such organisms tend to settle instead of remaining suspended in the air. The most valuable of their experiments, however, are those which show the invariable effect of splashing or the bursting of bubbles in sewage to be a considerable increase in the number of micro-organisms in the air, confirming the results of earlier experiments.

It has been noticed that illness traced to defective drainage is more frequent in houses where there are holes in the pipes, open joints, or unused fixtures, than where there is simply an absence of traps under fixtures in constant use. Holes in vertical or branch pipes, and open joints, will often be found covered about the edge with slime deposited from fluids that have spurted slightly through the holes during their passage. The outer border of this deposit is often dry and crumbling, and from that point to the edge of the opening will be found all degrees of moisture. May not such deposits around holes and lining dry unused pipes be the real breeding places of the micro-organisms believed to be productive of so much sickness in houses, every outward current of air passing into the room being loaded with them? The dangerous qualities of sewer air may be due to gaseous ptomaines, as suggested by these gentlemen, though their experiments to determine this were unsatisfactory, for reasons stated by them.

It is not to be forgotten that the micro-organisms of sewer air may produce an effect not by absorption through the lungs, but by ingestion with the food or drink, or in swallowed saliva or phlegm from the throat. Indeed, it is probable that typhoid fever is almost always induced in this way. The apparent immunity of sewer men, scavengers, and plumbers may be due to tobacco-chewing, and the ejection of the buccal fluids instead of their deglutition. It is evident that this interesting subject still presents a wide field for investigation.

MINOR PARAGRAPHS.

THE FARNAM MEMORIAL IN NEW HAVEN.

It is announced that an anatomical amphitheatre, a building fifty feet square, is shortly to be built on the grounds of one of the hospitals of New Haven, Connecticut, by the mother of the late Dr. Farnam. During his life-time, Dr. Farnam was most earnest and efficient in his efforts to improve the facilities possessed by New Haven for caring for the sick and injured who could not be adequately attended to at their own homes, and this proposed building will be a most fitting memorial of his beneficence.

THE GLEDITSCHINE QUESTION.

It will be seen by an article which we quote from the "Medical Record" elsewhere in this issue that steps are to be taken to enable Mr. Goodman and Dr. Seward to prove their allegation of the existence of this alkaloid. It will also be seen

that the editor of this journal objects to one of the conditions mentioned. We are glad to be able to announce now that both Dr. Claiborne and the editor of the "Medical Record" agree with us that the condition objected to should not be imposed. We learn, too, that other points have been made the subject of comment, and that the criticism called forth will be duly taken into consideration. It is to be hoped that Mr. Goodman and Dr. Seward will see the propriety of their submitting to conditions that can not be complained of.

A DEFECT IN OUR QUARANTINE.

THE secretary of the Michigan State Board of Health, Dr. Henry B. Baker, has issued a circular in which he calls attention to a suggestion made by Dr. Smith, the health officer of this port, in connection with the fact that certain passengers who arrived on the steamship "Ohio," on the 30th of September, carried scarlet fever to Sutton's Bay, Michigan. Dr. Smith's statement was that he would be glad if the law allowed persons who had been exposed to the ordinary infectious diseases to be held for observation, as was the case with those exposed to the infection of small-pox. Dr. Baker thinks it is time that the whole subject of quarantine was investigated by the States and by the General Government, with a view to protecting our population from the importation of the really dangerous diseases.

MEDICINE IN CHINA.

Or late there have been increasing indications of the growth of rational medicine among the Chinese, and it is in great measure, as we have before remarked, to the medical missionary establishments that this is to be credited. At the last meeting of the New York Academy of Medicine, Dr. H. W. Boone, professor of surgery at Shanghai, pointed out the need for more medical instruction of the Chinese. Shanghai, he said, was the chief port of China, as New York was of the United States, and should be made a center of medical teaching. The need of educated physicians there was evident from the fact that the mortality of childbirth was eight per cent., and from the very great mortality from urethral stricture, hernia, vesical calculus, etc. Young men were needed as teachers at the college in Shanghai, together with books and museum specimens. The speaker stated that contributions could be sent to him at room No. 22, Bible House, New York.

SIR WILLIAM GULL.

We regret to observe, by a paragraph in the "Lancet," that this distinguished London physician has been stricken with hemiplegia. He was seized in the street, and required to be assisted to his home, but it is stated that at the time of the seizure his intelligence was not appreciably impaired. The prospect seemed to be that he might soon sit up with safety. He was suffering from hæmaturia at the time of the attack, and a few months before he had hæmoptysis and subsequently profuse epistaxis. Notwithstanding the serious import of this succession of events, we earnestly hope that the sufferer's life may long be spared to the profession and to the world.

A NEW JOURNAL OF PSYCHOLOGY.

A FRESH manifestation of the renewed impetus given to scientific work in this country by the excellent organization of the Johns Hopkins University is afforded by the issue of the first number of the "American Journal of Psychology," edited

by G. Stanley Hall, the professor of psychology and pedagogics in the university, and published in Baltimore. The new periodical is very handsome, and the matter contained in the first number is exceedingly valuable.

ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending November 8, 1887:

DISEASES.	Week ending Nov. 1		Week ending Nov. 8.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever.....	31	8	22	3
Scarlet fever.....	64	12	80	9
Cerebro-spinal meningitis....	6	6	2	2
Measles.....	30	3	44	1
Diphtheria.....	131	49	145	38
Small-pox.....	1	1	3	0

The Health of Boston.—During the week ending Saturday, November 5th, the following numbers of cases and deaths from infectious diseases were reported to the Board of Health: Diphtheria, 25 cases and 9 deaths; scarlet fever, 78 cases and 8 deaths; typhoid fever, 14 cases and 6 deaths; measles, 6 cases. There were also 31 deaths from consumption, 16 from pneumonia, 16 from heart disease, 11 from bronchitis, and 6 from marasmus. The total number of deaths was 198, against 180 in the corresponding week last year.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from October 30, to November 5, 1887:*

BYRNE, CHARLES B., Captain and Assistant Surgeon. Ordered for temporary duty at Fort McHenry, Maryland. S. O. 231, Division of the Atlantic, October 28, 1887.

MUNN, CURTIS E., Captain and Assistant Surgeon. Relieved from duty at Fort Canby, Washington Territory, and ordered for duty as Post Surgeon at Fort Klamath, Oregon. S. O. 251, A. G. O., October 28, 1887.

ADAIR, G. W., Captain and Assistant Surgeon. The leave of absence for seven days granted on the 27th inst. by the commanding officer, Fort Brady, Michigan, is extended twenty-three days. S. O. 231, Division of the Atlantic, October 28, 1887.

Naval Intelligence.—*Official List of Changes in the Medical Corps of the United States Navy for the three weeks ending November 5, 1887:*

BEYER, H. G., Passed Assistant Surgeon. Ordered to hold himself in readiness for orders to the Trenton.

WHITE, S. S., Assistant Surgeon. Ordered to hold himself in readiness for orders to the Trenton.

STEPHENSON, F. B., Passed Assistant Surgeon. Detached from the Bache and ordered to the Navy Yard, Boston.

STONE, E. P., Assistant Surgeon. Detached from the New Hampshire and ordered to the Bache.

STREET, T. H., Surgeon. Detached from the Patterson and placed on waiting orders.

BATES, N. L., Medical Inspector. Ordered to hold himself in readiness for orders to the Trenton.

HESLER, F. A., Assistant Surgeon. Ordered to examination for promotion.

FITZSIMMONS, P., Surgeon. Ordered to the U. S. Steamer Marion.

ATLEE, L. W., Assistant Surgeon. Ordered to the U. S. Steamer Marion.

BATES, N. L., Medical Inspector. Ordered to the U. S. Steamer Trenton.

BEYER, HENRY G., Passed Assistant Surgeon. Ordered to the U. S. Steamer Trenton.

WHITE, STEPHEN S., Assistant Surgeon. Ordered to the U. S. Steamer Trenton.

RIXEY, P. M., Passed Assistant Surgeon. Detached from the U. S. Steamer Trenton and to wait orders.

ASHBRIDGE, RICHARD, Passed Assistant Surgeon. Ordered to the U. S. Receiving-ship St. Louis.

Marine-Hospital Service.—*Official List of Changes of Stations and Duties of Medical Officers of the United States Marine-Hospital Service for the week ending November 5, 1887:*

FESSENDEN, C. S. D., Surgeon. Detailed as chairman of board for the physical examination of officers of the Revenue-Marine Service. November 1, 1887.

MEAD, F. W., Passed Assistant Surgeon. Detailed as recorder of board for the physical examination of officers of the Revenue-Marine Service. November 1, 1887.

BEVAN, A. D., Passed Assistant Surgeon. Relieved from duty at Portland, Oregon; ordered to Marine Hospital, New York. November 2, 1887.

CARRINGTON, P. M., Assistant Surgeon. Relieved from duty on Revenue Steamer Rush; ordered to Marine Hospital, San Francisco, Cal. November 2, 1887.

PERRY, T. B., Assistant Surgeon. Relieved from duty at Marine Hospital, San Francisco, Cal.; ordered to assume charge of service at Portland, Oregon. November 2, 1887.

GOODWIN, H. T., Assistant Surgeon. Relieved from duty at Norfolk, Va.; ordered to Marine Hospital, New Orleans, La. November 5, 1887.

Society Meetings for the Coming Week:

MONDAY, November 14th: New York Academy of Medicine (Section in Surgery); New York Ophthalmological Society (private); New York Medico-historical Society (private); Lenox Medical and Surgical Society (private); New York Academy of Sciences (Section in Chemistry and Technology); Boston Society for Medical Improvement; Gynecological Society of Boston; Burlington, Vt., Medical and Surgical Club (annual); Norwalk, Conn., Medical Society (private).

TUESDAY, November 15th: New York Academy of Medicine (Section in Theory and Practice of Medicine); New York Obstetrical Society (private); Medical Societies of the Counties of Kings and Westchester, N. Y.; New York State Medical Association, Fifth District Branch (special—New Brighton, Richmond Co.); Ogdensburg, N. Y., Medical Association.

WEDNESDAY, November 16th: Harlem Medical Association of the City of New York; Northwestern Medical and Surgical Society of New York (private); New Jersey Academy of Medicine (Newark); Philadelphia County Medical Society (clinico-pathological).

THURSDAY, November 17th: New York Academy of Medicine; New Bedford, Mass., Society for Medical Improvement (private).

FRIDAY, November 18th: Chicago Gynecological Society.

SATURDAY, November 19th: Clinical Society of the New York Post-graduate Medical School and Hospital.

OBITUARY NOTES.

Moses Gunn, M. D., of Chicago, died on Friday, the 4th inst., in the sixty-sixth year of his age. The deceased was born

in East Bloomfield, N. Y., and was graduated from Geneva Medical College in 1846. He commenced practice in Ann Arbor, Mich., and, after lecturing on anatomy for three years in the medical department of the State University, he was appointed over several competitors to the chair of anatomy and surgery, which position he held for three years. At the end of that time he was relieved from his anatomical teaching, and for about fifteen years occupied the chair of surgery. In 1867 he was appointed professor of surgery in Rush Medical College, Chicago, which position he held at the time of his death. He was a member of the Illinois State Medical Society, of the Chicago Medical Society, and of the American Medical Association. For a number of years he was surgeon to the Cook County and St. Joseph's Hospitals.

William Selden, M. D., of Norfolk, Va., died suddenly on the 7th inst. at the age of seventy-nine. The deceased was a native of Norfolk, received his literary education in the University of Virginia, and took his medical degree from the medical department of the University of Pennsylvania in 1830. He was a member of the Virginia State Medical Society, and of the Medical Society of Norfolk.

George Arthur, M. D., Passed Assistant Surgeon in the United States Navy, was killed on the 1st inst. on the Norfolk and Western Railroad, while on his way to Shelbyville, Tenn. He was appointed to the navy from Maryland in 1877 and had for some time been on duty at the Museum of Hygiene in Washington.

John Murray Carnochan, M. D., died on Friday, October 28th, at the age of sixty years, of apoplexy. The deceased was a surgeon of exceptional skill as an operator, and he had contributed a number of notable papers to medical journals. At the time of his death, an extensive work reflecting his own experience was in course of preparation, and a portion of it had been published. Dr. Carnochan was for many years the surgeon-in-chief of the New York State Immigrant Hospital, and he served a term as health officer of the port.

Proceedings of Societies.

NEW YORK SURGICAL SOCIETY.

Meeting of October 26, 1887.

The President, Dr. CHARLES McBURNEY, in the Chair.

Exsection of the Elbow for Tuberculous Disease.—Dr. A. G. GERSTER presented a patient with the following history: Rudolph B., aged twelve, was admitted into the German Hospital having tuberculous osteitis of the right olecranon, with two large abscesses and a fistulous opening leading into the joint. On March 30th a partial exsection of the elbow was performed, and a sequestrum was removed from the olecranon, a shell of bone being preserved, to which was attached the triceps tendon. No drainage-tubes were inserted, but the joint was closed and put up in the semi-flexed position. On April 12th the dressings were removed, primary union having occurred. The elbow was then put up at a right angle, and passive motion was employed every three or four days, in spite of the fact that it caused some pain and swelling. During one of the exercises the cicatrix was ruptured, and bloody serum exuded; after that there was a persistent sero-purulent discharge. Subsequently exuberant granulations appeared about the fistula, so

that it was necessary to scrape it out two or three times. On June 10th complete excision was performed, as ankylosis seemed to be inevitable. The soft parts showed gelatinous infiltration, especially around the head of the radius, while there was a cheesy focus between the ulna and radius. About one inch of the humerus, radius, and ulna were removed, and the joint was put up in a semi-flexed position, the dressings being left undisturbed for five weeks, when they were removed, and *active* movements were made. The boy had begun to use his joint almost from the first, and had continued to improve ever since: it had not been necessary to use the ordinary apparatus with lateral hinges. There was now considerable mobility, flexion and extension being normal, while pronation and supination were fair, and would improve.

The speaker stated that he had reported the case in order to call attention to the fact that a good result might be obtained by a secondary operation after partial excision had proved to be unsatisfactory.

Dr. H. B. SANDS thought that the result was quite good, since the arm could be flexed and extended very well in one plane. He assumed that no one questioned the advisability of performing the partial operation only when it would be likely to effect the desired result. He had presented a patient to the society a year before in whose case he had removed a portion of the ulna and condyles, there being a cheesy focus limited to one condyle. There was better motion subsequently than after complete excision. He no longer performed the complete operation when the partial one was sufficient. He had sometimes removed the synovial membrane alone, leaving the healthy cartilage. This practice was the reverse of the old rule, which prescribed complete excision in every case. The advantages of partial excision were conspicuous when operating for tuberculous disease of the knee in young subjects, as in many cases the parts affected could be thoroughly removed without serious disturbance of the epiphyseal cartilages, the destruction of which would interfere with the growth of the limb.

Dr. GERSTER said that he desired to lay particular stress upon the fact that passive motion had been entirely withheld, and active movements not begun until the swelling had subsided. The old teaching was to commence "early" movements after the operation; but this meant in from six to eight weeks, because formerly there used to be abscesses around the joint, so that manipulation had to be delayed. He believed that he had often begun to make movements too soon, as a result of which he had caused rupture of the connective tissue and effusion, thus retarding the healing. It was better to wait until the swelling had entirely subsided, and then to try active movements only.

Dr. R. F. WEIR thought that the tuberculous deposit was more commonly found in the ends of the bones, when partial exsection was more likely to be successful. Moreover, when the disease was confined to the synovial membrane and capsule it might be sufficient to remove this alone, although the results of this operation, the arthrectomy of Volkmann, had not been very satisfactory in other surgeons' hands. But when the bone and the capsule were both affected, complete excision should be performed at once.

Dr. L. A. STIMSON said that he had excised the capsule five or six times for disease which was apparently limited to it, and in three cases he had been obliged to perform complete excision subsequently. The subject had been discussed at a meeting of the society a year before, and at that time other members had reported similar results. He thought that pronation and supination would always be imperfect in the case of the patient shown, for they were then effected by rotation of the ulna upon the humerus.

Removal of a Tumor (?) from the Brain.—Dr. T. M. MARKOR presented a patient and read the following report:

Sidney McL., aged twenty-five, England, gives the following history: In the year 1879 he fell from a height of about eight feet, striking on his head. He was stunned by the blow, and remained unconscious for a certain time. Brain fever followed, from which he gradually recovered, until about two months from the time of the accident, when he had his first convulsion. Convulsions now recurred at irregular intervals for about two years, sometimes becoming as frequent as three or four in a night. These attacks gradually became less frequent, and at the end of two years ceased altogether. He had then regained good health, and was able to attend to his daily duties as a clerk. There was no renewal of the epileptic seizures until about a month before his admission to the hospital, January 15, 1887. At that time, while taking a bath, he accidentally struck his head, receiving rather a severe blow. No marked effects followed the blow, but within a week after, a convulsion occurred, which was repeated at intervals more or less short, until they became as frequent as four during the night.

On admission, he was anæmic and thin, but nervous and excitable, and quite intelligent. He had perfect possession of all his faculties, both mental and physical, and had at no time had any symptoms which could be referred to a cerebral lesion, except pain and the convulsions above mentioned. The head was irregular in shape, the frontal region prominent, the right parietal region bulging markedly, while the corresponding region on the left side was as markedly depressed. In the center of this flattened area was a marked depression over a space as large as a half-dollar. He had continual dull pain referred to the depressed spot. He had lately suffered a good deal of pain in the head, which had almost always been referred to or had radiated from this same point, though at times the pains had been felt on the right side. He was ordered to keep his bed, to be put upon light diet, and to have bromide of sodium, gr. 30, three times a day. On the third day after his admission he had his first convulsion, which was followed by two more before morning. There was no aura, there was no cry, nor did the muscular spasm begin at any single point. The spasm took the form of opisthotonus, alternating with extreme flexion, and followed by sleep.

January 21st.—No convulsions till last night, when he had five.

25th.—Number of fits increasing. Bromide increased, and ordered six leeches in region of pain. Violent, almost maniacal, excitement followed some of the convulsions. No diminution in the number of the fits. An operation was determined on, and was performed January 27th.

The point of operation selected was the center of the depressed portion of the left parietal bone, which corresponded quite accurately with the region of greatest pain, and which was on a level with and about an inch and a quarter in front of the left parietal boss. The operation was done after Victor Horsley's method, with a semicircular flap of the scalp, and a large trephine, an inch and a quarter in diameter. On removing the disc of bone, the dura mater did not bulge, but nevertheless presented a decided sense of fluctuation. Between the dura mater and the brain a firm, hard surface was felt, which the finger reached after pressing through perhaps two lines of fluid. The dura mater was now opened by a semicircular incision one line within the edge of the saw-cut. When it was turned back, a surface was exposed of a bluish-white color, as if it were the surface of a thin, semi-transparent sac containing fluid. The sac, being opened, gave issue to some thin, pellucid fluid, in quantity at least a drachm, and revealed the contents to be two unequal bodies, of a rounded shape, lying close together, forming a mass about an inch in diameter, as looked at from above. These masses did not present the appearance of the normal cortex, but were more grayish in color, and of a distinctly granular appearance, and to the touch they were firmer than the normal surface of the brain. Without the use of any force, the handle of the scalpel passed easily around the mass, and turned it out of the areolar bed in which it had lain. This removal showed the walls of the cyst to be continuous around the periphery of the tumor, and that the whole had been buried deep in the cerebral substance, pressing it down more than half an inch. As I turned the mass out of its bed I was not aware that I had divided any portion of cerebral matter, but, on studying the cyst-wall after the mass had been removed, I saw a portion of ex-

posed cerebral matter at the anterior margin of the opening, and, although I examined it with care, I could not decide whether this was a point at which the tumor had been continuous with the convolution, or whether it was merely the surface of the convolution accidentally bared. This spot of exposed brain-matter was about two lines in diameter. No hæmorrhage took place during or after the enucleation.

The dura mater was brought together with two or three catgut sutures, and the scalp flap was accurately approximated in the same way. Light antiseptic dressings were applied, and two or three threads of large-sized catgut were left in the wound for drainage. Moderate reaction followed the operation. Some mental excitement, with amnesic aphasia, was noticed during several days after the operation, with some paresis of the right arm. These symptoms, however, never reached a serious degree, and subsided during the second week entirely. The wound healed *per primam*, and he was discharged well on the 19th of February, no convulsions having occurred since the operation, twenty-three days previous. The following is Dr. Prudden's account of his examination of the mass submitted to him:

"The small fragment of brain-tissue which was sent to the laboratory was ellipsoid in shape, measuring about $1\frac{1}{4}$ by 1 cm. It consisted of white and gray brain-matter, normally arranged. The ganglion cells, lying, as usual, in layers, are nearly all considerably swollen and prominent. The intercellular substance is somewhat cracked and fissured, which might be due to the hardening in alcohol. The most marked departure in structure from the normal is an accumulation of small spheroidal cells in the lymph-spaces around the ganglion cells. Sometimes as many as six or seven of these small cells lie crowded around the ganglion cells. This accumulation of cells in the lymph-spaces has been described as occurring under a variety of conditions. The appearances are figured in Virchow's 'Archiv,' Bd. 69, in connection with an article by Herzog Carl von Bayern on the 'Condition of the Cortex in Abdominal Typhus.'

"The microscopical appearances do not throw much light on the peculiar conditions which you found at the operation, and I am entirely at a loss to account for them, except on the hypothesis of an aberrant fragment of brain-tissue, which had developed at the seat of operation. T. MITCHELL PRUDDEN."

October 26, 1887.—From the time of his discharge from the hospital up to the present moment his health has been perfectly good. There has been no abnormal sensation about the seat of the wound, and no pain in the head. The only exception to be made from this statement is an attack of pain, rather severe, intermittent in character, and seated in the region of operation. He himself is disposed to consider the attack as the result of unusual devotion to work, he having undertaken to acquire the art of shorthand writing, and having given every evening to that study. The attack lasted only three days, and then entirely subsided. This seizure came on rather suddenly, about the first week in October. His habits have been perfectly correct in all respects, and, with the exception mentioned above, he has been able to attend regularly to his duties.

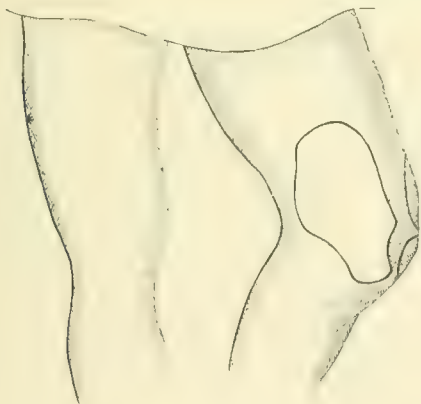
This case is of some interest as throwing light confirmatory of the views now entertained with regard to cerebral localization. The tumor, while undisturbed, gave no indication as to its locality. After its removal, however, the slight inflammatory action set up in its areolar bed was sufficient to produce aphasia and right-arm paresis. The position of the tumor corresponds very nearly with the centers for the arm and for speech.

Nephrectomy by Laparotomy for Adenoma of the Kidney; Recovery with Ventral Hernia.—Dr. WEIR presented a patient from whom he had removed a tumor of the kidney as large as the two fists and weighing twenty-one ounces. The tumor had been shown to the society last January, and the history of the case had been then related in detail. The prognosis given by Dr. Peabody, after a microscopical examination of the specimen, had not been favorable, since he had been inclined to look upon the growth as having a strongly malignant tendency.

Nevertheless, the patient was in good health, having gained forty pounds in weight, and was able to pursue his laborious occupation as a butcher, being only troubled by a hernial protrusion at the site of the incision; this was supported by a bandage. The incision had been made at the outer edge of the rectus, according to Langenbuch's method, and in closing it the transversalis fascia had been sutured separately, as also were the muscles, in order to counteract the tendency to hernia that abdominal incisions often give rise to. After the removal of the tumor the cut edges of the peritonæum originally covering the kidney had been brought together over the stump, and an opening had been made posteriorly for drainage. Although there had been considerable hæmorrhage during the operation, the spouting vessels had been readily secured with compression-forceps through the anterior incision, which could have been done only with great difficulty through a lumbar incision. Dr. Wylie and other surgeons had suggested the advisability of performing a secondary operation for the cure of ventral hernia after laparotomy, the peritoneal cavity being opened and the peritonæum and transversalis fascia being sutured separately.

Dr. J. A. WYETH said that he had been called to assist Dr. Wylie in an operation for the cure of ventral hernia following laparotomy, in which a good result had been obtained. The peritonæum had been united separately and a series of deep sutures had been carefully passed through the muscle and fascia. The speaker had adopted this method of closing the wound after laparotomy, and believed that he had in this way prevented the subsequent formation of hernia.

Osteoplaques of the Thigh.—Dr. R. ABBE presented a patient, sixty years of age, showing two large bony plates above the left knee, occupying the site of the lower halves of the vastus externus and vastus internus muscles. The internal one measured six and a half by four inches, and had an estimated



thickness of an inch. They were freely movable. They represented the amalgamation of numerous bony nodules in the muscle, observed as long as forty years ago. They had been watched by him for three years, and had changed but little. The flexing of the knee was partially restricted, and at long intervals the joint became painful and a little swollen when overtaxed.

Dr. WEIR stated that he had seen the patient in 1884, and learned from him at that time that he had first noticed a number of small, hard nodules, which subsequently coalesced.

Dr. STIMSON believed that the bony mass on the outer side had developed in the lateral ligament of the patella, and that its inner surface was in contact with the interior of the joint, as evidenced by crepitus on manipulation. On the opposite side the upper portion of the osteoplaque was evidently imbedded in the muscle, while the lower portion appeared to occupy the capsule of the joint.

Dr. WEIR said that he had seen a case in Schede's wards, in Hamburg, in which the nodules were confined to the muscles of the back and upper extremity. The pathology of the affection was obscure, only one autopsy having been made. *Myositis ossificans* (of which there were only about twelve or fifteen recorded cases) usually began in early life, and might follow inflammatory processes. It was sometimes thought to be of nervous origin, though the autopsy alluded to showed no nerve lesion. It was noted that in these cases the earthy phosphates in the urine were usually much diminished.

Dr. C. K. BRIDGON said that he recalled the case of a patient who had been presented at the Pathological Society several years before. He was a boy ten or twelve years of age. The osseous plates were confined to the trapezius muscles, and were unquestionably intra-muscular.

Empyema following Stab-wound of the Pleura; Recovery after Exsection of Portion of a Rib.—Dr. WYETH presented a patient whose history was as follows: A young man, aged thirty-five, had been stabbed four or five times in the left side three years ago; the lung had been said to have been wounded. Considerable hæmorrhage into the pleural cavity had occurred, and a quantity of blood and serum had been removed with a trocar and cannula. The operation had been repeated twice during the following two months, when the fluid had been found to be purulent. Septic symptoms had developed, and an incision had been made to promote free drainage. The speaker saw him for the first time a year ago last May, and found that he was wearing a rubber drainage-tube, which was closed by the pressure of the ribs between which it passed. Two inches of the seventh rib were exsected, and as much of the cavity as could be reached by the index finger was thoroughly scraped out, using the finger-nail as a scraper. The wall of the abscess could not be felt in a posterior direction, although the finger penetrated to its entire length. Two stiff rubber drainage-tubes were inserted. The patient's convalescence was retarded by his dissipated habits, so that it was nine months before he could remove the tubes. The cavity was at first washed every third or fourth day (but later in the management of the case daily irrigations were made) with a solution of bichloride, beginning with 1 to 3,000, and gradually increasing in strength up to 1 to 500. Fifty or sixty injections of the latter had been given without causing any symptoms of bichloride poisoning. A weaker solution had been always injected immediately after the strong one, in order to wash out any excess of the sublimate. The lung on the affected side had been then collapsed, but on the other side the respiratory movement had been good, and the patient had been fully restored to health.

Dr. SANDS thought that the case illustrated clearly the value of a free opening in cases of purulent effusion into the chest. He had seen several cases in which, from the neglect to perform an operation early, the lung had become so bound down that it was impossible to effect a cure, even by removing portions of ribs. In one instance, at Roosevelt Hospital, he had exsected three inches from two ribs, but without curing the patient. If an opening was made early, Estlander's operation might be unnecessary. Dr. Wyeth's case also showed that it was not always necessary to remove much of the rib when the lung was remote from the chest-wall.

In reply to a question by Dr. WEIR, Dr. WYETH said that he had not measured the contents at the time of operation, but a few weeks after, the cavity would have held about half a pint of fluid.

Dr. WEIR said that Estlander's operation had not given as good results as had been expected; it was often necessary to repeat it two or three times. Even after removing portions of ribs, the surgeon was often obliged to scrape out the cavity, to

employ stimulating injections, or even to make a counter-opening. Sometimes the empyema cavity could be further opened at the performance of Estlander's operation by fracturing some of the ribs posteriorly.

Dr. WYETH said that the most important point was to secure perfect drainage from the bottom of the cavity, and to wash it out frequently. He used tubes of stiff white rubber. In reply to Dr. Sands's statement that he always used two tubes, side by side, the speaker said that he had omitted to mention that he also employed two tubes in the same manner.

Dr. C. T. POORE asked if a simple incision was not sufficient in most cases of empyema without exsecting a piece of rib.

Dr. WYETH replied in the affirmative.

Dr. BRIDGON cited the case of a patient upon whom he had operated at the Presbyterian Hospital, removing portions of five ribs. Although the cavity had been diminished in size, it had still contained three or four ounces of pus when the patient left the hospital. A second operation had been proposed and declined.

Osteoma of the Upper Jaw; Removal of the Superior Maxilla without making an Incision through the Cheek.—Dr. WYETH presented a patient from whom he had removed an osseous tumor of the left superior maxilla, involving almost all of this bone. [The specimen was shown.] He was a German, aged twenty-eight, who at the age of fourteen had noticed a small swelling on the left upper jaw. It had grown slowly and had been examined by a prominent German surgeon, who had pronounced it to be a benign growth. The speaker had seen him for the first time six months before; the tumor was then increasing in size and caused considerable deformity, so that an operation was advised. It was readily removed through the mouth, *without incision through the soft parts of the face*, by the subperiosteal method. The growth involved the antrum, the whole of which was removed. Goodwillie's gag proved of great assistance during the operation. The periosteum was sutured with silk, and the patient left the hospital on the fourth day after the operation. The bone had been largely restored.

PHILADELPHIA COUNTY MEDICAL SOCIETY.

(Continued from page 498.)

Leprosy.—Dr. VAN HARLINGEN's paper on this subject being under discussion, Dr. H. W. STELWAGON said that he hesitated to express a positive opinion regarding a disease of which he had seen so little clinically. Various views of its ætiology had been held from time to time, and even at the present time these differences prevailed. It had formerly been charged to dietetic and climatic influences, but these, as exclusive factors, had been disproved. Another view was that its spread was due entirely to hereditary transmission, but a study of the affection had excluded this as a main cause. Later opinions were that the disease was contagious through inoculation, a view that had much in its favor, but this also had been disputed by some writers who had been in a position to study the disease. One fact that appeared to be against this view was that in Norway, where there were from two to three thousand lepers, the number of cases had been steadily decreasing for the last fifteen or twenty years. The decrease was due, it was true, in a measure to the establishment of lazarettos, but not entirely, for these contained not more than one third of the whole number of lepers. At the present day, therefore, more or less doubt still existed as to the nature of the disease.

Dr. W. OSLER said that the questions with reference to the contagiousness or inheritance of leprosy were, of course, exceedingly interesting. Dr. Graham, of Toronto, had made an elaborate study of the disease as it occurred at Tracadie, New

Brunswick, and had come to the conclusion that it was contagious, and that it was not transmitted by inheritance. There, as in Norway, the cases had been progressively diminishing in number. Certainly, if it was contagious, it must be so in a very slight degree. It was probably not nearly so contagious as ordinary tuberculosis. The speaker would ask Dr. Van Harlingen whether he had made any examination of sections of the skin in the second case. It might, however, be taken for granted that bacilli were present. The speaker had had few opportunities for seeing leprosy. A case of interest which had come under his observation in Canada was that of a man who had suffered for some thirty years with the anæsthetic variety, and whose sight was finally destroyed by leprous keratitis.

Dr. A. HEWSON had seen something of the anæsthetic form of leprosy, and had recently resorted to a plan of treatment which had been suggested to him by the lecture of the president of the society on Bergeon's use of gas, as in the treatment of phthisis. He had resorted to this expedient in a case where the bacilli were recognized in the skin. He applied the mixture of gases to various parts of the skin, especially the lobes of the ears, by means of inverted funnels, for twenty minutes each day. There was a perceptible reduction in the induration in the course of twenty-four hours, and at the end of ten or twelve days there was such an improvement that one would hardly have recognized the patient as the same person. He would say in this connection that he had been treating cases of keratitis with granular lids by means of these applications of the sulphureted-hydrogen and carbonic-acid gases together. Within twenty-four hours there was such a reduction in the swelling and induration that the lids, which before could not be everted, could be examined without difficulty, and the presence of granular lids as the cause of the keratitis demonstrated. The application in all such cases proved acceptable to the patient by its characteristic sensation of gentle warmth to be felt in the part.

Dr. VAN HARLINGEN said that his object had simply been to exhibit the patient with leprosy, and not to read a paper on the disease. He had, therefore, not referred to certain of the points brought out in the discussion. He had not yet made such examinations as Dr. Osler had suggested, but he would be glad to do so. His main reason for not making sections was, that he had not wished to run the risk of producing lesions that might give the woman trouble. He saw to-night that she had cut her hand severely. If these wounds healed kindly, he would be tempted to remove a piece of the diseased skin for microscopical examination. It might be said that, as the cause of the disease lay in bacillar infection, anything that would kill the bacilli would probably benefit the patient. Unna, of Hamburg, from a study of certain cases, had come to the conclusion that a great deal of benefit was to be obtained by the application of certain agents which killed the bacilli. How far this method would prove effective the speaker did not know. That it would prove effective in the anæsthetic form he very much doubted. The reason that a patient had anæsthetic patches was not that the bacilli were in the skin, but that they were deposited in the nerves which supplied these patches.

Migraine in Childhood.—Dr. WHARTON SINKLER read the following paper:

Migraine is more common in children than is generally realized. Popularly the attacks of "sick headache," which many children have, are attributed to disorder of the stomach from some indiscretion in diet, and many physicians hold the same view. The fact that migraine is a disease which is especially likely to begin about the period of puberty has long been recognized, and this point has been insisted upon by Anstie. Many children begin to suffer from characteristic attacks as early as

seven or eight years of age (Eulenburg speaks of a girl who suffered from excessively severe attacks from her fourth year), and continue to have them until adult life is reached; or, indeed, the attacks may continue all through life. Still, it is most often the case that when migraine begins in early childhood it becomes more severe at puberty and ceases by the time full development is attained. The influence of hereditation is seen to a marked degree in migraine, and the affection often seems to be directly handed down from one generation to the next. It is transmitted from parent to child, and may follow either the male or female line, descending from father to son or from mother to daughter.

The children who suffer from migraine often belong to neurotic families, and it is common to find among the near relatives instances of other nervous disorders. It is, then, important for us to be on the lookout for migraine in children who belong to families of nervous tendencies. I have now under my care for sick headaches a lad of fourteen years, whose mother has violent attacks of neuralgia, and one of his sisters is a well-marked example of hysteria. It is a well-recognized fact that children who suffer from this disease at and before the time of puberty may, in later life, become the subjects of some of the grave neuroses, such as epilepsy or insanity. The great value of the early recognition and cure of the disease is, therefore, apparent.

In addition to the influence of heredity, there are many other causes which may induce migraine in children. The manner in which a child is brought up has much to do with the production of these attacks. Improper food, bad atmosphere, and, above all, an insufficient amount of sleep with overtaxing of the brain, all tend to predispose to or directly bring on migraine. When a child first begins school he often complains of more or less headache. The close air of the school-room and too little exercise are enough to account for some of these headaches. In other children, mere mental effort brings on attacks of pain in the head. The same thing holds good of migraine that I have observed in chorea—namely, that it is the studious, ambitious children, who stand at or near the head of their classes, who suffer from both of these affections. In many instances there are ocular defects, which cause eye-strain, and in these cases the attacks of migraine continue to become more and more frequent in proportion as the eyes are used, until the eye-defect is corrected by glasses. It is not in all cases, however, that the headaches which follow excessive use of the eyes are due to ocular defect. . . .

Migraine does not appear to affect one sex more than the other, but if any difference does exist the preponderance is in boys. Precocious sexual development in either sex often leads to this form of headache. It is astonishing at what an early age evidences of sexual irritation may appear. Bad associations and influences lead a child into thoughts and practices which are unwholesome in the extreme, and bring about disorders of the whole nervous system. Even before puberty arrives the nervous system undergoes a preparatory change, and, if there are evil conditions in the surroundings of a child to excite sexual irritation, puberty is hurried forward. Under these influences a child becomes hypochondriacal and mopy, complains of various ailments—some of which are real and some fancied—and may suffer from real neuralgias. It is very seldom that we meet with migraine in robust and hearty children; but it is seen in those who do not get enough fresh air and who are thin and pale; or in children who think and read too much, and who do not romp and play, but prefer to sit with older people and drink in conversation far beyond their years.

The symptoms of migraine in young children are not far different from those in adults. The attacks are markedly parox-

ysmal, occurring from two to six weeks apart, and become more or less frequent according as the conditions for their development are favorable or otherwise. There may be only one or two attacks a year. The attacks may be preceded by premonitory symptoms, such as chilliness and a feeling of lassitude, and the child is dull and indisposed to play. Sometimes there are subjective ocular symptoms in the form of specks floating before the eyes, *muscæ volitantes*, or balls of fire, and bright zigzags. Occasionally the child complains of hemiopia. These symptoms last a half hour or more, and may be followed by subjective numbness of the tongue, lips, or of the entire half of the body. Putnam* had a patient in whom in boyhood migraine was represented by repeated attacks of numbness and tingling of the right side of the face and right half of the body, with aphasia and hemianopsia, followed by but trifling headache or none at all. Later in life there were severe attacks of pain. Usually as soon as the subjective auras disappear the pain begins. At first the pain is dull, and it may be confined to one side of the head; generally, in children, the pain is on both sides of the head, at least they complain of the pain as being general, and it may be either frontal or occipital; most frequently it is frontal. Anstie says this is common of all neuralgias of children—*i. e.*, to be frontal, and to affect both sides simultaneously. There is often nausea throughout the attack, or it may terminate in vomiting, or a free flow of urine, or sometimes there are two or three diarrhœic stools. After the crisis is reached the child may fall asleep, and after a nap waken well. The attack does not always terminate in a crisis; after a gradually increasing headache for several hours it gradually subsides. The face in the beginning of an attack may be pallid, and as the pain increases the face becomes deeply flushed, and the eyes become suffused.

The treatment must be preventive and curative. If a child is of a neurotic family, in which there are already instances of neuralgia and migraine, we should urge the parents to see that he has as wholesome a life as possible. Insist on ten hours' sleep a night, and keep him from too prolonged application to his books. Six or seven hours of study in the twenty-four is enough for a growing child. Encourage outdoor sports of all kinds, and, if possible, keep such a child in the country for many months in the year. The diet should be abundant and nutritious, milk, eggs, soups, and broths, with meat in moderation and the various cereals, and plenty of vegetables and fruit. Such children can eat largely, and plenty of fatty articles of food is well borne and is of great advantage.

There is a great tendency, in the education of both girls and boys, to overcramping and to overstimulation, to reach a high educational standard; but it is encouraging to see the effort which is now being made in our schools to vary and widen the course of study. The introduction of manual art into the public schools is of inestimable value to the children, not only because it gives them dexterity and skill in the use of the hands which become of practical advantage later in life, but because it trains the minds in studies which are, so to speak, external in their kind.

As physicians, we can not too strongly discourage the taking of young children to the theatres, where not only the late hours and bad air are injurious, but the impressions produced by the plays must be pernicious to an extreme. One can not go to the theatre now without seeing children of all ages looking on at every variety of performance, from the most *dramatic* spectacular ballet to a melodrama of the highest intensity.

If a child has already begun to have attacks of migraine, nothing is of more value than attention to the general health.

* Pepper's "System of Medicine," vol. v, p. 1231.

Such children are often pale and thin, and have but little appetite. If change of air can be secured, it is often enough to produce relief from the attacks. If we can not send the patient away, we must resort to tonics and good feeding. Cod-liver oil, if it can be borne by the stomach, is of the greatest possible use in such cases. If the child can not take oil, we must introduce fat into the system in some other way. Cream and plenty of butter may be given. Devonshire clotted cream, which is now to be obtained at the Alderney dairies, is relished very much by children.

Special antineuralgic drugs are seldom indicated in these cases, but sometimes the bromides may be given with great advantage, especially in children who are of a very nervous temperament, and in whom any effort at brain-work causes headache. They should be given in small doses, and continuously for some weeks. [An illustrative case was then mentioned.]

In many cases some ocular defect will be found which will require correction by glasses, and many cases of migraine in children have been cured by this means alone. In all cases of migraine we should look carefully into the condition of the teeth, and have any unsound ones filled or removed.

Dr. C. M. SELTZER wished that the author had been more explicit with reference to the dietetic treatment. He had inferred from his remarks that the majority of his patients had been underfed. Most of those that the speaker had observed had had an excess of nitrogenous articles, with a lack of sufficient vegetable food. He had produced the best results by limiting the quantity of nitrogenous food, especially in children, and by increasing the quantity of butter, cream, and fatty articles. He directed light suppers, abundant sleep, and moderate exercise, especially in gymnastics. For patients treated in this way, but little medicine was required.

AMERICAN LARYNGOLOGICAL ASSOCIATION.

(Continued from page 475.)

The Ætiology of Deflections of the Nasal Septum.—Dr. D. B. DELAVAN, of New York, read a paper on this subject (see page 539).

Dr. E. C. MORGAN, of Washington: I wish to express my gratitude to Dr. Delavan not only for the valuable paper which he has presented to-day, but also for the exhaustive investigations which he has made in the past regarding the much-mooted question of deformities of the nasal fossæ. As to the ætiology of deflected nasal septa, I can, from a clinical standpoint, say, so far as my observation goes, I have been able in nearly every case to trace the deflected septum to traumatism. At first the history may have been somewhat obscure, but it has been cleared up by investigation. Some member of the family has been able to recall the fact that the patient at an early period of life sustained an injury to the nasal organ. Concerning the apparent immunity from deformity of the nasal septum enjoyed by uncivilized or partially civilized races, I will again say that my clinical experience with the African race in the hospitals at Washington has been large, and I have seen deflection of the nasal septum but very rarely. I have not investigated the subject from a statistical standpoint, for my attention was called to it for the first time by Dr. Delavan's paper.

Dr. F. DONALDSON, Jr., of Baltimore: As to deflection of the nasal septum in the colored race, I had for some years a large dispensary practice among these people, and I do believe that this deformity is not so common with them as with the white race.

Dr. C. E. SAJOURS, of Philadelphia: I wish to express my admiration of Dr. Delavan's efforts in this direction. His paper is

one which will be of a great deal of interest to authors, and I am sure it will be quoted, as it is worthy of being. So far as the ætiology of deflection of the nasal septum is concerned, I hardly think that traumatism can be clearly defined in every case, for, as Dr. Cohen says, all children get bumps on the nose. We know how elastic the end of the nose is, and the general elasticity of the nasal structures is in proportion to the youthfulness of the person. I therefore think that in trying to trace a history of traumatism we should not go back of a certain age, say seven years. Of course an exception would be made where much deformity existed which could be traced directly to a severe blow before the seventh year. With regard to the indications of treatment when there is deflection of the nose, if I find that the patient has diminished breathing capacity through the nose, that he has to breathe through the mouth, I institute treatment; but if he makes no complaint, and I see that respiration through the nose is satisfactory, I leave it alone, for those operations at best are often unsatisfactory, correction of the deformity frequently proving fruitless. With regard to the procedure to be adopted, I quite agree with Dr. Delavan that it is a mistake to try to establish a fixed measure for all cases. In one you will require the punch, in another the saw, in another the burr, and in most of them you will not require those things at all. It seldom occurs that out of twenty cases you will find any two having any resemblance whatever.

Dr. J. SOLIS-COHEN, of Philadelphia: This is a very obscure subject. Of course we are all very much indebted for the light which has been thrown upon it by this review of matter relating to the ætiology. While it is well known that the colored people of the South have a large admixture of the Caucasian blood, still it is true that they have large nostrils, with probably less obstruction to nasal respiration, and that would account for their having a straighter septum than white people, and would go to support the theory of the writer of the paper. The American Indians make it a point to breathe through the nose. When they sleep they sometimes place the hands over the mouth for the purpose of preventing mouth-breathing. Since my attention was directed to the subject of deformity of the palate by the article of Dr. Jarvis and others, I have examined all my patients with regard to that point, and, while I must agree that in the majority of cases this deformity of the palate and deflection of the septum go together, I am equally positive that in a great many cases of deflection of the septum there is a fairly normal arch, and that there may be a high arch without a deflected septum. While speaking on this subject I would mention an observation which I have often made, but which, as far as I know, has not attracted the attention of others—viz., that besides the arching of the roof of the mouth there is often something which looks like an exostosis at the roof the palate. It may be that in these cases there is a greater tuberosity, a greater outgrowth of bone, both of the superior maxillary bone and of the nasal septum. Since the statement was made that children have a vertical septum I have given attention to that point, and have found that in a great many children the septum is deflected although they have not yet attained to the seventh year. With regard to traumatism, of course we know that nurses will drop the children, that boys will fight, and so on, and it is difficult to eliminate this factor, and it is hard to say how many cases are due to that. In conclusion, I would most emphatically state that I have seen over and over again cases in which there was marked deflection of the nasal septum, and in which there was no difficulty at all in respiration.

Dr. J. N. MACKENZIE, of Baltimore: I rise to congratulate Dr. Delavan on the admirable paper which he has given us. It is a subject in which I am very much interested myself, and which I dealt with in an elaborate manner some years ago ("Transac-

tions of the Virginia State Medical Society," 1883.) I wish, therefore, to make some remarks upon certain of the points which have been raised. With regard to race peculiarities, I do not recall a single case of deflection of the septum in an African in which I have been obliged to operate. Yet I see a great many Africans at my clinic in Baltimore. I have seen deflection of the septum in them, but not demanding operation. A good many factors enter into the question of race peculiarities, among which national customs may exert some influence. Among some races the nose is carefully molded during infancy. In Detroit I called attention to the custom of the ancient Persians, especially those in the higher walks of life, who molded the nose of their offspring so that the septum would be perfectly straight. No Persian was allowed to sit on the throne unless he had a perfectly straight septum and a correspondingly good-looking nose. With regard to the congenital origin of these deflections, while the positions taken by Dr. Delavan are excellent, still it seems to me not impossible that the deformity may occur during intra-uterine life. There may be some changes in development during the fetal state which may give rise to deformity of the septum. I think that in a certain proportion of cases the suggestion made years ago by Morgagni may have some weight—namely, that the deflection may be due to the rapid growth of the septum and comparatively slow growth of the surrounding parts. The suggestion of Follin and Duplay, which has been referred to by Dr. Jarvis, regarding the influence of the development of the palatine arch, etc., may be an important one, but the great exciting cause is unquestionably traumatism. In the vast majority of cases where patients present themselves for treatment it will be found, on close inquiry, that the lesion originated in trauma. Especially is this true of deformity of the cartilaginous septum.

Dr. Delavan's remark at the close of his paper was certainly a very pertinent one. It is utterly absurd to say that one method of treatment will be efficacious in every case. The spurs which are so common in the nasal cavity are by no means always of sufficient importance to be sawed off, or pinched off, or dealt with in a very radical manner. In the majority of those cases, unless some obstructive lesion exists, I find there is very little difficulty in breathing through the nose, and I let them alone unless there is some irritative process which may be removed by division of the spur. I think the septum is too often and too violently assailed. While in cases that require treatment I would not hesitate to perform any operation, still I think we ought to select our cases.

Dr. T. A. De Blois, of Boston: There is a class of cases I have not heard spoken of—namely, the nose of the pugilist. During the past winter a number of prominent pugilists have been under my care, and my wonder has been excited that in them the septum is so little deflected. The nasal bones may have been seriously injured, and the nose itself spread all over the face, yet the septum will remain wonderfully straight. I can recall the case of a well-known man whose nose has been completely broken over and over again, yet whose septum is in a right line, and whose nasal respiration is exceedingly good. Last winter I saw a pugilist immediately after the cartilaginous septum had been separated from the bony septum. It was very easily put back into place. He had not had a deflected septum from his previous experience. What is remarkable in these cases is the immense size of the lower turbinated bones anteriorly. It seemed to me that the beating which these people get increases the size of the turbinated bones a great deal more than of the septum. I suppose these could certainly be considered traumatic cases.

Dr. J. O. Roe, of Rochester: The most frequent result from injury to the nose in children, in the cases which have come un-

der my observation, is dislocation of the triangular cartilage. This is an injury which has been very slightly alluded to. In a number of instances I have seen this cartilage so dislocated as to almost completely occlude both nostrils—one by the bulging outward at the point of dislocation, and the other by the end of the cartilage being turned across it. In another class of cases we find one side of the septum straight, while the opposite nostril may be nearly occluded by a bony outgrowth along the lower portion of the septum, which gives it the appearance of being deflected. This, I think, is often due, as Dr. Bosworth has already pointed out, to exostosis along the line of the maxillary articulation, resulting from an injury during childhood, and producing at this point an arthritis. Reference has been made in this discussion to the use of the punch in the treatment of angular deflections of the septum. This is a method which I can not indorse, and which I consider very bad surgery. To remove the deformity in the septum by this method is a confession of our inability to correct it by better surgical means. The hole which is left in the septum by the punch forms a place for the collection of the secretions, which become dried into crust, and produce more or less irritation. At the point of angular deflections of the septum there is always more or less exostosis, which is thrown out as the result of the injury. This should be removed, which is best done by the nasal saw, before any attempt is made to correct the deflection.

The PRESIDENT: I wish to correct my record of 1882, at which time I expressed it as my belief that these changes in the position of the septum did not occur in early life, but that they made their appearance about the age of puberty. Since that time I have had some experience leading me to modify that view. I recall two cases in which it became necessary to operate on children under two years and a half of age because the nostril was completely occluded by a deviated septum. The remarks of two of the gentlemen with reference to traumatism were very pertinent. I think that when the injury is not sufficient to fracture or dislocate the nasal bones, or to dislodge the cartilage, there is no probability that deformity will result. If the nasal bones are fractured, we can readily understand how the deformity results; if the cartilage is separated at either border, an inflammatory process will be set up which is very apt to increase its growth, and in that way cause deformity. But, if we bend the cartilage to one side or the other, it springs back as a sheet of steel would, and can not remain in the normal position.

Miscellany.

The New York State Medical Association.—At the fifth special meeting of the Fifth District Branch, to be held at New Brighton, Richmond Co., on Tuesday, the 15th inst., the following named papers are expected to be read: "Remarks on the Clinical Significance of Sphygmographic Tracings," by Dr. Alfred L. Carroll; "The Individuality of Disease," by Dr. Edwin Barnes; "Chronic Progressive Caries of the Bones of the Foot," by Dr. W. C. Walser; "Antithemics in Neuralgic Pains," by Dr. S. H. Benton; and "Demonstration of a Dressing for Green-stick Fracture of the Clavicle," by Dr. Alfred L. Carroll.

The late Dr. William M. Chamberlain. At the regular meeting of the medical board of Charity Hospital, held November 1, 1887, the following preamble and resolutions were unanimously adopted:

Whereas, William M. Chamberlain, M.D., one of the oldest and most honored members of this board, has recently been removed by death

Resolved, That we hereby express our deep sense of the loss which the medical board of Charity Hospital has sustained in his decease.

Resolved, That we bear testimony to his high professional and literary attainments, to the sterling integrity of his character, to his kindly social qualities, to his sound judgment and skill, and to his devotion to the interests of Charity Hospital, in which he served for more than sixteen years as visiting physician, and subsequently, as consulting physician, to the time of his death.

Resolved, That a copy of these resolutions be transmitted to the medical journals of this city and to the family of our deceased associate, to whom we desire to extend our sincere sympathy in their affliction.

[Signed.]

{ F. N. OTIS, M. D.,
I. LEWIS SMITH, M. D.,
ROBERT W. TAYLOR, M. D.

The Alleged Alkaloid, Gleditschine.—The following letter from Dr. J. Herbert Claiborne, Jr., appeared in the "Medical Record" for November 5th:

"In view of the recent statements of several analytical chemists that gleditschine, the new local anæsthetic, is nothing but a mixture of cocaine and atropine, I deem that I owe it to the readers of the 'Medical Record' to say a few words on the subject. Mr. Goodman has just returned from Bayou Sara, La., where, he states, he has been making the solution of gleditschine. He informs me that he heard for the first time, on his arrival in Bergen Point, N. J., November 1st, of the analysis of the chemists, who find the solution to contain atropine and cocaine. He expressed himself as being earnestly desirous of setting himself right in the eyes of the medical profession, and, in order to convince them of the genuineness of his discovery, he agrees to do the following:

"I, Dr. Claiborne, am to select two medical men of this city: they are to select as a committee of two a botanist and a chemist; the botanist is to examine the leaves which will be used, and is to pass an expert opinion as to whether they are the leaves of the *Gleditschia triacanthos*, and, if not, of what tree they are leaves. The chemist is to bring the chemicals necessary, these being indicated by Dr. Seward or Mr. Goodman, and is to make the solution from the leaves in possession of Dr. Seward and Mr. Goodman, under their direction. The chemist is then to test the anæsthetic and mydriatic effect of this solution on a human being or lower animal selected by himself (the chemist), and is to state to the world, through the columns of the New York 'Medical Record' and the 'New York Medical Journal,' whether said solution has anæsthetic and mydriatic effects or not. If cocaine or any mydriatic be employed in the process, to say so; if not, to say not. The condition to be imposed is that the chemist, on his word as his bond, is not to divulge the method of procedure of obtaining the substance. This solution, if it be desired, may be placed in the hands of experts, who may pass judgment upon its anæsthetic and mydriatic properties. Bergen Point, N. J., is to be the site of the procedure, or, if it be demanded, any other place. No one can fail to be struck by the fairness of this proposition. Dr. George F. Shrady and Dr. Frank P. Foster have agreed to act as a committee in this matter. Mr. Goodman informs me that he has had shipped from New Orleans a quantity of the leaves of the tear-blanket tree, by one of the Cromwell line of steamers, and that he expects them shortly.

"To my mind the solution seemed to have effects different from cocaine or atropine. Moreover, several facts regarding the tree, which have come under my observation, or to which my attention has been called, seemed to warrant the conclusion that the point had not been proved beyond a reasonable doubt. In this connection I would say that, with a strong aqueous solution of the gleditschia leaf, obtained through a friend from a chemist in New Jersey, who was experimenting in this direction, I observed in my own eye and in that of my friend a dilatation of the pupil. This lasted in my case for several days. His case was not followed up. No anæsthetic effect was observed in either. Every seeming possibility of error was eliminated. A bottle was used for the solution which had never been used for a mydriatic or any other medicine, as far as was known, a new medicine-dropper was used, and my own hands were thoroughly washed before commencing. Neither this gentleman nor myself had touched a bottle containing any my-

driatic for twenty-four hours. It is pertinent to remark that the dilatation was slight, and that copious and frequent instillations were made for an hour.

"In a recent communication to me concerning gleditschine, from one of the chemists who have been investigating the matter, it was said that Dr. Rusby had stated to them that the 'natives of Bolivia, whenever they are unable to obtain supplies of coca leaves, chew the leaves of a tree which is closely allied to the gleditschia, and which leaves they call *chinchicoa*.'

"Those who, it is alleged, have made this discovery have been denounced in the most unmeasured terms by certain chemists. It is, therefore, in the highest degree proper that the plain and unvarnished truth should be known. It is to be hoped that we are approaching the finale of this most interesting and perplexing question."

Under date of November 5th, the editor of the "New York Medical Journal" wrote as follows to the editor of the "Medical Record":

"In a note from Dr. J. Herbert Claiborne, Jr., published in the 'Record' of this date, I find it stated that you and I have consented to nominate a chemist and a botanist to superintend an attempt on the part of Mr. Goodman and Dr. Seward to extract an alkaloid from the *Gleditschia triacanthos*, together with this statement: 'The condition to be imposed is that the chemist, on his word as his bond, is not to divulge the method of procedure of obtaining the substance.'

"I took pleasure in acceding to Dr. Claiborne's request that I should act with you in the capacity in question, but I did not suppose that any such condition was to be attached to the arrangement. Dr. Claiborne said something about a desire on the part of Mr. Goodman and Dr. Seward that their process should be kept a secret, but I told him that that was impossible, and I thought that he agreed with me. Had I supposed that such a condition was seriously intended to be made a part of the plan of procedure, I should have declined to have any connection with it, for it seemed to me that it would be unsatisfactory to the profession and an indignity put upon the chemist and the botanist who were expected to perform a service in the interest of science."

The Health of Michigan.—According to a summary of returns to the State Board of Health, for the four weeks ending October 29th, diphtheria was reported from fifty-eight places, scarlet fever from thirty-six, typhoid fever from forty-five, measles from twelve, and small-pox from one place.

Government Health Reports.—By direction of the Secretary of the Treasury, Dr. John B. Hamilton, Surgeon-General of the Marine-Hospital Service, has issued the following abstract of sanitary reports received during the week ending November 4th:

(Published in accordance with Section 4, act approved April 29, 1878.)

The act approved April 29, 1878, referred to, is as follows, and is published for the information of officers concerned:

"An act to prevent the introduction of contagious or infectious diseases into the United States.

"Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That no vessel or vehicle coming from any foreign port or country where any contagious or infectious disease may exist, and no vessel or vehicle conveying any person or persons, merchandise or animals, affected with any infectious or contagious disease, shall enter any port of the United States or pass the boundary-line between the United States and any foreign country, contrary to the quarantine laws of any one of said United States, into or through the jurisdiction of which said vessel or vehicle may pass, or to which it is destined, or except in the manner and subject to the regulations to be prescribed as hereinafter provided.

"SEC. 2. That whenever any infectious or contagious disease shall appear in any foreign port or country, and whenever any vessel shall leave any infected foreign port, or, having on board goods or passengers coming from any place or district infected with cholera or yellow fever, shall leave any foreign port, bound for any port in the United States, the consular officer, or other representative of the United States at or nearest such foreign port, shall immediately give information thereof to the Supervising Surgeon-General of the Marine-Hospital Service, and

shall report to him the name, the date of departure, and the port of destination of such vessel; and shall also make the same report to the health officer of the port of destination in the United States, and the consular officers of the United States shall make weekly reports to him of the sanitary condition of the ports at which they are respectively stationed; and the said Surgeon-General of the Marine-Hospital Service shall, under the direction of the Secretary of the Treasury, be charged with the execution of the provisions of this act, and shall frame all needful rules and regulations for that purpose, which rules and regulations shall be subject to the approval of the President, but such rules and regulations shall not conflict with or impair any sanitary or quarantine laws or regulations of any State or municipal authorities now existing or which may hereafter be enacted.

"Sec. 3. That it shall be the duty of the medical officers of the Marine-Hospital Service and of customs officers to aid in the enforcement of the national quarantine rules and regulations established under the preceding section; but no additional compensation shall be allowed said officers by reason of such services as they may be required to perform under this act, except actual and necessary traveling expenses.

"Sec. 4. That the Surgeon-General of the Marine-Hospital Service shall, upon receipt of information of the departure of any vessel, goods, or passengers from infected places to any port in the United States, immediately notify the proper State or municipal and United States officer or officers at the threatened port of destination of the vessel, and shall prepare and transmit to the medical officers of the Marine-Hospital Service, to collectors of customs, and to the State and municipal health authorities of the United States, weekly abstracts of the consular sanitary reports and other pertinent information received by him.

"Sec. 5. That whenever, at any port of the United States, any State or municipal quarantine system may now, or may hereafter exist, the officers or agents of such system shall, upon the application of the respective State or municipal authorities, be authorized and empowered to act as officers or agents of the national quarantine system, and shall be clothed with all the powers of United States officers for quarantine purposes, but shall receive no pay or emoluments from the United States. At all other ports where, in the opinion of the Secretary of the Treasury, it shall be deemed necessary to establish quarantine, the medical officers or other agents of the Marine-Hospital Service shall perform such duties in the enforcement of the quarantine rules and regulations as may be assigned them by the Surgeon-General of that service under this act: *Provided*, That there shall be no interference in any manner with any quarantine laws or regulations as they now exist or may hereafter be adopted under State laws.

"Sec. 6. That all acts or parts of acts inconsistent with this act be and the same are hereby repealed."

England and Wales.—The deaths registered in twenty-eight great towns of England and Wales during the week ending October 15th corresponded to an annual rate of 17·8 in a thousand of the aggregate population, which is estimated at 9,244,099. The lowest rate was recorded in Leicester, viz., 14·2, and the highest in Plymouth, viz., 27·1 in a thousand. Small-pox caused 8 deaths in Sheffield.

London.—One thousand three hundred and fifty-one deaths were registered during the week ending October 15th, including 14 from measles, 56 from scarlet fever, 22 from diphtheria, 27 from whooping-cough, 17 from enteric fever, and 24 from diarrhoea and dysentery. There were 280 deaths from diseases of the respiratory organs. Different forms of violence caused 58 deaths, and 8 suicides were registered. The deaths from all causes corresponded to an annual rate of 16·7 in a thousand. In greater London 1,677 deaths were registered, corresponding to an annual rate of 16·2 in a thousand of the population. In the "outer ring" 11 deaths from diphtheria, 9 from scarlet fever, and 8 from whooping-cough were registered.

Ireland.—The average annual death rate represented by the deaths registered during the week ending October 15th in the sixteen principal town districts of Ireland was 24·1 in a thousand of the population. The lowest rate was recorded in Lisbon, viz., 9·7, and the highest in Waterford, viz., 46·3 in a thousand.

Dublin.—One hundred and eighty-five deaths were registered during the week ending October 15th, including 6 from measles, 2 from whooping-cough, 11 from scarlet fever, 6 from enteric fever, 9 from diar-

rhoea, and 1 from diphtheria. Diseases of the respiratory organs caused 31 deaths. Seven accidental deaths were registered, and in 23 instances the causes of death were uncertified. The deaths from all causes corresponded to an annual rate of 27·3 in a thousand.

Germany.—The deaths registered in fifty-two cities of Germany, having an aggregate population of 6,821,222, during the week ending October 8th corresponded to an annual rate of 19·8 in a thousand. The lowest rate was recorded in Braunschweig, viz., 11·2, and the highest in Königsberg, viz., 31·7.

Netherlands.—The deaths registered in the principal cities of the Netherlands, having an aggregate population of 1,102,200, during the month of August, corresponded to an annual rate of 19·8 in a thousand. The lowest rate was recorded in Groningen, viz., 15·7, and the highest in Maastricht, viz., 27·8.

Ningpo.—The United States consul, in his dispatch dated September 15, 1887, states that "cholera is on the decrease in this village, while in the walled city it has not abated since my last report. The two American missionaries reported by the doctor are Dr. C. C. Lord (for many years our consul at this port) and his wife. They were attacked with cholera on the 13th inst.; this morning they were both very low, but I hope for the best." The consul also incloses a copy of Dr. Daly's report on the health of the city, stating that the number of deaths per day is estimated at from 200 to 600.

Palermo.—The United States consul, in his dispatch dated October 10, 1887, with reference to cholera, states that—

"I now have the honor to say that only 11 cases thereof and 8 deaths therefrom occurred during the week ending the 9th inst.—a decrease of 8 cases and 4 deaths, compared with the preceding week."

Naples.—The United States consul, in his dispatch dated October 10, 1887, states that "according to the best information I have been able to obtain, the number of deaths resulting from cholera in the city of Naples between the 27th of September and the 6th of October were 18. Since that time there have been no cases. In the surroundings of Naples the disease has also almost entirely disappeared."

Santiago de Cuba.—The sanitary inspector, in his report for the week ending October 23, 1887, reports that "the small-pox epidemic has completely disappeared, only 1 case of varioloid having been recorded, and no deaths. Scarlet fever rages at present in a mild form. Yellow fever still prevails among the troops of the garrison, but the cases are treated at the military hospital, outside the city limits. Twelve cases and 8 deaths have been recorded for the week. I may here state that it is exceedingly rare that cases of yellow fever do not exist at the military hospital. The port is clean, no sickness having taken place on board the shipping."

MORTALITY TABLE, FOREIGN CITIES.

CITIES.	Week ending	Estimated popu- lation.	Total deaths from all causes.	DEATHS FROM—							
				Cholera.	Yellow fever.	Small- pox.	Typhus fever.	Epidemic fever.	Scarlet fever.	Diphthe- ria.	
Glasgow	October 15.	545,678	236						8	55	
Munich	October 8	269,000	126					1			
Rio de Janeiro	Septemb'r 17.	300,000	113			171		2		1	
Rio de Janeiro	Septemb'r 24	300,000	367		1	142		3		1	
Palermo	October 16	250,000	91						2	4	
Genoa	October 15.	159,445	84			9	1			1	
Leipzig	October 15.	150,000	64							28	
Trieste	October 9.	150,137	114			9		1	2	1	
Toronto.	October 23.	125,000	33							2	
Pernambuco	October 1.	111,000	61					1			
Barmen	October 8.	108,000	29				1				
Reims	October 15.	95,303	32					1		1	
Mayence	October 1.	65,701	21						1		

UNITED STATES.

Tampa, Fla.—*Yellow Fever.*—The quarantine inspector telegraphed, under date of November 3, 1887, as follows:

"For week ending November 2d, 71 cases, 9 deaths. Total cases, 325, approximately. Total deaths to date, 48. To-day, 3 new cases, 2 deaths. Think epidemic rapidly subsiding."

Many Lakes, Fla.—Dr. King Wylly, in his telegram dated October 31, 1887, with reference to alleged cases of yellow fever at several places in Pasco county, stated that "Dr. Montgomery reports 2 cases

three weeks ago at Many Lakes. Man died, wife recovered; both refugees. No spread of disease. Other places perfectly healthy."

New York Quarantine.—The information contained in the New York "Evening Telegram," of October 27, 1887, relative to the departure of immigrants, with their baggage, from the infected Italian steamship *Independente* to Chicago, Cleveland, Philadelphia, New Orleans, St. Louis, Boston, Washington, Cincinnati, Pittsburgh, Baltimore, Syracuse, and Providence, was communicated by this bureau, the following morning, to the respective health officers at the places named, from the majority of whom immediate replies were received stating that search was being made for the immigrants, with a view of disinfecting their baggage and taking necessary precautions.

The commissioner of health of Chicago, under date of October 28th, telegraphed:

"I have found thirteen immigrants referred to yesterday; all well. I have found eight packing-cases and six bundles bedding. Clothing all packed near or at Palermo and not opened at New York. I shall disinfect or burn."

The health officer at New York, in his telegram next day (October 29th), stated that "the steamer *Independente* was detained more than twenty-four hours. All baggage, parcels, and bundles were opened in the steerage and thoroughly disinfected. There were no deaths during voyage, and not a single case of illness among the passengers."

Supplementary Mammary Glands.—Dr. D. C. Holton, of Brooklyn, sends us a short account of a case in which, on the third day after parturition, the patient complained of her breasts, for which he gave certain directions as to treatment. At his next visit he was told that the breasts were better, but that "the lumps under the arms" were still hard and painful, and that the patient had to lie with her arms over her head to prevent pressure on them. On examination, he found what at first appeared to be axillary lymphatic glands very much enlarged, but proved, on closer examination, to be supplementary mammary glands. They were situated one at the anterior border of each axilla, each being about as large as a duck's egg and having a small but distinct nipple with a faint areola surrounding it, and milk could be pressed from the nipples. It was the patient's third confinement, and she stated that the "lumps" had appeared with every child.

ANSWERS TO CORRESPONDENTS.

No. 79.—1. For an American graduate the requirements for admission to the Royal College of Surgeons of England are as follows: (a) Four whole years of medical studies. A college diploma is not enough; certificates must be shown covering the whole time. (b) Evidence of a thorough course in dissection (certificates from demonstrators). (c) Evidence that the candidate has had at least six months of hospital experience (a diploma from one of our hospitals will do). (d) Evidence that the candidate has personally attended in twenty cases of midwifery. (e) A written examination must be passed in anatomy, physiology, and surgery. (f) An oral examination must be passed in regional anatomy, physiology, histology, surgery, operative surgery, surgical diagnosis, surgical pathology, bandaging, and the use of surgical instruments and apparatus. 2. The entrance examination for the Royal College of Surgeons of England is the most difficult of the three. 3. The M. R. C. P. is practically impossible of attainment by an American until he has passed the L. R. C. P., as it calls for a practical knowledge of English methods of study, which can be acquired only by residence and study in England. We think you can obtain more precise information by addressing Mr. Trimmer, secretary of the Royal College of Surgeons, Lincoln's Inn Field, London; and Sir Henry Pitman, secretary of the Royal College of Physicians, Trafalgar Square, London.

No. 80.—The law of California provides for a board of examiners in each county, whose duty it is to examine into the genuineness of diplomas held by candidates for a license to practice. The fee for examining a diploma is one dollar. The holder of the diploma must make affidavit that he is the lawful possessor of the same, that he is the person named in it, that it was procured in the regular course of medical instruction, and without fraud or misrepresentation of any kind, and that the institution granting the diploma had, at the time of granting the same, a full corps of medical instructors, and was, at the

said time, a legally incorporated institution actually and in good faith engaged in the business of medical education and in good standing, and that the applicant had complied with all its requirements. The diploma and the affidavits may be presented by letter or by proxy. Persons not holding a diploma or a license from a legally chartered medical institution in good standing must pass an examination before the county board, for which the fee is five dollars, to be returned if the board decides not to grant the certificate. A certificate may be refused or revoked for unprofessional or dishonorable conduct.

No. 81.—Equal parts of tincture of iodine, ammonia water, and collodion; to be applied with a camel's-hair pencil.

No. 82.—A satisfactory apparatus for the purpose can not be obtained of the dealers for much less than a hundred dollars.

No. 83.—It is effective, but far more painful than an ordinary blister.

No. 84.—Apply oil of turpentine to the glass at the time of drilling.

No. 85.—Try a cork covered with gutta-percha tissue, and renew the tissue occasionally.

No. 86.—Apply to the assistant secretary, Dr. N. G. McMaster, No. 322 East Fifteenth Street.

To Contributors and Correspondents.—*The attention of all who purpose favoring us with communications is respectfully called to the following:*

Authors of articles intended for publication under the head of "original contributions" are respectfully informed that, in accepting such articles, we always do so with the understanding that the following conditions are to be observed: (1) when a manuscript is sent to this journal, a similar manuscript or any abstract thereof must not be or have been sent to any other periodical, unless we are specially notified of the fact at the time the article is sent to us; (2) accepted articles are subject to the customary rules of editorial revision, and will be published as promptly as our other engagements will admit of—we can not engage to publish an article in any specified issue; (3) any conditions which an author wishes complied with must be distinctly stated in a communication accompanying the manuscript, and no new conditions can be considered after the manuscript has been put into the type-setters' hands. We are often constrained to decline articles which, although they may be creditable to their authors, are not suitable for publication in this journal, either because they are too long, or are loaded with tabular matter or prolix histories of cases, or deal with subjects of little interest to the medical profession at large. We can not enter into any correspondence concerning our reasons for declining an article.

All letters, whether intended for publication or not, must contain the writer's name and address, not necessarily for publication. No attention will be paid to anonymous communications. Hereafter, correspondents asking for information that we are capable of giving, and that can properly be given in this journal, will be answered by number, a private communication being previously sent to each correspondent informing him under what number the answer to his note is to be looked for. All communications not intended for publication under the author's name are treated as strictly confidential. We can not give advice to laymen as to particular cases or recommend individual practitioners.

Secretaries of medical societies will confer a favor by keeping us informed of the dates of their societies' regular meetings. Brief notifications of matters that are expected to come up at particular meetings will be inserted when they are received in time.

Newspapers and other publications containing matter which the person sending them desires to bring to our notice should be marked. Members of the profession who send us information of matters of interest to our readers will be considered as doing them and us a favor, and, if the space at our command admits of it, we shall take pleasure in inserting the substance of such communications.

All communications intended for the editor should be addressed to him in care of the publishers.

All communications relating to the business of the journal should be addressed to the publishers.

Original Communications.

THE IMPORTANCE OF
LOCAL TREATMENT IN DIPHTHERIA.*BY WILLIAM PORTER, M.D.,
ST. LOUIS.

It is not needed that mention should be made in this association of the wide prevalence of diphtheria or of the great fatality attending it. Neither would I be thought to assert that local treatment is the most important part in the conduct of this dread disease. Surely it were better to entirely lose sight of local requirements than to be lacking in that care and alertness needed in the successful general medication of each case.

The thought I would present here is that efficient local treatment is always indicated in the early stages of the disease, and often of avail in the more advanced complications. It is to be regretted that the physician is not called sooner in many instances. Often not until the system is profoundly impressed by the diphtheritic virus is he summoned, and then asked to combat, not an incipient fire, but a conflagration rapid in its advance and destructive in its tendency.

First of all, I believe that diphtheria is in its attack a local disease, most prone to invade a mucous membrane denuded of its epithelium. How the specific poison first finds a foothold we know not, but probably a direct contact is quickly followed by growth and absorption. As in the well-known phenomena attending successful vaccination, the systemic infection is quickly followed by increased local disturbance and exudation, most likely at the point of the primary infection. This new development, the false membrane, in its turn becomes a distributing center for all parts of the system.

If it were possible to antagonize the attack at the beginning, when the diphtheritic impression is first received, the problem of cure would be easily solved. And here let me say parenthetically that I believe it is good practice to use, frequently and thoroughly, astringent and antiseptic sprays and applications with children who may not show evidence of diphtheria, but who are or have been exposed to it by living in the same house, or are in any known way in the line of invasion. Just as an intact mucous membrane completely covered by epithelial scales may be securely protected from attack, so I hold that, in cases where a denuded membrane offers an invitation for the ready reception of the diphtheritic germ, we may afford an artificial protection, or by proper means destroy an already present foe.

Yet it is not of prophylaxis that this essay is to treat, but of efficient conduct in cases where the disease is present. These conditions exist: 1, a local specific inflammation; 2, a general septic condition, at first caused by, and afterward aided by, absorption from this local inflammation.

While many eminent practitioners depend upon general medication, and some have quite abandoned all forms of local treatment, it is evident that all indications are not met unless attention is given to the local manifestations of diphtheria. If the disease is of local origin, if the systemic infection is constantly receiving fresh re-enforcement by means of the ready absorption of the specific poison—aid the system by all means to throw off the incubus of infection, but also limit if possible the further supply.

How shall this best be done? This depends upon the amount of local progress. I do not hesitate to say that I have seen a local diphtheritic exudation melt away in three or four days under proper local applications, the system being at the same time well guarded. But were these true cases of diphtheria? This much in affirmation: Several of these of which I speak were in families where one child had just died from diphtheria, where the symptoms were all indicative of diphtheria, and where there had been every opportunity for infection.

An old cry is that a physician who professes to conduct his cases of diphtheria to a favorable termination is an alarmist, and his cases are simply follicular amygdalitis. Such a pitiable antagonism is unworthy a scientist. Mistakes do occur, and it is better they should be on the safe side; but I am willing to call a case diphtheria where I find that the child, having been exposed to the contagium, has anywhere upon the mucous membrane of the upper passages a thick, continuous yellow exudation, closely adherent to the mucous membrane, with a tendency to necrosis and sloughing, especially if the pulse is quick and weak and the temperature above normal. It is possible that such a case is not diphtheritic, but it is not probable, and we deal with probabilities. The differences in local appearance and general condition between a follicular exudation and the characteristic false membrane of diphtheria are usually so marked that the physician need not be mistaken, and if he does err, let him give the child the benefit of the doubt.

Beyond this class we have another or advanced degree of the same class in which there can be no doubt as to the type of disease. We find it when called two or three days after the first attack. No longer is there now a small patch confined to the tonsil, or to a small part of the pharyngeal wall or soft palate. The natural guardians of the child have slept and the insidious enemy is in full possession. A dense dirty-yellow and sometimes disintegrating exudation is found closely attached to the natural tissues in some places, and in others hanging in loose shreds, while the nasopharynx is filled with detached portions of membrane, retained mucus, and sometimes blood, and poison from this septic hot-bed is being rapidly absorbed and carried to the most remote parts of the little frame. Each of these classes of cases demands special and distinct local management.

Let us consider the first class, where the membrane is yet small in extent and of recent formation. Can we close the portals of the absorbents and render the existing local focus of disease inert? After experimenting with many formulæ, I have for several years renewed my confidence in

* Read before the American Laryngological Association, at its ninth annual congress.

the mixture of equal parts of glycerin and tincture of chloride of iron. The more fashionable and really excellent practice of using bichloride of mercury provides for antiseptis, but not for the equally important matter of astringency. But little manipulation is needed in these early cases. A cotton-covered probe is by far the best instrument, and with it the solution is not merely brushed over, but pressed against, the point of attack. There is no necessity of hurting the child if care is taken, but, on the other hand, I retain a vivid picture of the good old doctor, conscientiously bound to do something, his spectacles awry, plunging a "swab" at random down the throat of a kicking child, or through the clinched teeth, scraping the mucous membrane from the roof of the mouth by the good help of the ubiquitous table-spoon. By proper tact the application may be made easily, and, if it is repeated frequently—*i. e.*, every two hours—its efficiency will soon be demonstrated.

In the more advanced class of cases much more than this is needed. The extent of false membrane is greater, it is more difficult to reach, and the upper respiratory passages are obstructed. First, all of the detached membrane and *débris* should be removed by the syringe, and there is no better method of doing this than that described by Dr. Jacobi in the discussion following Dr. Billington's able paper on "Local Treatment in Diphtheria" ("Medical Record," April 9, 1887). A tepid but weak solution of common salt is an effective cleansing agent, after which a spray of bichloride-of-mercury solution can be used. The spray should be used warm, and to protect the nostril I often pass over the end of the spray-tubes a small piece of rubber-tubing and roll it up, so as to fit the nostril fairly well. There is no use in attempting to employ the more direct and potent applications by means of the probe in these cases. Many other agents have been used by spray and inhalation or insufflation, such as carbolic acid, lime-water, weak solutions of iron, etc. These are useful, but time forbids speaking of all.

When there is great irritation from laryngeal involvement—if the exudation is not too great—the vapor from slaking lime often gives relief.

I should greatly exceed my limit of time did I attempt to discuss the relative value of tracheotomy and intubation. The opportunity is given, however, to call attention again to what I believe to be an important addition to the ordinary procedure in tracheotomy—*i. e.*, to fill the larynx above the artificial opening with a pledget of cotton or small sponge saturated with an antiseptic solution, to prevent, if possible, the extent of the local disease by continuity of surface.

Let me repeat these thoughts: 1. Diphtheria is in its incipency a local disease. 2. Local treatment is important, an aid to, but never a substitute for, the careful general medication and care. 3. The exact means used in local treatment may not be important, but the end to be accomplished is the speedy sterilizing and disintegration of the diphtheritic exudation, without injury to the adjacent tissues. 4. The local treatment must be conducted promptly, persistently, and carefully.

2830 LOCUST STREET.

IMPETIGO CONTAGIOSA.*

By GEORGE THOMAS JACKSON, M. D.,

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A RIGHT understanding of this disease is important, because, if recognized, its treatment is simple and its cure rapid. A proper diagnosis of its bullous form will enable the physician to give a good prognosis where otherwise he would regard the case as one of pemphigus, and therefore would be compelled to make a more or less grave one. Though the disease has been recognized for some time, and has been brought before the medical profession in its journals and societies, errors in diagnosis are not infrequently made. Let this be my excuse for taking up your time tonight with this comparatively insignificant affection.

By the term "impetigo" is now most often meant a disease with pustular lesions, just as we use the term "lichen" to indicate one with papular lesions. In so far the term *impetigo contagiosa* is justified, since it is a pustular disease. But it is not so from the beginning, for the primary lesion is a vesicle the contents of which soon become purulent. Vesico-pustules, then, are the characteristic lesions of the disease, and in the vast majority of cases they will be the only ones present. They are of various sizes, but average that of a split pea. They are at first surrounded, in well-marked cases, with a red halo, which soon fades. They tend to increase slowly in size, and sometimes assume grotesque shapes. They are not fully distended, but flaccid, and not infrequently upon the hands will bear a strong resemblance to a burn of the second degree. If the covers of the vesicles or small bullæ are not disturbed, their contents in a few days will dry up, and the vesico-pustule will change into a straw-yellow granular crust, which is placed superficially upon the skin with its edge somewhat detached, and, it may be, turned up. In fact, it looks "stuck on." When the crust is removed or falls of itself, there is exposed an erythematous spot, which in a short time will disappear and leave no trace of its existence. If the vesicles are torn by scratching, or if by any other means their covers are removed, we shall find very superficial losses of substance—a moist surface covered with a slight purulent secretion. Even this disappears and leaves no trace, passing through the erythematous stage in its course to recovery. Such are the appearances presented in the majority of cases.

Besides this usual and typical form we meet with another and rarer variety, in which, instead of vesico-pustules, there are large bullæ. These are sometimes several inches in their long diameter, of irregular oval shape, not fully distended with fluid, and sometimes showing a slight depression in their centers. Their contents are at first serous, but soon become sero-purulent. They seem to be longer preserved than the vesicles, but otherwise run the same course. At first they have a slight zone of redness about them, but this soon disappears. They either are formed by two or more vesico-pustules running together, or spring

* Read before the New York Academy of Medicine, Section in Obstetrics and Diseases of Women and Children, October 27, 1887.

up of themselves. They may attain their full size at once, or increase slowly. Rarely do they exist alone; generally the typical vesico-pustules will be found in their neighborhood or elsewhere on the body. It is this bullous form that is liable to be mistaken for pemphigus.

Impetigo contagiosa is located principally upon the face, most often on the chin, and on the hands; it may also occur upon the scalp, legs, and trunk, especially in infants. According to my experience, the bullous form is most often seen upon the trunk. The lesions of both varieties are discrete; exceptionally two or more may run together. They are superficial, rarely very numerous, and tend to break out in crops. The bullous lesions are generally widely separated from one another. The outbreak of the disease may be preceded or accompanied by slight fever or some constitutional disturbance. My notes of sixteen cases contain no mention of any general disorder, so in them it must have been slight or wanting.

Ætiology.—The disease is comparatively rare, or at least it seldom comes under the notice of the dermatologist. Thus, the statistics of the American Dermatological Association for 1886 show but 91 cases in 14,984. During the last two years I have met with it only 16 times in about 2,200 dispensary and hospital cases. It is, as its name indicates, very contagious, and often occurs in epidemics. When one case is met with in dispensary service, several more may be expected in children of the same family or neighborhood. It is readily inoculable both on the subject of the disease and on others. Not infrequently we see a mother or other attendant of a child with the characteristic lesions of impetigo contagiosa upon the arms, derived from carrying the child suffering with the same disorder. What the contagious element may be is not yet determined with certainty, though various investigators have described several parasites as the cause of the disease. We know that all pus is under certain circumstances inoculable, and hence it has been maintained that there is no such disease, properly speaking, as contagious impetigo. But when we succeed in inoculating from an ordinary impetigo pustule, we produce an ordinary impetigo pustule, not the characteristic vesico-pustule of impetigo contagiosa. It has been stated by some authorities that the disease is due to lice on the head. In some cases phtheiriasis capitis may be present, because both diseases occur with special frequency in children of the poor. In my own experience no such relationship could be traced. A number of cases have been reported of the occurrence of contagious impetigo shortly after the fall of vaccine crusts, and thus has been suggested the possible connection between impetigo and vaccinia.

It is more frequent in the warm months than in the cold. Thus, of my sixteen cases, one occurred in May, three in June, one in July, three in August, and five in September—thirteen in all. Children furnish the vast majority of the cases. My oldest patient was ten years of age, though I have seen the disease in adults from contact with children under their care. The duration of the disease is short, rarely more than a few weeks. Two months is the longest duration I have met with before the child was presented for treatment.

Diagnosis.—Impetigo contagiosa is diagnosed by the presence of discrete, partially distended vesico-pustules, which are located upon the exposed parts—head, face, and hands—in most cases; these are sometimes grouped, run an acute course, and dry up into straw-yellow “stuck-on” crusts. It is sometimes preceded by slight constitutional disturbances, and accompanied by a slight amount of itching. It must be differentiated from simple impetigo, pustular eczema, varicella, scabies, pemphigus, and possibly ecthyma.

The lesions of simple impetigo are pustules from the start, while those of impetigo contagiosa are first vesicles and then vesico-pustules. The pustules of impetigo are prominently raised, and run no definite course. The vesico-pustules of impetigo contagiosa are flattened, and run a rather definite course. The crusts of impetigo are generally greenish, while those of the contagious form are yellowish. Impetigo is not so readily inoculable as impetigo contagiosa, and is much more widely disseminated, as a rule. Simple impetigo is a deeper process than the contagious form.

Pustular eczema is often itchy; its pustules tend to break down quickly, run together, and form large patches, which soon become covered with a greenish or blackish crust. These phenomena are entirely foreign to impetigo contagiosa. Eczema does not present vesico-pustules nor bullæ, as a rule, and shows slight tendency to spontaneous recovery.

Varicella is an acute contagious disease, with constitutional symptoms in most cases. Its vesicles are smaller than those of impetigo contagiosa, and they run a definite course peculiar to themselves. They are widely distributed over the whole surface, usually appear first on the trunk, sometimes occur upon the fauces, and not infrequently leave pitted scars. Contagious impetigo is in most cases limited to the exposed parts, it never occurs upon the fauces, and its lesions leave no trace. The crusts of varicella are small, while those of contagious impetigo are large.

The diagnosis from scabies offers little difficulty. In fact, the location of both diseases upon the back of the hands is their strongest point of resemblance. When we bear in mind that scabies is very itchy, that it occurs usually as a copious eruption upon the hands, wrists, and forearms, about the umbilicus, on the nipples of females and the genitals of males, that scratched papules and pustular lesions are more characteristic of it than vesicles, and that it presents the pathognomonic furrows, we should not confound it with impetigo contagiosa, which has none of these symptoms. Further, impetigo will, in almost all cases, occur upon the face at the same time with the hands, and that location is very rarely attacked by the itch mite.

The diagnosis from pemphigus is the most important one to be made, for the reasons stated in the first part of this paper. Nor is the distinction between the two diseases by any means always easy. The occurrence of the bullous form of contagious impetigo is so rare that it is no wonder it is mistaken for pemphigus. Indeed, it is probable that not a few of the cases reported as acute pemphigus in children, which possessed apparent contagious qualities, were

instances of this bullous form of impetigo. I have had opportunity to observe but four well-developed cases of the bullous form of this disease. Three of these occurred at the Nursery and Child's Hospital, some four years ago, in the service of your chairman and my friend, Dr. E. L. Partridge, who kindly asked me to look at them. In these cases the upper part of the chest and the neck were chiefly affected; the subjects were all infants; and a focus of contagion was ready at hand in the person of a fourth infant, who had well-marked impetigo contagiosa. The fourth case I saw recently at the Roosevelt Hospital, in the out-patient service, through the kindness of my friend, Dr. W. T. Dawson. In this case the trunk of the infant had some half a dozen bullæ upon it, and the diagnosis would have been difficult if it were not that an older sister and brother presented symptoms characteristic of impetigo contagiosa. I cite these cases to show that when we meet with an acute bullous eruption in children we must always think of the possibility of impetigo contagiosa, and seek for a focus of contagion. The diagnosis between the two diseases can scarcely be made with certainty by the appearances of the bullæ alone; we must also take into consideration the general course of the disease. The differential diagnosis may be given as follows:

PEMPHIGUS.	IMPETIGO CONTAGIOSA (Bullous form).
1. Occurs chiefly in adults.	1. Occurs chiefly in children.
2. No source of contagion can be found.	2. A source of contagion can usually be found.
3. No particular sites of preference; if anything, it is most frequent on the extremities.	3. Met with most often upon the trunk; sometimes it may occur on the face, hands, or extremities.
4. Chronic in its course; marked by frequent relapses; may return from year to year.	4. Acute in its course, rarely lasting more than a few weeks.
5. Bullæ are fully distended with a clear fluid, so that their covers appear tense. They often spring up out of the sound skin without areola.	5. Bullæ not fully distended, but flaccid, and contain sero-purulent fluid. They have a well-marked red halo while slowly attaining their full size. Characteristic vesico-pustules are generally present elsewhere at the same time.
6. Lesions often occur in great numbers, so as to cover the whole body, and at times are pruriginous.	6. Lesions, few in number, do not involve the whole body, and itch but little, if at all.
7. Disease obstinate to treatment, and prognosis usually grave.	7. Disease yields readily to treatment; prognosis uniformly good.

Ecthyma should not be mistaken for impetigo contagiosa. It occurs in broken-down subjects, affects by preference the lower extremities, is seen most often in adults, and its lesions are deep pustules, which are highly inflammatory

and painful. It is non-contagious, and inoculable with difficulty. These symptoms will sufficiently distinguish the two diseases.

Prognosis.—The prognosis of impetigo contagiosa is always good; so readily is it cured that the patients seldom present themselves a third time at the dispensary.

Treatment.—The treatment of the usual form is to direct the affected parts to be scrubbed with warm water and soap, and covered with a 5-per-cent. carbolyzed vaseline, or with oxide-of-zinc ointment with carbolic acid in the same strength. If there is a good deal of crusting, the crusts may readily be removed by soaking them with oil or hot water, after which the applications mentioned may be made, or a very mild mercurial ointment used. In the bullous form it is well to prick the bullæ at their most dependent part, and let the fluid escape, after which the lesions may be treated as just indicated.

14 EAST THIRTY-FIRST STREET.

MALARIA IN CHILDREN.*

By EMMETT D. PAGE, M. D.,

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THE class of patients to which I refer in this paper are those of the poor people, and as they pass before my mind and I see how poorly they are clad, fed, and washed, the wonder to me is not that they are ill, but that they are alive at all, and leads one to ask why it is that human beings can so far forget that they are human. Even the domestic animals of these families—which, by the way, are scarcely less numerous than the children—will have about them a cleaner, brighter, and more thrifty look than the children. Children, then, with such environments are weakly and stand with open arms inviting all sorts of diseases, to some of which they fall an easy prey. Such, also, I believe are predisposed to malarial attacks, and I have often wondered why it was that death from this source did not prevail among children so vitiated. On the contrary, however, I have never seen a death in a child that I attributed primarily to malaria. From cases seen, I judge it a rare thing in this climate. In the malarial districts of the tropics the death of children from this cause is not at all infrequent.

Of a little over two thousand cases treated by me during the last two and a half years at the College Dispensary, I find about five per cent. suffering from malaria. This convinces me of its prevalence among children. Usually these cases can be traced to those districts skirting the bay or in the vicinity of Gowanus Canal, regions known to abound in malaria. Two or three patients have come to me from the eastern part of the city, and a few from the more healthy parts. These latter, however, gave the history of previous residence in a malarious district, and were undoubtedly tainted with the disease before moving, and owed their attack to such exposure. The stronger of this class of children are not exempt from malarial attacks, but, on

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the whole, respond to treatment quicker than the weaker ones; especially are they restored to their usual health after the more marked symptoms, fever, etc., have disappeared.

Some maintain that children and old people enjoy comparative immunity from this disease, but I believe there are more children living in malarious districts who suffer from this than is credited, from the very fact that its course is more ambiguous than in the adult, and a more careful study of the cases would prove the statement. I believe that many of the long-standing digestive troubles to which the physician's attention may be called are primarily due to this, while the more marked symptoms are wanting. This is a latent type, yet none the less malarial.

The quotidian and tertian are the prevailing types. One case presented itself that had a good week followed by a poor one, and so on, for three to four weeks. Flint maintains that in children the type is almost uniformly quotidian. I have found many tertian also.

The manner of invasion is not so clearly defined as in the adult, and differs widely from it. In place of the usual chill we have symptoms of nervous depression, sometimes convulsions. In some cases even these are wanting, and the fever is the main thing noticeable. I have found both varieties occurring in the morning as well as the latter part of the day, more of the quotidian in the morning, however. The afternoon attacks are more frequently at from four to six o'clock than at any other hour, extending up to ten o'clock or later. There have been a few cases with both morning and afternoon attacks.

The second stage is the prominent one, and is the longest of any. The fever is high, as in the adult, and is spoken of as a "burning fever" by the mothers. A temperature of 105° F. or more is probably not at all infrequent.

The third stage is not marked by such profuse sweating as in the adult. It is usually scanty, cold, and clammy, and entirely wanting oftentimes. The whole course is marked by a continuous course of malaise, and sometimes by constant fever.

The spring and autumn are the seasons in which the cases occur. Scarcely a case is noticed in the summer. More cases occur in the spring than in the autumn.

One patient, a light, fair child, now five years and a half old, has had attacks spring and autumn for the last two years. These attacks are of from three to five weeks' duration, and are noted for their general malaise rather than the severer symptoms. There is only a moderate amount of fever late in the day, with slight, cold perspiration, anorexia, coated tongue, and marked anæmia. From its regular occurrence and obstinacy, it has proved of special clinical interest.

The average duration of these attacks is from a week to ten days, followed by a period of convalescence fully as long or longer. No special difference is noticed in the full time of the different types, save that the period up to convalescence in the quotidian may be shorter.

The prevailing symptoms are anorexia, malaise, frequent constipation, coated tongue, sweating, and pyrexia. The marked anæmia following is one of the most common and

prominent of all the features of this disease in children. It exceeds the anæmia of adults recovering from the same trouble. Only four or five per cent. of these patients were jaundiced, and none of the cases proved obstinate. Twenty per cent. of the patients had bronchitis due to the malaria. This seemed the most frequent of any of the complications save the anæmia, and occurred most in those having the cachexia.

I wish I might offer something new as to lines of treatment. The plans followed have been to relieve constipation first. The mild chloride of mercury in small, oft-repeated doses, followed by a saline, has been used most. This has been followed by quinine during the continuance of the fever. In cases where the fever was looked for at a certain hour the quinine has been given in three doses at two-hour intervals, the last dose two hours before the expected fever. Where the fever was more of a constant nature the quinine has been given at equal intervals four times daily, in either case continued till the fever abated. Fifteen grains in a three-ounce prescription has been used most; occasionally twenty grains; of this a drachm has been the dose.

In the stage following the fever Fowler's solution has proved itself far superior to quinine. Quinine by inunction was used only once, in the case of a sensitive stomach. The tincture of the chloride of iron for the subsequent anæmia proved efficacious. In the cases of bronchitis, quinine was combined with a cough mixture, and with much better results than when omitted. Nux vomica with the bitter tinctures proved also a good after- tonic.

On the whole, I find the cases yield much more readily to treatment than in the adult.

THE RATIONAL TREATMENT OF HYSTERIA.

By LOUISE FISKE-BRYSON, M. D.

To treat hysteria with any degree of success it is necessary to recognize it as an entity, and to understand as far as possible what kind of an entity it is. Hysteria is a real, tangible thing that affects men, women, and children. Animals also at times present hysterical manifestations. Overwork, no work, or irritating work are some of its causes, as well as protracted strain—such as grief, financial embarrassment, or excesses. An erroneous system of education produces it in children, whether the educational scheme be lax and frivolous in kind, allowing an uncontrolled play of every impression, or despotic, so as to interfere with all independent manifestations.

Hysteria is not dependent upon any organ or set of organs. Frequent or severe local irritation in any part of the body may act as a cause, such as ovarian and uterine diseases, the bite of a dog, a tumor in the brain, a nasal polypus, or some foreign body in the eye. It may be an expression of the tubercular or scrofulous diathesis, or of some morbid state of the blood such as gives rise to anæmia and chlorosis. Any mode of living that exhausts the mind or body, thereby weakening the nervous system, prepares the way for hysteria in those unfortunate beings who are predisposed to it. Even stout, hardy workmen are at times sus-

ceptible to its influence. In men hysteria may take almost any form that it shows in women. With them it lasts longer than in women, and the symptoms are more troublesome as a rule.

Wherever found and however produced, hysteria may be defined as a functional disorder of any department of the nervous system. The cerebro-spinal axis is quickly involved, giving rise to special mental symptoms, together with motor, sensory, vaso-motor, or visceral disorders, relating in varying degree to the psychical conditions that are present. There are abnormal ideation, emotional exaltation, perversion of reflexes and sensation, and complete or partial paralysis of the will. As a mechanism, the nervous system is as perfect as ever. The failure is one of dynamics.

The first thing in the way of treatment is to send new impressions to the brain. It is a foregone conclusion that the environment is wrong. Thus it becomes the physician's duty "to break up the tiresome old vault of heaven into new forms." By degrees the whole plan of life must be changed. Mechanical disturbances should be corrected at once. Properly adjusted glasses, the reposition of the uterus, or a high sole to raise a short leg, have sometimes proved curative measures. Well-fitting garments of appropriate texture and style are essential to the hysterical patient. "He that hath not strong nerves must have a good coat." Sunshine, fresh air, systematic occupation, the liberal use of sponge-baths, early hours, amusement that is really recreation, regular exercise, and a nutritious diet adapted to each particular case, are the chief therapeutic agents in the rational treatment of hysteria.

The medical treatment is about what it always has been. Every hysterical patient is a law unto himself, and should be studied as a unique specimen. Whenever melancholy is persistent or profound, small doses of opium or morphine overcome it, as a usual thing, in a surprisingly short time, and make it possible for the sufferer to eat, sleep, and bear with equanimity the sounds of the rude world. Overfeeding is in this case also indicated. Broth, gruel, and cream, at some stated hour between meals and the last thing at night before going to bed, are means to this end. Cayenne pepper at each meal and cod-liver oil directly after, help wonderfully. Little whims in the way of food are not to be lightly disregarded. Sometimes the patient's stomach is right and the books are wrong.

The treatment of hysteria is not so much a matter of drugs as of mental, moral, and social management. The physician, whether man or woman, must have a keen appreciation of the patient's own feelings, a firm mental and spoken assurance that the disease is a real thing and no fancy, a strenuous desire to help these people in their dire weakness and set them right when wrong, a manner that is calm, cheerful, and sympathetic, together with a strong will, infinite patience, and ready tact. The most minute details of daily life have to be arranged by the medical adviser, as the patient's will is paralyzed more or less completely. For convenience, the arrangement of those details that constitute the rational treatment of hysteria may be thus classified in the order of their importance:

EXERCISE.

Active.

Housework.
Gymnastics.
Walking.
Rowing.
Swimming.
Out-door sports.
Reading aloud.

Passive.

Electricity.
Massage.
Riding.
Driving.

Occupation.—Some vital interest outside the tread-mill of daily home life, as specialized philanthropy, the study of some branch of science or art, at regular hours away from home, or a hobby, such as forming a collection of stamps, coins, minerals, etc. Sewing to any extent is highly injurious. At the same time, if the woman under treatment can not sew at all, lessons in artistic embroidery will certainly send new impressions to the brain and prove of disciplinary value. Piano practice should be interdicted. The position is bad, and the monotonous vibration of "exercises" a direct source of nervous irritation. The *piano-forte* as a factor in hysteria is beyond the limits of this paper, yet it is what journalists call a juicy subject. Shopping is another occupation that must be given up. Fortunately, there are such things as friends and professional buyers. All places where the air is bad must be carefully avoided, as stores, churches, halls, and theatres.

Diet can be infinitely varied according to circumstances. Milk, eggs, cereals, fresh vegetables and fruits, and their combinations, render it almost unnecessary to eat twice of the same dish during the year. Little or no meat is best. Sometimes a strict Salisbury diet is better. Alcoholic and malt liquors frequently do harm, yet claret, port, and Burgundy have been known to do great good.

Clothing should be light and warm, the weight suspended from the shoulders, loosely fitting, and costly as the purse can buy.

Sea-bathing combines many elements of cure, such as sunshine, fresh air, active and passive exercise, and recreation. It is usually well borne when not too frequently indulged in. One great advantage is that it takes the patient away from home.

Recreation must be merry and non-musical. There is a sense of isolation about music peculiarly undesirable for the class of patients under consideration. Providing healthful amusement will tax the physician's ingenuity to the utmost, especially as Americans do not know how to amuse themselves, and have not yet learned what forms of recreation are best suited to counteract the effects of wear and tear in this climate. Married women who practice absolute continence should be instructed that this is not the way to live, and that such a mode of life is positively injurious to themselves. An appeal to their sense of honor and moral responsibility will do more than many preachments.

Hysteria among the well-to-do has alone been considered. In the humbler walks of life the case at once assumes the proportions of a social problem, and the physician is immediately called upon to practice the best of all the virtues—namely, making the best of things.

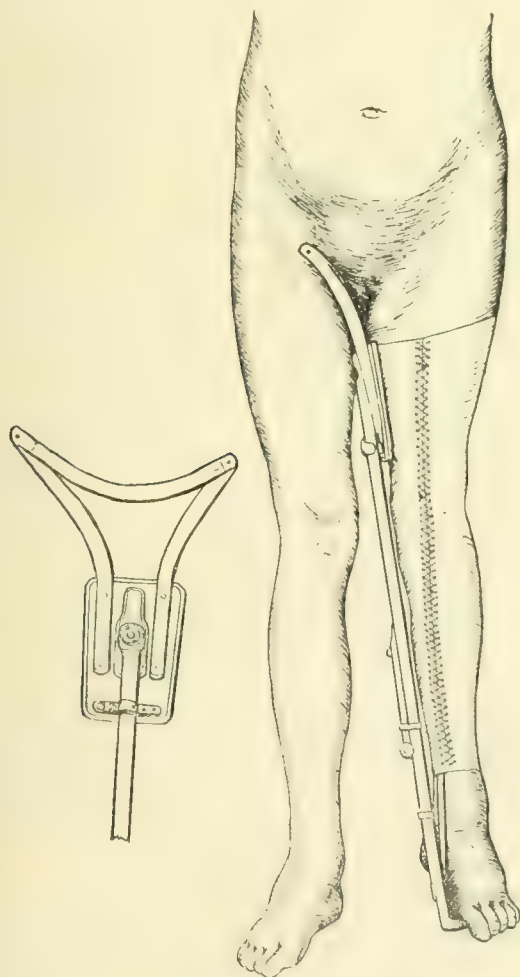
A NEW METHOD FOR OVERCOMING ADDUCTION AT THE HIP JOINT.*

By HENRY LING TAYLOR, M. D.

ADDUCTION of the thigh from reflex muscular spasm in the acute or progressive stages of hip disease readily yields to the protective traction which is indicated at that period, and which can be adequately furnished by the long hip-splint.

Persistent adduction in the late stages, or after the cure of the disease, whether from the neglect of proper mechanical treatment in the beginning, from a subluxation of the head of the femur due to erosions, or from other causes, is very common, very serious as regards the patient's comfort and power of easy locomotion, and often very intractable.

To overcome such deformities, as well as those where a persistent adduction had resulted from unreduced luxations of the hip, old fractures of the neck, etc., and to maintain a correct position, Dr. C. Fayette Taylor devised, and has used for about twelve years, various forms of apparatus, which exerted a direct abducting force by means of a care-



fully fitted crutch bearing in the opposite ischial fold. This abducting arm or crutch was jointed to the knee-plate of a

stiff or jointed apparatus, and was operated by a key and ratchet, or as a toggle-joint. These devices, being found vastly more efficient, superseded entirely the *abduction screw*, and proved very satisfactory.

About three years ago Dr. C. Fayette Taylor adopted the plan of using his long hip-splint on the inside of the adducted leg and bearing above in the opposite ischial region, thereby securing great force and directness of action.

We have used this plan in appropriate cases ever since, with very great satisfaction.

The apparatus consists in the shank and side-plate of the long hip-splint which we use, ending above in properly shaped spreading bars carrying a perineal strap adjusted to the groin opposite to the adducted thigh, as shown in the cut, which also gives the detail of the upper part, viewed from the left side.

The apparatus is applied to the inside of the adducted limb, and fastened by a strap and buckles to adhesive plasters attached to the leg, as in cases of hip disease.

Screwing out the apparatus by the key produces a direct and well-nigh irresistible abducting force, which is easily borne and perfectly under control.

This apparatus is to be worn in bed, with the leg in a sling and extra weight attached; a few days to a few weeks are enough to overcome the adduction even in obstinate cases.

When the leg is sufficiently abducted, a retaining apparatus with abduction crutch, jointed to the knee-plate, is to be worn, when necessary, to maintain the correct position. We could relate a considerable number of cases, but one will suffice to illustrate the practical value of the procedure.

A gentleman reported with an adduction of the right leg of thirty years' standing, from an injury to the hip.

When seen the adduction amounted to about 20°, and could not be diminished by manual force; together with the actual shortening it necessitated an extra sole three inches and three quarters in thickness.

The adduction was completely overcome in less than two weeks, the legs restored to vertical parallelism, and the sole reduced to one inch and three quarters, which represented the actual shortening. Progression was rendered very much easier, and the patient did not complain of pain or fatigue as he had done. The position was easily maintained by a retaining apparatus.

In this case the deformity was reduced by a less perfect apparatus than the one shown.

With these improved methods the distressing and disabling deformity of crural adduction has ceased to be, in the large majority of cases, the formidable matter that it has been, and we believe that where proper attention can be secured permanent adduction need never occur, and that when this condition has supervened it can be safely and quickly removed with scarcely any discomfort to the patient, and without resort to the knife in nearly all conditions except bony ankylosis.

201 WEST FIFTY-FOURTH STREET.

The New York Society for the Relief of Widows and Orphans of Medical Men will hold its forty-fifth annual meeting at the Academy of Medicine, on Wednesday evening, the 25d inst.

* Apparatus shown at the meeting of the American Orthopaedic Association, New York, June 16, 1887.

ON THE QUESTION OF HOW SHALL THE INTERNAL ILIAC ARTERY BE LIGATURED IN GENERAL?

AND ON LIGATION OF THE INTERNAL ILIAC FOR SPONTANEOUS
GLUTEAL AND SCIATIC ANEURYSMS IN PARTICULAR.

WITH REPORT AND STUDY OF CASES.*

By W. LOCKE CHEW, B. S., M. D.,
BIRMINGHAM, ALA

EVERY question relating to surgical research should have thorough investigation, and should be viewed from every various standpoint, especially where life is the forfeit in case of lack of judgment or neglect of detail. On reviewing the literature of ligation of the internal iliac one is impressed with the great gravity of the operation from statistics already collected, there being, according to Ashurst, only 27 cases reported, with 19 deaths and 8 recoveries, or a mortality of 70.37 per cent., and for aneurysm of its branches alone of about 46 per cent. This is alarming, indeed, when we remember that the whole mortality of ligation of the external iliac is about 34 per cent., and in cases of aneurysm of its branches as low even as 28 per cent. Now add to these the cases of J. K. Rodgers and M. Poncet, ending fatally, then for operations on the internal iliac we see a mortality of 72.41 per cent. Understanding, then, the great fatality of ligation of the internal iliac and the freedom from such grave mortality in larger trunks, one must conclude that wrong methods are employed, surgeons have erred in judgment or in practice, and is forced to the inquiry, What are the causes of this high death-rate?

Foremost among these causes may be mentioned:

1. Secondary hæmorrhage, which it appears is due to three causes measurably preventable: (a) In the anatomy of the artery, as is shown by a study of the statistics, we find a source of danger, the artery often being short and stout, at the same time giving off numerous small branches. Here, however, it is desired to impress the fact that this alone is not enough to account for all these hæmorrhages, and it is found that the (b) great danger lies in long-continued suppurations about the site of the operation, the hæmorrhage occurring forty to sixty to ninety days after the operation. Again, too, (c) the inaccurate application of the ligature, from selecting wrong points on the trunk and including other structures in the cord, is a cause of fatal bleeding.

2. Another reason for the high death-rate is in the wounding of adjacent structures, such as the vein, ureter, peritonæum, nerves, etc.

3. The ligaturing of these same structures is another frequent cause of death.

4. Peritonitis from stripping and wounding the peritonæum is another.

5. Again, the purulent œdema of the subperitoneal connective tissue, as described by Pirogoff.

6. Rupture of these purulent collections into the pelvic cavity, giving rise to peritonitis.

7. Pelvic cellulitis from contusing connective tissue and adjacent structures is still another cause.

These are the dangers to be feared from the "stripping method"—that cause the 72.41 death-rate. The operation is the cause of death. Death is produced by causes other than the ligature, which of itself is harmless. Then we conclude:

PROPOSITION 1.—*That in the "stripping method" we realize all the dangers of placing ligatures on the internal iliac artery, and suggest that it be avoided in the future, as giving, in the hands of brilliant surgeons, a death per cent. of 72.41, one that we realize is too grave.*

Arriving, then, at dangers, faults, and defects of the "stripping" plan and the harmlessness of the ligature, we next must determine by what better method we can get at the artery. In an attempt to solve this we must go to another field of surgery, for the student who reviews a subject for what is in that subject alone, narrows his reasons to limited possibilities. It is only when facts acquired in one channel of research are applied to kindred subjects and related diseases that, by broadening the plane of facts, the judgment can be matured for the deduction of true medical and surgical procedures. After a fairly thorough review of the literature of abdominal surgery, studying the bad features and causes of death on the one hand and the successes and restoration of health on the other, it was judged that the chances were largely in favor of the patient if—

1. An abdominal section was resorted to, for it has been shown that laparotomies may be done with a mortality of 0.71 per cent., and this in cases where there existed firmly organized adhesions, profuse suppuration, and extensive inflammations at the site of the operation, while in the application of the ligature none of these must or do exist; therefore, with the same operator, the placing of a ligature on the internal iliac artery is a less grave operation than removal of the uterine appendages, as far as suppurations, exudation, inflammations, septicæmia, oozing, collections of poisonous fluids in the pelvis, etc., are concerned, and the ligature of itself is at the same time no more hurtful than in other methods of placing it.

2. Further, in a study of abdominal exploration it was judged best to open the abdomen by a short incision, and to disturb the contents of the cavity the least amount possible with the accomplishment of our purpose, for the proportion of deaths to recoveries in the whole number of cases is in exact ratio to the (a) length of the incision, (b) length of time consumed in the operation, (c) amount of disturbance of the abdominal contents, (d) the prevention of oozing, (e) the thoroughness of the removal of fluids from the cavity and the prevention of their reaccumulation, and (f) the removal and exposure of the tubular viscera to hurtful influences, tetanus being excepted.

PROPOSITION 2.—*Hence it is suggested that in an abdominal section, by the short incision, going directly on the artery, without withdrawal of the abdominal contents (an operation with a presumable mortality of less than 0.71 per cent.), we have offered an escape from the horrible results of the "stripping method," with its mortality of 72.41 per cent., and this in the hands of renowned surgeons. This appears to be the best operation in general for ligaturing the internal iliac artery.*

* Read before the Alabama Surgical and Gynecological Association, October 13, 1887. Communicated by Dr. W. E. B. Davis, of Birmingham, Ala.

Now, having a case of spontaneous aneurysm of a branch of the internal iliac artery, how should we treat it? These forms of aneurysm are invariably fatal if not treated. Statistics are not flattering in the least. Antyllus's and Anel's operations show a death-rate of 33 per cent. from opening the aneurysm and securing the bleeding arteries. Injection of the perchloride of iron gives a death-rate also of 33 per cent. Galvano-puncture has once proved fatal. It is a generally accepted surgical principle that in cases of aneurysm where other methods have failed, or are inapplicable, the Hunterian ligature is radical when applied to healthy trunks. The application of the principle places the aneurysm under the control of the surgeon, being radical and satisfactory, as is shown by actual experience. Dr. Hamilton, realizing this, recommended ligation of the internal iliac on Hunter's principle, making an incision parallel to Poupart's ligament, then stripping the peritonæum. In eleven cases thus treated we see six recoveries and five deaths, or a mortality of 45.46 per cent. In a study of these five fatal cases it will be seen that in no instance was this termination from the ligature directly, but from the above-mentioned causes wholly, dependent on the operation. Thus it is seen that in the treatment of gluteal and sciatic aneurysms there can be offered, from cases already gathered, not the slightest shadow of objection, but in reality these cases prove the great advantages of this method. This attitude of the Hunterian plan seems not to have been comprehended by Dr. Frederic S. Dennis in his study of them.

PROPOSITION 3.—*Hence we recommend that the Hunterian principle should be employed in the treatment of spontaneous gluteal and sciatic aneurysms, as extending the greatest hope of radical and successful treatment.*

In a study of the following cases, where the Hunterian principles were used, the "stripping method" being rejected and laparotomy preferred, it is desired to show that their course bears out the foregoing proposition, and that the death in one of them (Dr. Dennis's) was not the result of defects of this principle, but of accidentally overlooked chronic renal disease excited to acute inflammation by the anæsthetic, and the needless removal and exposure of the abdominal contents, and that this fatal case should not be scored against the principles here advocated, as they were not the cause of death.

CASE I. *Double Gluteal Aneurysm; Etherization; Laparotomy and Ligation of both Internal Iliac Arteries Simultaneously; Death from Suppression of Urine on the Fourth Day (Dr. Frederic S. Dennis, New York).*—I. McC., aged sixty, on the 5th of February, 1886, was admitted to St. Vincent's Hospital. Enjoyed good health till past three years when she suffered from pain along the right great sciatic nerve, unrelieved by medication. One year and a half later a throbbing, steadily increasing tumor appeared in right buttock, with no relief of pain. On admission, a large, tense, pulsating tumor occupied right buttock, having the thrill and bruit of aneurysmal tumors. Leg oedematous. Tumor of like character existed in left buttock, along the course of the gluteal artery, much smaller in size. Patient losing strength and flesh. Placed on good regimen till February 18th, when, after thorough antisepsis, washing, and shaving the abdomen before etherization, ether was adminis-

tered and the abdomen opened by median incision extending from the umbilicus to the symphysis, bleeding being checked as the operation proceeded. The intestines were next withdrawn and swaddled in towels and elephant-ear flat sponges dipped in warm bichloride solution (1 to 5,000), which were constantly changed and renewed. The peritonæum and sheath were divided and a ligature of twisted catgut was applied to either internal iliac artery. Iodoform dusted on the incision, the intestines returned, the cavity dried, and the abdominal incision united by catgut and wire sutures. Dressing was of iodoform, superficial drains used, and thick aseptic dressing and binders applied. Etherization lasted thirty minutes. After an unsatisfactory course of restlessness, moaning, dry tongue, mild delirium, tympanites, and vomiting, the patient died on the fourth day, with acute albuminuria and suppression of urine.

Autopsy.—Primary union of abdominal incision. Little pus at the site of one ligature. Exudation of lymph. No peritonitis. Each internal iliac occluded by thrombi and the right sac filled with lamellæ of fibrin. A fusiform aneurysm of the left buttock was found occluded. "The kidneys showed a mild grade of diffuse parenchymatous nephritis. The suppression of urine was in all probability due to the acute congestion produced by ligation of the internal iliac arteries, and the condition was ingrafted upon a chronic disease of these organs."

Remarks.—1. I am inclined not to accept the theory that the ligature is so wholly to blame for this acute inflammatory action. (a) For it is worthy of recollection that ether has the property, when circulating in the blood, of causing renal disease in healthy organs. How great, therefore, the likelihood of lighting up acute inflammation in already diseased ones!—and I am of the opinion that it was the chief agent in this case. Again, too, (b) it is to be remembered that the peritoneal cavity is a lymph-sac absorbing rapidly substances on its surface, and that iodoform, consisting as it does of 95 per cent. of iodine, is capable of producing, when absorbed from dressings, most violent parenchymatous degenerations and acute renal inflammation, a fact observed by Taylor, Zeissl, Hoepfl, others, and myself.

2. It is doubtful, too, if any operation was warranted in one so old, where there was already existing chronic diffuse nephritis. And was it the best course to ligature the left internal iliac where there existed only a fusiform aneurysm, with the probability of death from other causes before this aneurysm would jeopardize life?

The next case done by a laparotomy was one occurring in my own practice, and will be given as printed in the "Alabama Med. and Surg. Journal," as quoted by Dr. Dennis:

CASE II. *Spontaneous Gluteal Aneurysm diffused by Manipulation; Chloroform, Anæsthesia, Laparotomy, and Ligation of the Internal Iliac; Cure (by W. Locke Chew, M. D., Birmingham, Ala.).*—W. T. S., a negro, aged forty-six years, a native of Georgia; residence for fourteen years in north Alabama; by occupation an iron-ore workman; gives the history that seven months ago, while going rapidly up stairs, felt a sudden stitch in buttock and back part of thigh. This pain was very intense at times, but never wholly absent. For the past seven weeks has been unable to walk, and the past four has been confined to bed. About two months and a half ago noticed a marked swelling of right gluteal region, which "thumped as if my heart beat there." Dr. Cooper was called to see the case, and treated it only palliatively, suspecting

the tumor to be aneurysmal. I was called to the case in consultation with Dr. Cooper on the morning of June 14, at 11.43 o'clock, and found the patient as follows: Right thigh flexed on abdomen and leg on thigh, adducted, and toes inverted, violent spasms of the muscles of the calf and foot, considerable spastic rigidity of same parts; less violent muscular spasms in the posterior portion of thigh; gluteal region of right hip very much distended, tense, and firm. Tumor as large as a foetal head at sixth month. No increase in local warmth. On grasping tumor evenly with expanded hands and making gentle pressure, there was detected a very slight, indistinct, wavy expansion. Auscultation over tumor revealed an obscure bruit, but at the sacro-ischiatric notch and slightly lower a loud, grating bruit was noted. By pressure on the abdominal aorta both bruit and expansion could be readily stopped. Dr. Cooper here gave the history that the swelling had been circumscribed, and thought it probable that it had been ruptured the day before by manipulation at the hands of a friend he had invited to see it. The diagnosis being arrived at, nothing more was done than to order the patient's bowels thoroughly opened by salts and warm enemata, the patient thoroughly washed, and clean linen placed on him and the bed; the room, a new one, was rendered as neat as possible. It had been necessary to administer twelve grains of morphine sulphate in the preceding twenty-four hours to secure the least quiet. On the morning of June 15th, in the presence of Dr. Wheelan, Dr. Dozier, Dr. Duncan, Dr. Wyman, Dr. Shoemaker, and Dr. Drennan, Dr. Brice M. Hughes and myself assuming the case—which Dr. Cooper kindly proffered us—immediately proceeded to do a laparotomy, to secure the internal iliac artery for relief and cure of the aneurysm. The patient being anesthetized, and the abdomen being shaved and thoroughly cleansed, the usual curved, lateral incision was made. The muscles and fascia having been divided carefully, at the inferior angle of the incision, the epigastric artery, displaced a very little to the right, was seen pulsating strongly, which was doubly ligated before section. The peritonæum was carefully divided on the finger as a director, and the hand passed into the abdomen. The arteries could be felt in their usual places pulsating strongly; trunks in good condition. That of the common iliac normal, while that of the internal iliac was about two inches long, the trunk large, and the walls in fine condition. The aneurysmal tumor did not extend into the pelvis. Such being the condition, we determined to place a strong silk ligature on the internal iliac. So violent were the efforts of the patient, and such the difficulty of manipulation within the cavity, that a few coils of intestines were taken out and swaddled in cloth saturated in a warm carbolized solution. While I exposed and guarded the parts, Dr. Hughes divided the arterial sheath, which I separated from the trunk as he passed the armed needle. The ligature was then tightened, and all present satisfied themselves that all blood-flow through the tumor was checked. The artery was then firmly ligated, and the peritonæum approximated over the ligature. The cavity was next thoroughly cleansed and closed by six deep silver-wire sutures, and six small, superficial catgut sutures. There were a few points in the divided muscles that gave us a little trouble from oozing, but this was controlled by warm water and torsion. The incision was dusted with iodoform, while adhesive strips to support suture, antiseptic cotton and binder, applied evenly, constituted the dressing.

Progress of the Case.—Morphine sulphate, in quarter-grain doses, was administered every four hours subcutaneously. Crushed ice with a little milk was allowed during the first week; patient kept in the dorsal-decubitous position strictly. The temperature on the evening of the operation reached

100.5°, but never again reached that point; after the evening of the fifth day it was absolutely normal; pulse ranged from 90 to 108. The incision united by adhesion throughout, and the dressing, which was removed on the sixth day, was perfectly clean except at a single point where there was a clot of dried blood as large as a split pea. Sutures removed on the ninth day, union firm. A free, natural movement of the bowel on the tenth day. A small abscess formed on the thirteenth day a little to the right of the incision, due to the hæmorrhage from the veins above mentioned, most probably; all pain immediately stopped in the tumor, and it has gradually diminished in size and tenseness. The condition of spastic rigidity never returned after recovery from the anæsthetic, nor did the muscular spasm; leg became freely movable after the tenth day. On the twentieth day tumor about one third original size; patient walking on crutches; free from pain; cured.

I preferred laparotomy to the method of stripping off the peritonæum for these reasons: (a) The difficulties of the operations, as stripping the peritonæum, avoiding adjacent structures, etc., are much lessened. (b) A more definite idea of the anatomy and length of the several arteries can be formed by laparotomy. (c) The point of election for the ligature can be with better judgment determined. (d) The ligature can be applied with much greater accuracy. (e) An accurate knowledge of the extension of the disease up the arterial trunk gained.—(“Alabama Med. and Surg. Jour.”)

Dr. Frederic S. Dennis, in commenting on this case, says: “In reviewing the history of this interesting case as it is given, it seems that the operator did not intend, before the operation, to do a laparotomy in the sense of removing the contents of the peritoneal cavity, as a preparatory step to the ligation of the internal iliac, but that this most important feature of the whole plan was an after-thought, or the result of an accident. . . . It is the intentional removal of the intestine by the median incision, for the purpose of fully exposing the pelvic vessels, that laparotomy is recommended as a preparatory step. . . . This friendly criticism which I have offered in no way detracts from the credit due the operator or to the successful issue of the operation, but it has been made only to impress clearly the fact that the great object of the laparotomy is to remove the contents of the peritoneal cavity, and thus enable the surgeon to ligate the vessel without incurring any risks so common by older incisions and older methods.”

To these remarks there are grave objections, as the preparations had all been made for an abdominal section, as was stated in the report of the case. The incision, a short, curved, lateral one—a slight modification of the usual incision of Cooper—was made a little to the right of the artery, it being judged that the artery could be reached more easily by this lateral incision, as the point is fixed at which it is desirable to place the cord; and as in cholecystectomy or other operations on fixed anatomical points, so, too, here the best incision would be a lateral one, for (a) it enables the surgeon to go directly on the artery, showing its length, condition, and relations; and (b) this can be done without removal of the intestines, which is to be recommended. In the case just reported it would have been so performed except for the untimely struggles of the patient, who accidentally came from under the influence of chloroform as the sheath was being divided. To aid us, too, the incision thus

made enables the surgeon (*c*) to roll the patient slightly to the opposite side, the intestines gravitating from the incision and artery; then, with one hand depressing them further, the artery can be exposed without the removal of the pelvic contents, and I hold this withdrawal wrong, as it exposes the patient to needless additional risks. Each did this operation independent of the other. Dr. Dennis has three months' priority in operation, and myself three months in publication. How great, too, was the difference in motives! Dr. Dennis's "great object" and "most important feature" was exposure of the vessels by removal of the intestines; exactly what I tried to prevent. My motives were to apply the Hunterian principles, at the same time avoiding the dangers and results of the "stripping method," reducing to a minimum the dangers of abdominal section, and acquire a clear knowledge of the anatomy and changes of the arterial trunk.

CASE III. *Gluteal Aneurysm associated with Aneurysmal Varix; Etherization; Laparotomy; Ligation of the Left Internal Iliac Artery; Recovery* (Dr. Frederic S. Dennis, New York).—M. F., aged eighteen, admitted to St. Vincent's, August 20th. Family history good; no evidence of specific disease. Left buttock enlarged and painful for many years. Until past three weeks was able to work, but at that time buttock ulcerated, and, on being seated, great pain and throbbing was experienced. On admission, general health was good; muscular; complains of pain shooting down to the knee and of the throbbing. Upon gentle palpation, the blood is felt surging through the vessels, which showed that a communication exists between the artery and vein. With each systole of the heart an expansile pulsation is quite evident. Was put on potassium iodide, gr. xv, three times a day till September 8th, when, being etherized, the abdomen was opened aseptically by median incision from the umbilicus to within two inches of the pubes, afterward enlarged upward "some distance above the umbilicus." The intestines next withdrawn and swaddled in dressing saturated in warm, weak bichloride solution; catgut ligature placed on left internal iliac; iodoform dusted on incision; intestines returned; abdomen closed by deep and superficial sutures of catgut and three wire sutures; iodoform dusted and aseptic dressing applied. Next day suffered from dry tongue, tympanites, pain, and albuminous urine with 15 per cent. albumin. After this day made a good recovery; wound healing primarily; aneurysm and varix cured.

Remarks.—"This acute albuminuria was due to congestion of the kidney as a result of the ligation of the main trunk of the internal iliac." Was this the sole cause? I doubt it; for the statistics of ligation of the common iliac, after which we should expect more congestion of the kidney than in this case, show that, up to 1852, of 11 cases of ligation of the common iliac for aneurysm, 7 ended in recovery. "The 4 that died perished rather from the magnitude and extent of the disease than from the effects of the operation" (Erichsen). Again, too, in ligating the external iliac, through which in the adult more blood flows than through the internal iliac, how little do surgeons hesitate on account of albuminuria! I have failed to find a recorded death from this cause, where ether was not employed and the kidneys were not diseased.

To what, then, is it due? To combined causes. (*a*) Blood saturated with ether may produce acute inflammatory

changes in healthy kidneys (Emmet); and in this instance aiding the action of the ether, we have—(*b*) The degenerative changes so liable to occur after long-continued administration of potassium iodide, for it is established that the circulation and elimination of this drug produce not only acute temporary albuminuria, but prominent degenerative changes and nephritis. (*c*) The iodoform dusted in the peritoneal cavity, too, was a cause of albuminuria, and is to be regarded as having significance in a clinical history. (*d*) Again, the congestion attendant on withdrawal of the tubular viscera (shock and chilling) was a probable exciting cause. And in one so young, with pliable capillaries, their rapid dilatation would relieve any congestion due from the ligation at once. It is not my desire, however, that this albuminuria shall be ignored entirely, but I wish to show that it is of no more importance in ligation of the internal iliac than of other large trunks, for it occurs after ligation of the carotid, subclavian, external iliac, both femorals, etc., following the administration of potassium iodide and anæsthesia by ether; therefore we conclude:

PROPOSITION 4.—*That in the application of the Hunterian ligature the fear of producing albuminuria should not deter the surgeon in patients with healthy viscera from ligating the internal iliac, for this albuminuria occurs after ligation of any large trunk (carotid, subclavian, external iliac, and both femorals), and to reduce this danger to a minimum, where we have increased intra-vascular blood-pressure from the ligature, and there is a likelihood of pre-existing renal disease or any probable alteration in renal structure from medicines previously administered (KI), that ether should be discarded from surgical practice as especially dangerous, and chloroform be advised.*

All the cases found are reported, with the results.—J. K. Rodgers's from Erichsen, M. Poncet's from the "Annals of Surgery," Dr. Dennis's from the "Medical News," November 20, 1886, and my own from the "Alabama Med. and Surg. Journal," August 1, 1886.

CASES OF LIGATION OF THE INTERNAL ILIAC ARTERY. (ASHHURST.)

1. By the "Stripping Method."

No.	Operator.	Result.	No.	Operator.	Result.
1	Altmüller.....	Died.	17	A. B. Mott.....	Died.
2	Auger.....	"	18	Oeverent.....	"
3	Arendt.....	Recovered.	19	Porta.....	"
4	Atkinson.....	Died.	20	J. K. Rodgers...	"
5	Bigelow.....	"	21	Stevens.....	Recovered.
6	Cainflone.....	"	22	Syme.....	"
7	Coluzzi.....	"	23	Thomas.....	Died.
8	Gallozzi.....	Recovered.	24	Thompson.....	"
9	Higginson.....	Died.	25	Torrechi.....	"
10	Kasinsky.....	Recovered.	26	Tripler.....	"
11	Kimball.....	Died.	27	White.....	Recovered.
12	Laudi.....	"	28	Case in Bellevue	
13	McKee.....	"		Hospital re-	
14	McLean.....	"		ferred to by	
15	Morton.....	Recovered.		Van Buren...	Died.
16	Mott.....	"	29	M. Poncet.....	"

2. By Laparotomy.

No.	Operator.	Anæsthetic	Complications.	Result
1	Fred. S. Dennis.	Ether.	Acute albuminuria	Died.
2	W. Locke Chew.	Chloroform.	"	Recovered.
3	Fred. S. Dennis.	Ether.	Acute albuminuria.	"

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PECULIAR RHYTHMICAL FETAL MOVEMENTS.

In a recent number of the "Centralblatt für Gynäkologie," Dr. Mermann, of Mannheim, describes certain phenomena which, unfortunately, are of such a character, or rather are manifested under such surroundings, that it would be extremely difficult to follow up the subject and obtain a sufficient mass of evidence on which to form conclusions as to their import. This is shown by the infrequency of the recorded observations. One's attention would not be likely to be attracted to a case of the sort in the absence of some suggestion on the part of the patient herself, and most patients would say nothing about it. Still, it is a subject which may give rise to no little speculation.

A healthy woman, at the end of the seventh month of her first gestation, called the author's attention to a peculiar rhythmical movement which she had often noticed for hours at a time on the left side of the abdomen. He found the foetal head presenting in the first position, and at a point opposite the middle of the back there was to be observed a short stroke or beat working from within outward in a perfectly regular manner, at intervals of from four to ten seconds. This continued from half an hour to an hour, and sometimes longer. Another case analogous to this is mentioned by the author. The diagnosis was clonic spasm of the foetal diaphragm, and this was strengthened by the fact that the infants each had an attack of hiccough immediately after birth, which could readily be excited again by pressure with the hand upon the child's breast.

In the "Transactions of the Physico-medical Society of Würzburg," for 1885, Reubold published a report of a case which was almost identical with Mermann's. The woman was a primipara, twenty-two years of age, with thin abdominal walls, and the uterus contained a large quantity of amniotic fluid. Foetal movements began quite early in gestation, and subsequently became very violent, and the parts of the foetus could be felt distinctly on palpation. During the last four weeks of pregnancy the foetal movements in the lower portion of the abdomen were unusually frequent, but less forcible than they had been, and were limited to a small area, in which they were manifested by alternate rising and falling of the thin uterine walls. On palpation, it seemed as if a foetal hand or elbow were being moved. The movement was not to be mistaken for a contraction of the uterus or the abdominal muscles, for intestinal movements, or for pulsations of the funis or the foetal heart. The separate strokes were two or three to the second, they were uniform in succession and strength, and they came in series of five or six or of ten or fifteen, with in-

tervals of a few seconds. They differed entirely from those usually seen during gestation. Reubold cites Ahlfeld as referring to periodically recurring short strokes or beats on the part of the foetus, almost rhythmical, usually lasting for a few minutes and perceptible to the woman several times in the course of the day. Both Ahlfeld and Reubold attributed these movements to swallowing or hiccoughing on the part of the foetus, or possibly to its sucking its fingers. In this respect they are in accord with Mermann. What influence the temperament or the physical condition of the mother may have in determining these phenomena, as well as their significance with reference to the welfare of the foetus, is left to conjecture or to further investigation.

IS DIPHTHERIA PRIMARILY A LOCAL OR A CONSTITUTIONAL DISEASE?

This is still one of the questions as to which evidence can be adduced in favor of either side. In a recent number of the "Memorabilien," Dr. C. Mettenheimer discusses it with great clearness and with a disposition singularly free from prejudice. What it is that constitutes a local or a general disease is not so easy of statement, as appears at first thought. A local departure from the perfectly normal state finds its best expression in simple traumatism, but, if the injury affects some important part, it is not long before other parts are drawn into sympathetic derangement, and then the trouble loses more or less of its local character. Therefore, the importance of the part first affected must be taken into account, as well as the nature and extent of the injury, in determining whether the complete morbid condition is to be considered local or constitutional; a little abrasion of the mucous membrane of the stomach is attended with a number of serious general symptoms, while a great part of the common integument may be destroyed without any special disturbance of the economy at large. So far as this matter is concerned, however, the importance of an organ can not be gauged by physiological experiment; for example, the functions of the body seem to be carried on quite as well without the tonsils as with them, but, let the tonsils become severely inflamed, and the whole system suffers, as shown by the high fever, prostration, and restlessness.

Mettenheimer reviews his experience in the children's hospital at Schwerin. Patients with diphtheria, before it has been recognized as such, are frequently put into the wards occupied by other children suffering with cutaneous, scrofulous, and rachitic affections. It is generally admitted that scrofulous children, especially those suffering with chronic bone abscesses, are very susceptible to the diphtheritic poison. The author mentions two little patients, both of whom had numerous fistulous openings communicating with diseased bone, who contracted diphtheria in the ward. The disease attacked the pharynx and continued for several weeks, but the wounds remained entirely free from the affection throughout the course of severe and protracted attacks. From such facts the author thinks that two conclusions are warranted: 1. That the diphtheritic poison

selects the tonsils as its favorite avenue for entering the system.

2. That pharyngeal diphtheria shows a tendency to become a general affection, although not in all cases, not even the severest, does it become so general that all the tissues and secretions of the body are permeated with the poison. There are other cases of diphtheria which call for special consideration. They are accompanied by little or no fever, but the diphtheritic membrane has a great tendency to continue for several weeks, renewing itself until the process is apparently exhausted. To this form belong those cases also in which a circumscribed pharyngeal exudation becomes limited after a time to a small area on one of the tonsils, where it persists until it is extinguished by energetic local applications repeatedly made, although the patient's general condition remains good the whole time. In such cases, Mettenheimer has found that the glands of the neck, on the same side with the affected tonsil, are obstinately swollen and painful, and have to be subjected to special local treatment before the affection of the tonsil will finally yield. In his opinion, such cases force upon us the following inferences: 1. That in the inception of diphtheria the tonsils play a special part, and, hence, in this regard the disease may be considered local. 2. That the local and general manifestations pass so readily and rapidly into one another that it would be illogical to name diphtheria a local disease, in spite of its apparently purely local origin.

MINOR PARAGRAPHS.

THE MEDICAL CORPS OF THE NAVY.

It is not creditable to the Government that entrance into the medical corps of the navy should still remain so unattractive that the list of vacancies shows a tendency to increase rather than diminish. We have before called attention to this matter, and now the Surgeon-General of the navy, in his annual report, gives figures which show that, if this state of things is not soon corrected, the men engaged in the service will suffer for the lack of a sufficient number of medical officers.

A CHECK TO THE ILLEGAL USE OF PHYSICIANS' NAMES.

Two weeks ago, under the heading of "A Piece of Newspaper Effrontery," we commented on an article in one of the newspapers in which outrageous liberties were taken with a member of the profession. He was made to appear as having publicly recommended a certain nostrum. We learn that the gentleman whose name was thus unwarrantably used has had the public spirit to unearth the real author of the article and bring him before one of the courts on a charge of criminal libel; also that it was only the fellow's prompt plea of guilty, accompanied with his formal promise not to offend further in that manner, that saved him from the penitentiary. As it was, he was fined roundly.

THE CASE OF THE GERMAN CROWN PRINCE.

With the increase of gloom in the press dispatches concerning the Crown Prince's case comes the inevitable "I told you so." But this is not all; it takes the peculiarly offensive form of race feeling. Some of the German doctors do not hesitate to assert that Sir Morell Mackenzie has blundered, and they even

couple this with the modest remark that thoroughly educated and competent physicians and surgeons are exclusively of German make, if not of German birth. They seem to overlook the fact that the diagnosis has all along been left to Virchow, as well as the other fact that those of their own nationality who are most eminent in laryngology are least disposed to speak unfavorably of the London surgeon's work.

OUR ANSWERS TO CORRESPONDENTS.

WE have received a note from an esteemed member of the profession who suggests that more of our readers would profit by this department of the Journal if we published the questions as well as the answers. In the absence of good reason for not doing so, we endeavor to frame our answers in such a way as to indicate the nature of the question. But we would suggest to those of our correspondents who send us questions to be answered that, while we think it proper to devote a small amount of space to inquiries of a personal nature, we prefer to deal with matters of general interest.

THE ALEXANDER-ADAMS OPERATION.

It is altogether creditable to M. Masse, of Bordeaux, that he should have striven to show, as he lately did, that intubation of the larynx, the operation of shortening the round ligaments of the uterus, and resection of the ribs in cases of empyema were procedures originally proposed or practiced by his own countrymen. To establish his points, however, he ought to have guarded against erroneous statements, even concerning non-essentials; but this he does not seem to have altogether succeeded in doing, for he speaks of Alexander and Adams, each of whom has been credited with the operation on the round ligaments, as "two Americans." We should be very glad to claim those surgeons as Americans, but there is really no foundation on which to rest such a claim.

THE WICKING TAMPON.

ACCORDING to the "Centralblatt für Chirurgie" (quoted in the "Medical News" for September 24, 1887), Dr. Gersung, of Vienna, has found wicking an excellent material for tampons in the drainage of wounds furnishing a moderate discharge, and it is used with excellent results at Billroth's clinic. Its use as a material for vaginal tampons was advocated by the editor of this Journal in June, 1880 (see "New York Medical Journal," vol. xxxi, page 593), and we are glad to observe that its advantages have lately been recognized abroad, with an enlargement of its field of application.

THE MEDICINAL HONEY OF TASMANIA.

IN our issue for May 14th we gave an account of a sort of honey found in Tasmania by a French naturalist, M. Guilmeth. The honey was said to be the product of a variety of the bee named provisionally the *Apis nigra mellifica*, to have been obtained in large quantities from nests built in the tops of gigantic eucalyptus trees, and to have been found to possess therapeutical properties that promised to prove of considerable value. Our article, founded on statements published in the "Progrès médical," was copied into the "Scientific American," where upon a resident of Tasmania wrote to that journal denying the truth of the statements, and implying that the account was a hoax. In a recent number of the "Union médicale," however, we find an announcement that a bottle of the *mél œucalyptif*

naturel Guilmet will be sent to any physician on his addressing the *Pharmacie Cherrier*, 21, Faubourg-Montmartre. This offer, we presume, applies only to French physicians, but, if the alleged medicinal honey of Tasmania is in stock at the Paris pharmacy mentioned, in quantity sufficient to warrant the gratuitous distribution of specimens, it ought to be obtainable by purchase in amounts large enough for its title to rank as a medicine to be speedily settled one way or the other.

EUROPEAN IMPRESSIONS OF THE WASHINGTON CONGRESS

ONE of the "Union médicale's" *feuilletonistes* lately treated the readers of that journal to certain unfavorable criticisms on the management of the congress, even going so far as to allude to the secretary-general, Dr. Hamilton, in terms decidedly unrestrained, to all appearances, by either charity or common fairness. In a subsequent issue of the "Union," the same writer announces that his impressions were obtained from a correspondent of the "Bulletin médical," and he is kind enough to publish statements by M. Landolt, of Paris, and M. Cordes, of Geneva, which show that those gentlemen, at least, credit the managers of the congress with having exerted themselves to great purpose to make their foreign colleagues comfortable. Complaint is indeed made, and not unreasonably, that many were kept waiting in a *queue* an unconscionable length of time on the occasion of the reception at the White House. Possibly, however, Mr. Cleveland would gladly have changed places with any of them.

ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending November 15, 1887:

DISEASES.	Week ending Nov. 8.		Week ending Nov. 15.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever.....	22	3	18	2
Scarlet fever.....	80	9	80	5
Cerebro-spinal meningitis....	2	2	1	2
Measles.....	44	1	39	6
Diphtheria.....	145	38	115	32
Small-pox.....	3	0	2	1

Scarlet Fever in Boston.—The number of cases that were reported to the Board of Health during the two weeks ending Saturday, November 12th, gave rise to the apprehension that the disease was becoming epidemic. It is now reported, however, that it is decreasing, and that the danger of an epidemic does not seem imminent.

The Woman's Hospital.—Dr. John H. Swasey has been appointed one of the assistant surgeons, in the place of Dr. B. F. Dawson, resigned.

The Opium Habit and Infantile Mortality.—Dr. J. B. Mattison asks us to announce that, if any of our readers can furnish him with the details of a case like one observed by Dr. Frank B. Earle, of Chicago, he will much appreciate the courtesy, and give the observer full credit. Dr. Earle's statement was that he had recently attended a woman taking about twelve grains of morphine daily, who had lost four successive babies, all of whom died in collapse when they were from two to four days old.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from November 6 to November 12, 1887:*

ment, United States Army, from November 6 to November 12, 1887:

GREENLEAF, CHARLES R., Major and Surgeon. Par. 8, S. O. 248, A. G. O., October 25, 1887, directing Surgeon Greenleaf to visit the recruiting depots and rendezvous at certain places, is amended to include Davenport, Iowa, Quincy, Ill., and Evansville, Ind. S. O. 257, A. G. O., November 4, 1887.

LORING, LEONARD Y., Captain and Assistant Surgeon. Ordered for duty at Fort Mojave, Arizona Territory, upon the expiration of his present sick leave of absence. S. O. 258, A. G. O., November 5, 1887.

PERLEY, HARRY O., Captain and Assistant Surgeon, now on duty at Fort Wayne, Mich. Ordered for temporary duty with troops stationed at Highwood, near Chicago, Ill. S. O. 258, A. G. O., November 5, 1887.

IVES, F. J., First Lieutenant and Assistant Surgeon. Granted leave of absence for one month, to take effect on or about the 15th inst. S. O. 113, Department of the Platte, November 5, 1887.

Naval Intelligence.—*Official List of Changes in the Medical Corps of the United States Navy for the week ending November 12, 1887:*

HEYL, T. C., Surgeon. Detached from the Marion and to proceed home and wait orders.

CRAIG, T. C., Passed Assistant Surgeon. Detached from the Marion and to proceed home and wait orders.

WELLS, H. M., Medical Inspector. Detached from the Trenton and to proceed home and wait orders.

PECK, GEORGE, Medical Director. Ordered to Washington, D. C., as a member of the Examining Board.

AYRES, JOSEPH G., Surgeon. Ordered to the Galena to relieve Surgeon F. L. Du Bois.

DU BOIS, F. L., Surgeon. Detached from the Galena and to proceed home and wait orders.

Marine-Hospital Service.—*Official List of Changes of Stations and Duties of Medical Officers of the United States Marine-Hospital Service for the two weeks ending November 12, 1887:*

WYMAN, WALTER, Surgeon. To proceed to Louisville, Ky., and Memphis, Tenn., as inspector. November 2, 1887.

URQUHART, F. W., Passed Assistant Surgeon. Relieved from duty at Cape Charles Quarantine; ordered to Norfolk, Va. November 6, 1887.

MAGRUDER, G. M., Assistant Surgeon. When relieved, to rejoin station at Chicago, Ill. November 3, 1887.

Society Meetings for the Coming Week:

MONDAY, November 21st: New York Academy of Medicine (Section in Ophthalmology and Otology); New York County Medical Association; Hartford, Conn., City Medical Association; Chicago Medical Society.

TUESDAY, November 22d: New York Academy of Medicine (Section in Laryngology and Rhinology); New York Dermatological Society (private); Buffalo Obstetrical Society (private).

WEDNESDAY, November 23d: New York Surgical Society; New York Pathological Society; American Microscopical Society of the City of New York; Medical Society of the County of Albany, N. Y.; Philadelphia County Medical Society (conversational).

THURSDAY, November 24th: New York Academy of Medicine (Section in Obstetrics and Diseases of Women and Children); New York Orthopaedic Society; Brooklyn Pathological Society; Roxbury, Mass., Society for Medical Improvement

(private); Cumberland, Me., County Medical Society (annual—Portland); Pathological Society of Philadelphia.

FRIDAY, November 25th: Yorkville Medical Association (private); New York Society of German Physicians; New York Clinical Society (private); Philadelphia Clinical Society; Philadelphia Laryngological Society.

SATURDAY, November 26th: New York Medical and Surgical Society (private).

OBITUARY NOTES.

William O'Gorman, M. D., of Newark, N. J., died on the 10th inst. at the age of sixty-three. The deceased was a native of Ireland, and was graduated from the Royal College of Surgeons in 1849, in which year he came to this country. During the civil war he was chief of the New Jersey medical staff. He was at one time president of the New Jersey State Medical Society, and of the Essex, N. J., County Medical Society. He will be remembered as one of the surgeons who were called in consultation when President Garfield was shot, and also for his connection with the alleged cases of rabies which occurred in Newark in 1885.

Letters to the Editor.

THE NEGLECT OF HOSPITAL ATTENDANCE BY MEDICAL STUDENTS.

ANN ARBOR, MICH., November 11, 1887.

To the Editor of the New York Medical Journal:

SIR: Will you allow one who for years has been a reader of your liberal journal, and for a very much longer period a member of the profession, to occupy a portion of your space for a few remarks on a subject which seems to be interesting your readers?

"A Traveler from New Zealand," in your issue of October 29th, expresses his surprise and "pain" at the fact that the services and abilities of your excellent clinical teachers in New York seem to be unappreciated, as the superior clinical instruction in one of the best of your hospitals was attended by only about a dozen men, and that too when the teaching in that hospital was free.

This has called forth two letters in your next issue from New York, and one from Brooklyn, criticising the inferences drawn from the observed fact of your New Zealand correspondent, but virtually admitting that clinical teaching is sadly neglected by the mass of students in most of the schools.

The observations, and in fact the inferences of the New Zealander, are sustained by information from other sources, and also by my own occasional visits to your city and to other hospitals and schools.

The reason for this state of things it is not difficult to understand. The mass of students in the medical schools of New York and of nearly all the cities in this country attend only two sessions of not more than six months each; and during each six months the whole field of medical science, including anatomy, histology, physiology, pathology, chemistry, and materia medica, as well as what are called the *practical* branches of practice of medicine, surgery, obstetrics, diseases of women and diseases of children, and the various specialties, is attempted to be traversed. Now, it is not within the bounds of the human capacities or of the natural possibilities that this should be accomplished, and much less that, after this, there should be time, strength, and interest for bedside instruction, however clearly and skillfully such instruction may

be presented. With all these subjects on their hands and an examination upon them all, however lax, before them, students *will* not and *can* not in any proper sense give attention to bedside observation and instruction. This is too apparent to require any more than the simplest statement.

The remedy, and a remedy is most imperatively demanded, is the lengthening of the course of college instruction, and its gradation, with proper repetitions of the more important subjects. There is no other. Until this remedy is applied, our medical education will remain imperfect—for the great body of students wretchedly so. The difficulty is not in too much didactic teaching. There is indeed too little of that to lay a proper foundation for a practical superstructure. We need all and more, much more, of elementary instruction, more laboratory work and drill, and more of systematic teaching, such as is given in didactic lectures. For imparting to the average student a knowledge of the science and art of medicine as correlated with physiology and pathology, there is no method equal to didactic lectures and oral examinations upon and reviews of the subjects. This every skillful teacher and every intelligent student must understand; and this should be followed by clinical illustrations to complete the education. After thorough and extended didactic and laboratory work, the study of cases will be most profitable. Hospital stewards and nurses see many cases and may hear many things said respecting them, but they are not made physicians and surgeons by this, unless they have had a proper foundation laid in the elementary medical sciences. Work on the superstructure may do harm by distracting attention from the foundation, and all may be imperfect and insecure. The saying can not be too strongly insisted upon, "*First* that which is elementary, and *afterward* that which is practical."

An illustration of the principle I wish to impress may be found in the present position of the Department of Medicine and Surgery of the University of Michigan. For the last ten years the course of instruction has been extended to three years of nine months each. The first year the student is expected to devote himself entirely to the elementary branches of anatomy, chemistry, physiology, materia medica, microscopy, botany, and laboratory work in these subjects. During the second year he reviews and completes these subjects and advances to others—such as pathology and hygiene—and attends lectures on most of the still more advanced and practical subjects. At the end of this second year he passes a final examination on the first year's subjects, which have been reviewed, so that the last or third year his attention is devoted to practice of medicine, surgery, obstetrics and gynecology, pædiatrics, ophthalmology, and clinical work. During the second year he is allowed to attend many clinics, and the third year, having completed his laboratory work, he is *required* to attend from six to ten clinical lectures and exercises a week, besides the didactic lectures, the latter mostly in review on the "practical" subjects. The University Hospital has about one hundred beds, and that with the out-door patients affords a large, but not a complete, variety of cases, as patients with acute contagious diseases are not admitted, and the number of recent injuries and cases of acute febrile disease is comparatively small. There are, however, of the classes of cases received, as large a number as students can profit by while attending the necessary didactic lectures and laboratory work, and preparing for their final examinations.

The faculty, however, convinced of the great utility of further clinical advantages, after a protracted discussion have unanimously passed the following resolution, which, being presented to the Board of Regents who govern the affairs of the State University, has been favorably considered, and a committee of that body has been appointed to carry the request into effect:

"Believing that medicine, including the science and art, in its present and prospective expansion, with the many specialties into which it tends to be divided, requires a much longer period of study and of college and hospital instruction than is provided for by the common medical schools of this country, and that even the course of instruction in the College of Medicine and Surgery of this University would be improved by its extension to four years, instead of three, thus bringing it nearer the standard of the most advanced medical schools of Europe, we therefore respectfully request the Honorable Board of Regents to inquire into the possibility and expediency of providing for a course of instruction of four college years' continuance, the last year to be devoted chiefly to clinical specialties, after the full three years' course, as now established, with its labors and honors, is completed; and we respectfully call attention to an inquiry into the facilities which may be made available in Harper Hospital and other institutions in the neighboring city of Detroit for this purpose, and for as speedy an establishment of this course as may be found practicable."

It is hoped that no insurmountable obstacle will be found to the success of the enterprise, and that the time is not distant when it will be practicable, in place of the plan now contemplated of affording an additional diploma to those who take the four years' course, to require this course to be taken before the degree of M. D. is conferred by the University.

Should the profession and the community *practically* demand a four years' course by sustaining it with their patronage as well as by verbal encouragement, I do not doubt the University authorities will be among the first to require such an extended course for the conferring of any diploma.

A. B. PALMER.

DR. CORNING'S METHOD OF ANÆSTHETIZATION.

28 WEST FORTY-THIRD STREET, November 2, 1887.

To the Editor of the New York Medical Journal:

SIR: I wish to write a few words which will be of interest only when taken as a part of, or supplement to, a letter of Dr. Corning's published by you a week or two ago, in which he explained or mentioned an idea of his of giving ether to patients who were difficult to etherize.

The patient upon whom he tried the experiment of ligating both inferior extremities previous to etherization, and upon whom Dr. Webster then performed a preliminary iridectomy with the least possible trouble or annoyance, with ether or otherwise, was to-day operated upon by Dr. Webster at the Manhattan Eye and Ear Hospital for extraction under ether given in the ordinary way. It was found impossible to thoroughly etherize the patient to-day, and he apparently never entered the first stages, and not once was thoroughly unconscious. And, although a number of ounces of ether was given him, he would answer remarks made by the by-standers, twist himself, and roll his eyes in a manner most unpleasant, and Dr. Webster several times remarked that he wished Dr. Corning was present with his rubber straps.

There was a very marked contrast between the etherization of the patient by Dr. Corning's method several weeks ago and the condition to-day when he was etherized in the ordinary manner. Then it was a perfect success, and to-day a perfect failure.

At the time of the first experiment Dr. Corning was elated at the success, and I remarked to him "One swallow doesn't make a summer," but I must now admit that to-day's experience has multiplied that swallow considerably.

J. OSCROFT TANSLEY.

Proceedings of Societies.

NEW YORK NEUROLOGICAL SOCIETY.

Meeting of November 1, 1887.

The President, Dr. CHARLES L. DANA, in the Chair.

Dr. GEORGE W. JACOBY, Secretary.

Aphasia without Paralysis.—Dr. BEVERLEY ROBINSON presented a patient, and gave a history of the case from notes furnished by a member of the house staff of Charity Hospital. The patient, a man, sixty-eight years of age, born in this country, was admitted into Charity Hospital on August 25th. There was no history of syphilis. He had once had rheumatism in the knees, but the date was not known. His present difficulty dated from May, when he commenced to have headache. Subsequently he fell out of bed to the floor. He was able to crawl back into bed, but from that time his speech was affected. He was treated in Bellevue Hospital, and was from there transferred to Charity Hospital on the date named. He was then apparently in perfect physical health, except as to his speech. Objectively, there were no signs of paralysis. His walk was slow, but good; possibly the right leg dragged a little. The dynamometer registered twenty with the right hand, and ten with the left hand. The faradaic reactions were normal in the upper extremities. In the lower extremities they were somewhat quicker and stronger upon the left than upon the right side. The sight in the right eye was as good as before the injury. The right eye was found more hypermetropic than the left, but both optic discs showed the physiological cupping. The urine was normal. When admitted, the patient could speak only in monosyllables, using most frequently the expressions "Yes," "No," "That's it," and "Exactly." He read the newspaper, and apparently understood what he read. He also used gestures and explanatory words. When asked his age, as by the question "Are you forty?" he would answer "No"; "Thirty-two?" "No"; "Forty-three?" "No"; "Sixty-eight?" "Yes." If given a pencil and paper and told to write his age, he would put down an 8 and in front of it a 6, adding, "That's it." He could not write his name, but wrote John in the place of Isaac. It thus appeared to the speaker a case of amnesic and ataxic aphasia, with agraphia, depending upon lesion of the foot of the left third frontal convolution. His own interest in it had been directed to the question whether a lesion of this area would involve the intrinsic muscles of the larynx. On account of the difficulty of obtaining intelligent co-operation, however, he had not been able to make a satisfactory examination. The treatment had consisted in the administration of fifteen grains of potassium iodide three times a day.

The PRESIDENT asked whether the patient could copy, and whether mirror writing was obtained with the left hand.

Dr. ROBINSON did not think that the patient could copy, but would test the point.

The PRESIDENT suggested that the patient's own name be not used, and the president's was substituted. The patient wrote Charles Dane. Dr. Jacoby added a phrase, and found that the patient wrote *s* for *m*, and *f* for *i*.

Dr. STARR would rule out amnesia in the case. The terms amnesic and ataxic aphasia had respectively a sensory and motor signification. Here the patient apparently understood perfectly, and his difficulty was purely ataxic, or motor.

Dr. BALL asked how carefully the question of sensory ability had been tested. When told to do certain things, would he do them; also would he do the same when written directions were given him?

Dr. ROBINSON replied that the patient had complied with oral directions, but that written directions had not been tried.

The PRESIDENT asked whether the patient was able to utter exclamatory language. In some cases where ordinary speech was lost on account of lesion of the left third frontal convolution, profane or ejaculatory language was still possible through the agency of the corresponding center upon the right side.

Dr. ROBINSON stated that the patient did not present this peculiarity.

Dr. PUTNAM JACOBI asked whether the test suggested by Dr. Ball could not then be made.

Dr. BALL directed the patient to take hold of Dr. Robinson's left thumb. The man hesitated and apparently failed to understand, but complied when directed simply to "take his thumb."

Dr. STARR asked the patient whether he read the papers and understood them, and the man replied, "Yes, of course."

Dr. BALL mentioned the case of a physician, now dead, who had been aphasic for several years. During most of the time he read and apparently understood, yet it was probable that he obtained the sense from leading words, and that a large number of the words he did not understand at all. Probably the same was true in this case.

Dr. ROBINSON asked whether there was any recognized difficulty in the use of the intrinsic muscles of the larynx for phonation associated with the aphasic condition.

Dr. STARR had been interested in this subject in consequence of a paper by Dr. Delavan in regard to a cortical center for the larynx. For a year he had sent to Dr. Delavan all patients with hemiplegia who had come to him at the Polyclinic and the Demilt Dispensary. Fifteen or sixteen had been examined without the discovery of any affection on either side of the larynx. He believed that no such case was upon record. It was certainly contrary to the general experience of neurologists to find any difficulty of phonation connected with aphasia. In fact, Dr. Ross, in his last edition, had stated that in the lesion of aphasia the muscles of the larynx were not affected.

Dr. ROBINSON had an impression that literature showed such cases. He had had his attention directed to the subject in this way.

Dr. STARR asked whether a patient could have this paralysis of the larynx without being hoarse.

Dr. ROBINSON replied that he could. He had seen patients with partial paralysis of a vocal band who were not hoarse.

Dr. GRAY stated that a distinction should be made between hemiplegias from lesion of the internal capsule and those from lesions of other parts, particularly the pons and the medulla. In six or seven cases in which hemiplegia was due to hemorrhage, embolus, or thrombus in the internal capsule, he had had careful examinations made by competent laryngologists, and in none of them was there any paralysis of the laryngeal muscles. In hemiplegia from other causes, alteration of the tone of voice was sometimes observed. In true and simple aphasia, he thought, the voice was not affected.

The PRESIDENT added that in pseudo-bulbar paralysis the larynx was involved, the lesion being in the corpus striatum.

The Significance of Pelvic Pain was the title of a paper read by Dr. H. C. COE. Pain was not a reliable indication of disease. Often an epithelioma of the cervix would cause less distress than a displacement. The description of pain by the patient, and the localization of its cause by the physician, presented separate topics for thought. As described by the patient, the pains of the pelvic region were, in general terms, an aching pain in the lower part of the sacrum, a shooting pain in

the inguinal regions, and the gnawing pain of carcinoma. All these pains could be referred to some lesion of the peritoneal or connective tissue, or both—to some plastic exudation not necessarily of great amount. The distress caused by a retroflexed uterus was much greater where there were adhesions than where there were not. It was fair to assume that this constant aching pain was due to the implication of nerves in the exudate. Laceration of the cervix, excepting that extending into the vaginal fornix, did not, in itself, cause pain. The cervix was a very insensitive organ, and its laceration was but a link in the chain of circumstances which resulted in pain. Malignant disease, even, did not necessarily give rise to pain. Hart and Barbour had said that there was no pain so long as the cervix only was affected, and Hewitt had said that the pain of cancer was due to localized attacks of peritonitis. The pain was felt earliest and most severely when the growth was in the body of the uterus, and in that respect carcinoma differed from sarcoma of the body of the uterus, in which there was little pain. Possibly in this variety of cancer the intramuscular nerves were involved in the growth. The shooting, darting, sickening pains associated with disease of the Fallopian tubes were due to nothing but peritonitis. Hegar had referred to cicatricial nodules in the broad ligaments, and even in the case of ovarian neuralgia it seemed probable that the pain was due to pressure upon the nerve before it entered the organ rather than to changes within it. Otherwise this pain would not be relieved by the relief of perimetritic adhesion, as frequently occurred. The inference was that a guarded prognosis should be given in regard to the relief of pelvic pain. If the pain associated with a fissured cervix was due to cicatricial nodules in the broad ligament, we might cure the laceration and the endometritis, and yet the pain would continue. To remove the ovaries for the relief of pain was even more hazardous. The author thought that gynecologists exaggerated the frequency of reflex pain. With the president, he considered anæmia the most frequent cause of vertical headache. Pelvic reflexes were found in the upper lumbar and intercostal nerves. He had not found sciatica of ovarian origin, according to Dr. Mundé's suggestion. It might occur as the result of some exudates, but must be rare as a reflex pain. Dr. Mundé himself had somewhat oddly remarked that this pain was relieved by a blister over the sciatic notch. Dr. Polk's plan of separating adhesions for the relief of pain presented hardly less risk than the usual operations referred to. Treatment by electricity, according to the methods of Apostoli, gave the most satisfactory results. Reflex or transferred pains might also be due to inflammatory foci, and might be treated in the same way.

Dr. GRAY, as a neurologist, felt at a loss to know how to discuss such a paper. Many pains besides those of pelvic origin centered in the back, such as muscular pains and the pains of peripheral neuritis. He had himself often referred patients to competent gynecologists for examination, and they had found nothing in the pelvis to account for pain over the sacral, lumbar, or coccygeal vertebrae. Yet, on the other hand, one could not deny the capricious vagaries which distinguished the truly reflex pelvic pain.

Dr. PUTNAM JACOBI did not consider that the writer of the paper had proved his position. Pelvic pain might be more definitely mapped out. The uterus, the central organ of the pelvis, was supplied by the lumbar plexus; and lesions of this organ were accompanied by pain in the track of the lumbar nerves. Two or three other definite points were known. Pain referred to the distribution of the femoro-cutaneous nerve was the most characteristic accompaniment, not of oophoritis, but of ovarian neuralgia. Again, pain in the end of the spine might be spinal, ovarian, or endometrial in origin. A retro-

verted uterus without circum-uterine lesion would cause aching in the sacral region, but no coccygodynia. The speaker considered pain from pelvic exudation rare and somewhat hypothetical. Even chronic peritonitis caused only a dull aching pain which was quite tolerable except when the patient was moving about. In the worst case which she had ever seen, one in which the patient finally died from an exacerbation, she was comfortable when in bed. A ganglion situated between the body and the cervix had frequently been found diseased in cases of pelvic pain, especially in those associated with posterior perimetritis; and in some cases of violent hysteria it had been found atrophied. It was often the site of excessive tenderness, and a permanent neuralgia might result from a perimetritis which would persist long after the removal of its cause.

Dr. RANNEY quoted the late Dr. Beard as having said that the nervous system was like a mountainous region, in which echoes were returned with equal intensity from distant parts. This description was peculiarly applicable to pelvic pain. As a general practitioner he had frequently treated pelvic pain locally, without relief, in cases where it had finally disappeared upon the removal of a distant cause. It was not in his opinion possible to establish the seat of any pain unless removal of the supposed cause established a cure. He had failed to find compliance with this formula in the interesting paper under discussion.

The PRESIDENT had often been disappointed when he had sent patients with pelvic pain to gynecologists for examination, and he had observed that painful neuroses, even, had in some cases resulted from gynecological treatment.

Dr. PECKHAM considered that the reader of the paper had underrated the suffering from direct pressure as a factor of pelvic pain. A retroflexed uterine body, or an hypertrophied cervix, or an ante flexed body might cause a good deal of suffering by direct pressure upon the sacral nerves. Again, pain in the right or left iliac region might often be attributed to tension where, with a shortened broad ligament and lateral deviation of the uterus, there was pulling upon the ligament of the opposite side. Pain persisting after an operation might subsequently be found to have disappeared. The eye which looked on the sun retained its image for a time. Thus the nerves of other parts after prolonged irritation retained the impression of that irritation and the habit of pain after the removal of the cause. Time was thus required in these cases to perfect a cure. The speaker indorsed the value attributed to electricity by the author of the paper. Whether it acted by a direct influence upon the nerves themselves or by modifying the pelvic circulation was not apparent.

Dr. STARR read a preliminary report of the Stevens Commission.

OBSTETRICAL SOCIETY OF PHILADELPHIA.

Special Meeting of September 17, 1887.

The President, Dr. THOMAS M. DRYSDALE, in the Chair;
Dr. W. H. H. GITHENS, Secretary.

Remarks on the Removal of Uterine Fibroids were made by Dr. GEORGE GRANVILLE BANTOCK, of London, England. The tumor which would form the subject of his remarks, he said, had been removed the day before from a single woman, aged thirty-six, a patient of Dr. Joseph Price's, and weighed between five and six pounds. At first sight he had doubted the propriety of operating, because there seemed to be no indication for interference beyond the rate of growth of the tumor, and because the patient, as he had been assured by Dr. Price,

very much minimized the extent of her sufferings. The matter was thoroughly explained to her, the danger of the operation was made clear, and it was pointed out that, if an operation was necessary at some time, she would never be in a more favorable condition for it. The patient was aided by her mother in coming to a decision, and he was struck by the readiness with which they both decided in the affirmative. This was so far fortunate, for it would be seen that the tumor had in its upper part already undergone cystiform degeneration. [Here an incision was made into the cyst before the meeting, giving exit to over half a pint of a thin sero-sanguinolent fluid.] The condition of the patient was now most satisfactory.

Proceeding to the general subject of the removal of uterine fibroids by abdominal section, he pointed out that operators were to be divided into two schools: the one preferring to treat the pedicle by the intraperitoneal method, the other preferring the extraperitoneal. The advocates of the former based their arguments on the success which had resulted in the operation of ovariectomy since the introduction of the intraperitoneal ligature of the pedicle. But it was hardly necessary for him to show how fallacious such reasoning was, for the conditions were so dissimilar. It was true that there were many different forms of ovarian pedicle: it might be large or small, long or short, broad or narrow, thick or thin, but they were all essentially of the same character, and capable of being more or less easily secured by ligature, which might be confidently relied on if properly applied. On the other hand, the uterine stump was very different. It was composed of muscular fiber, and white and yellow elastic tissue, forming a structure so peculiar that, under the pressure of a ligature tied with as great a strain as it would bear, it yielded before the compressing force to such an extent that in a few hours the ligature might be quite loose. This occurred even when the pressure was exerted with the aid of a screw. He pointed out to those who had been present at the operation that at the first tightening of the screw there was complete arrest of the bleeding for the time, but that at intervals of ten or fifteen minutes the screw would bear a turn or more. In this way an amount of constriction was attainable which, if attempted at once, would probably lead to the breaking of the wire or the cutting of the tissues. He had just come from the meeting of the American Gynecological Society, where he had read a paper on the subject of the treatment of the pedicle, and where the opposite school was so well represented in the person of Dr. Martin, of Berlin. He had the satisfaction of feeling that, for the time at least, he had established his position.

Now, the pedicle in this operation varied very much, not in the nature of the tissues forming it, but in the extent and manner in which the parts were involved. Thus, the tumor might spring by a distinct pedicle from the fundus or some part of the free surface of the uterus. In such a case, the application of the extraperitoneal method was very simple, and his results had been uniformly good, for in thirteen of these cases all the patients had recovered. On the other hand, of all the cases of this kind treated by the ligature and intraperitoneal method, five in number, only one had been successful. Moreover, he had attempted the method in several cases, and had been obliged to resort to the extraperitoneal method after failure of the ligature though preceded by compression with very powerful forceps. When the body of the uterus was extensively involved in the growth, matters might be very much complicated. The broad and ovarian ligaments might be so lax that it is a simple matter to include the ovaries and uterus in one encircling loop. Such a case was a little more difficult than an ovariectomy done with the clamp. But the ovarian ligament might be so short on one side that it had to be ligatured separately. That had had to be

done in the case that furnished the occasion for his remarks. As a rule it was advisable in such a case to secure the uterus and the other ovary first, to transfix the stump with the supporting pins placed across the abdominal wound, to cut away the tumor, to trim the stump, and then to remove the ovary, lest in tightening the instrument any part of the ovarian pedicle should be pulled through the loop of the ligature. In the case under consideration it had not been necessary to observe this order, as the broad ligament on the left side was very lax, while the ovarian ligament was very short. On the right side the ovary could be raised quite out of the pelvis. Sometimes both ovaries were thus tied down and had to be secured separately. The same precautions must be observed.

But the disease might involve the whole body of the uterus properly so called; then one must make a pedicle, which was a difficult thing to accomplish. It was for such a state of things that he had devised his method of partially enucleating the body of the uterus and the lower portion of the tumor. The large vessels of the ovarian plexus were secured on each side with two forceps or stout ligatures, the lower forceps on each side being placed an inch higher than the level of the proposed constriction. Then the peritoneal investment was divided all round on a level between the upper and lower forceps, and reflected downward toward the cervix nearly to the level at which the loop of the *serre-naud* was to be applied. In doing this, it was necessary to seize the peritoneal edges with forceps placed at intervals of about an inch. When the reflection was completed, these instruments were collected and raised up, and the wire loop was applied outside the peritonæum. Sometimes, especially when it was desirable that the patient should not lose much blood, it was well to throw an elastic ligature around the uterus and broad ligaments as soon as the division of the peritonæum was effected. Applied in this way, it served to draw in the broad ligaments toward the uterus, and to enucleate the tumor. It was to be removed as soon as the *serre-naud* was applied—above or outside it, of course. In this way an inch or more might be gained in the length of the pedicle. It should be remembered that in this method it was necessary to have the stump so long that the whole of the constricted portion would be outside the peritoneal cavity, in which position it was to be retained by the transfixing pins, which passed through the stump just outside the wire loop, and rested on the parietes on each side of the wound. While the peritonæum was being reflected, the tumor should be held up by the assistant, and thus it rose gradually out of the pelvis with the uterus. One precaution to be observed very carefully in these cases was to transfix with the pins *before* cutting away the tumors. He had once lost a patient through the non-observance of this precaution. The last steps were to cut away the uterine tissue within a quarter of an inch of the pins, and to trim the loose peritonæum by cutting it away within half an inch of the loop, and then stitching it from opposite sides across the surface of the stump to hold it all well together. Before the wound was closed, a final turn should be given to the screw, if it would allow of it. It was to be remembered that the distal portion of the stump must slough off, that it was desirable that the amount of this tissue should be as small as possible, and that it was necessary to keep it out of the peritoneal cavity. Great stress had been laid upon the character of the mucus in the uterus and the cervical canal, and, as those present might have observed, great care had been used in wiping it away and setting aside the sponge employed for the purpose. One operator had gone so far as to pass an iodoform pessary down the canal for the purpose of disinfecting. This was a practice with which he had no sympathy; nor was it rational or founded on any sound reasoning. He looked on it as a bugbear, and regarded it as a

means of withdrawing attention from other and more important matters of detail. As to comparative results, Martin had just reported eighty-four cases, with a mortality of twenty-five, while the speaker was able to point to seventy-two cases, with only twelve deaths.

In regard to Listerism, there was some misapprehension of the value of terms. Some operations were termed aseptic, but only the result could prove any operation to have been aseptic. All operations were or were not performed upon some antiseptic method. The speaker had now discarded all antiseptic agents. When Listerism was first introduced, he used it in all its details, and continued to do so until he lost a patient, and had others affected by what he felt sure was carbolic-acid poisoning. An easy and sure test for this was the absence of sulphates from the urine. In one case of carbolic-acid poisoning the temperature rose to 107° F., and the patient was almost moribund; by means of wet sheets and ice-packing, the temperature was brought down to normal in eight hours, and she recovered. In one fatal case the kidneys were found congested, and there had been acute suppression of urine. After this experience he gradually reduced the strength of the carbolic washing fluids to one per cent. Coincidentally, the proportion of sulphates in the urine increased, and there was an absence of high temperature and other symptoms until then of unknown origin. Now, as a one-to-forty solution was the weakest that could be useful as a germicide, a one-per-cent. solution could serve no good purpose, and the carbolic acid was omitted altogether. Afterward he tried doing without the spray, and the results steadily improved. Of his last one hundred ovariectomies, only three had proved fatal; and of the last seventy-eight, only one. But ovarian statistics did not apply to uterine operations.

M. W. H. PARISH had been present at the operation the day before, and it had been a complete illustration of what was necessary in all operations. First, as to saving blood, Dr. Bantock had been very careful to use hæmostatic forceps to secure every bleeding point in the abdominal wound before opening the peritonæum. The same economy of blood had been observable in every step of the operation. Great care had also been taken to avoid shock from cooling the intestines by the contact of air and consequent evaporation; large flat sponges were pressed in to cover the intestines and prevent their escape or the entrance of blood or discharge into the peritoneal cavity. He was extremely careful about the cleansing of his sponges before reintroducing them into the wound. In placing sutures, he first passed several silk-worm-gut stitches, close to one another, near the stump. After the wound was entirely closed, it was covered with clean absorbent gauze, and a pile of this was placed over the stump. The whole was secured with a cotton binder, no adhesive plaster being used. So, while using no germicide at any time, every care was taken to make the operation an aseptic one. Would Dr. Bantock consider it safe to transfix, ligate, and drop the pedicle in case of a uterine fibroid having a thin pedicle as long as a finger? The speaker had done so on one occasion, and the patient had died.

Dr. BANTOCK replied that a uterine fibroid with a finger-like pedicle he had never seen. He had observed none smaller than half the size of his wrist. He thought the extraperitoneal method safer in every case.

Dr. LANGAKER made some remarks about securing the peritonæum over the base of the stump, and asked what kind of suture Dr. Bantock preferred for that purpose.

Dr. BANTOCK said that any kind of suture would do; it was merely to secure a neat stump that would not spread out over the wound. He preferred fine silk-worm gut for sutures. He introduced the needle from within, close to the edge of the peri-

tonaem, and made sure of a hold in muscle or aponeurosis, and then through the subcutaneous fat and skin, to secure a firm hold and prevent subsequent hernia.

NINTH INTERNATIONAL MEDICAL CONGRESS.

SECTION IN GENERAL SURGERY.

(Continued from page 524.)

Amputation at the Hip Joint for Sarcoma.—Dr. F. S. DENNIS, of New York, read a paper in which he reported the case of a young man, aged seventeen years, whose family history was good, and who had always been in good health until about five months prior to his admission in the hospital. At the time of admission his weight was eighty-five pounds. Five months prior he had first noticed a dull pain in the thigh, and shortly afterward he had discovered a swelling in the thigh. He had had no fall or blow. About two months after the first appearance of the pain the tumor had been aspirated, and about two ounces of bloody fluid drawn off. The swelling was fusiform in shape, the skin was purple, and large veins were to be seen on the surface of the tumor, while the glands of the thigh and groin were much enlarged. The diagnosis was that of sarcoma of the femur, and amputation at the hip joint was suggested as the only means of saving life. This amputation was done, and the wound, dressed antiseptically, had entirely healed by the sixth or eighth day after the operation. After the patient left the hospital the wound reopened a little and discharged pus mixed with blood; this was found to be due to sloughing of the ligamentum teres, upon the removal of which the wound healed kindly, and the young man was now well.

Dr. DONALD McLEAN, of Detroit, said that an important practical point was with reference to the method of restraining hæmorrhage. The mortality in olden times was largely due to the defective measures of controlling bleeding. The method described by Dr. Dennis seemed open to the objection that the elastic band might slip, when the operation was delayed. The speaker had amputated at the hip a number of times and had had the utmost satisfaction from the use of Lister's abdominal compressor. He believed that this was superior to any other means of controlling hæmorrhage in this region. If the compressor was not at hand, the fists of an assistant would answer the purpose, the compression being made over the umbilicus.

Dr. S. H. WEEKS, of Portland, Maine, said that he had employed an elastic compressor consisting of the ordinary black rubber bandage, doubled so as to make four strands two feet in length. This was passed between the thighs, brought between the tuberosity of the ischium and the rectum, and up in front over the femoral artery. An ordinary roller bandage was placed over the artery. The ends were brought over in front and held by an assistant. This also controlled hæmorrhage from the gluteal vessels.

Dr. GUNN, of Missouri, said that he had understood the author to state that he did not know of a case of sarcoma of the femur in which the patient was alive one year after operation. He had assisted at an operation in a case of sarcoma on the lower third of the thigh. Eighteen months later the patient was living and healthy.

Dr. REYHER, of St. Petersburg, thought that in emaciated subjects it would not be advisable to make such sudden compression as was caused by Lister's compressor. He had used the rubber tourniquet, but without special satisfaction. He had performed another operation. He made an excision of the head of the bone. He then placed one stick through the wound and another in front, securing them together by rubber bands. The same thing was done with the posterior portion. The flaps

could then be cut without hæmorrhage. In three operations he had had no disagreeable results from this measure.

Dr. W. BOONE, of Shanghai, China, remarked that no one had alluded to the method proposed by Dr. Furnell Jordan. Where there was sufficient tissue free from disease, this seemed to present many advantages. This operation was performed by making a circular cut through the muscles low down, making a flap, and then turning back the flap. The bone was next divided, and then its head was excised. In this way the vessels were cut low down, and the control of bleeding was absolute.

Dr. PALMER, of Jonesville, Wis., said that he had employed a method similar to that of Dr. Reyher. Instead of stitches, he had passed pins of sharpened steel wire through the limb in front and behind the bone, and then secured them to other pieces in front of and behind the limb.

Dr. CHAVASSE, of Birmingham, Eng., said that, in amputating for malignant disease, the less tissue left the better; therefore the operation of Mr. Furnell Jordan was not a good one for this particular disease. The best method was that known as Brodie's operation by anterior and posterior skin flaps. In children the best plan for controlling hæmorrhage was by digital compression. This was also applicable in thin subjects. He had also used Davy's rectal staff with satisfaction.

The Surgical Treatment of Epilepsy by Trephining was the title of a paper by Dr. JASPER J. GARMAN, of New York, who related the case of a girl of about eighteen years of age who had been struck on the head with a brick falling from a house-top and causing fracture of the skull. The skull was trephined and the splinters of bone were removed, but some time after the wound had healed she began to have attacks of epilepsy, for which ordinary treatment had been unavailing, and the reporter finally operated on her with an entirely successful result. As a result of his researches on the subject, he had found that lesions in the frontal and parietal regions were followed usually by the same symptoms, and that over fifty per cent. of the lesions in these regions were followed by epilepsy, which was eventually complicated by insanity. Trephining at the site of the lesion and removing the cicatrix was usually followed by complete relief.

The Treatment of Psoas Abscess by Posterior Lumbar Incision.—Dr. LEWIS H. SAYRE, of New York, read a paper in which he strongly insisted on the early and free posterior and anterior incision in these abscesses, followed by thorough drainage.

Dr. EDMUND OWEN, of London, opened the discussion which followed and spoke long and earnestly, strongly deprecating "ostrich surgery" in these cases, and advising early opening of the abscess with free drainage.

The Removal of Sequestra by Solution in Acid.—A paper by Dr. EDMUND ANDREWS, of Chicago, was then read, in which the author gave his experiments in detail and related a number of cases in which sequestra had been removed by the use of acids without operation. He recommended that hydrochloric acid be used of a strength a little weaker than the official dilute acid.

Gastrotomy.—Dr. A. C. BERNAYS, of St. Louis, referring to Dr. Richardson's paper, said that he had had a case somewhat similar to that reported. A tailor had swallowed an ordinary silver case knife which had passed into the stomach. He saw him one hour after the accident and performed gastrotomy. The incision was made in the linea alba. The knife was found lying transversely with the handle toward the pylorus. A short incision was made, the knife removed, and the opening in the stomach closed with a double row of sutures. He thought that in such cases the continued suture was to be condemned.

Book Notices.

A Treatise on the Principles and Practice of Medicine; designed for the use of Practitioners and Students of Medicine. By **AUSTIN FLINT, M. D., LL. D.**, late Professor of the Principles and Practice of Medicine and of Clinical Medicine in the Bellevue Hospital Medical College, New York, etc. Sixth Edition, revised and largely rewritten by the author, assisted by **WILLIAM H. WELCH, M. D.**, Professor of Pathology in Johns Hopkins University, Baltimore, and **AUSTIN FLINT, M. D., LL. D.**, Professor of Physiology in the Bellevue Hospital Medical College, New York. Philadelphia: Lea Brothers & Co., 1886. Pp. 1160.

ALTHOUGH this edition of the late Dr. Flint's classical work contains much added matter, it is all so completely in harmony with the original plan of the book, and worked up with the carefulness and precision characteristic of the great teacher from whom it emanated, that formal criticism is uncalled for. As well might one, from a purely literary point of view, criticize the writings of Addison and Steele. Posthumous though it is in its actual appearance, it is the real and crowning work of the lamented author, except as to the process of seeing it through the press, and except for the designated contributions made by the younger Dr. Flint and by Dr. Welch.

The appearance of each new edition of this sterling work speaks unmistakably of the discrimination and discernment possessed by the average medical book-buyer, and affords us a fresh and welcome opportunity to repeat our expressions of appreciation. Beyond a doubt, editions still to come, in view of the care with which they are certain to be prepared, will hold the commanding position that the work has always held in the esteem of all English-speaking physicians.

GENERAL LITERARY NOTES.

AMONG recent foreign publications we note the following:

ASSELIN & HOUZEAU, Paris.—**A. Bouchard**, "Nouveaux éléments de pathologie externe," vol. i, part 2. (6fr.)

J. B. BAILLIÈRE & FILS, Paris.—**E. Cohen**, "Orteil en marteau, nouveau traitement par ostéotomie cunéiforme." (2fr.)—**R. Jamin**, "Des fistules juxta-urétrales du méat."—**C. Martel**, "De la phlébite dans le cours du rhumatisme blennorrhagique."

A. DELAHAYE & E. LECROSNIER, Paris.—**Pouillet**, "Étude médico-philosophique sur les formes, les causes, les signes et les conséquences et le traitement de l'onanisme chez la femme." 5th ed. (3fr. 50.)—**Ferrand**, "De l'exercice et des troubles de la parole et du langage." (1fr. 50.)—**H. de Presnay**, "Études d'obstétrique pratique. Considérations pratiques sur l'avortement." (2fr.)—**L. Thomas**, "La migraine." (2fr.)—**Gillis**, "Prolifération de la cellule par kariokinèse." (3fr.)—**Hamon**, "Considérations thérapeutiques et cliniques sur les présentations du siège." (1fr. 50.)

O. DOIS, Paris.—**A. Baréty**, "Le magnétisme animal." (14fr.)

LAHURE, Paris.—**C. James**, "M. Pasteur, sa nouvelle méthode dite méthode intensive peut-elle communiquer la rage?" (1fr.)

BUREAUX DES "NOUVELLES ARCHIVES D'OBSTÉTRIQUE ET DE GYNÉCOLOGIE," Paris.—**G. Apostoli**, "Nouveau traitement de la métrite chronique par la galvano-caustique chimique intra-utérine." (3fr. 50.)—**A. Doléris**, "Curage et écouvillonnage de l'utérus dans l'avortement." (4fr.)—**A. Doléris**, "Raccourcissement des ligaments ronds." (4fr.)—**A. Doléris** and **Butte**, "Intoxication par le sublimé corrosif." (2fr. 50.)—**A. Doléris**, "De l'endométrite et de son traitement." (3fr.)—**W. T. Lusk**, "De l'utilité de l'intervention opératoire précoce dans la grossesse abdominale." (2fr. 50.)

C. GEROLD'S SOHN, Vienna.—**W. Biedermann**, "Ueber die Innervation der Krebschere." (2M.)—**E. Brücke**, "Ist im Harn des Menschen freie Säure enthalten?" (0M. 20.)—**M. Löwit**, "Die Umwandlung der Erythroblasten in rothe Blutkörper. Ein Beitrag zur

Lehre von der Blutbildung u. der Anämie." (1M. 20.)—**A. Maschek**, "Ueber Nervenermüdung bei elektrischer Reizung." (4M.)

BUREAUX DU "PROGRÈS MÉDICAL," Paris.—**L. Straus**, "Le charbon des animaux et de l'homme." (6fr.)—**Terrillon**, "Leçons de clinique chirurgicale." (3fr. 50.)

G. STEINHEIL, Paris.—**C. Carayias**, "Recherches expérimentales et cliniques sur l'antipyrine."

J. F. BERGMANN, Wiesbaden.—**W. Ebstein**, "Die Zuckerharnruhr, ihre Theorie u. Praxis." (7M. 60.)—**E. Fick**, "Ueber Mikroorganismen im Conjunctivalsack." (2M.)

E. BESOLD, Erlangen.—**J. Rosenthal**, "Vorlesungen über die öffentliche u. private Gesundheitspflege." (12M.)

F. ENKE, Stuttgart.—**J. Hock**, "Propädeutik für das Studium der Augenheilkunde." (7M.)

T. C. F. ENSLIN, Berlin.—**C. K. Aird**, "Die Cholera 1886 u. die nach 55 jährigen Erfahrungen gegen dieselbe angewandten Schutzmittel." (10M.)

G. FRANZ, Munich.—**N. Rüdinger**, "Ueber künstlich deformirte Schädel u. Gehirne von Südseeinsulanern." (1M. 50.)

C. GRÄSER, Vienna.—**F. Strohmayer**, "Die Ernährung des Menschen u. seine Nahrungs- u. Genussmittel." (4M.)

P. HANSTEIN, Bonn.—**M. Gordes**, "Genaue kritische Erörterung der verschiedenen älteren, neueren u. neuesten Verfahren beim Kaiserschnitt," etc. (1M. 80.)

HEUSER, Neuwied.—**A. Erlenmayer**, "Die Morphiumsucht u. ihre Behandlung." (10M.)—**Schlegelndal**, "Die Behandlung des Heus mit Magenausspülungen." (0M. 75.)

A. HIRSCHWALD, Berlin.—**W. Gruber**, "Beobachtungen aus der menschlichen u. vergleichenden Anatomie." (4M.)

LAUPP, Tübingen.—**S. P. Thompson**, "Elementare Vorlesungen über Electricität u. Magnetismus." (6M.)

ROSSBERG, Leipsic.—**H. Reuss**, "Der Rechtsschutz der Geisteskranken auf Grundlage der Irrengesetzgebung in Europa u. Nordamerika." (9M.)

A. STILLKRAUTH, Eichstadt.—**M. Biechele**, "Anleitung zur Erkennung und Prüfung aller in der deutschen Pharmakopoe aufgenommenen Stoffe, sowie auch der neueren Arzneimittel." (3M.)

URBAN & SCHWARZENBERG, Vienna.—**A. Baranski**, "Anleitung zur Vieh- u. Fleischschau für Stadt- u. Thierärzte sowie für Physikat-kandidaten," 3d ed. (5M. 50.)—**A. Landerer**, "Handbuch der allgemeinen chirurgischen Pathologie u. Therapie." Part i. (8M.)—**Von Mosetig-Moorhof**, "Vorlesungen über Kriegschirurgie." (9M.)

VEIT & Co., Leipsic.—**J. Hirschberg**, "Wörterbuch der Augenheilkunde." (5M.)—**H. Tillmanns**, "Lehrbuch der allgemeinen u. speciellen chirurgie." Vol. i. (12M.)

BOOKS AND PAMPHLETS RECEIVED.

Treatise on Human Physiology. For the Use of Students and Practitioners of Medicine. By **Henry C. Chapman, M. D.**, Professor of Institutes of Medicine and Medical Jurisprudence in the Jefferson Medical College of Philadelphia, etc. Philadelphia: Lea Brothers & Co., 1887. Pp. xv+33 to 945.

The Principles of Theoretical Chemistry, with Special Reference to the Constitution of Chemical Compounds. By **Ira Remsen**, Professor of Chemistry in the Johns Hopkins University. Third edition, enlarged and thoroughly revised. Philadelphia: Lea Brothers & Co., 1887. Pp. xi+13 to 318. [Price, \$2.]

On the Operative Surgery of Malignant Disease. By **Henry T. Butler, F. R. C. S.**, Assistant Surgeon and Demonstrator of Surgery, St. Bartholomew's Hospital, etc. Philadelphia: P. Blakiston, Son, & Co., 1887. Pp. viii+408. [Price, \$4.]

A Dictionary of Terms used in Medicine and the Collateral Sciences. By the late **Richard D. Hoblyn, M. A. Oxon.** Eleventh Edition, revised throughout, with Numerous Additions. By **John A. P. Price, B. A., M. D. Oxon.**, etc. London: Whittaker & Co., 1887. Pp. viii+806. [Price, \$3.75.]

Medical Fetichism and a Suggested Basis for a Science of Medicine. By **Samuel S. Wallian, A. M., M. D.** New York: Clark & Ziegler, 1887.

Therapeutic Properties of the Greenbrier, W. Va. White Sulphur Water. By **Thomas R. Evans, M. D., Mt. Carbon, W. Va.**

One Year's Statistics of Lithotomy Operations performed in the Hyderabad Civil Hospital, Sind, India. By Surgeon-Major B. C. Keelan, Indian Medical Department, etc.

Seventh Annual Report of the State Board of Health of New York. Transmitted to the Legislature, January 19, 1887.

On Arrested Cerebral Development, with Special Reference to its Cortical Pathology. By B. Sachs, M. D., Instructor in Mental and Nervous Diseases at the New York Polyclinic, etc. [Reprinted from the "Journal of Nervous and Mental Disease."]

Intra-cerebral Hemorrhage in the Young. By B. Sachs, M. D., etc. [Reprinted from the "Journal of Nervous and Mental Disease."]

Some Observations upon Pelvic Cellulitis. By Virgil O. Hardon, M. D., Professor of Obstetrics and Diseases of Women and Children, Atlanta Medical College, Atlanta, Ga. [Reprinted from the "Atlanta Medical and Surgical Journal."]

Transactions of the Association of American Physicians. Second Session, held at Washington, D. C., June 2 and 3, 1887. Pp. xx-254.

Contributions to Gynecology. Fasciculus I. The Galvanic Treatment of Uterine Fibroids: Full Text of First Fifty Cases. By Ephraim Cutler, A. M., M. D., LL. D., etc.

Twenty-third Report of the Trustees of the City Hospital, Boston; with Reports of the Superintendent and Professional Staff, Rules for Admissions and Discharges, Prospectus of Training-school for Nurses, etc., 1886.

Coast Defenses against Asiatic Cholera. Report of an Inspection of the Atlantic and Gulf Quarantines from the St. Lawrence to the Rio Grande. By John H. Rauch, M. D., Secretary Illinois State Board of Health.

Practical Recommendations for the Exclusion and Prevention of Asiatic Cholera in North America. An Address delivered at the Opening of the National Conference of State Boards of Health, St. Louis, October 13, 1884. By John H. Rauch, M. D., Secretary Illinois State Board of Health.

A Manual of Organic Materia Medica, being a Guide to the Materia Medica of the Vegetable and Animal Kingdoms, for the Use of Students, Druggists, Pharmacists, and Physicians. By John M. Maisch Phar. D., Professor of Materia Medica and Botany in the Philadelphia College of Pharmacy. Third Edition. With Two Hundred and Fifty-seven Illustrations. Philadelphia: Lea Brothers & Co., 1887. Pp. xv-25 to 532. [Price, \$3.]

A Short Manual of Surgical Operations. By Arthur E. J. Barker, F. R. C. S., Surgeon to University College Hospital, etc., London. With Sixty-one Illustrations. London and New York: Longmans, Green, & Co., 1887. Pp. vi-423.

A Hand-book of Diseases of the Skin, with Especial Reference to Diagnosis and Treatment. By Robert Liveing, A. M., M. D. Cantab., F. R. C. P. Lond., Physician to the Department for Diseases of the Skin at the Middlesex Hospital, etc. Fifth Edition, revised and enlarged. London and New York: Longmans, Green, & Co., 1887. Pp. viii-451.

Erfahrungen eines Lungenkrankens. Von Dr. L. Friedmann, Arzt in Berka (Thüringen). [Sonderabdruck aus "Deutsche Medicinal-Zeitung."]

Report of Four Operations for the Removal of Cataract without an Iridectomy, and by an entirely New Method, with the Discussion before the Clinical Society of the New York Post-graduate Medical School and Hospital, March 21, 1887. By Francis Valk, M. D., Lecturer on Diseases of the Eye, New York Post-graduate Medical School and Hospital.

A Letter to the Rt. Hon. Lord Aberdare, Chairman of the Managing Committee of the Hospital for Sick Children (London). By Charles West, M. D., Founder of the Hospital, and for twenty-three years its Senior Physician.

The Variations of the Normal Knee-Jerk, and their Relation to the Activity of the Central Nervous System. By Warren P. Lombard, M. D. [Reprinted from the "Journal of Psychology."]

An Anthropometric Manual, giving the Average and Mean Physical Measurements and Tests of Male College Students, and Method of Securing them. Prepared from the Records of the Department of Physical Education and Hygiene in Amherst College, during the Years 1861-'62 and 1886-'87, inclusive. By Dr. E. Hitchcock, assisted by Dr. H. H. Seelye.

Reports on the Progress of Medicine.

GENERAL MEDICINE.

By H. N. VINEBERG, M. D.

Hæmopericardium from Ruptured Coronary Artery.—J. W. Batterham ("Lancet") reports a case of this rare condition. The patient, seventy-five years old, had suffered for some time from "slight fits," in which she struggled and lost consciousness for a few minutes. These fits were usually preceded by nausea. About an hour before death she complained of pain in the mammary region. She was found sitting in a chair dead by the servant. The autopsy, performed twenty-four hours after death, showed the heart enveloped in about four or five ounces of dark clot. There was no rupture of the heart or great vessels. On the posterior surface of the heart there was a slight pericardial ecchymosis, covering an area of about the size of a shilling, situated on the interventricular groove an inch from the apex of the heart. A fine aperture with ragged edges was discovered on the pericardium covering the center of this ecchymosis. The coronary arteries were tortuous and thickened, their coats containing numerous calcareous plates. Two small twigs coming from these vessels, passing into the center of the clots, seemed to be the source of the hæmorrhage. The valves were normal in appearance and the aorta was healthy.

The Blood in Pernicious Anæmia.—S. M. Copeman (*ibid.*) has made careful examinations of the blood of five cases of pernicious anæmia with the result of confirming most of the statements of other observers in this field and of discovering a new phenomenon. He always found the small red blood-corpuscles mentioned by Eichhorst. The number of red blood-corpuscles was much diminished, being as low as from 35 per cent. to 45 per cent. of the normal. The corpuscles were apt to change their form, becoming pyriform or spindle-shaped. When undergoing this change, the coloring matter tended to leave the corpuscles, some of which remained in amorphous masses. Rouleaux did not form, but the corpuscles appeared to adhere by their edges. The color of the corpuscles was much less intense than in health. In three of the cases it was found that the red corpuscles readily broke down, sometimes disappearing entirely, while sometimes a coarsely granular appearance was left. These specimens showed after a time an aggregation of rhombic crystals of hæmoglobin, the spontaneous appearance of which in anæmic blood had not been previously noticed. Charcot's lenticular crystals found in the blood in leucocythemia are considered by Gowers as a post-mortem phenomenon and not as peculiar to the disease.

The Ætiology of Rheumatism considered from a Bacterial Point of View.—Dr. Alfred Mantle ("Brit. Med. Jour.") draws attention to the circumstance that there are certain conditions of the body alike favorable to the development of rheumatism, scarlatina, and erythema nodosum. This, he says, argues that all these diseases are brought about by a similar poison. Holding these views, he set about making investigations in rheumatism. A drachm of serum was withdrawn, under the strictest antiseptic precautions, from the knee joint of a patient suffering with acute rheumatism. With this serum several sterilized tubes of gelatinized meat-infusion were at once inoculated, and in each tube a copious growth took place. He had found two kinds of bacteria—a micrococcus and a small bacillus. Cover-glass preparations of blood and serum showed micrococci as single cocci or pairs, and in acute cases zoogloea masses; in addition, small, short, thick bacilli were also seen, either single, in pairs, or in colonies. These bacteria were easily stained with methyl-violet, with fuchsine, or by Gram's method. In two cases of purpura rheumatica he found no bacilli. In one case of gonorrhœal rheumatism bacilli were found only in the blood. In chronic rheumatism and rheumatoid arthritis the bacteria were found. Might not the chemical products of these bacteria be lactic acid and thus form the chief ptomaine of the disease? The author found that cultivations of the bacteria of rheumatism, amygdalitis, erythema nodosum, and scarlatina, produced lactic-acid fermentation in sterilized milk.

Leprosy communicated by Vaccination.—Dr. W. T. Gairdner (*ibid.*)

relates fully the history and circumstances of two cases of leprosy that came under his notice which were due to vaccination with lymph taken from the arm of a leper. The cases occurred in a tropical island where leprosy is endemic. But the lepers were afterward sent to Europe for education, and in this way came under the personal notice of the author.

Ear-cough.—Percy Jakins ("Practitioner") relates an interesting case in which cerumen in the ears was the cause of pulmonary symptoms. The patient, a man, forty-nine years old, had caught cold four years before, which was attended by a troublesome hacking cough. Thirteen weeks before he came under the author's attention, emaciation, night sweats, delirium at times, and insomnia set in. The case was looked upon as one of phthisis, and a very unfavorable prognosis given. The author found mucous râles over both lungs and cerumen in both ears. On removal of the cerumen, improvement set in at once, and all the symptoms vanished within three months.

The Absorption Power of the Stomach as a Means of Differential Diagnosis.—P. Zweifel ("Dtsch. Archiv für klin. Med.," "Ctrbl. f. klin. Med.") used iodide of potassium, which was detected in the saliva and in a few cases in the urine. The method was applied to twenty-one persons, and it was found that when the salt was administered on an empty stomach it was detected in the saliva in eight minutes. This period did not vary in healthy individuals on different days. It was also found that the period was much lengthened when the salt was given on a full stomach, and that great variations occurred in this respect on different days. In nearly every form of gastric disease the author found the period to be lengthened, most in dilatation and cancer of the stomach, and least in chronic gastric catarrh. In gastric ulcer with extensive recent changes in the mucous membrane, absorption is very much delayed. In cancer of the cardiac end the period is considerably shorter than in cancer of the pylorus. If the period of absorption, fasting, extends to twenty minutes, then dilatation or cancer of the stomach or both may be diagnosed. A differential diagnosis between cancer and ulcer of the stomach can not, according to the author, be made by the absorption test.

Observations on the Excretion of Peptone in Disease.—E. Maxiner ("Ztg. f. klin. Med.," *ibid.*) has detected, according to a most careful method, peptone in the urine in empyema, pneumonia, pulmonary gangrene, tuberculosis, peritonitis, cystitis, and carcinoma. The maximum daily quantity was 5 grammes, 4.96 grammes, and 4.112 grammes. Although this is a small quantity when considered as nutriment which is withdrawn from the system, still the author is of the opinion that the observation is of importance, inasmuch as it is a criterion of the number of colorless blood-corpuscles that have undergone destruction. In pneumonia the peptonuria begins before the crisis, and continues for two or three weeks after it, rarely longer. In pleurisy the peptonuria is dependent upon the number of pus cells.

Typhus Bacilli in the Blood during Life.—Dr. L. Rüttimeyer (*ibid.*), in view of the contradictory observations on this point, undertook to determine it by personal investigation. He followed Neubaur's method, and examined six cases of typhoid fever and thirteen cases of roseola. The result was negative in fifteen instances; in one instance, where the blood was taken from a severe case of typhoid fever, the result was positive.

Nerve and Ganglion Cells of the Human Heart, with Observations on their Pathology.—L. Eisenlohr (*ibid.*), after careful examinations of portions of the heart substance removed as soon as possible after death, and hardened in osmic acid and colored with picrocarmin, enunciates his conclusions as follows: 1. In the human heart are to be found, isolated and in groups, ganglion cells, more particularly in the auricular septum, less frequently in the auriculo-ventricular septum. They lie in the connective and adipose tissue under the pericardium. In the muscular substance itself the ganglion cells are absent. 2. The sheath of the nerve-twigs expands over the surface of the ganglion cells. 3. There are isolated ganglion cells which serve for the origin of medullated nerves. 4. Cells with two nuclei occur only isolated; in other respects they do not differ from the other cells. 5. Frequently irregular pigmentation of the cells takes place. 6. In each ganglion the medullated nerve-fibers form a complicated network. 7. No positive results could be obtained on the nerve endings in the muscle cells.

Regarding the changes which the author found, such as swelling, enlargement, indistinctness of the nuclei, and changes in the protoplasm, he does not consider them as of pathological import, but merely physiological changes similar to what occurs in the nerves in their cyclical chemical processes. Undoubted pathological changes in the nervous apparatus of the heart have, so far, not been observed.

Prolonged Period of Incubation of Tuberculosis after Inoculation.

—E. Gaucher ("Rev. de méd.") inoculated, September 29, 1884, two rabbits with the pus from a bone abscess of a patient in an advanced state of pulmonary tuberculosis. The injections were made deep into the peritonæum, on the left side of the upper part of the abdomen, so as to avoid the liver, and were not followed by any local disturbance. The rabbits were then placed in separate cages, and were put under the most favorable hygienic conditions. At the end of two years one of the rabbits showed signs of illness, became very much emaciated, and died within three weeks from the onset of the illness. At the autopsy the spleen and peritonæum were found tuberculous; the liver, though enlarged, did not present any appreciable lesion; and the abdominal lymphatic glands were neither hypertrophied nor caseous. There was a single caseous mass at the inferior part of the left lung on the surface of the diaphragm, where there was also a recent localized membranous pleuritis. At the time of writing (March 1, 1887) the other rabbit seemed to be in perfect health.

The Treatment of Ophthalmic Migraine.—G. de la Torrette and P. Blocq ("Progr. méd.") report a case of the second form of ophthalmic migraine described by M. Charcot in which the administration of bromide of potassium effected a cure. The patient was subject to attacks of migraine attended with disturbances of vision (scintillating scotoma) and with transitory motor aphasia. In addition to these symptoms during the attacks, he suffered with various disturbances of the sense of touch in different parts of the body. He took the bromide according to the following formula: 30 to 45 grains daily during the first week, 45 to 60 during the second week, 60 to 75 during the third week, and 75 to 90 during the fourth week. Then the series was begun over again. He took the medicine for nearly a year, and when seen fifteen months afterward he had been quite free from any attacks or from any symptoms of his former affection.

The Etiology and Period of Incubation of Croupous Pneumonia.

—R. Caspar ("Berlin. klin. Woch.") has carefully studied two hundred and four cases of croupous pneumonia which have come under his care within the past five years, with the view of determining the etiological factors and the period of incubation of that disease. His cases occurred in epidemics, and he believes decidedly in the contagiousness of croupous pneumonia; a few cases which he observed favor this belief very much. One of the most striking instances was where a son from another village came to visit his father, who was lying ill with pneumonia. The son remained only part of the day and then returned to his village, which was entirely free from cases of pneumonia. Four days afterward he was taken ill with an attack of that affection. A number of other cases that the author observed made him draw the inference that the period of incubation was four days. He could not observe any meteorological conditions to explain the outbreak of the epidemics, nor during an epidemic did he notice that different conditions of the barometer had any influence upon the spread of the disease. His cases occurred also mostly during the first four months in the year. He does not consider, as some observers do, that pneumonia is secondary to bronchitis. He concludes his article as follows: 1. Filibinous pneumonia is an infectious disease. 2. It is contagious. 3. Its period of incubation is four days. 4. Low temperature, slight absolute humidity, and strong winds seem to favor its spread.

The Absence of Hydrochloric Acid and Gastric Juice in Non-carcinomatous Affections of the Stomach.—J. Grundzach (*ibid.*) found

five among several hundred patients that he had examined in Reichmann's laboratory, in whom there was absence of hydrochloric acid and pepsin in affections of the stomach which were not carcinomatous. In the first patient, thirty years of age, apparently well nourished, who suffered from frequent attacks of dyspepsia, the most prominent feature was vomiting, which came on two hours after eating. The cause was not clear. Case II was in a man, thirty-seven years of age, who was given to the abuse of alcohol and had suffered with dyspepsia for

three years. He looked very well, but complained of weakness and anorexia. There was no dilatation of the stomach. Case III was observed in a patient, thirty odd years old, who had suffered with dyspeptic symptoms for years. He was not given to the abuse of alcohol. The most prominent symptom was vomiting, which came on usually at night. Dilatation of the stomach did not exist. The two other patients—one sixty-four years old, the other thirty—presented similar symptoms. The examination of the stomach contents of these patients gave the following results: 1. Considerable mucus of neutral reaction, and epithelial cells from the mucous membrane of the mouth, pharynx, and stomach were found, and in four of the cases shreds of bloody mucous membrane. 2. In none of the cases was there hydrochloric acid during the whole stage of digestion. 3. The motor power of the stomach did not seem to be at all disturbed. That these cases were not carcinomatous was concluded from the following: 1. The duration of the affection in each case being several years. 2. The considerable quantity of mucus, indicating a catarrhal nature. 3. The absence of any tumor. 4. The age of the patients. 5. The absence of cachexia. 6. The good condition of the general nutrition. The author would look upon the condition of these cases as being atrophic catarrh of the stomach. The treatment of such cases consists in washing out the stomach and in the administration of hydrochloric acid and pepsin. It was of great interest to note that, though the secretory functions of the stomach were *nil*, the mechanical function was intact. Another feature worthy of note also was the circumstance that the patients were well nourished in spite of there being no gastric digestion. It showed that the intestinal digestion was sufficient to maintain the nutrition of the body. The facts of these cases upset the theory broached by Brücke, and generally adopted, that the normal secretion of the gastric mucous membrane excites the motor function of the stomach. The presence of food would seem to be all that is necessary for that purpose.

[As interesting and singular as the facts relating to the foregoing cases may be, we think that the author was rather hasty at arriving at a conclusion. We should like to know for how long a period the patients were under observation, and had the contents of their stomachs examined microscopically and chemically. Their subsequent history would seem essential also in order to form an opinion of the nature of their malady. Cancer of the stomach is not infrequently preceded for years by simple dyspepsia, and may remain latent for a time, manifesting itself only by the absence of hydrochloric acid in the stomach. Atrophy of the mucous membrane is a very rare affection, its existence being denied by some very able pathologists. The few authentic cases on record have all been attended with very serious disturbances in nutrition and in blood formation. The patients in nearly all the cases were the subjects of progressive pernicious anemia, which was looked upon as being caused by the condition of the stomach.]

Wolff and Ewald's communication (*ibid.*) is of interest in connection with the foregoing. Of seventeen patients that they had examined for a long period, it was found that there was an absence of hydrochloric acid during digestion in eight. Six made no complaint whatever of dyspeptic symptoms, and there could not be the slightest suspicion of cancer; one suffered from hysterical vomiting, which came on after the principal meal of the day. But that symptom had disappeared. The remaining patient was the subject of uterine cancer, and suffered with severe gastric disturbances. She died a few days before the publication of the article. At the autopsy, the stomach, bowels, and diaphragm were found entirely free from any cancerous nodules. A part from that found in the uterus, there were a few nodules, of the size of cherries, on the anterior and posterior surfaces of the liver. These eight patients were given thirty drops of dilute hydrochloric acid after each meal for fourteen days. At the expiration of this period the contents of the stomach were again examined, with negative results as to hydrochloric acid. The majority of the patients were well advanced in age, ranging from forty-four to eighty-one years. Ewald avails himself of the opportunity of rectifying a prevailing error as to his views on this subject. He quotes from a former article of his, in which he says: "The negative result with the usual hydrochloric-acid test forms a valuable support of the diagnosis of cancer, but is not a decisive sign of that affection."

A Case of Hemiatrophy of the Tongue, with Left-sided Paralysis

of the Palate; Atrophy of the Left Sterno-cleido-mastoid and Trapezius Muscles, with Paralysis of the Left Recurrent Nerve.—Pel (*ibid.*) reports a case of this kind. Early in 1886 the patient, thirty-four years of age, began to suffer with difficulty in swallowing, regurgitation of fluids through the nose, and a nasal voice. He was not given to the abuse of alcohol; he presented evidences of a former attack of syphilis, but there was no lead intoxication. Apart from atrophy of one half of the tongue, the patient, who was very anæmic, had a soreness and a stiffness of the neck. An examination of the organs was negative; the temperature, pulse, and respiration were normal. The sense of taste and that of touch of the tongue were intact. There were no signs of tabes. The question arose as to the seat of the lesion. In reference to the atrophy, three probabilities obtained: (1) a peripheral disease of the accessory and hypoglossal nerves at a point where they lie in contact; (2) a disease of the nerve-trunk at the base of the brain; (3) an affection of the bulb. The author favored the latter view. It was difficult to decide upon the nature of the lesion, but the negative results obtained with antisyphilitic treatment would militate against its being syphilitic. In spite of the reflexes being normal, the probabilities were in favor of its being of tabetic origin.

Dyslexia.—The dread of reading is an important initial symptom of severe cerebral disease. Berlin was the first, in 1883, to draw attention to this condition. His six cases proved fatal. Nieden's case ("Dtsch. Med.-Ztg.") occurred in a man, thirty-nine years of age, who apparently was in the best of health. About six months before, his family noticed that he began to grow restless. Suddenly one morning, after a good night's sleep, he was seized with clonic convulsions, lasting for about half an hour. He recovered quickly from this attack, and exactly eight days afterward he had a similar attack. A few days after this he noticed that he could not look at print; when he did so, an unbearable sensation made him draw his head away. He now consulted Nieden, who examined the eyes carefully, and could find only a slight hypermetropia. The dread of reading remained unchanged during the summer, though his general health was excellent. On his return to the university in the autumn, he was taken with what appeared to be catarrh of the stomach, which was attended with rapid and disproportionate emaciation. He now suffered with headache, lassitude, and insomnia, and gradually passed into a state of stupor. The left pupil was larger than the right one, but reacted in unison with it, as well as by itself. During one day there was paresis of the right facial and the right extremities, but on the day following the paresis passed off. Two days after the stupor had set in the patient died. At the autopsy three apoplectic lesions of different sizes and ages were found. The largest and, at the same time, the oldest clot, which was of the size of a walnut, lay in the anterior part of the left corpus striatum. The second, of the size of a hazel-nut, was situated at the posterior border of the fornix. The third, apparently the most recent, was situated in the middle of the nucleus lenticularis. The walls of the blood-vessels showed no changes with the microscope. The remaining portion of the brain was normal. The author is of the opinion that the hæmorrhage producing the oldest and largest clot gave rise to the first attack of eclampsia, that the second was caused by the second hæmorrhage, and that the third and most recent hæmorrhage produced the paresis of twenty-four hours' duration. In Berlin's six cases the dyslexia was followed also by a cerebral affection. In addition to headache and vertigo, there were aphasia twice, right-sided hemianopsia once, motor disturbances of the tongue twice, right-sided paræsthesia twice, and right- and left-sided hemiplegia once each, in one case attended with right-sided clonic contractions. All the cases ended fatally. The patients ranged from thirty to seventy-two years of age.

Sudden Edema of the Glottis as a First Symptom of Cirrhotic Kidney.—B. Fraenkel (*ibid.*) reported an interesting case of the kind before the Berlin Medical Society. The patient was suddenly seized with dyspnoea, and when the author saw him he was sitting on a chair and complaining of the want of breath. A laryngoscopic examination showed swelling of the epiglottis and of the arytaeno-epiglottidean folds. As the patient was stepping into the carriage to be taken to the clinic, where tracheotomy was to be performed, he dropped dead. At the autopsy intense edema of the epiglottis and the arytaeno-epiglottidean folds was found. There was very marked contraction of the left kidney. The right

kidney was enlarged and in a condition of parenchymatous swelling. The immediate cause of death was œdema of the larynx caused by the condition of the kidneys. There was absolutely no effusion in any other part of the body. The patient had never shown during life signs of any disease of the larynx. The whole duration of the illness was not more than an hour. The patient must certainly have suffered with albuminuria for some time, as the urine removed after death was rich in albumin. In the discussion that followed, A. Baginsky remarked that such a condition was observed also in the acute nephritis following scarlatina. De Bary, of Frankfort, had been the first to describe acute œdema of the glottis as a first symptom of scarlatinal nephritis. Since then a few cases of the kind had been recorded.

Amygdalitis Follicularis and Idiopathic Peritonitis.—J. Froehlich, an army physician (*ibid.*), has met with several cases of follicular amygdalitis among the soldiers in the garrisons. As observed by him, the disease begins usually with repeated chills, with more or less fever and dysphagia. The lacunæ of the tonsils are filled with a yellowish-white pus. The general condition of the patient is very much disturbed, and there are anorexia, headache, lassitude, and severe pains in all the extremities. In from one to three days, however, after profuse perspiration, the patient feels comparatively well. But one case which he observed and which ended fatally made him change his views as to the innocent nature of the affection. A soldier was taken ill on January 16th with headache and dysphagia, but did not report himself as sick till the 18th, when a follicular amygdalitis was recognized unattended with fever. On the following day, as he had some fever and frequency of the pulse, he was admitted into the hospital. That afternoon he became quite ill with what afterward proved to be peritonitis. He died on the morning of the 21st of January. The autopsy was made in the afternoon of the same day. Apart from enlarged tonsils and an enlarged thyroid gland, there was found a peritonitis with fibro-purulent effusion. There was no disease of any kind of the mucous membrane of the alimentary canal. At the beginning of the autopsy Froehlich slightly wounded his finger; the wound was cleansed and painted over with collodion. That night he began to have pain in the finger, and on the next day there was lymphangitis of the arm, with swelling of the axillary glands. On the second day the tonsils became affected with follicular inflammation. On the 24th of January the doctor's wife became ill with a similar affection of the tonsils. The pathological assistant who helped to perform the autopsy, in sewing up the abdominal and chest cavities, pricked his thumb a few times with the needle. He passed through a similar train of symptoms as the doctor, only that the onset was two days later. He also had during his illness an attack of follicular amygdalitis. All three, however, made a fairly good recovery. The author deduces from the foregoing circumstances that follicular amygdalitis is contagious and may at times prove a formidable disease. He looks at the peritonitis as being caused by the poisonous germs of the amygdalitis.

[The question of the infectiousness of follicular amygdalitis seems far from being settled. It seems in many cases to be a question of diagnosis, and one which is not easily solved in a given case. From not an inconsiderable experience we are inclined to concur with the opinions of Jacobi on the subject, as expressed in a paper read before the Academy of Medicine last year. These, as we understand them to be, are that follicular amygdalitis may be of catarrhal, purulent, fibrinous, or diphtheritic character. When it is of diphtheritic character (commonly known as punctate diphtheria) it is highly contagious, and may give rise to a very severe attack of diphtheria. The different varieties are not easily distinguished; hence it is better to err in the right direction and isolate every patient with follicular amygdalitis in the same way as if he were suffering with diphtheria.]

Idiopathic Hypertrophy and Dilatation of the Heart.—O. Bollinger, of Munich (*ibid.*), answers in the affirmative the still undecided question if hypertrophy and dilatation of the heart ever exist as an idiopathic affection. He publishes the pathological results of forty-two marked cases that came under his observation from March 1, 1883, to March 1, 1886. Of the patients, thirty-eight were men and four were women, their average age being forty-three years, the average weight of the heart being 535 grms., and that of the body 71 kgrms. All cases in which hypertrophy was found incidentally in any form of chronic or acute disease, in any valvular affection or endocarditis, or arterial

sclerosis, were purposely discarded. The patients presented the clinical picture of weakness of the heart, and during life hypertrophy without any affection of the valves had been diagnosed. Normally the ratio of the weight of the heart to that of the body is 1 to 216; in the foregoing cases the ratio was 1 to 132, the heart therefore being one third larger than the normal heart. The diagnosis also of dilatation was made after exact measurements. All patients above sixty years of age were excluded, as from that age up there are many senile complications which would disturb a clear view of the condition. The author found that both ventricles were hypertrophied, but the muscle fibers under the microscope showed little or no degeneration, so that neither the symptoms nor death could be referred to fatty degeneration. The patients were mostly strongly built, muscular persons, with considerable adipose tissue. The affection runs an acute or subacute course without any elevation, but not infrequently with a lowering, of the temperature. As to why this condition should be so common in Munich, Bollinger refers to the notoriety of the city as a beer center, and to the fact that the citizens are mostly plethoric. In beer-drinking three factors are at work: (1) the topical action of the alcohol, (2) the increased quantity of the circulating fluid through the ingestion of the beer, (3) the rich nutriment of the beer. In the consumption of rich and good food, with liberal quantities of wine, the same condition may be brought about. The author attributes an inferior rôle only to violent muscular exercise. Heredity acts only in so far as the constitution and habits of life are inherited. Repeated pregnancies never lead to this affection; on the other hand, the author asserts that the infectious diseases and acute rheumatism favor the acquisition of the disease. The cause of death is, in most cases, cardiac insufficiency, the origin of which is still obscure and, in the absence of a sufficient anatomical lesion, must be looked upon as of a functional nature.

The Morbid Anatomy of a Case of Tabes in which there was Absence of the Knee-phenomenon on One Side.—Westphal ("Fortschr. der Med.") describes the condition of the spinal cord of a patient who presented before death absence of the knee-phenomenon on the left side. On making cross-sections of the cord, the following interesting condition obtained: At the point of junction of the dorsal and lumbar portions, the zone of the entrance of the combined nerve roots (*Wurzel-eintritts-Zone*) was found degenerated on the left side, while on the right side the degeneration was less intense and extended only just to the zone.

Hereditary Chorea of Adults (Huntington's Chorea).—Huber ("Archiv f. path. Anat. u. Physiol. u. f. klin. Med.") publishes in detail the symptoms and course of two cases of this exceedingly rare disease. According to Huntington, who first described it in 1872, hereditary chorea is characterized as follows: 1. It is inheritable, whole families being affected with it. If one generation escapes, the hereditary power of the disease is lost, as it has no tendency to reappear in the third generation, as other hereditary affections have. 2. It begins as an ordinary chorea, becomes aggravated to the highest degree, and often leads to mental aberration with suicidal impulses. It finally terminates in death; recovery from it has never been observed. It never occurs in youth, but is most frequently met with between the ages of thirty and forty years, seldom later, and attacks men and women in an equal ratio. In the first case the choreic movements were intense, affecting at times even the tongue and soft palate. There were no signs of paralysis nor any disturbances of sensation. The electrical excitability and the reflexes were normal. The disease had begun eight years before, manifesting itself by twitching of the eyelids, then of the mouth, and before a year had elapsed the choreic movements had extended to the shoulder, head, and arms. The patient's sister, his father, two paternal uncles, and the paternal grandfather and great-grandfather had been afflicted with the same disease. In another branch of the family the disease occurred also, but in a less pronounced form. The second case was observed in the sister of the first patient. She was forty-two years of age, and thirteen years before had begun to show some aberration of the mind. Six years afterward choreic movements began in the shoulder, and in two years they became almost general. A feature that characterized both patients was that with the voluntary movements the choreic became much less and even ceased.

New Inventions, etc.

AN IMPROVED CONTAINER FOR HYPODERMIC SOLUTIONS.



DR. F. A. CASTLE writes to us as follows:

The credit of this affair is said to belong to some one connected with a New York hospital. I have never known who. The value of it in preserving solutions of alkaloidal salts—especially of morphine sulphate—is so great that it ought to be more generally known.

Instead of closing a phial, holding a solution for hypodermic use, with a stopper, draw over the orifice an India-rubber nursing-bottle nipple *without holes in its point*. To fill a syringe, push the needle through the rubber, tip the phial bottom upward, and draw the desired amount of solution into the syringe. When the needle is withdrawn, the puncture in the rubber will close, and prevent either escape of solution or entrance of air.

By properly sterilizing the solution and nipple, and using a clean needle, the solution will remain for a long time without change.

55 EAST FIFTY-SECOND STREET, NEW YORK.

Miscellany.

The Ancients' Ideas of the Arteries.—Dr. W. T. O'Donnell, of Kiowa, Kansas, sends us the following communication:

"The subjoined quotations have been made to show the falsity of the supposition that the ancients believed the arteries to contain only air. When we think of the mutilation that necessarily took place in their wars, and remember that they were fully alive to the necessity, as Celsus informs us, of close observation, and that they dissected criminals alive, as was done by Herophilus and Erasistratus (*'ad huc spirante homine'*), and when, too, we think of the derivation of the words *vena* and *arteria*—very suggestive of their true functions, bringing blood and transmitting oxygen—we can not but doubt the assertion that they believed the arteries to be for air only. However, the supposition is refuted by the quotations, which have been arranged with a view to their contradiction. We submit them in the original Latin or Greek, lest there be cavil concerning the translation. We are not of those who think that Harvey did not make known the circulation of the blood to modern Europeans, or that Columbus did not discover America to them. Nevertheless, we do believe there were large cities filled with men in America years before Columbus's birth; so that some man preceded him. So with anatomy and the vascular system. We do not know the extent of the knowledge of the ancients. A bivalve speculum is reported to have been found at Pompeii, and we have reason to infer that the science of medicine was more cultivated than the fragments of ancient medical literature now possessed might lead us to believe. The boy thinks himself wiser than his father; and, if verbiage were wisdom, surely modern medical writings, teeming with words which the writers themselves do not understand, might seem to verify it. To these boys, while we advise them to keep abreast of the times, even reading of the drug which 'cometh forth like a flower and is cut down,' we recommend the reading of ancient medical literature. Many supposed modern ideas will be found to be ancient, or showing that the mind of man tends to a common channel. Go to the original fountains and drink of the pure water, and do not accept it imbibed and excreted by the modern medical writer. In the first quotation Hippocrates distinctly states that the arteries receive pure blood and spirit. Everywhere he seems to make a distinction between *πνεῦμα* and *ἀήρ* (*spiritus et ventus*), or, in other words, to imply that *πνεῦμα* is a principle from *ἀήρ*.

"In the fourth quotation I have given what Mr. Druitt says Celsus related, and have then quoted that which he actually did relate, not as his own opinion, but that of another—namely, Erasistratus. It appears that the ancients noticed the dusky face and bluish lips of those having fever, and correctly attributed them to a transfusion of venous blood into the arteries; hence *τῶφος*, or smoke fever. And the reasoning of Erasistratus is similar to that of those of the present day who, having discovered that minute organisms exist in certain diseases, attribute the cause of the disease to these minute organisms, forgetting that nature has ordered that matter endowed with the vital principle is exempt from being consumed by all those agencies that assist nature to distribute the detritus of life to the original elements. Thus, the maggot devours the horse only after death, and it is possible the germs found in consumption perform only the same work, and that the true disease is, after all, the patient's peculiar physical condition, named by Hippocrates *καχεξία*. I have quoted from Quain's 'Anatomy' and Hooper's 'Dictionary' to show that the moderns promulgate as a fact that the ancients considered the arteries for air, and only air. But in the quotation from Celsus, Lib. II, Cap. x, he says that if you cut the artery it will not get well or heal, and that sometimes there will be violent hæmorrhage. If nothing was there but air, only air could escape if the artery was cut. Why, then, did he fear hæmorrhage, and why does he, in Lib. VII, Cap. v, direct in surgical operations that the artery shall be carefully drawn aside from the knife with a blunt hook; and, again, why does he, Lib. V, Cap. xxvi, state that an injury of an artery is a bad wound? Does not all this imply that he, or some person prior, had seen arteries cut and wounded? If so, they must have beheld the result, and therefore must have known their contents to be blood. Again we must advise the younger members of the profession to study ancient medicine. It is true, '*ars longa, tempus præceps*' (Hippocrates)—art is long and time is fleeting—and for this very reason it should be learned as tending to save time in groping personally for facts already known, and as saving us from publishing, with 'words of learned length and thundering sound,' methods as our own long since trite and recorded.

"*Arteriae quidem a corde purum sanguinem et spiritum recipiunt.*' (Hippocrates, 'De structura hominis ad regem Macedonum.')

"*Τοῦτο δὲ τὸ ὑγρὸν ἀπάγει τοῦ πλεῦμονος ἅμα τῷ ἡέρι.* Idem Latine: *Hunc itaque humorem cor de pulmone una cum aere abducit.* (Hippocrates, 'De corde.')

"*Πῶς αἱ ἀρτηριῶν καρδίῳ, ἐκ τούτων ἀποπλάνονται ἐς πάντα αἷμα καὶ πνεῦμα.*' Idem Latine: *Radicatione arteriarum cor; ex his aberrant in omnia sanguis et spiritus.* (Hippocrates, 'De alimento.')

"Thus, in the time of the ancients, when the arteries were believed to hold air, it passed for a decent theory of inflammation to assume that blood had found its way into them, as Celsus narrates.' (Druitt's 'Surgery.')

"*Alia si sanguis in eas venas [sc. arterias] quæ spiritui accommodatæ sunt transfunditur, et inflammationem, quam Græci φλεγμονήν nominant, excitat, qualis in febre est, ut Erasistrato placuit.*' (Celsus, Lib. I.)

"These vessels [the arteries] were so named from the notion that they naturally contained air. This error, which had long prevailed in the schools of medicine, was refuted by Galen, who showed that the vessels called arteries, though for the most part found empty after death, really contained blood in the living body.' (Quain's 'Anatomy.')

"*Arteriæ; so called because the ancients believed they contained air only.*' (Hooper's 'Dictionary.')

"*Mittere autem sanguinem, quomodo sit expeditissimum usum habenti, tamen ignaro difficillimum est: juncta enim vena arteria, his nervi: ita, si nervum scalpellus attingit, sequitur nervorum distentio, caque hominem crudeliter consumit. At arteria incisa, neque coit neque sanescit: interdum etiam, sanguis vehementer erumpat, efficit.*' (Celsus, Lib. II, Cap. x.)

"*Præter hæc nullum vitium est quodcumque in alis, vel feminibus, vel inanibus locis, vel in articulis, vel inter digitos est: item quodcumque musculum, aut nervum, aut arteriam . . . læsit.*' (Celsus, Lib. V, Cap. xxvi.)

"*Summa autem utraque parte habenda cura est, ne nervus, ne vena major, ne arteria incidatur. Quorum ubi aliquid detectum est, excipien-*

dum hamo retuso est, abducendumque a scalpello. (Celsus, Lib. VII, Cap. v.)"

The New York Academy of Medicine.—At the next meeting of the Section in Ophthalmology and Otology, to be held Monday evening, the 21st inst., the chairman, Dr. H. Knapp, will present the subjects of "Sarcoma of the Iris" and "Malignant Epiorbital Tumors," with the demonstration of specimens.

At the next meeting of the Section in Laryngology and Rhinology, to be held Tuesday evening, the 22d inst., Dr. J. W. Gleitsmann will read a paper on "Hypertrophy of the Tonsil of the Tongue."

At the next meeting of the Section in Obstetrics and Diseases of Women and Children, to be held Thursday evening, the 24th inst., Dr. H. C. Coe will read a paper on "The Use of the Curette for the Relief of Hæmorrhage due to Uterine Fibroids"; Dr. M. Putnam Jacobi will read a "Note on the Symptoms and Causes of Uterine Displacements"; and Dr. Augustin H. Goelet will report a "Case of Complete Prolapsus of the Uterus and Bladder of Fifteen Years' Standing."

At the next meeting of the Section in Materia Medica and Therapeutics, to be held Friday evening, the 25th inst., Dr. A. Jacobi will read a paper on "Feeding in the Diseases of Children."

The Hygeia Water in London.—In its issue for October 29th, the "Lancet," of London, says:

"Among the exhibits at the American Exhibition was an apparatus for the distillation of water, the property of the Hygeia Water Company of New York. The water is first distilled and subsequently aerated, so as to give a little more agreeable taste than is proper to mere pure distilled water. Care is taken, by Professor Tyndall's method, to deprive the air so used of all micro-organisms and other impurities; and some method is also used to destroy such elements in the water itself previous to distillation. The result is a very pure water, which is said to be extensively used in New York in the manufacture of mineral waters, etc., and to be very much recommended by the medical faculty there. Of course, our great water supplies should be so pure as to make us independent of particular methods of distillation for ordinary drinking purposes. Would they were so. Meantime an apparatus such as that noticed above is highly important and of great public value."

The Health of Boston.—During the week ending Saturday, November 5th, the following numbers of cases and deaths from infectious diseases were reported to the Board of Health: Diphtheria, 25 cases and 12 deaths; scarlet fever, 73 cases and 13 deaths; typhoid fever, 22 cases and 4 deaths; measles, 6 cases. There were also 28 deaths from consumption, 26 from pneumonia, 10 from bronchitis, and 1 from marasmus. The total number of deaths was 194, against 171 in the corresponding week last year.

Government Health Reports.—By direction of the Secretary of the Treasury, Dr. John B. Hamilton, Surgeon-General of the Marine-Hospital Service, has issued the following abstract of sanitary reports received during the week ending November 11th:

(Published in accordance with Section 4, act approved April 29, 1878.)

England and Wales.—The deaths registered in twenty-eight great towns of England and Wales during the week ending October 22d corresponded to an annual rate of 19.8 in a thousand of the aggregate population, which is estimated at 9,244,099. The lowest rate was recorded in Norwich, viz., 15.7, and the highest in Manchester, viz., 26.4 in a thousand. Small-pox caused 7 deaths in Sheffield and 1 in Bristol.

London.—One thousand five hundred and sixty-six deaths were registered during the week ending October 22d, including 18 from measles, 58 from scarlet fever, 21 from diphtheria, 36 from whooping-cough, 17 from enteric fever, and 11 from diarrhoea and dysentery. There were 370 deaths from diseases of the respiratory organs. Different forms of violence caused 61 deaths, and 6 suicides were registered. The deaths from all causes corresponded to an annual rate of 19.4 in a thousand. In greater London 1,913 deaths were registered, corresponding to an annual rate of 18.4 in a thousand of the population. In the "outer ring" 10 deaths from diphtheria, 9 from scarlet fever, 8 from measles, and 6 from whooping-cough were registered.

Ireland.—The average annual death rate represented by the deaths registered during the week ending October 22d in the sixteen principal town districts of Ireland was 21.9 in a thousand of the population. The lowest rate was recorded in Lisburn, viz., 9.7, and the highest in Drogheda, viz., 38.1 in a thousand.

Dublin.—One hundred and sixty-three deaths were registered during the week ending October 22d, including 5 from measles, 4 from whooping-cough, 8 from scarlet fever, 6 from enteric fever, and 6 from diarrhoea. Diseases of the respiratory organs caused 32 deaths. Five accidental deaths were registered, and in 21 instances the causes of death were uncertified. The deaths from all causes corresponded to an annual rate of 24.1 in a thousand.

Scotland.—The deaths registered in eight principal towns during the week ending October 22d corresponded to an annual rate of 19.1 in a thousand of the population, which is estimated at 1,299,000. The lowest mortality was recorded in Aberdeen, viz., 13.3, and the highest in Perth, viz., 34 in a thousand. The aggregate number of deaths registered from all causes was 478, including 5 from measles, 22 from scarlet fever, 7 from diphtheria, 16 from whooping-cough, 6 from fever, 10 from diarrhoea, and 2 from small-pox.

Messina.—The United States consul, in his dispatch dated October 12, 1887, says:

"Messina numbers within its old walls 70,000 inhabitants. The narrow streets of one fourth of the city proper, the most densely populated section, are unpaved. The suburbs, with a population of 50,000 inhabitants, are also unpaved. As there is a sad lack of privies throughout the city, slops are thrown into many of the streets. The sewers, insufficient in number, empty on a narrow strip of beach that runs along the quay; this beach is exposed to the sun except at high tide. The tide in the Straits of Messina is about ten inches. There are no means of flushing these sewers; the winter rains alone cleanse them. During the summer, the dry season, the sewer-gratings are tightly plugged up, as the stench from them is very great. The drinking-water is drawn from wells and public fountains fed by mountain-streams, which are generally tapped too near the town; frequently the water, before it has entered the porous earthen pipes, has been used by the country people for washing purposes. As stated in my dispatch No. 39, dated September 13th, but 2 cases of cholera occurring from August 27th to September 8th, confidence was restored and refugees returned to the city in great numbers for the municipal election of September 8th. On September 10th the epidemic broke out most suddenly, and in an aggravated form. For ten days the disease ran its course unchecked. The greatest number of deaths (there is no record of the number of cases) were reported September 14th, 256 in twenty-four hours. On the 20th arrived Professor Canalis, sent by the minister of the interior. He at once took charge of the sanitary bureau, disinfected certain portions of the city, established steam-engines to supply the citizens with boiled water, ordered pure drinking-water to be sent from the continent, and closed the wells and fountains. As soon as these salutary measures were carried out the epidemic abated, and atmospheric changes ceased to influence the disease. The cessation of the scourge is due to Professor Canalis's energy. Well boats will continue to supply the city with drinking-water until pure water from the mountains can be introduced; pipes are now being laid for that purpose. The recent epidemic resembles in character the Tonquin cholera, introduced into Europe a few years ago by the French. It has become, however, somewhat modified, the first two stages running rapidly into the third, the three stages not being well defined, as in Asia. The remedies used in the first stage were laudanum and chlorodyne and hypodermic injections of morphia, the limbs being rubbed with spirits of camphor or brandy. In the cold stage hypodermic injections of a solution of citrate of ammoniated iron have proved of great value. . . . Between September 10th and 23rd 34 per cent. of persons attacked died. A visit to the cholera burying-ground three days ago showed the mortality to have been greater than reported, 2,100 corpses having been interred there since the outbreak. During the epidemic soup-kitchens were opened for the indigent. . . . The cholera was particularly fatal to the old, the weak, and the very young, and was confined, with but few exceptions, to the poor. The epidemic is now virtually over; but 4 cases and 1 death have been reported for

the last twenty-four hours. The streets are still deserted, and commerce and trade are at a stand-still. Quarantine has not been enforced in the Sicilian ports this past season."

Palermo.—The United States consul, in his dispatch dated October 17, 1887, relative to cholera in that city, states that "only 5 cases thereof and 7 deaths occurred therefrom during the seven days ending the 16th instant, a diminution of 6 cases and of 1 death compared with last week. The 2 deaths in excess of the cases reported are from the preceding week."

Rome.—The United States consul-general, in his dispatch dated October 16th, relative to cholera, states that "from October 8, 1887, to and including October 15, 1887, there were buried in this city 16 persons who had died of cholera. On October 15th there were from 20 to 25 cholera patients in the lazaretto, and about 100 persons in the house of observation, who had been exposed to the disease."

Santiago de Cuba.—The United States consul states, under date of October 29, 1887, that "small-pox may be said to have disappeared as an epidemic, only 1 death and 3 invasions having been recorded for the week. Scarlet fever has gradually decreased, only a few cases and no deaths being noted. Yellow fever still exists at the military hospital among the soldiers, but causing less deaths than last week, only 3 being recorded, and 5 cases. One case also has appeared in the town, but the patient recovered. . . . The port is perfectly clean, no sickness having been noted on any of the vessels."

Ning-Po.—The United States consul, in his dispatch dated September 29, 1887, says:

"I have to report, as to the health of this village and city, there is a marked change for the better. There is no sickness among our foreign population in the village."

Havana.—Seven hundred and ninety-two deaths are reported for the month of October, 1887, including 35 from yellow fever, 270 from small-pox, 14 from enteric fever, 2 from bilious fever, 20 from pernicious fever, 5 from diphtheria, 6 from croup, and 1 from measles. The sanitary inspector reports that "small-pox is reported as extending itself to different places in the island, and Matanzas is said to be suffering from it. It is believed that the percentage of mortality is not as great as it was a month or two ago, but the number of cases has not diminished."

MORTALITY TABLE, FOREIGN CITIES.

CITIES.	Week ending—	Estimated population.	Total deaths from all causes.	DEATHS FROM—						
				Cholera.	Yellow fever.	Small-pox.	Typhus fever.	Enteric fever.	Scarlet fever.	Diphtheria.
Paris	October 15.	2,260,045	847	..	..	5	..	21	5	18
Glasgow	October 22.	487,948	186	..	..	..	..	..	7	3
Warsaw	October 8.	439,174	267	..	..	17	..	..	11	12
Amsterdam	October 15.	378,686	131	..	..	..	..	..	..	5
Rome	August 20.	300,167	151	..	..	1	..	7	..	..
Rome	August 27.	300,467	148	..	..	2	..	3	..	..
Munich	October 15.	230,000	130	..	..	..	..	1	2	3
Belfast	October 15.	224,422	98	..	..	2	1	2	1	..
Havana	October 27.	238,000	172	..	9	58	..	4	..	..
Leipsic	October 22.	170,000	48	..	..	..	..	1	1	4
Trieste	October 15.	148,245	74	..	..	8	..	1	1	1
Stuttgart	October 22.	125,516	27	..	..	..	..	..	..	1
Toronto	October 29.	125,000	26	..	..	..	..	2	..	3
Leghorn	October 23.	101,357	45	..	..	..	..	1	3	..
Cienfuegos	October 24.	35,464	17	..	2	2	..	2	..	..
Gibraltar	October 16.	23,631	8	..	..	1	..	..	..	..

UNITED STATES.

New York Quarantine—Cholera.—Dr. William M. Smith, health officer, telegraphs as follows, under date of November 8, 1887:

"There have been no cases of cholera among passengers of Alesia for last twenty-three days. None among those of the Britannia for eleven days. I have reason to believe there will be no further developments among these immigrants."

Tampa, Fla.—Yellow Fever.—The total number of cases to 10th instant is approximately 350; total deaths, 61. Total number of cases for the week ended the 9th instant, 22; total number of deaths for the week, 13. Total number admitted to hospital, 89; total deaths from hospital, 3; remaining in hospital under treatment, 16. New cases for yesterday, 7; in the country, six miles from town, 2—total, 9; 1 death.

November 11th: "Four new cases and 2 deaths. Authentic in-

formation reaches here that yellow fever has appeared in Manatee. Three deaths. Doctors divided in opinion. I hear there are about 16 cases. Population about 300."

ANSWERS TO CORRESPONDENTS.

No. 87.—In the expression "A. C. E. mixture," the letters are abbreviations of the ingredients, alcohol, chloroform, and ether.

No. 88.—You will find the "anatomist's snuff-box" described in a book entitled "Practical Dissections," by Dr. R. M. Hodges, of Boston, published in 1858 by J. Bartlett, Cambridge, Mass.

No. 89.—We advise you not to set up in the practice of a specialty until you have had several years' experience in general practice. Even then, you had better fall gradually into a special practice as the result of circumstances than be casting about for one that will enable you to live a life of ease.

No. 90.—Each of the cautery batteries you mention—Byrne's, Dawson's, and Piffard's—is an excellent instrument.

No. 91.—We learn that the instrument continues to prove satisfactory in the hands of its inventor. We are not aware that it is used by others, or that it can be found ready-made in the shops.

To Contributors and Correspondents.—*The attention of all who purpose favoring us with communications is respectfully called to the following:*

Authors of articles intended for publication under the head of "original contributions" are respectfully informed that, in accepting such articles, we always do so with the understanding that the following conditions are to be observed: (1) when a manuscript is sent to this journal, a similar manuscript or any abstract thereof must not be or have been sent to any other periodical, unless we are specially notified of the fact at the time the article is sent to us; (2) accepted articles are subject to the customary rules of editorial revision, and will be published as promptly as our other engagements will admit of—we can not engage to publish an article in any specified issue; (3) any conditions which an author wishes complied with must be distinctly stated in a communication accompanying the manuscript, and no new conditions can be considered after the manuscript has been put into the type-setters' hands. We are often constrained to decline articles which, although they may be creditable to their authors, are not suitable for publication in this journal, either because they are too long, or are loaded with tabular matter or prolix histories of cases, or deal with subjects of little interest to the medical profession at large. We can not enter into any correspondence concerning our reasons for declining an article.

All letters, whether intended for publication or not, must contain the writer's name and address, not necessarily for publication. No attention will be paid to anonymous communications. Hereafter, correspondents asking for information that we are capable of giving, and that can properly be given in this journal, will be answered by number, a private communication being previously sent to each correspondent informing him under what number the answer to his note is to be looked for. All communications not intended for publication under the author's name are treated as strictly confidential. We can not give advice to laymen as to particular cases or recommend individual practitioners.

Secretaries of medical societies will confer a favor by keeping us informed of the dates of their societies' regular meetings. Brief notifications of matters that are expected to come up at particular meetings will be inserted when they are received in time.

Newspapers and other publications containing matter which the person sending them desires to bring to our notice should be marked. Members of the profession who send us information of matters of interest to our readers will be considered as doing them and us a favor, and, if the space at our command admits of it, we shall take pleasure in inserting the substance of such communications.

All communications intended for the editor should be addressed to him in care of the publishers.

All communications relating to the business of the journal should be addressed to the publishers.

Original Communications.

EFFECTS OF VARYING RATES OF STIMULATION
ON THE ACTION OF
THE RECURRENT LARYNGEAL NERVES.

*Preliminary Communication from the Physiological Laboratory of the
Harvard Medical School.*

By FRANKLIN H. HOOPER, M. D.,
BOSTON.

In a paper recently published in the "New York Medical Journal"* I gave the results of my observations regarding the effects on the glottis following electrical stimulation of the recurrent laryngeal nerves. My experience has taught me that when in unnarcotized or slightly narcotized dogs these nerves are stimulated with the feeblest current of electricity, the first effect noticeable is a vibratory movement of the vocal bands, followed immediately by a closure of the glottis as the strength of the current is increased.

Dr. F. Donaldson, Jr.,† however, has arrived at different conclusions. He maintains that stimulation of the recurrent nerves with weak currents invariably produces an opening of the glottis.

I have been much interested in trying to find out how there could be two opinions on a question which was so purely a matter of fact and observation, and one so readily demonstrable. My experimental studies have been so numerous during the past few years that I have felt justified in believing that under normal conditions weak stimuli did not effect an opening of the glottis. I have also had no doubt that with time this subject would rest upon a firm and scientific basis, and that all divergent views would be satisfactorily explained.

In October last Professor Bowditch called the writer's attention to a paper in the "Centralblatt für Physiologie," September 3 and 17, 1887, Nos. 12 and 13, by N. Wedensky, entitled "Ueber die Ursachen des Ritter-Rollet'schen Phänomens am Fusse des Frosches." This observer records that with a slow rate of stimulation of the sciatic nerve in frogs flexion of the leg is produced, while with more rapid rates flexion gives place to extension.

When Professor Bowditch, in his article on "The Action of Sulphuric Ether on the Peripheral Nervous System,"‡ had pointed out that there was a striking resemblance between the action of ether on the nerves and muscles of the frog's leg and that which we had observed on the larynx, it seemed probable that Wedensky's results with varying rates of stimulation might also find a parallel in the behavior of the glottis on irritation of the recurrent nerves in the same way. From my researches in this direction, which are at present under way, I feel inclined to suspect that the reason that other observers have obtained dilata-

tion with feeble currents is to be found in the slow rate of vibration of the interrupters they have employed. In other words, the *rate of stimulation* is an important factor in determining the results of stimulating the recurrent laryngeal nerves.

I propose to pursue this subject, and to study the effects of varying rates of stimulation upon animals under the influence of different narcotics. As yet I have experimented only on chloralized dogs. The results have been so marked and constant as to warrant the following summary:

1. Slow rates of stimulation (18 to 28 a second) with weak currents produce opening. By increasing the rates (30 to 40 a second), the intensity remaining the same, closing is called forth.
2. Strong currents with slow rates produce closing.
3. Rapid rates with weak or strong currents produce closing.

A CONTRIBUTION TO
GLYCOSURIC DIACETONURIA.

By FRANK DUDLEY BEANE, A. M., M. D.

In view of much that has been written upon the prognostic importance of diacetonuria, I think the following case may prove of interest:

The patient, a portly American, lately deceased at the age of sixty-eight years, came under my care during October, 1882, for what I diagnosticated as glycosuria, mitral insufficiency with cardiac hypertrophy and usual accompaniments, and chronic deforming rheumatism of the hands. She had led a very active life, been exposed to many hardships in California, and for several years absorbed in speculation, with consequent worry and mental strain. Married, and the mother of several children. For years she had used alcoholic stimulants. No anasarca, ascites, signs of organic, hepatic, or renal disease were present, but indigestion and flatulent distension of the abdomen were quite troublesome. The daily quantity of urine passed averaged 2,500 c. c., and contained about 5 per cent. of glucose on the average. Suitable diet and an arsenical preparation quickly controlled the glyco-polyuria, only to reappear temporarily during imprudence in diet, so that in the following March she returned to California much improved in health. In May, 1885, she returned, acknowledging a disregard of my advice upon diet, presenting her old symptoms *plus* failing eyesight, due, as I found, to immature cortical cataract, right, and a few striae in the left lens. I did not again see her till March 25th last, when the right cataract was almost mature, the left only permitting $V = 0.1$; the heart showing signs of fatty degeneration (absence of cardiac impulse, very feeble valvular sounds, pulse intermitting and varying in rapidity, fullness, and strength); enlargement (fatty?) of the liver; digestion much impaired, with considerable distress from flatulence; some loss of flesh, with real advantage; urine about 2,000 c. c. daily, acid, specific gravity 1.019, glucose 1 per cent. (fermentation saccharometer estimator); no albumin, acetone, diacetone, or casts. Strict animal diet, with gluten bread, and Jambul seeds (from Hazard, Hazard, & Co.), 0.33, then 0.66 gramme, after each meal for a week, produced no effect upon the glycosuria, despite the statements made for the East Indian remedy. The same diet and Clemens's solution of arsenic had reduced, at the end of a month, the daily average of urine one half, the glucose to $\frac{1}{2}$

* "The Anatomy and Physiology of the Recurrent Laryngeal Nerves," "N. Y. Med. Jour.," July 9, 16, 23, and August 6, 1887.

† "New York Med. Journal," Aug. 6, 13, 1887.

‡ "American Jour. of the Med. Sciences," April, 1887.

per cent. On May 6th the medicinal treatment was changed to pills of codeine (each 0.10 grammes). Two days later a mild, limited attack of dry, rheumatic pleurisy appeared, and lasted three days. The pulse reached 120, temperature 101.9° F., respirations 24; slight mental wandering at times; the daily quantity of urine averaged 1,500 c. c. throughout the attack; *glucose absent*, but *marked presence of diacetone* (i. e., the substance which gives the Bordeaux-red reaction on the addition of ferric chloride). Immediately followed subacute rheumatism in hands, wrists, and ankles, and on May 16th she became quite somnolent, sleeping heavily all night despite the joint-pains, not induced by opiates. The drowsiness continued the next day, with hallucinations, illusions, and muttering delirium at intervals: she was rational when aroused, but dropping into a momentary doze while answering. During the next four days but little change occurred; the pulse 120 (when controlled by ammonia and convallaria, only 90, fuller and more regular); temperature and respiration normal, some dyspnoea; subcrepitant *dry* râles throughout the right, but only distinguishable in the lower lobe of the left lung; the urine, 1,200 to 2,000 c. c.; no glucose, albumin, etc.; *rich in diacetone*, and urea (only 12 to 14 grammes) much below the normal. Then followed a week of moderate rheumatic pains, clear mind, and the urine free from abnormalities, although the diet had been unrestricted (in reality the patient ate very little). A more extensive rheumatic outbreak (including all the large joints) succeeded, with only moderate fever, but high, weak, very intermitting pulse, drowsiness with great irritability, little or no real sleep, some mental confusion; urine, 4,000 to 5,000 c. c.; negative, except very *strong of diacetone*. Greatly reduced in strength by these attacks; on June 6th, 7th, 8th, and 9th, heart and respiratory failure appeared; pulse, 140 to 165, very irregular and intermitting; respirations, 36 to 44, shallow, labored, with *moist* subcrepitant râles throughout the lower half of the lower lobes of each lung; extremities cool, prostration great, dry, brown tongue, mind clear, urine negative. By aid of wonderful vitality and *will*, with the free use of stimulants, she nullified my prediction of a near fatal issue, as, four days later, her heart-beats were 120, fuller, stronger, and less irregular; respirations 24, and the moist râles vanished. I saw her for the last time on June 24th, when her pulse was 130, feeble, intermitting; respirations, 24; mind clouded by morphine (for four days received from a homœopathic "friend"); urine, 4,500 c. c., negative. I heard she had been out carriage-riding eight or nine days later; about ten days thereafter she was heard of at Saratoga Springs. On September 13th death took place suddenly, according to the coroner's inquisition report, from "syncope from organic cardiac disease." Unfortunately, no autopsy was held. A newspaper article, several days after her death, first apprised me of the patient's demise.

At no time was a "fruity," ethereal breath present, but during the rheumatic attack the ordinary sour perspiration odor was noticeable.

No codeine was administered during the second attack from fear of possible influence upon the genesis of diacetonaemia, inasmuch as it had so speedily dissipated the glycosuria. On the theory of danger from diacetonaemia, frequent moderate doses of sodic bicarbonate and aromatic spirits of ammonia were given, with seemingly good effect during the first but without value during the second attack. The somnolency and other head symptoms were quite as much due to the decreased elimination of urea as to any other cause, as, although the bowels were kept well open daily, purgation produced a marked good effect.

The practical deductions from this case would seem to be:

1. That in some cases of suppressed glycosuria unknown chemical changes in the liver-sugar occur, thereby poisoning the system with organic acids and resulting in acute rheumatic processes.

2. That such intimate intra-systemic chemical changes further find expression in the elimination through the urine of a substance which gives a more or less intense claret-wine reaction on the addition of ferric chloride, denominated diacetic acid by the best authorities.

3. That the detection of this substance does not furnish a basis in all cases for prognosticating a speedily fatal issue. Von Jaksch and others emphasize this point.

261 WEST ELEVENTH STREET.

ASEPTIC PRECAUTIONS IN PRIVATE OBSTETRIC PRACTICE.*

By JAMES P. MARSH, M.D.,

GREEN ISLAND, N. Y.

THE desirability of strict aseptic precautions in hospital obstetric practice may now be said to have been completely demonstrated, but as to how far like precautions can be followed by the majority of the profession in private practice is still a subject for speculation. The number of physicians who have a regular aseptic treatment for all their private obstetric patients is very small, and this number does not appear to be materially increasing. Nor shall we be able to reduce the number of cases of puerperal fever to a minimum until every physician has made it an article of the obstetric creed that every case of this disease which occurs in his or her practice is an evidence of some want of care, or of defective precautionary measures on his or her part. It may be that occasionally we should have to look far to find our oversight; and be it granted, for the sake of argument, that there is a puerperal fever *sui generis*, nevertheless, should we found our precautions on the theory that we were *always* personally responsible for the disease, and that it could have been avoided, it is evident that puerperal fever would soon become as rare a disease as myxœdema.

In considering this question of the aseptic precautions to be followed in the management of ordinary labors, we find that it naturally separates itself into two divisions—namely, as regards normal and abnormal labor—and that in either case we have to consider:

First, the obstetrician;

Second, the woman to be delivered; and

Third, the surroundings of the patient (the environment).

Firstly, then, we turn our attention to the obstetrician himself. In these days of enlightenment it is only the man who is by nature clean in all his habits who may expect success in either surgical or obstetric practice. There are

* Read before the Medical Association of Troy and Vicinity, November 1, 1887.

times in the conduct of special and exceptional cases of childbirth when the practitioner in charge attempts to use aseptic or antiseptic precautions, which, it may be added, usually prove futile, simply because, with him, aseptic treatment of ordinary cases has never become a habit. He fails of protecting his patient from sepsis, as most men do with anything on the first trial, and ever after has no faith in asepsis. To such men the occurrence or the non-occurrence of puerperal fever is a matter of "luck." They have failed to comprehend the fact that asepsis and antisepsis must be, with every accoucheur, a habit of the mind and body before he will meet with that unfailing success in practice following upon the aseptic treatment of the parturient woman. Again I repeat that he only is a competent aseptic accoucheur who is one without ever especially thinking of it; who from long practice adopts every precaution in its due order.

Many times practitioners have been told that they must not attend cases of labor immediately after coming from autopsies or cases of contagious disease, and yet how many are there that pay any heed to these instructions? Time after time they stand by the bedside of a woman dying of fulminating puerperal fever, carried to her directly from the operating-table where an operation, without any antiseptic precautions, has been done upon gangrenous tissues; and yet no glimmer of light illumines the sable darkness of their minds, no mortality of their lying-in patients is so great as to stir them to seek the causes of the disease and its prevention; but, still plunged in a Stygian abyss of conservatism, they go home to damn their luck and to poison the next woman whose malign fate places her in their hands.

But, whereas there are many who change not even a coat before going to a case of labor after coming from a case of contagious disease, there are a few who have a special coat for confinement cases, which they have thus used for years, and consequently, from the amount of blood and amniotic fluid contained on it, the coming of the doctor is known from afar off. If the practice of the one is reprehensible, how much more so is that of the latter!

However, of all points in regard to himself, the accoucheur must pay most attention to his hands. It is no exaggeration when I say that the most important instruments in my obstetric bag are a nail-brush and a cake of Stiefel's "sublimate soap." To me it seems evident that these two articles ought to be the first *instruments* procured by every person who proposes to practice obstetrics. Having arrived at a case of labor, unless there is special urgency, the first thing that should be done is to thoroughly scrub the hands and the arms as far as the elbows with the brush and a suds made from the "sublimate soap." After this has been performed, by the aid of a penknife the finger-nails should be freed, both above and below, from any particles of dirt which may have escaped the brush, and then the hands ought to get another scrubbing. By way of digression it may be mentioned that all the nails, excepting the one on the index finger of the right hand, ought habitually to be worn short. As regards the exception referred to, I find that many physicians leave this nail long to

aid in rupturing the membranes, but I have found that the length of this nail may be materially shortened without interfering with its utility by leaving the corner of the nail toward the thumb sharp and training it to form a right angle. Having cleansed the hands, the question arises as to the lubrication of the examining finger. It is my custom to keep on hand a dozen tin boxes holding about half an ounce of carbolyzed vaseline (5 per cent.), one of which is opened for each case, and not used in any subsequent one. This aseptic vaseline I use for lubricating purposes, and I deem it an important point in the aseptic precautions. And here let it be remembered that there should be no more examinations made than are absolutely demanded in order to ascertain the presentation or further progress of the labor. The more frequently the examinations are made, the greater the liability of infection.

Having said so much in relation to the obstetrician himself, and remembering what I consider to be the truth, that ninety-nine per cent. of the aseptic precautions are to be directed toward the physician himself and the nurse, and only one per cent. to the person of the lying-in woman, we will now glance at the third division of our subject—the environment. However much we might desire it, it is scarcely practicable to prepare the lying-in chamber as we would a room for a laparotomy. This much we can and ought to insist upon—namely, that all the bedding and clothing of the patient be scrupulously clean; also that all persons not directly necessary as assistants to the obstetrician be excluded from the room. I congratulate the profession that the day has gone by when a woman was allowed to lie for three days in the midst of the discharges which had taken place during the labor, but I at the same time call attention to the fact that nurses, if left to themselves, are not apt to cleanse the mother properly. I make it a point to superintend this cleaning-up process, for if I do not I almost invariably find my patient neglected, or some improper article, as a sponge for instance, brought in contact with her person. Frequently one could wish the surroundings of his patient to receive more attention, but it will not be possible until the laity have been educated to its importance.

Now a few words on the second division of our subject—namely, that which pertains to the mother herself. In private practice it will not be found to be practicable to wash out the vagina with a carbolic injection antecedent to labor, and after delivery it seems hardly necessary unless the labor has been very tedious or instrumental. I say that it is unnecessary, for I conceive it to occur but seldom in private practice that the organisms which produce puerperal fever are present in the vagina of the woman antecedent to delivery, but that in fully ninety-nine per cent. of cases the morbid germs are conveyed to her by the hands or instruments of the accoucheur or nurse. Then shall we take no precautions to protect the woman from sepsis after delivery? This question is important, and I have answered it as regards my own practice in this manner: After the woman has been properly cleansed I am in the habit of separating the labia and blowing into the lower part of the vagina and upon the pudenda about $\frac{1}{2}$ ij of iodoform by

means of a powder-blower, which I carry in my bag especially for this purpose. Since adopting this practice I very rarely have observed any increased temperature on the third day, and it is seldom that there is any odor to the lochia at any time during the lying-in period.

When, however, the delivery has been instrumental, I deem the immediate syringing out of the vagina, with a solution of either mercuric bichloride (1 to 1,000) or carbolic acid (1 to 40), of prime importance. This leads me to say a few words as regards the care and use of the syringe. I understand that it is the custom with most practitioners to rely upon finding a syringe at the house of the patient, and that hence they do not carry one in the obstetric bag. Of all the obstetric paraphernalia, the syringe, it seems to me, is the one most likely to convey infection, and the custom of giving the vaginal douche through a syringe that has been used for the purpose of giving rectal injections to be highly reprehensible. My custom as regards the care of the syringe is to place about 3 ij of iodoform in the box containing the syringe, and never to use the same syringe on another patient until it has been thoroughly cleansed in a solution of mercuric bichloride. Consequently I have found it advantageous to have several syringes, and when one has been used to set it aside to be cleansed and to place another in my bag, which, having disinfected myself, I know to be aseptic. If at any time during the lying-in period any syringing is found to be necessary, let it be a settled obligation that the physician is to do it. I should as soon think of handing my forceps to the nurse with directions to extract the child as to hand her the syringe with instructions to give the patient a vaginal douche.

A CASE OF COMPLETE SUPPRESSION OF URINE, FOLLOWED BY EXCESSIVE SECRETION. RECOVERY.

By G. A. OSTRANDER, M.D.,
BROOKLYN, N. Y.

On Tuesday, September 20, 1887, I was called to see Mr. C. and found him suffering with severe colic. His pulse, temperature, and respirations were natural, and the tongue was slightly coated. He was a strong, healthy Irishman, forty years of age, of the blonde type, and perfectly temperate in his habits. His bowels had been constipated for the past two days, and on examination I found them distended with gas, and that pressure upon them relieved the pain. He had urinated freely just before I arrived. I gave him one quarter of a grain of morphine hypodermically, and, ordering him to have a large soap-and-water injection, followed by hot applications over the bowels, and to be wrapped up warm in bed, I left. In two hours I was again summoned to him, and found him not at all relieved. I now gave him one quarter of a grain of morphine by the mouth, and ordered another rectal injection. This failing to give him ease, at the end of three hours I gave him two grains of opium. This removed the pain completely, and when I called on Wednesday morning he was perfectly easy. I then ordered him calomel and pulverized jalap, each ten grains, to be taken at once. As this did not operate in eight hours, I ordered a turpentine-and-soap injection, which brought away the plug of hardened feces, and his bowels

moved satisfactorily several times. On Thursday morning when I called he was up, dressed, and walking around the room, feeling very well, although a little weak. For this I ordered him to take a pill containing two grains of quinine, one quarter of a grain of extract of digitalis, and a grain of salicin, every four hours, and dismissed the case.

On Sunday morning, the 25th, he sent for me to draw off his water. On my questioning him, he told me that his water had been free and plentiful up to the evening previous, since which time he had passed very little urine and very often. I introduced a soft catheter, but the bladder was empty. Pulse, 84; temperature, 100° F.; respirations natural; bowels constipated; some œdema about the ankles. I ordered him to take one drachm of compound jalap powder every four hours, to have a hot bath, and to be wrapped up in warm blankets in bed.

Monday, 26th.—Urine entirely suppressed; ankles and legs œdematous; no urine in the bladder; pulse, 84; temperature, 101°. Ordered cups over the kidneys; to continue jalap powders (which had operated slightly). Sulphate of quinine five grains, extract of digitalis one half grain, every four hours, and hot vapor baths. Monday, p. m., met Dr. Santoire in consultation. He advised steady continuance in the treatment I had begun. The patient's tongue was very much coated, but he drank from two to three quarts of milk in twenty-four hours.

Tuesday, 27th.—No urine yet; passed the catheter twice yesterday and twice to-day. Pulse and temperature the same. He perspires profusely; bowels very loose and move very often. Examined carefully, but could find no tumor. He has slept very little in the past twenty-four hours.

Wednesday, 28th.—Patient's condition about the same; bladder empty; still perspires profusely; feet, ankles, and legs very œdematous.

Thursday, 29th.—He has passed no urine yet; bladder empty; takes the same amount of nourishment. Pulse, 84; temperature, 100° +. He has had eight large passages from his bowels in the last twenty-four hours.

Friday, 30th.—No change whatsoever, except that the œdema has crept farther up and invaded his scrotum. No change in the treatment.

Saturday, October 1st.—Has passed no water yet, and his bladder is still empty. Attempted to cup him over the kidneys, but he became alarmingly faint, and I had to desist. Met Dr. Kuhn this afternoon. He could make no suggestion, except perseverance. Strong counter-irritation ordered over the kidneys.

Sunday, 2d.—Patient restless this morning; mind slightly wandering; no coma; thinks he is dying. Increased the purgative by one drachm of cream of tartar. He takes plenty of milk, and his pulse, though weaker, is in rate the same as yesterday. The temperature is also the same. His scrotum is terribly œdematous.

Monday, 3d.—Patient passed water for the first time in eight days at one o'clock this morning, and from that time till now, 9 a. m., eight hours, he has passed nine quarts. This I measured myself. The specific gravity of the urine is 1.010, and it is full of albumin, granular casts, and blood. He feels much better.

Tuesday, 4th.—From nine o'clock yesterday morning to nine this morning he has passed eight quarts of urine. Slept considerably last night, perspires freely, and his bowels are loose. The specific gravity of the urine is 1.011; no albumin, no casts, no blood, no sugar. Pulse, 74; temperature, 99°. Diminished the doses of quinine and digitalis; stopped the purgative and ordered him to continue his milk, and to keep warm in bed.

Wednesday, 5th.—Passed six quarts of water in the last twenty-four hours. Doing well.

Thursday, 6th.—In the last twenty-four hours he has passed

only two quarts and a half of water, which contains an excess of the phosphates. The pulse and temperature are natural, and he has had two evacuations without any medicine.

Friday, 7th.—Has passed two quarts of urine in the last twenty-four hours; specific gravity, 1.011; no albumin, no casts, no sugar.

Saturday, 8th.—Has passed two quarts and a half of water in the last twenty-four hours. Says he is well.

Sunday, 9th.—Has passed two quarts in the last twenty-four hours. Changed his medicine to compound syrup of hypophosphites (N. Y. and B. formula) and iron before meals, and lactopeptin and pancreatin after meals.

Monday, 10th.—Patient up, dressed, and sitting in the rocking-chair. Wants to smoke a cigar, which, of course, is forbidden. Has passed two quarts in the last twenty-four hours; specific gravity, 1.012; no albumin, less phosphates.

Wednesday, 12th.—Passes now a quart and a pint of water in twenty-four hours. Pulse and temperature natural. He looks thin, but says he feels like going to work.

Saturday, 15th.—Mr. C. is considerably improved in looks. He passes a trifle over a quart and a pint of water in twenty-four hours, which contains a small amount of urates and phosphates. He eats well and sleeps well, and his bowels move regularly.

Tuesday, 26th.—Saw Mr. C. again this A. M. He looks well, has been out walking, and has been weighed. He weighs just 160 pounds. Case dismissed.

I diagnosticated this case as one of sudden congestion of the kidneys. Was I right? In thinking it over, many questions have arisen in my mind about this case. What was its cause? Why did it come on so suddenly? How was it that there was no coma, and only for one day a slight delirium? And lastly, it seems to me, the most remarkable fact was that during the whole *eight* days of total suppression of urine his pulse never went above 100, nor his temperature above 102°. One suggestion was that my patient had renal calculi. But he would not be likely to have calculi in both kidneys at the same time, and if in one only, the other would do its work. The immense secretion of urine for the first two days after it started is, I think, phenomenal. I have to thank my assistant, Dr. J. E. Danielson, for his careful and thorough chemical and microscopical examinations of the urine.

I hope this case may prove interesting to you and your readers, and so repay its perusal.

61 GREENE AVENUE, BROOKLYN.

CONGENITAL APHAKIA.

By W. H. BAKER, M. D.,
LYNCHBURG, VA.

INASMUCH as the anomaly known as aphakia is extremely rare—even so rare that some authorities deny its existence (notably among them Walton, who says, "It is doubtful whether this condition has ever been met with except in monstrosities")—I feel peculiarly fortunate in being able to report a case which came under my observation on October 16, 1887.

A youth, A. A., sixteen years of age, came to me in company with his father, who stated that the boy's sight was "scattered."

Outwardly, the globe and conjunctiva presented a perfectly normal appearance, but I soon discovered that he had no accommodative power, and could barely read Snellen No. 10 at six inches from the eyes.

With the ophthalmoscope, direct method, nothing could be seen excepting the red reflection from the fundus; but by using lenses of double power, in the indirect method, the optic disc and retinal vessels could be distinctly seen. I then dilated the pupil with atropine, and with the most thorough and searching examination, by direct, lateral, and oblique illumination, no vestige of lens or capsule could be discovered in either eye. B. E. +2.50 (D) gave the best vision, enabling him to read Snellen No. 5 at twelve inches; the vision will very probably improve with use. The boy is certainly not a monstrosity in any other particular excepting in that mentioned. He is well grown, well formed, and handsome, and, as far as I could discover, perfect in every other organ.

PREGNANCY,

TOGETHER WITH ARTIFICIAL IMPREGNATION,
AS A SUBSTITUTE FOR REMOVAL OF THE UTERINE APPENDAGES
IN A CERTAIN CLASS OF CASES.*

By A. H. BUCKMASTER, M. D.,

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I DESIRE to call attention to the curative influence of pregnancy in some of the cases for which removal of the ovaries and oviducts is practiced, and to consider the utility of artificial means when conception can not be brought about in the natural way. In viewing the subject one naturally reverts to the ill-success that has attended the efforts of gentlemen endeavoring to cure sterility by artificial means. It must be remembered, however, that their results are by no means to be considered true, even approximately, of the results that can be obtained when sterility is dependent on causes so frequently effective in the cases referred to in the title of this paper.

I also desire to call attention to the importance in these cases of a more careful consideration of the physiology of impregnation than is usually accorded to the subject in the practical consideration of sterility, ignoring the condition due to imperfection of the male product.

For convenience, the subject is divided into two heads:

1. That part of the physiology of impregnation having a special bearing on this subject.
2. The effect of pregnancy on conditions for which the appendages are removed.

That portion of the physiology of reproduction which is of greatest interest in connection with this subject concerns chiefly the movements of the uterus and parts adjacent during the orgasm and the contact of the spermatozoa with the ovum.

The spermatozoa are contained in the seminal fluid, which in coition is ejaculated with considerable force—sufficient in the dog to cast it two or three feet or more from the urethral orifice.†

The ovum is discharged from the ovary, which is grasped

* Read before the Alumni Association of the Woman's Hospital at its third meeting.

† "Acton on the Reproductive Organs," quoting Valentin, p. 164.

at this time by the congested fimbriated extremity of the Fallopian tube. The passage of the ovum through the tube is difficult for one to understand from the drawings in the books, but is much more readily comprehended when the normal organs are viewed *in situ* on the post-mortem table. The normal migration of the ovum is usually stated to be due to the cilia which line the mucous membrane of the tube. It seems reasonable to consider that the muscular contractions of these tubes are more important factors in the journey of the ovum than is commonly supposed. I quote from Landois.* "In the female also, under normal circumstances, at the height of the sexual excitement, there is a reflex movement corresponding to ejaculation. It consists of a movement analogous to that in man. At first there is a reflex peristaltic movement of the Fallopian tube and uterus, proceeding from the end of the tube toward the vagina, and produced by the stimulation of the genital nerves."

I also desire to allude to the well-known experiments of Dr. Milne Murray.† He demonstrated a fact fairly well known, that there are constant rhythmic movements in the uterus of the rabbit.

He introduced a Barnes's bag containing an amount of water into the vagina (not sufficient to distend it) of a pregnant primipara, and attached the tube to a manometer. The tracing shows that under these conditions there is a rhythmic rise and fall of pressure in the vagina. The movements of the uterus and tube were determined. He also observed that thermal stimuli had the effect of increasing the energy and duration of these contractions, and it does not seem irrational to maintain, in view of these facts, that in the acme of sexual excitement such a series of forcible and rapid muscular contractions would ensue sufficient to carry the ovum to its uterine destination. In this way may occur in a few minutes what is usually assumed to take place in about eight days, thus doing away with this objection of Barnes‡ and other recent writers on obstetrics against the possibility of the uterus being the point where the spermatozoa meets the ovum.

According to an editorial in the "Medical News,"* Dr. Wyder, of Berlin, presents strong arguments in favor of the uterine-site theory of impregnation, but the question is yet *sub judice*.

That the uterus is not a passive agent in the sexual act has been proved by a number of well-authenticated cases.‖ My friends, Dr. Dickinson and Dr. Osborn, have both been so fortunate as to observe the descent of the cervix, the opening of the os, and its subsequent closure and retraction in women while in a state of erotic excitement produced by manipulations of the cervix. "Dembo^Δ observed that stimulation of the anterior wall of the vagina in animals caused

a gradual contraction of the uterus. By this movement, corresponding to that of the vasa deferentia in man, a certain amount of mucus normally lining the uterus is forced into the vagina. This is followed by rhythmical contractions of the sphincter cunni, . . . also of the ischio-cavernosus and deep transversus perinæi. The uterus is erected by the powerful contraction of its muscular fibers and round ligaments, while at the same time it descends toward the vagina, its cavity is more and more diminished, and its mucous contents are forced out. When the uterus relaxes after the stage of excitement, it aspirates into its cavity the seminal fluid injected into the vestibule (Aristotle, Bischoff, Litzmann, Eichstedt)." The contractions of the levator ani shorten the vagina, so that the semen *may be* shot with considerable force directly into the cervical canal. The force exerted by the levator ani can be appreciated to some extent when we read of cases where its contraction interferes with the progress of labor.

If contractions of the muscular sexual apparatus can push the contents of the uterus and vagina in one direction, it can be conceived that in some cases the contractile wave might commence at the wrong end of the canal, or we might have a reverse peristalsis, or, as Kehrler* terms it, antiperistalsis. Dr. Matthews Duncan† says: "In animals, especially in cows and mares, the semen is described as being not rarely expelled from the vagina after coitus, and the failure to retain it is said to be in some cases owing to the animal not being duly in heat, and attempts are made to cause retention by dashing cold water over the buttocks and external parts." He says that a like failure is frequently complained of by women,‡ and that these women are usually sterile.

It seems a little unreasonable at first sight to avail ourselves of the contractions of the uterus, tubes, and vagina, to carry the different products in opposite directions, but it is well known that the contraction with its preceding dilatation will start from the point of irritation. The discharge of a Graafian follicle would seem to supply ample irritation to start the contraction at the tubal end.

I have read of no cases that make clear to my mind the supposed fact that merely injecting the spermatozoa into the vagina without the action of the genital muscles—and by these I mean the levator ani, muscular portion of the uterus, vagina, tubes, and round ligaments—can accomplish impregnation. Much less do I believe in the statements that assign the pregnant condition to the ability of the spermatozoa to travel from the outside of the vulva, scaling the hymen, climbing over the cervix, and, after passing through the body of the uterus, pushing themselves beyond by struggling against the cilia of the tubes. There seems to be a much simpler explanation of these cases. During sexual excitement the uterus is at some time forced down near the vaginal outlet by the contraction of its mus-

* "A Manual of Physiology," Landois, vol. ii, p. 1119.

† "On the Effect of Water at different Temperatures," "Edinburgh Medical Journal," August and September, 1886.

‡ "A System of Obstetric Medicine and Surgery," Robert Barnes and Fancourt Barnes, 1885, p. 67.

* "Medical News," Philadelphia, October 30, 1886.

‖ "A Text-book of Human Physiology," Austin Flint, Jr., p. 890.

Δ Landois, *op. cit.*, p. 1119.

* "Ueber die Zusammenziehungen des weiblichen Genital-Canals," Inaug. Diss., Giessen, 1863, p. 13 *et seq.*, quoted by Chadwick, "Trans. of the Am. Gyn. Soc.," 1885, p. 225 *et seq.*

† "Sterility," etc., Matthews Duncan, "Gulstonian Lectures," London "Lancet," 1883, vol. i, p. 163.

‡ Von Ziemssen's "Cyclopædia," Schroeder, vol. x, p. 537.

cular structures and the strong contractions of the abdominal walls, with the assistance of the diaphragm. The shortening of the vagina also aids to bring the uterus nearer the outside. If the male organ is partially introduced, or even within an inch of the vulva, I think it comprehensible that, under certain circumstances, the seminal fluid might be ejaculated into the cervix, or carried into the vagina far enough to be aspirated into the uterus.

The cilia in the uterus and Fallopian tubes, with their constant motion, are like sentinels stationed at either end of the uterine cavity, permitting entrance, but denying all egress.

The next step in this physiological consideration is the time that the ovum is discharged, and only broad generalizations can be made. Tilt* says that "menstruation and ovulation are shown to be parallel facts, but their causal dependence is by no means proved." It is, however, generally accepted that in the majority of cases the follicles rupture at the commencement of menstruation. The time of rupture is probably largely influenced by the amount of congestion, and thickness and character of the tissue overlying the fruit-sac.

According to the recent investigations of Dr. Johnstone,† and also those of Dr. Bland Sutton,‡ our ideas of menstruation must be considerably modified. By using a $\frac{1}{30}$ immersion lens, the former gentleman believes he can demonstrate that the uterus is an "adenoid" structure, and that the lining cellular membrane of the uterus is gradually developed from the ultimate fibers of the endometrium. He thinks that Dr. Williams's* observations, on which many base the idea of menstrual casting off of the uterine mucous membrane, were defective, because he did not use higher lenses, and because the patients from whom he derived his specimens died of diseases which would in themselves cause great pathological changes.

Dr. Bland Sutton examined the menstruating uteri of some young females, and also carefully studied the menstrual changes in the uteri of Macaque monkeys and baboons, which suffer from a periodical loss of blood from the uterus as occurs in the human female. He arrived at the following conclusion: "The periodical discharge of blood from the uterus, accompanied by the shedding of the epithelium of the body and fundus, as well as that lining the utricular glands near their orifices," should constitute the definition of menstruation. He thinks the so-called denudation to be a change produced artificially while preparing the specimen.

If these gentlemen are correct in their deductions and observations, there would be no period during the month when the uterus could not be impregnated, but the best time would be just after menstruating, and this corresponds to the clinical facts. Dr. T. Addis Emmet has held for a

long time that the lining membrane of the uterus was of a different nature from the ordinary mucous membrane.

From the foregoing physiological facts we draw the deduction that anything that will interfere with the rhythmical movements of the uterus and tubes will act as a barrier to impregnation. An inflammatory mass on either side of the uterus, a flexion of this organ backward or forward, an ovary acting as an irritative focus, an inflammatory condition of the inner surface of the uterus or tubes, an inflammatory condition of the tissue adjacent to the uterus with its results in the form of adhesions—all these might prevent conception by interfering with the normal rhythmical movements of the genital muscular apparatus. Kehrer* divides the contractions of the uterus into three varieties—the *progressive*, the *localized* (stricture), and the *universal* (tetanus). In his experiments with rabbits, pure exposure to air would give rise to a contraction which advanced through the whole genital canal, while by chemical, mechanical, electric, and thermal irritation contractions could be started at almost any point, and were transmitted in one or the other direction. The same result might be brought about by pain during intercourse, by interfering with nerve action. It might be urged against this idea that many women become pregnant without seeming to be much affected by the sexual congress, but I think it not improbable that there can be quite active reflex movements in this case with slight disturbance to the patient. I know it is a popular idea, based on what evidence I can not say, that women who are of an erotic nature are most apt to bear children.

Having briefly considered points of interest in connection with the physiology of the subject, I will endeavor to point out where pregnancy might prove curative in cases where a formidable operation is the present fashion.

1. *Diseases of the Uterus, Ovaries, and Tubes.*—With very large fibroids the advantages of pregnancy would be so questionable that it seems fortunate that nature has interposed an almost impossible barrier.

With respect to smaller growths of this class, Dr. Emmet quotes a very interesting case. A subperitoneal fibroid was found in the anterior wall of the uterus of a sterile woman who had been married for a number of years, but was now three months gone with child. The uterus was lifted out of the hollow of the sacrum and the patient went to term. At labor the tumor had disappeared. He quotes two other cases of disappearance of the fibroid under these conditions.†

A small fibroid on the anterior wall will at times give rise to distressing vesical symptoms. I recall one case where it seemed impossible by mechanical means to remove tension from the neck of the bladder. The patient suffered very much. In a case of this kind it would be of great advantage to the patient to become pregnant. Such a termination has manifest advantages over the operation of Hégear or hysterectomy. Removal of the ovaries and tubes

* Tilt, quoted by Jacobi, "Question of Rest for Women during Menstruation," p. 77.

† "The Menstrual Organ," by Dr. Arthur W. Johnstone. "Brit. Gyn. Jour.," vol. ii, No. 7.

‡ "Menstruation in Monkeys," by Bland Sutton. "Brit. Gyn. Jour.," vol. xi, No. 7.

* "Obstet. Journal," London, vol. ii, p. 686.

* "Peristalsis of the Genital Tract," etc., Chadwick. "Trans. of the Am. Gyn. Soc.," vol. x.

† "Princ. and Prac. of Gyn.," Emmet, 3d ed., p. 545.

is recommended in the so-called chronic metritis.* Dr. Howard A. Kelly † has recently advised oophorectomy for a class of cases of subinvolution. I have seen this condition so often and invariably cured by the proper performance of Dr. Emmet's operation for restoration of the cervix that I can not conceive that so radical an operation is necessary.

In cases of retroflexion it would be well to establish the impossibility of pregnancy before resorting to so grave an operation as did Dr. Richolot, ‡ a Frenchman, who quite lately removed the uterus through the vagina for this condition.

Anteflexion, so far as I am aware, has not yet proved an occasion for removal of the uterus. It is often associated with other conditions that pregnancy would surely benefit.

What relation the so-called cystic degeneration of the ovaries or chronic oophoritis bears to psychoses as a primary cause is unknown. Of course, when there is associated with the enlargement a prolapse of the organ, the latter condition may stand in the causative relation. Very few ovaries, no matter how extensive may be the follicular formation, are destitute of functionally active tissue. These cases are those where pregnancy should be brought about if possible.

In cases where both tubes are extensively diseased, this procedure is out of the question; but where the disease is limited to one side it might prove of advantage to the patient.* I quote Dr. Emmet: "I have also met with a few instances where the Fallopian tubes happened not to have been involved in the neighboring inflammation, and pregnancy has followed careful dilatation of the cervix without lighting up the old pelvic trouble. The effect has been that the pelvic inflammation of long standing has been removed gradually through the new action or revulsive effect, established in consequence of the advancing pregnancy." †

If pyosalpinx is as frequent as we are led to believe, one would expect to hear of many cases of death following rupture of the tubes before term, unless it is that only a small number of these subjects become pregnant. Grigg ‡ has recently reported four cases, with post-mortem examinations, of what would commonly be classed under the vague term of puerperal septicæmia.

The causes of death were as follows: Rupture of small ovarian cyst (two cases); abscess of left ovary and pyosalpinx; eclampsia due to pressure on the ureters from old inflammation of the broad ligaments and Fallopian tubes.

Would a patient with extensive unilateral pyosalpinx go safely through with the child-bearing period?

Where reflex disturbances seem to be dependent on a monthly congestion of the contents of the pelvis, with no

appreciable disease, the diagnosis is beset with so many difficulties that one accepting the indication would leave no stone unturned before resorting to castration.

To those who believe in the importance of local pelvic inflammation and accept Dr. Emmet's teaching, pregnancy offers a practical solution of the difficulty.

Dislocation of the ovary deserves the most careful attention, for it is associated with this condition that we find dyspareunia. I have seen cases where the suffering had been intense in character and prolonged over long periods; where the removal of a prolapsed ovary and its fellow that macroscopically or microscopically presented no pathological appearances afforded complete relief from suffering. These women either deny their husbands or tolerate sexual intercourse. They dread the pain, and derive no sexual gratification. It is in these cases particularly that artificial impregnation would seem to be very useful. I quote a case occurring in the practice of my friend, Dr. Charles Jewett.*

A patient with prolapse of the left ovary and retroversion of the uterus suffered so severely that removal of the ovaries and oviducts had been discussed. She became pregnant, and since that time her disagreeable symptoms are much less. The ovary is still somewhat prolapsed and the uterus retroverted, but not so much as formerly. Owing to the incompetence of the nurse, the patient was allowed to walk on the fifth day after the confinement.

Prolapse of the ovary is frequently associated with anteflexion. Sterility is quite commonly associated with anteflexion. In many of these cases the thick cervical discharge obstructs the canal and offers an impassable barrier to the ingress of the spermatozoa. I believe this proves a mechanical obstacle in a large degree by its elasticity causing it to spring back when the uterus draws back the everted canal. It thus acts as a valve. I have a patient now under my care for sterility in whom everything is normal, and has been so, as far as I can learn, except an anteflexion and this cervical catarrh. By overcoming this mechanical obstacle conception can take place. †

I have considered anteflexion and retroflexion as conditions which in themselves cause troublesome symptoms. I have done so more in accordance with habit than because I believe them strictly entitled to this place.

I now desire to present the history of a case in which I tried artificial impregnation unsuccessfully.

A young lady, one year married, gave birth to a dead child after a severe labor of more than forty-eight hours. She was well educated, possessed of great personal attractions, and, although phlegmatic and somewhat timid, was in no degree hysterical. Her husband was most devotedly attached to her, and, in brief, her future was very bright.

Her bladder was allowed to remain unemptied for three days after the child was born, the urine dribbling away. For thirteen weeks after her confinement she passed no urine voluntarily, and the catheter was in constant use. She underwent the usual treatment for cystitis, by injections, etc., but continued to grow worse. For two years she suffered from dyspa-

* "Diseases of the Parenchyma of the Uterus," etc., Jaggard. "System of Prac. Med.," Pepper, vol. iv, p. 459.

† "Medical News," editorial, 1886.

‡ "A Case of Vaginal Hysterectomy," etc., translated from "Union médicale," "Gaillard's Med. Jour.," October, 1886.

* Martin, in 287 cases of diseased Fallopian tubes, found the disease unilateral in 196 ("Contrib. f. Gynäk.," No. 45, 86), "N. Y. Med. Journal," vol. xlv, No. 26.

† "On Certain Mooted Points in Gynecology," Emmet, "British Med. Jour.," Nov. 13, 1886.

‡ "Brit. Gyn. Journal," vol. ii, No. 7.

* "American Journal of the Medical Sciences," paper by the writer, April, 1877.

† Of course, where the anteflexion is associated with defective development of the endometrium little or nothing can be done.

reunia, dysmenorrhœa, and frequent and painful micturition, and at the end of this time, in the fall of the year, sought the care of a distinguished gynecologist. This gentleman performed Emmet's button-hole operation, with no amelioration of her symptoms. The button-hole was enlarged, but with no better success. She received local treatment until spring. For some time she was treated with the faradaic current and was slightly improved. The patient then came under my care. I found it impossible to make a thorough or even superficial examination without the aid of an anæsthetic. An ovary was down in the *cul-de-sac* and exquisitely tender. There was thickening on both sides, particularly on the left, but the uterus that was retroverted could be put in place.

This case seemed to be one where pregnancy would prove most useful if it could be brought about. I could find little or no literature on the subject. Dr. Sims* had tried artificial impregnation for the cure of sterility, but the cases quoted were not of much service to me. I believed it was impossible for her to become pregnant naturally. She had not been approached by her husband for over a year, and at that time coitus was very painful. Her husband had been away on the eighth, ninth, and tenth month before the child was born, and had seen her only once in the mean time, so she could calculate the exact time of conception in relation to the menstrual period. This was fifteen days after the flow ceased. I questioned her very carefully on this point, so that the period of utero-gestation was exactly two hundred and eighty-two days.

I attempted to artificially impregnate this patient, choosing the time in relation to the period that was related to her former pregnancy. As to the method, it was very simple. Fresh semen was obtained, and a glass tube with a rubber cap at one end (such as is used by Dr. Skene to make applications to the cervix) was warmed, the semen was taken up into it, and one or two minims were gently dropped past the internal os. The tube had been bent so as to conform to the shape of the uterine canal. This was accomplished with but slight pain to the patient.

After making two ineffectual attempts, I was obliged to leave the city and did not see the patient for several months. I then proposed that she put herself under my care for six or seven months, if necessary, and give this method a fair trial, but she determined, by the advice of older and more experienced surgeons, to submit to the operation for removal of the ovaries.

She underwent a laparotomy in November, and the operating surgeon removed one ovary and tube. I had an opportunity of examining the specimen, and am sure it was as competent to fulfill its function as any ovary or tube I have ever seen. Nine months after this, her symptoms still remaining unimproved, she again submitted to a laparotomy and lost the remaining tube and ovary. The tube was to the naked eye healthy, and the ovary functionally active.

The patient is at the present time much better, but far from well.

In closing this paper, I would say that I believe that if the lady mentioned in the foregoing history had had more patience, she stood an excellent chance of being surrounded by a family of children, and at the same time freed from her distressing symptoms.

The Philadelphia County Medical Society has, as we learn by the "British Medical Journal," elected Dr. Pavy, F. R. S., and Mr. Lennox Browne to honorary membership, those gentlemen having addressed the society at a recent special meeting.

* Sims's "Uterine Surgery," Lect. vii.

Correspondence.

LETTER FROM PARIS.

Naphthol as an Internal Antiseptic.—Purple Stripes on the Chest in Cases of Pulmonary Disease.—The Primary Closure of Anal Fistule.—The French and the International Medical Congress.—The Responsibility of Sons and Daughters for Medical Services rendered to their Indigent Parents.—A Colored Medical Woman.

PARIS, November 7, 1887.

PROFESSOR BOUCHARD, who holds the chair of pathology and general therapeutics at the Paris faculty, was lately elected a member of the *Académie des sciences* in opposition to Professor Germain Sée. Dr. Bouchard gives in his first communication to that august body his ideas on "Naphthol as an Antiseptic." It is now a long time since he introduced this agent into therapeutics, as an internal antiseptic, although it had already been used locally in skin diseases. Having studied and measured its toxic and its antiseptic powers, he found it preferable to all other internal antiseptics, on account of its feeble solubility. For the disinfection of accessible surfaces we have already plenty of good soluble antiseptic substances, but for general antiseptics one was wanted that could be introduced into the blood in sufficient doses to obstruct the microbes' action without compromising the health or life of the patient. Insoluble substances, or at least those that are only slightly soluble, are the only ones that can be employed. It is for this reason that salicylate of bismuth, iodoform, and naphthaline are used. Naphthol is only soluble in water in the proportion of 2 per cent., so that it is practically almost insoluble. What is its antiseptic value? Professor Bouchard studied this point and proved it in some eleven cultivations of different microbes, such as those of pus (*Staphylococcus albus* and *aureus*), the bacillus of pneumonia, and that of typhoid fever, and found that naphthol would prevent their development; even the bacillus of tuberculosis was affected by it. Urine and liquid feces agitated with powdered naphthol will not ferment. The toxic dose of this substance is about 3,750 grains, but it only requires less than 40 grains of it daily to produce perfect intestinal antiseptics. It is now very much in use in the Paris hospitals in cases of typhoid fever.

Professor (*agréé*) Troisier calls attention to an alteration of the skin in chest troubles that has been but little noticed. Thacon first spoke of it in 1880, and a few other cases have been seen since. Dr. Troisier's case occurred in his service at the Hôpital de la pitié. The patient was suffering from phthisis, and had on the right lateral region of the thorax a group of some fifty or sixty purple stripes, much like what the old accoucheurs used to call *vibices*, or the *vergetures* of the French, such as are seen on the abdomen and thighs of women who have been pregnant. Some of the stripes formed transverse lines and others were oblique; there were also some found on the knee. It was difficult to tell at what moment they had developed, as they were only accidentally seen in February, 1887. The autopsy showed that the lungs on both sides were infiltrated with tubercles, and that the left summit adhered to the thoracic wall and was full of cavities. Does there exist, then, a relation between these stripes and pulmonary affections? One is tempted to think so, and, if so, they might become an element of diagnosis. To explain them is difficult; there was neither distension of the skin, dilatation of the thorax, nor pleural effusion. A histological examination showed that the principal lesion was in the elastic system of fibers, in which it seems that these stripes are similar to those of pregnancy. They

are not due to atrophy, but simply to a lengthening of the elements of the derma; and they are not a formation of new tissue, like that seen in cicatrization.

Professor (*agrégé*) Quenu brought up the question of "Primitive Re-union in the Treatment of Fistula in Ano" at a late meeting of the *Société de chirurgie*. Dr. Quenu said that this method was much used in America, and that Professor Smith had spoken of it in New York, but that so far it had been but little used in France, notwithstanding Chassaignac had tried it and written on it in 1852. But, if the method was not new, the conditions were, as we now had antiseptics, and its benefits allowed the operation to be recommended. Professor Quenu had tried it lately on nine patients in his surgical wards who were affected with different varieties of fistula in ano. The patients were prepared by a purgation the second day before, and a rectal injection of borated water the next day. The operation was conducted as usual in the first part of it, except that it was found convenient to apply pressure forceps to each flap of the rectal incision. Dr. Quenu described his method of suturing, one set of sutures being placed in the interior of the ano-rectal canal, and the other on the perineal side. For the first he used No. 3 or No. 4 catgut, for the second rather thick silver wire. The rectal sutures were easily placed by using Gein's speculum, but to make these sutures one must not be satisfied with simple sutures passed from one side to the other, but, using a Reverdin needle, in the same manner that Emmet used it in his perineorrhaphy operation, pass the thread in a plane parallel to and subjacent to the cut surface, so that it would not appear in the wound itself. The perineal sutures should be placed in the same manner. The dressing used was a tampon moistened with iodoformed ether. On the eighth or ninth day a glycerin rectal injection was given to free the bowel, and on the tenth day the sutures were withdrawn. There is an essential difference between this operation and that recommended by Smith, of New York, in that it seems he used carbolized-silk sutures or catgut prepared with chromic acid. He also uses the saddler's stitch, and a *drain*, and this last proves that he does not set his sutures as Emmet does. Dr. Quenu obtained seven successes in his nine patients, and two of them were tuberculous. Six of them left the hospital on the twelfth day, without needing any dressing of any kind. M. Quenu, however, declared that he was not disposed to admit, as Professor Smith did, that all the varieties of fistula could be cured by this method. He would not use it in phthisical patients who were well advanced, nor when there was a number of orifices, but in cases of simple fistula, even when they were as long as four or five inches, he recommended it.

You have doubtless noticed the unfavorable criticisms of the Washington Congress, and the unkind mention of its secretary-general, that have appeared in some of the French journals. Dr. Landolt, the eye specialist, has replied to the attack, admitting that most of it was true, but stating that the congress was nevertheless of scientific value, and that Dr. Hamilton had done his utmost to make it succeed. It is rather hard that Frenchmen expect others to know their language when they rarely or never know any language but their own. It also seems unkind in them, after having combined with the Americans at the Copenhagen Congress to prevent the Germans having the congress go to Berlin, that they should have abstained from it.

The Paris civil tribunal has just taken a step that is of interest to physicians. According to the French law, children are responsible for their parents who can not support themselves, and they can be compelled to furnish them with *aliments*. This alimentary obligation takes in not only food, but lodging and clothing, and by the new decision it also includes medical assistance. The case in question was brought by Professor Pey-

rot, the surgeon who had been called in by Dr. Lorey to see a lady patient of his who had a fractured femur. Dr. Peyrot took her case in hand and cured her, but, on sending his bill in to the daughter, who was supporting his patient, her mother, she refused to pay, and yet she was present often when the doctor called, but she had not called him. It ended by the daughter being compelled to pay Dr. Peyrot \$200, and the judgment is that a doctor can collect for attendance from those who are bound to support a patient.

We often talk about freedom in America, but republican France seems to go ahead of us. Within these last few weeks a Madame Sollier has passed her thesis examination and been received as a doctor of the Paris faculty. She treated on "The State of Dentition in Idiotic and Deformed Children." It will cause no surprise that a woman is admitted here, as we have often stated that they are admitted on an equality with men when properly qualified, but this is the first case of a "lady of color" passing in Paris. Of colored men, however, there are plenty who are students at the faculty. Madame Sollier is a dark mulatto of French origin, her father coming from the possessions of this country in Guiana. It may be added as a proof of French liberty that Mme. Sollier is the wife of a blonde Frenchman, who is also in the medical profession, being an interne at the Bicêtre Hospital, near Paris.

Antipyrine in Sea-sickness.—The "Lancet's" Paris correspondent writes: "The Société de biologie has devoted part of its last two sittings to the discussion of the different means recommended for the relief of sea-sickness. A note was presented by M. Hantz on the best way of administering cocaine, and received without any expression of opinion. M. Dupuy said that sea-sickness was more severely experienced by dyspeptic subjects, and particularly those who had dilatation of the stomach. In eleven cases he had given antipyrine in doses of from two to three grammes for a few days before embarking, and the patients had all informed him that they had been free from sickness. M. Dastre said he had instituted a series of experiments upon animals, imitating as closely as possible the movements of 'pitching' and 'rolling.' He had found that there was an incredible displacement of the abdominal viscera, which strike against the diaphragm and cause the gastric uneasiness. The body struggles with these displacements by means of muscular contractions, and the respiratory rhythm accommodates itself to them. Professor Brown-Séquard remarked that this theory of visceral displacement was very old, and one which he had been able to verify in his frequent passages across the Atlantic. It was evidently the view entertained by Wollaston, who recommended Arago to place a pad over his stomach when he crossed the Channel. M. Maurel had no doubt as to the influence of the stomach, but thought the cerebral shock also played a part in the determination of the symptoms, inasmuch as the sickness always occurs when the boat is going down, never when it is being lifted up. The best preventive was lying on the back. Beyond the statement that sea-sickness is associated with dilatation of the stomach, and the hope held out by M. Dupuy that in antipyrine we now possess a remedy for it, there was nothing new in the views expressed by the different speakers. I have referred, however, at some length to the subject because my own seafaring experience has been somewhat extensive, extending over intervals during the last fifteen years, and including some kind of trial of every new drug recommended. Until a month ago the plan I always recommended was to take bromide for some days before going on board, and, if discomfort was felt notwithstanding, the dorsal decubitus was to be adopted. This, together with champagne, is generally what the transatlantic captains advise. In a recent trip to New York I tried two other remedies. The surgeon of the ship recommended me tincture of capsicum, and I had also taken a supply of antipyrine. As far as one case goes, the result of the antipyrine was most satisfactory, and I can to this extent indorse the experience of M. Dupuy. The capsicum was also serviceable as a palliative, for several persons who had taken it continued to ask for it, but it did not arrest the sickness like antipyrine."

LETTER FROM LONDON.

The Entries at the Metropolitan Schools.—The Post-graduation Course at Charing Cross Hospital.—Laparotomy for Peritonitis.—Struma, Scrofula, and Tubercle.—The Resources of Guy's and St. George's Hospitals.

LONDON, November 14, 1887.

THE entries at the metropolitan schools this year compare very favorably with those of previous years; St. Mary's, Charing Cross, and Middlesex Hospitals have every reason to be satisfied with the increased numbers they can show, while there is a decided falling off at Guy's, King's, and St. George's. The steady downfall of these schools, in point of numbers, of recent years has been very remarkable. St. Bartholomew's, as usual, heads the list with the very large entry of 140 full students, a number which I believe has only once been surpassed. This increase of the numbers in the metropolitan schools, however, does not correspond with a decrease in the provincial schools, and consequently it is absolutely certain that many of those who are now spending their time and money in struggling to get into the medical profession will never be able to make a living at it. For many years past the number of men qualifying each year has been about double that of those dying, and the supply is consequently far greater than the demand; the balance has been kept by the large numbers who have gone out to Australia and New Zealand, but we can not count on disposing so satisfactorily of our surplus much longer; there are already cries of overcrowding in those far distant parts, and their medical schools have very much improved of late, so that they will very soon be able to turn out a sufficiency of competent practitioners to meet their own requirements. The outlook, therefore, for the present first-year's men is far from encouraging.

The post-graduation course at Charing Cross, to which I made some reference in my last letter, has turned out the most extraordinary success. Before the commencement some forty pupils were enrolled, and now there are many more than a hundred. They are all or nearly all *bonâ fide* practitioners, many of them in large practice, and they profess themselves exceedingly pleased with the lectures that have so far been given. I had the chance of attending the last one, by Dr. Mitchell Bruce, on heart disease, and I was much impressed with the thorough manner in which the whole thing was done. Of course, in the short space of one hour Dr. Bruce could not be expected to go very deeply into the subject of heart disease, but he put the main facts in regard to compensation, hypertrophy, and dilatation before us, and discussed the various causes of heart failure in a most clear manner. After the lecture a large number of hearts, illustrating different forms of valvular disease, were shown, and some thirty patients had been collected in the wards for examination, each patient being provided with a card on one side of which the diagnosis was written, while the other side showed a tracing of the chest with the physical signs in regard to his heart accurately mapped out. I had heard before that the members of the class were very enthusiastic about it, and if the other lectures were anything like the one I heard I need not be surprised.

The treatment of peritonitis by laparotomy was under discussion at the last meeting of the Clinical Society, one case of traumatic peritonitis and two of tubercular peritonitis being reported in which the abdomen was opened and the peritoneal cavity drained with a satisfactory result. The question I should like to put, however, is, whether in the two latter cases the patients would have recovered without surgical interference, because, if so, they have been subjected to an additional and

unnecessary risk; from what I have seen, both clinically and in the post-mortem room, I have no doubt that tubercular peritonitis is by no means necessarily fatal, even when it has given rise to ascites, and I confess I should hesitate much before submitting a child to the somewhat formidable operation of abdominal section for this disease. In the cases in question, however, I am bound to admit that recovery seems to have followed very promptly on the operation, and that at a time when the patients were otherwise rather going down hill.

At the last meeting of the Pathological Society, Mr. Eve read a communication on the relation of strumous gland disease to tuberculosis, based on experimental inquiry. He has been inoculating animals with portions of strumous gland, and the result in every instance was the production of acute tuberculosis. He said that he could observe no essential anatomical difference between the lesions produced in animals by strumous gland and true tubercle, and he suggested that the substitution of the word tuberculous gland disease, or osteitis, etc., for strumous or scrofulous would remove a confusion and tend to a better appreciation of the disease. In this I entirely agree with him, and I sincerely hope that "struma" and "scrofula" will now be allowed to die a natural death; they have had their day, and we can now do very well without them—indeed, a good deal better than with them.

The authorities at Guy's are still making desperate efforts to raise funds. They originally asked for £100,000, and have got about three fourths of that sum, and meanwhile, by a stroke of luck, St. George's Hospital has come in for that amount in one legacy from a very rich testator. One may be sure that the committees of all the other hospitals feel very envious, for St. George's, being at the West End, is more patronized by the wealthy classes than any of the other hospitals.

The Tennessee Board of Health on the New York Quarantine.—

The last issue of the board's "Bulletin" contains the following: "The vigilant health officers of Chicago, Cleveland, Baltimore, and Philadelphia all report having located and isolated for observation a number of these passengers, and also to have thoroughly disinfected their effects, or entirely destroyed the same by burning. For this, outside of their several communities, the public owe them a debt of gratitude. Again, the statement is given of one whose character is vouched for, that a few nights since he rowed to Hoffman's Island, where the cholera suspects are supposed to be, and should be, under the closest surveillance, that nobody interfered with him, that he trafficked with them, and, on leaving, carried eight letters ashore to mail. While there he was told that a number of the detained passengers from off these infected vessels had escaped from quarantine, and that, from all he could see, there was nothing to prevent his boatload from doing likewise, as he returned to shore, if they chose. While possibly some of the details as given above may be overdrawn, yet the fact stands out to be seen of all men that the quarantine of New York, under its present management, affords no protection whatever to the American public against the importation of this Asiatic pest, and, with the additional fact before us that 80 per cent. of the 531,293 immigrants who arrived in this country in 1886 came through the port of New York, the extent of our peril would seem indeed to be alarming. Health officers in Tennessee, and everywhere else throughout the country, for that matter, would do well to recognize the solemn force being erected at the quarantine station of New York—the inexorable condition of affairs reported at this our most dangerous and least protected point, and if Governor Hill can not be induced to promptly remove this blot from off his otherwise strong administration, which seems to fall but little short of a reckless tampering with the public health, they should set about at once to make every possible preparation to meet what, at this writing, seems inevitable."

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THE FAMILY PHYSICIAN OF THE FUTURE.

It is customary for an annual address to be given before the New York Academy of Medicine, and it is usually given by some person whose turn of mind is supposed to be such as to incline him to treat of a theme of general as well as strictly professional interest, and to enable him to handle it with more literary skill and present it with more of the graces of oratory than are ordinarily looked for in formal contributions to the literature of medicine. This year the choice fell upon Dr. Andrew H. Smith, and he delivered his address at the Academy's last meeting, held on the 17th inst. Dr. Smith took for his subject "The Family Physician of the Future," a theme that, under one heading or another, has often been written about. He could hardly have been expected to advance anything strictly novel in regard to the family physician of the future, and therefore it is not a matter of disappointment that he did not. The thoughts which he put forward have been expressed before, and in not very dissimilar terms, especially, as we remember, by Fonssagrives. Nevertheless, there was at times such facility of expression to be noted in the speaker's words as to recall the "lobes and fissures" and other happy hits which many present remembered him as having made in the verses that he read at the Holmes dinner. Besides that, the gist of his discourse, although by no means original, was so wholesome in its bearings as to induce us to give it to our readers.

For a long time, said Dr. Smith, the practice of the healing art was coupled with other occupations, and it was not until comparatively modern times that it had taken an independent position. Gauged by its usefulness and by the degree of intelligence and education which it demanded, it ought to command the highest regard on the part of the public, yet it could not be said that at present it occupied in the estimation of the community a place commensurate with the interests involved; it was still unable to make its voice heard above the clamor of ignorance, superstition, and charlatanism. One reason for this was that the profession confined its field of usefulness within too narrow limits; there was too great a disposition on the part of physicians to restrict their labors to the field implied in the term "practice of medicine"—to the treatment of actual disease—without taking note of that higher duty, the preservation of health. Moreover, both as a science and as an art, medicine was too much occupied with the individual organism, and not enough with that organism in relation to other individuals and to the race in general. It had left almost unnoticed the great questions of the influence of heredity, climate, social habits, architecture, religion, etc., upon the physical well-being

of the race; these matters were practically ignored in our medical schools.

If medicine was to take its proper rank, there must be a remodeling of the relations of the family physician to his patrons. At one time there had been such a character as the family physician, but now he had come to be, in cities, the doctor who was called in by the family while they did not yet know what the matter was; the diagnosis having been made, they sent for the eye-doctor, the ear-doctor, or some other specialist. The services of specialists would, indeed, always be needed, but the time would come when they would be invoked only at the suggestion of the family practitioner. The tendency of modern research was to give prominence to preventive medicine, and thus to widen the physician's sphere of usefulness, to make him the counselor in every matter relating to health. The family physician should be the family sanitary adviser, charged with the supervision of its health, instead of being called in only when some member had broken a leg or taken the croup. As matters were now, he could not generally acquire such an intimate knowledge of the family antecedents as would best fit him for his duties; his information was too strictly limited to the present illness. So long as this state of things continued the relation of the profession to the community could not greatly improve; its voice would remain unheard in the halls of legislation, neglect of sanitation would continue to fill the hospitals and the cemeteries, architecture would go on as the handmaid of disease, questions of health would not weigh in determining the relations between capital and labor, unrestricted traffic in drink would prosecute its work of destroying health and life in the present and preparing a heritage of disease for posterity, and public opinion would still tolerate, if it did not demand, that abnormal activity in business and social life that had already gone far toward making us a nation of invalids, and promised, if statistics could be depended upon, to make us a nation of lunatics.

What, in detail, ought to be the relations between a medical practitioner and the families under his charge? The speaker answered the question by the hypothetical case of a young married pair who placed their health, and that of their children to come, in the physician's hands, engaging him not alone to bring them through any given attack of disease, but to keep them in health. He should not be too much their senior, for they should not change their physician without the gravest reasons. They should place their own medical history before him, and, as far as possible, that of their ancestors, and he should keep a minute and careful record of the same, to hand down to his successor. He should make thorough examinations of each member of the family at intervals, and enter his observations upon the record. Then there could be no sudden and unexpected death from uræmia or heart disease. The development of chronic disease should be most carefully guarded against, and the physician's advice should be followed with regard to the children's sports, the schools that they should attend, the sanitary condition of country resorts visited, and the food and clothing. Records of such matters, carefully kept, would be of

the greatest scientific value, and, if the physician's influence were what it should be, social customs and fashions detrimental to health would no longer prevail. The family physician of the future would need to be a man of varied culture, deep learning, and solid judgment; he would have use for more diverse knowledge than any other man in the community. No man could become a good family physician by the mere study of medicine, using the term in its present narrow sense; to the higher education, of which we heard so much, should be added the broader education, of which we heard so little. This, said Dr. Smith, was something more than a fanciful sketch; it was a prophecy, and the signs that pointed to its fulfillment were not wanting even now.

THE QUESTION OF EXTRACTION AFTER VERSION.

It is the rule of practice with many that, in transverse presentations, turning by the feet should be followed by immediate extraction. This doctrine has recently been notably supported by Winter, on the strength of the histories of 310 transverse presentations at the maternity of the University of Berlin. Winter's propositions are: 1. Turning should not be performed until the os uteri is sufficiently dilated to admit of extraction. 2. The best results for the child will be secured when version is immediately followed by extraction.

In a recent number of the "*Zeitschrift für Geburtshülfe und Gynäkologie*," Dr. R. Dohrn, of Königsberg, assents to the first of these propositions, but not to the second. It is generally admitted, he remarks, that the child's life will be endangered if, the waters having escaped, the faulty presentation is allowed to go unremedied after the os is sufficiently dilated to admit the hand. Whether tetanic contraction occurs after such neglect, or not, and whether or not there is compression of the umbilical vessels, the diminution in the capacity of the uterus, and the consequent curtailment of the respiratory surface of the placenta, are enough to endanger the child's life. The exceptional cases in which neglected cases result in the spontaneous birth of living children are not to be considered as an argument for delay in turning, for it is probable that in such cases, although the liquor amnii below the child has drained away, enough remains above it to keep the placental circulation intact.

The waters, therefore, are to be looked upon as indispensable to the integrity of the foetal circulation. On the other hand, version should not be performed too soon after the waters have escaped, for, if the degree of dilatation is insufficient at that time, there will be danger from compression of the cord by the cervix. The operation will not usually be difficult unless the uterus has already been subjected to repeated unskillful and unsuccessful manipulations. Rupture of the uterus, although possible in such cases, is not common, and as a rule it occurs only after the os has become completely dilated.

Winter's second proposition, as to the time which should elapse between version and extraction, is of great practical importance. That writer reports 236 cases of turning followed by immediate extraction, the os being fully dilated, in which

only 5 children were born dead, against 27 cases of turning before the os was fully dilated, the course of the labor being then left to nature, in which 13 children were born dead. These facts, he thinks, speak forcibly in favor of waiting for full dilatation and then immediately following version with extraction. To Dohrn, however, these figures are not conclusive upon the general question, for the children in the second series of cases were placed under more perilous conditions than the others, in consequence of premature interference, and better results might have been secured, in all probability, if complete dilatation had been waited for.

Dohrn believes, with Boër, that in parturition the forces of nature should be allowed full sway until there is evidence that they can no longer be trusted, that every interference for which there is no definite indication is reprehensible, and that extraction without a special cause is no exception to this rule. The results of extraction will vary with the manual dexterity of the operator and the degree of his knowledge of the mechanism of labor. This is amply shown by contrasting the two per cent. of mortality after version in Winter's statistics, the operators being skillful obstetricians attached to a great hospital, with the fifty-seven per cent. of mortality which is given as the frightful rate in general practice in the Duchy of Nassau, according to a recent report. The inference is obvious that the natural forces were not given fair play in that locality. An important injunction is, that in extraction the force should be exerted in the direction which the uterine contractions indicate that the fœtus is to take in any given case. In 29 cases in Dohrn's public service in which turning was performed after the os was fully dilated, the delivery being then left to nature, there was not an accident, and he therefore infers: 1. That in transverse presentations podalic version should be performed only when the os uteri is fully dilated, although to this there may be occasional exceptions. 2. That extraction should follow immediately upon version only when there is a well-defined indication for such a procedure; if there is no such indication, the safety of both mother and child will be most favored by awaiting delivery by the unaided natural powers.

MINOR PARAGRAPHS.

RECENT SANITARY REPORTS.

THE "Seventh Annual Report of the State Board of Health of New York" and a "Report on Improved Methods of Sewage Disposal and Water Supplies," by Dr. C. W. Chancellor, of Baltimore, issued by the Maryland State Board of Health, are among the sanitary publications that have lately reached us. Apart from the consideration of local affairs, the New York report deals with but few matters of general interest. One of them concerns the question of allowing the sale of French canned peas and beans colored with copper sulphate. The documents that are given under this head are mostly written in pigeon English—execrable enough to make the members of the old Continental "committee on style" turn in their graves. But the conclusion, which is chiefly of interest, is that such products may safely be sold, provided the proportion of metallic copper does not exceed three quarters of a grain to the pound, the fact being "plainly stated on the label." What safeguard there may

be in this or any other statement on a label, it is not easy to see. Dr. Chancellor's report deals largely with suction methods of freeing drain-pipes. It does not admit of condensation, but will well repay perusal.

THE NEW YORK ACADEMY OF MEDICINE.

WE are informed that a substantial addition to the library and building funds was lately made by Mrs. John Jacob Astor. This is not the first time that the Academy has profited by Mrs. Astor's generosity. We understand that in this instance her attention was turned to the needs of the institution by Dr. Fordyce Barker, whose efforts in behalf of its continued and extended support have often been exerted to good effect. The Academy is urgently in need of a better building than the one it now occupies, which was formerly a dwelling-house, and we trust that the endeavor now being made to add enough to its funds to warrant the early purchase of a building site and the erection of a structure suited to its purposes will be completely successful.

AN ALLEGED MEDICAL NOBLEMAN IN THE RÔLE OF A SWINDLER.

THE press dispatches announce the arrest, in Reading, Pa., of a distinguished-looking individual whose cards bear the legend "Doc. Med. Wilhelm von Wallenstein, k.-k. Regimentsarzt," and who gave his name as Baron von Wallenstein. The arrest is said to have been made at the request of the police of New Haven, Conn., where the Baron is said to have obtained various sums of money from several physicians on false pretenses, also to have been guilty of embezzlement and forgery. If he is not a mere pretender, it is only charitable to suppose that he is the victim of insanity.

THE HOSPITAL SATURDAY AND SUNDAY COLLECTION.

At a meeting of the Hospital Saturday and Sunday Association, representing twenty-eight hospitals, held at St. Luke's Hospital last Monday evening, it was shown that the disparity between the receipts and the expenses of those institutions, amounted to a deficiency of about \$300,000, to be made good by private contributions and by the collections made through the agency of the association. This year the church and synagogue collections are to be made on Christmas and the day preceding it. A proposition to allow the out-patient departments of hospitals to share in the fund was reported upon favorably, and the by-laws were amended so as to discourage designated contributions and to extend the scope of the distributing committee's discretion. It is to be hoped that this year's collection will be handsomely increased over that of any former year.

NEWSPAPER MEDICINE AGAIN.

ONE of the daily papers lately published an ill-natured and flippant account of an operation for the removal of an intracranial tumor, performed at the New York Hospital. An antipathy to the institution seems to be betrayed in the assertion that the patient would have died of hæmorrhage, the surgeons being at their wits' end, "had not a means of relief commonly employed in Bellevue Hospital been tried as a last resort."

MODES OF INFECTION.

THIS very important subject Dr. William H. Welch, of the Johns Hopkins University (no longer, we regret to say, of New York), made the theme of an annual address recently delivered before the Medical and Chirurgical Faculty of the State of Maryland. It is unnecessary to say that he handled it in a

manner most edifying. In its printed form, one great value of the address to the reader lies in its breadth of view, well exemplified in the statement that "it is an error to construct exclusive theories of infection, such as are expressed by the terms 'soil hypothesis,' 'drinking-water hypothesis,' etc."

ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending November 22, 1887:

DISEASES.	Week ending Nov. 15.		Week ending Nov. 22.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever.....	18	2	27	7
Scarlet fever.....	80	5	95	18
Cerebro-spinal meningitis....	1	2	2	2
Measles.....	39	6	41	6
Diphtheria.....	115	32	133	42
Small-pox.....	2	1	1	0

The Health of New York City.—During the four weeks ending Tuesday, November 22d, the following numbers of cases and deaths from infectious diseases were reported to the Sanitary Bureau of the Health Department: 98 cases of typhoid fever and 20 deaths; 319 cases of scarlet fever and 44 deaths; 11 cases of cerebro-spinal meningitis and 11 deaths; 154 cases of measles and 6 deaths; 524 cases of diphtheria and 161 deaths; 7 cases of small-pox and 2 deaths.

Society Meetings for the Coming Week:

TUESDAY, November 29th: Boston Society of Medical Sciences (private).

WEDNESDAY, November 30th: Auburn, N. Y., City Medical Association; Berkshire, Mass., District Medical Society (Pittsfield).

THURSDAY, December 1st: New York Academy of Medicine; Society of Physicians of the Village of Canandaigua, N. Y.; Boston Medico-psychological Association; Obstetrical Society of Philadelphia; United States Naval Medical Society (Washington).

FRIDAY, December 2d: Practitioners' Society of New York (private).

SATURDAY, December 3d: Clinical Society of the New York Post-graduate Medical School and Hospital; Manhattan Medical and Surgical Society (private); Miller's River, Mass., Medical Society.

Proceedings of Societies.

NEW YORK SURGICAL SOCIETY.

Meeting of November 9, 1887.

The President, Dr. CHARLES MCBURNEY, in the Chair.

A Successful Case of Laparotomy for Bullet-wound of the Intestine.—Dr. F. LANGE reported the following case: On the 12th of October he had seen at the German Hospital a boy, fourteen years of age, who twenty-four hours before, while playing with a small revolver of 22 caliber, had shot himself in the abdomen, the ball entering three centimetres below the navel, and two centimetres and a half to the left of the median line. He did not look as if he was suffering from shock. His pulse was 112 to 120, his temperature 101° F., and he did not

have much pain, although there was marked tenderness on making pressure over the left hypogastrium. There was some tympanites and the abdominal wall was tense; the breathing was almost entirely costal. The normal liver-dullness was preserved, and there was no change in the ordinary percussion sounds. There was evidently commencing peritonitis, thus far limited to the left hypogastric region. Laparotomy was performed at once, the abdomen being opened in a line with the point of entrance of the bullet. The track of the latter could not be traced through the muscles, nor could any wound be found in the peritonæum, although there was a small extravasation in the retroperitoneal space. On opening the peritonæum, about an ounce of brownish sanguinolent fluid escaped. The wound was enlarged to about fifteen centimetres, and the intestines were lifted out and carefully examined. Seven perforations were found in the gut, both walls being pierced in three places, while the fourth wound involved only one wall. About four ounces of bloody fluid were discovered at the deepest point of the abdominal cavity, but it did not have a faecal odor, nor was any faecal matter mingled with it. The openings in the intestinal wall appeared as small grayish spots surrounded by zones of hyperæmia. Nowhere was the mucous membrane everted, but all those spots seemed to be firmly closed. At one point the track of the ball was visible in the wall of the gut. Six of the perforations were closed with three or four interrupted sutures of iodoformized catgut, while the seventh was not touched, as it seemed to be firmly united. The boy made a good recovery. The temperature did not rise above 101° and became normal on the twelfth day, after evacuation of a mural abscess. The bowels moved spontaneously on the third day in spite of opium, the discharge being dark in color and very foetid, this being probably due to decomposed blood. During the next four days they moved three or four times daily. The ball was not found in the stools, although search was made for it. The interesting question in the case was, Might the boy not have recovered if no operation had been performed? The exudation and extravasation might have been absorbed and the peritonitis localized. To what degree, the reporter asked, did the danger from gunshot wounds increase in proportion to the size of the projectile? There were cases on record in which spontaneous recovery had followed wounds from small bullets. In the one reported there was no evidence that faecal extravasation had occurred, and apparently the closure of those small wounds had taken place so promptly and accurately that, under proper care and treatment, without operation, the danger of secondary escape of the contents of the gut could perhaps have been avoided.

Dr. L. A. STIMSON recalled the case of a man who had received a bullet-wound of the abdomen, the ball, which was of moderate size, entering a little to the left of the median line, midway between the border of the ribs and the umbilicus. He saw the patient on the following day, and had found a slight elevation of temperature with marked tympanites. The wound was not probed, but there was good reason to believe that the bullet had passed into the abdominal cavity. Opium was administered and the patient made a good recovery.

Dr. J. A. WYETH said that in July, 1887, he was called to a neighboring city to see a boy, aged sixteen, who had been wounded by a rifle-ball (38 caliber), which had entered the abdomen at a point two inches above the crest of the right ilium, and half way between that spot and the spines of the vertebrae, and had come out one inch below and to the left of the umbilicus. The boy had complained of severe pain and had suffered from shock lasting for four or five hours, after which he had rallied and had been in good condition from 10 p. m. until 6 the next morning, when symptoms of peritonitis had devel-

oped. The speaker saw him at 1 p. m., nineteen hours after the accident, and found him delirious, with a pulse of 160, a high temperature, and a tympanitic abdomen. He declined to operate, as death was inevitable. The boy died two hours later. He was strong and hearty, and would probably have recovered if laparotomy had been performed at once. Although an autopsy could not be obtained, the intestine had doubtless been perforated.

Dr. R. J. HALL said that he had seen two cases of recovery from bullet wounds made with a 22-caliber revolver. He asked if any of the members had seen a fatal case.

Dr. R. ABBE replied in the affirmative. He had had under his care a strong man who had received a wound in the abdomen from a bullet of 22 caliber. The ball had entered just below the umbilicus and exactly in the median line, perforating the intestine in four places, and the wall of the bladder in one; it remained within the latter viscus. Laparotomy was performed six hours after the occurrence of the injury, and a pint of greenish fluid mixed with faecal matter was found just underneath the parietal wound, and surrounded by adhesions. The man died of shock fifteen hours after the accident. Uræmia doubtless contributed to his death, as complete suppression of urine occurred several hours before.

Dr. WYETH cited an instance of rapid formation of adhesion after a secondary laparotomy for volvulus of the intestine. The gut had been so distended that it had been necessary to puncture it in several places, the punctures being closed with sutures of black silk. The patient died in three hours, and even in that short time the sutures had become almost entirely concealed by plastic lymph.

Dr. STIMSON said that about a year ago he had seen a gentleman who had accidentally shot himself with a revolver of 45 caliber, the ball entering the body a little to the left of the xiphoid cartilage, and emerging at a lower point in the back, near the vertebral column. When seen he had paroxysmal dyspnoea with extreme pain. The wound was not probed, except to a sufficient depth to establish the fact that the ball had perforated the seventh costal cartilage; it was plugged with iodoform gauze. Under the use of opium, with rest, the patient recovered in three weeks. The bullet had probably traversed the anterior part of the diaphragm, perhaps also the abdominal cavity, and had certainly perforated the pleura, as the man had all the symptoms of perforation of the lung—haemoptysis, with dullness over the lower part of the chest.

Dr. LANGE thought that it was important to gather further experience about the question, how soon, on an average, after perforation of the intestine with faecal extravasation, symptoms of septic peritonitis appeared, and whether in a case like the one reported, where twenty-four hours after the injury only localized peritonitis existed without particularly alarming symptoms, the assumption might be justified that the peritonitis was not due to the escape of the contents of the gut into the peritoneal cavity. The operation necessary in searching for bullet wounds in the gut would always be a serious surgical interference, carrying dangers in itself, to avoid which might, in a given case, be of the greatest importance.

Dr. H. B. SWEENEY said that laparotomy in gunshot wounds of the abdomen ought to be performed before the occurrence of septic symptoms. Experience must show how far we might safely explore the abdomen in order to ascertain the exact nature of an injury. Many patients doubtless lost their lives because the surgeon waited too long. Recovery, to be sure, was possible in the case of wounds made by small projectiles, but even those of small caliber might cause fatal extravasation. If it could be shown that laparotomy was not in itself very dangerous, it might obtain the preference in nearly every doubtful

case, even when the bullet was very small. Until it was known just what the risks of the operation were, most surgeons would favor laparotomy. It might subsequently be shown that laparotomy for gunshot wounds of the abdomen was a very dangerous procedure, and the statistics would perhaps never bear comparison with those of the operations performed for the removal of ovarian tumors.

Dr. SRIMSON thought it equally important to collect evidence to show the danger following perforation of the abdomen by bullets of small caliber, for if that danger should be less than that of explorative laparotomy, the operation might still be contra-indicated.

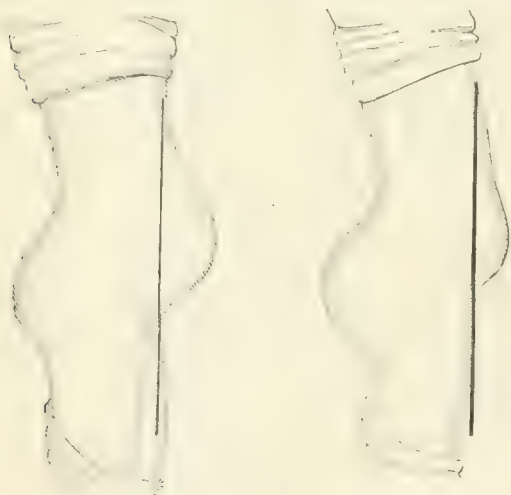
Dr. WYETH thought that the reason why wounds of the intestine made by small projectiles did not invariably prove fatal was the fact that the gut was not filled with gas at the time of the injury. If gas should be present, it might escape into the peritoneal cavity, no matter how small the perforation.

Dr. ABBE called attention to the fact that in his case fecal extravasation had clearly taken place from one wound in the free border of the intestine. At every inspiration of the patient fluid had been forced out at this point. It was evident that extravasation through such openings was inevitable as soon as the gut became full, whereas, when the perforations were at or near the attached border, this was not apt to occur.

Dr. HALL said that he could recall only a single case in which recovery had occurred after fecal extravasation. In one instance (reported by Miculicz) some pieces of potato, but apparently no feces, had escaped through a perforation resulting from a typhoid ulcer.

Dr. LANGE was sure that there were several cases on record in which recovery had occurred after extravasation.

Marked Diminution in the Size of a Uterine Fibroid following Removal of the Appendages.—Dr. ABBE showed photographs of a patient upon whom he had operated a year before. She was a colored woman, aged twenty-four, who had a uterine fibroid, as large as a man's head, of three or four years' growth, which had occasioned severe pain and attacks of flooding. Laparotomy was performed, with the assistance of Dr. Peters. It was necessary to lift the growth out of the pelvis before the appendages could be reached and removed, so



that an intelligent idea of its size was gained. She had made a good recovery, and had been perfectly well since the operation, so that she was able to work hard as a laundress. Menstruation had recurred regularly at intervals of twenty-eight days, but there had been neither pain nor flooding. Her sexual feelings were not impaired. The girl was examined a day or two

since, and it was found that the tumor had diminished in size at least one half.

Dr. LANGE said that he had had two patients under observation for upward of a year, upon whom he had performed the same operation. In both cases the growth had diminished to one half the former size. One patient had not menstruated at all; the other had continued to menstruate for some time, and then had epistaxis every month instead.

Dr. C. K. BRIDGON asked if the persistent menstruation could not be explained by reference to the presence of a third ovary.

Dr. ABBE thought that this explanation could not be generally urged, because the recorded cases of supernumerary ovaries were comparatively few, while persistent menstruation after removal of the appendages was not uncommon.

Calculus of Peculiar Shape.—The PRESIDENT exhibited two calculi which he had removed by the lateral section from a boy eleven years of age. One stone was almond-shaped, while the other was larger, and presented two concave surfaces, which had apparently resulted from alternate friction against the other calculus. There was nothing peculiar about the shape of the bladder.

Dr. LANGE asked if the biconcave stone might not contain a foreign body.

The PRESIDENT did not see how this would account for the peculiar shape of the calculus.

Dr. BRIDGON said that if a foreign body formed the nucleus it would be apt to have concentric layers completely surrounding it.

PHILADELPHIA COUNTY MEDICAL SOCIETY.

Meeting of October 26, 1887.

The President, Dr. J. SOLIS-COHEN, in the Chair.

Injuries of the Fœtus during Labor.—Dr. THEOPHILUS PARVIN read the following paper: Though injuries of the child during labor are not frequent, probably they are much less rare than is commonly believed. In many instances they are not recognized immediately after delivery, and they may spontaneously disappear, and in some their consequences are attributed to erroneous causes. Some of these lesions may happen in spontaneous labor, and others in artificial, whether the interference is manual or instrumental. It is impossible to classify them according to their causes, and apparently the most satisfactory division is one resting upon the regions or parts affected. Hence, in the paper now presented, injuries to the fœtus in labor will be divided into those involving the head and neck, those of the trunk, and, finally, those of the extremities.

INJURIES OF THE HEAD AND NECK.—Contused wounds of the scalp and of the face, and incised, punctured, and lacerated wounds of the former are met with. So far as contused wounds of the face are concerned, it usually happens that they follow difficult delivery with the forceps, especially if the instrument is a powerful compressor; so, too, these result if the blades are applied obliquely, or antero-posteriorly to the head instead of to its sides. But in almost all cases the effects are trivial and soon disappear. Punctured and incised wounds of the scalp have been made by the obstetrician mistaking a caput succedaneum for the fetal sac. Tarnier mentions an instance of a wound thus inflicted leading to the death of the child from erysipelas a few days after birth. More extraordinary is a lacerated wound of the scalp made in the effort to apply the forceps, the operator introducing one of the blades between the scalp and the cranial bones. An example of this terrible blunder is mentioned by Charpentier, and I have met with a similar case.

Sloughing of a portion of the foetal scalp has been observed following some cases of spontaneous labor. Thus, Priestley* has reported a case of this kind, resulting in death eight days after delivery; the labor was protracted for forty-eight hours because of a narrowed pelvic outlet. Lizé,† of Mans, states that in the case of a multipara, forty years of age, the waters ruptured five days before the birth of her child, which presented by the vertex, but occupied an occipito-sacral position. Five days after delivery a slough involving almost the entire extent of the occipital bone appeared; three days subsequently it became detached and the child recovered.

Bouchut‡ quotes from Lorain a case of gangrene of the scalp in a new-born child occurring in the service of Moreau at the Maternité. The mother was a primipara, and the labor lasted forty-eight hours, terminating spontaneously; the child died on the nineteenth day.

Dr. Goodell informs me of a case in which an oblique application of the forceps was made—one blade being in relation with the right frontal bone, and the other with the left occipital—and the right anterior portion of the head was so bruised that sloughing occurred a few days subsequent to birth; after the detachment of the slough a fatal hæmorrhage occurred.

Depressions and fractures of the cranial bones, separation of their union to each other, fractures of the bones of the face, as well as disjunction of their articulations and joints, have been observed more or less frequently in cases of difficult labor, manual or instrumental—some of them, indeed, in spontaneous labor.

In regard to depressions of the bones of the foetal skull, some obstetricians have asserted that they are always accompanied by fractures. That was the opinion of Danyau, of Lachapelle, and of Schröder. But the following case,* given by Matthews Duncan, seems to strengthen the view held by most obstetricians, that such depressions may occur without the bone involved being broken. The case was one in which persistent digital impression was produced on the right parietal bone of a foetus during birth by the finger of the accoucheur, who was endeavoring to cause rotation. The result was slight, short, but frequently repeated epileptoid seizures, which lasted some time after the digital impression had disappeared, and were finally replaced by choreic movements. Now, it seems hardly probable that the pressure of the finger produced a fracture of the bone. Dugès|| has given an instance of great depression in one of the parietal bones, not followed by any serious consequences. The child was extracted by the feet through a pelvis of which the conjugate was estimated at three inches and a quarter. Powerful traction upon the shoulders and upon the lower jaw was necessary to bring the head past the obstruction, and the parietal bone, which was in relation with the sacro-vertebral angle, presented a depression half an inch in depth and two inches in breadth. The infant was resuscitated with difficulty, then had convulsions, but in a few days was quite well, and in fifteen days the depression had entirely disappeared. Minor depressions or indentations are sometimes seen, especially after the application of the forceps, and in rare instances such marks are permanent. But we must not be in haste to conclude that these indentations found upon the head of a new-born child are proofs of instrumental delivery, for Oslander^ has stated that,

having extracted a child by podalic version through a narrowed pelvis, he found upon its head a depression into which the end of a forceps-blade accurately fitted; so that he himself would have concluded, had he ever seen a similar depression, that the delivery had not been spontaneous, but by the forceps.

Fractures of the foetal skull have been observed as the result of direct violence, as when a woman expels her child while she is standing, and it falls on the floor. Or, again, a woman,* near the close of the second stage of labor, the child's head being at the vulvar opening, threw herself out of the window, and several fractures of her limbs, as well as a fracture of the child's head, resulted.

But apart from these cases in which the injury has resulted from direct violence, and those observed in delivery, whether spontaneous, manual, or instrumental, in narrowed pelves, which will be referred to in a moment, fracture may occur when the labor is in all respects perfectly normal, so far as duration and facility are concerned. Thus, Dr. Charles West† has reported the case of an infant dying from convulsions nine days after birth, the labor having been an easy one and lasting but five hours; the mother had previously given birth to two living children, and these labors too had been normal. Yet upon an autopsy of the third child, a fracture of the right parietal bone, with effusion of blood between the cranium and dura mater, the effusion being more than half an inch thick and occupying the entire fossa of the bone, was discovered. He states in his report that fractures of the skull have been known to take place during easy labors, and to have been independent of any preternatural degree of ossification of the skull. Monteith‡ mentions having attended a case of perfectly natural labor, yet the child had a fracture of the right parietal bone; there was a marked depression in the middle of the bone, and the fracture extended to the sagittal suture on one side, and to the coronal on the other. It is quite apparent that a case such as either of these might give rise to medico-legal investigation or to unjust censure of the obstetrician.

Coming now to fractures of the bones of the cranium or face, or rupture of joints involving the maxillary symphysis, or the cervical vertebræ, or fracture of a vertebra, for it is maintained that usually the body of one is broken rather than that a separation takes place between two vertebræ, as the consequence of great traction occurring in manual or in instrumental delivery, an important question arises as to the amount of force that may be safely used with either hand or instrument. In illustration of the great force which has been employed in forceps delivery without injury to mother or child, I quote the following from Dr. Pengnet.* He states:

"I was called to Mrs. K., a multipara, in labor with her third child. The first two were delivered by craniotomy. The vertex presenting, R. O. A., and impacted between the sacrum and the pubes, the conjugate diameter of the superior strait greatly contracted, I applied forceps, and had great difficulty in locking them. Dreading the laceration which might ensue in this case from side-to-side lever action, I concluded to rely upon direct and steady traction. My strength giving way, her husband held me round the waist, while the patient was held *à la* *situ* on the dorsum by four women. In forty-five minutes I

fracture, contusion of nerves, laceration of muscles, separation of epiphyses, etc., occurring in labor; he also reports two of rupture of the longitudinal sinus.

* Delore, "Fractures du fœtus," "Dictionnaire encyclopédique des sciences médicales."

† "Trans. of the Med. chirurg. Soc. of London," 1845.

‡ "Lancet," Nov. 11, 1874.

* "Ohio Med. and Surg. Jour.," 1878.

* "Trans. of the Obstet. Soc. of London," vol. i.

† "Annales de gynécologie," 1875.

‡ "Traité pratique des maladies des nouveau-nés," etc.

* "Brit. Med. Jour.," October 18, 1873.

|| Quoted by Jacquemier, "Manuel des accouchements," Paris, 1846.

^ Given by Cieslewicz, "Verletzungen des Fötus durch den Geburtsheifer," Halle, 1870. Cieslewicz gives forty cases of fracture,

had the satisfaction of bringing the head down upon the perineum. The delivery was then speedily accomplished. Both mother and child, a girl, did well."

The least that can be said in regard to this case is, that the result was very remarkable, and it is doubtful whether the practice pursued could be repeated in any considerable series of similar cases without injury to both mother and child.

Delore,* after remarking that the foetal head may endure, without injury, a great compressing force if applied to a large surface, and if made by a regularly concave surface, as that of the blades of the forceps, states that from his experiments he found a compressing force of one hundred kilogrammes did not cause a fracture. But, on the other hand, if the blades slip, if the pressure is made upon a small surface, fracture follows the exercise of much less force. Further, a blunt, angular body, such as the sacro-vertebral angle, the spherical surface of which is described by a radius of two or three centimetres, produces a fracture with a force of twenty kilogrammes. As the force which is exerted in difficult labor is more than twenty kilogrammes, fracture results.

Nevertheless, these results are not in complete accord with those of Goodell,† though, as will be seen, he is discussing the question of the amount of force of traction that may be safely used in a narrowed pelvis without injury to the neck of the child. Nevertheless, the subject of injury to the bones of the head is also involved, and in only one instance, I believe, does he mention fracture of one of the cranial bones. He states that he has on several occasions extracted living children after throwing on their necks a weight of 130 pounds. He further says that, although exerting all the manual strength at his command, he has never seen the body part from the head; he mentions one instance in which there was not the slightest apparent injury to the neck, though the sacral side of the head had been broken in. Further, in another case, the force of traction upon the child's head, combined with suprapubic pressure, amounted to 200 pounds. Stone‡ has more recently reported a case of podalic version, and delivery by traction through a narrowed inlet, in which he put on the neck of the child all the force of which he was capable, using the pump-handle movements described by Goodell. The child was dead. There was no fracture of the bones of the head.

"The spine had parted in the upper dorsal region during the traction upon the trunk, which was necessary to cause the shoulders to come low enough to reach the arms. The cervical spine was not broken."

Delore's conclusion as to the amount of force followed, in pelvic narrowing, by fracture of the cranium of the fetus is erroneous, or such injury ought to have been observed in all the cases where a force even approaching 100 pounds was used.

Champetier's* investigations as to the force that could be safely used in delivery led him to the following conclusions, the first of which does not correspond with the results obtained by Goodell: First, there is danger of fracturing one of the parietal bones, whatever the method of extraction, if the total force employed reaches thirty-five to forty kilogrammes, the infant being at term, twenty to twenty-two kilogrammes if it is premature. Second, the inferior maxillary of a child at term will bear, without rupture, a traction of twenty-five kilogrammes. Third, the vertebral column of an infant at term was ruptured in three cases by a force of fifty kilogrammes. So far as

it may be objected that these results were obtained by experiments upon dead children, and, therefore, they are not applicable to the force that may be exerted upon living ones, the answer of Matthews Duncan may be repeated. He, after consulting physiological and physical authorities, could say that a child living and one recently dead were the same as to tensile strength. In this connection it is well to refer to the amount of traction which may be safely applied to the lower jaw of the foetus, as stated by Duncan* from his own experiments. It will be observed that his results are not the same as those announced by Champetier. Duncan states:

"It is now ascertained that a force of half a hundredweight (fifty-six pounds) may, at least in some cases, be applied by dragging the lower jaw of the foetus without producing any easily discovered injury of parts."

He further says that compound dislocation would be almost certainly fatal, and in one of his experiments this injury was done by a weight of fifty-six pounds. Not only does Duncan's statement as to the force which the inferior maxillary will bear without injury differ from that of Champetier, but the difference is still greater from that given by Delore, who makes this forty kilogrammes.

Fractures of the cranium usually involve the parietal bones, but they may also occur in the frontal, in one of the temporals, or in the occipital. Jacquemier first pointed out the separation between the squamous and the basilar portion of the occipital bone, to which some more recent writers† have directed attention without giving him just credit. He has also stated that he has met with fracture of the occipital in that part of the bone above the protuberance.

Ruge,‡ referring to separation of the epiphyses between the squamous portion of the occipital bone and the articular part, states that Schröder is the only one who has recently drawn attention to it, and, notwithstanding its importance in regard to the life of the child, this lesion is not referred to in classic works as one of the immediate consequences of extraction. The lesion may occur in a narrowed pelvis, though the presentation is cranial. In these cases there may be not only effusion of blood, but further compression by the squamous portion having its anterior inferior margin forced against the medulla.

On the other hand, severe injury of the frontal bone has been observed without serious consequences. Thus, Dugès* saw a child recently born, and the left eye was almost completely outside the orbit, so great was the depression of the frontal bone, yet the infant did not have convulsions or any other grave symptoms. I have, however, seen protrusion of the eyeball in a new-born following fracture of the frontal bone by Hodge's forceps, used in a case of tedious labor in a primipara, the delay being from an occipito-sacral position; the child lived for a week after birth. That an infant may survive very grave injuries in labor is proved by a case reported by Lamotte,‡ in which a surgeon, in a case of shoulder presentation, had torn away the arm, and then performed craniotomy, evacuating a large amount of the cranial contents; yet the child was born alive. Zweifel^Δ regards fissures and fractures of the cranial bones as only of clinical significance if a sinus is injured and consequent hæmorrhage occurs. On the other hand, Delore[◊] asserts that all these fractures are grave, on the ground that

* "Trans. of the Obstet. Soc. of London," vol. xx.

† Thus Bednar, "Die Krankheiten der Neugeborenen und Säuglingen," Vienna, 1863, refers to it as a hitherto unobserved injury.

‡ "Bull. gén. de thérap.," from "Zeitschr. f. Geburtsh. u. Frauenkrankh.," 1875.

* Jacquemier, *op. cit.*

‡ "Traité des accouchemens," 1726.

^Δ "Lehrbuch der Geburtshilfe."

◊ *Op. cit.*

* *Op. cit.*

† "Am. Jour. of Obstet.," 1875.

‡ "Med. and Surg. Reporter," February, 1880.

* "Du passage de la tête foetale à travers le détroit supérieur rétréci du bassin."

they may be accompanied by contusions of the brain. Further, there may be hæmorrhages between the bone and the periosteum, in the cavity of the arachnoid, or between the pia mater and the brain. If the solution of continuity is at the position of a sinus, there is frequently rupture of the vessel. He adds that in all cases in which the head has undergone severe compression from dystocia, he believes hæmorrhages occur. The significance of this last remark will be appreciated, especially when we consider the remote consequences upon the mental condition of the child, as urged more especially by some English observers.

Injuries to the bones of the face are usually of the inferior maxillary. This bone may be fractured, or separation of the mental symphysis may occur. Ruge mentions cases in which, in addition to injury of the bone, there were lesions of the soft parts—as, for example, tearing of the skin at the angle of the mouth, as well as the mucous membrane of the pharynx and rupture of the genioglossus.

Yet, if we fail to use traction upon the lower jaw in cases of difficult head-last labors, we miss what may prove an important means of delivery in some cases, and which may be of great value when other means fail. Some years ago, in a case of narrowing of the pelvic inlet, having failed to deliver with the forceps, I performed podalic version, and sought to deliver by traction, while a consultant aided with a suprapubic pressure. I am confident I did not use the force which some operators have safely employed under similar circumstances, yet the cervical vertebræ gave way, either by separation or by fracture, and I found apparently nothing but the integument holding the head to the body. I then succeeded by traction upon the inferior maxilla, suprapubic pressure assisting, in bringing the head into the pelvic cavity.

That the head may be left in the uterus, the body being dragged away, is a fact proved by occasional instances in the history of obstetrics. In other cases the division has been made, not by rupture, but by cutting through the neck. An instance is reported* in which the obstetrician, failing to deliver the head in a case of shoulder presentation, after detaching the arm and bringing down the feet, performed decollation, and the head and the placenta remained in the uterus for forty days. Freund mentions a case in which the head was left in the uterus for ten years.

Probably the most remarkable case of multiple injuries to the face has been recorded by Petit.† The face presented, rupture of the uterus occurred, and the woman died undelivered, though the forceps had been used. The autopsy of the child showed multiple separations of the bones of the face and fractures.

Paralysis of one of the facial nerves has been observed most frequently, but not exclusively, after the use of the forceps. In a paper read before the American Gynecological Society in 1885, I referred to eight cases of spontaneous facial hemiplegia, and also mentioned one case observed by Seeligmüller, in which the paralysis affected both sides of the face. But the disorder usually occurs from the use of the forceps, and is caused by the pressure of one of the blades at the stylo-mastoid foramen, or a little in front of the lobe of the ear. Landouzy, who has best described the affection, has remarked that in the infant the complete absence of the mastoid apophysis, and the slight development of the auditory canal, favor the possibility of this compression of the facial nerve near its point of emergence. In six weeks, according to Parrot and Troisier, recovery usually takes place in paralysis of the facial caused by forceps. Many

patients, however, are well in ten days. Nevertheless, while recovery is the rule, it should be remembered that in some the injury is permanent. Duchenne* refers to two patients, one fifteen years old and the other five years and a half, in each of whom the paralysis continued. It should also be observed that there may be facial paralysis in the new-born caused by protracted labor and intracranial hæmorrhage. Injuries of the sterno-cleido-mastoid muscle have been observed by several. In reference to torticollis of obstetric origin, Stromeyer and Dieffenbach explained the affection as resulting from improper application of the forceps, the muscle being bruised or torn. Nevertheless, this explanation is rejected by Saint-Germain as not plausible. A very large proportion of infants that have wry-neck are born with pelvic presentation, and it is asserted that in the traction exerted rupture of a greater or less number of the fibers of the muscles takes place, and a hæmatoma follows; finally, the contractions of the cicatricial tissue result in drawing the head into its unnatural position. One of the first references to tumors of the sterno-cleido-mastoid was made by Melchiori † in 1862. He spoke of them as indurations of muscle, sometimes met with in young infants, and to which he found no reference in authors. He met with the disorder four times, and he described the affection as an indurated plastic deposit; while he mentions temporary deformity of the neck, he does not speak of any case in which this was permanent. In referring to the ætiology, he suggests that compression of the muscle or laceration of some of its fibers may take place during labor. The next year both Dr. Wilks and Sir James Paget ‡ met with cases of what they described as chronic induration of the sterno-cleido-mastoid. Another case of the affection was reported the same year by Harris, and thus the published cases in a few months were at least six, but no reference was made by any of the reporters to the previous observations of Melchiori. Bryant, § in 1863, reported two cases of thickening of the sterno-cleido-mastoid. One patient was four, the other eight weeks old when he saw them; in each instance the birth was with pelvic presentation. Probably in all the cases, or at least in a majority of them, the disease was hæmatoma. Nevertheless, Blachez || regards these tumors as caused by an interstitial myositis in consequence of traction upon the muscle. He describes the tumor observed in one of his patients as elastic, almost painless, and of the size of a pigeon's egg; it was situated in the right sterno-cleido-mastoid, and was not discovered until two or three weeks after birth, when the attention of the parents was called to it by the infant's keeping the head inclined to the right side. Zweifel recognizes injuries of the sterno-mastoid muscle in labor as a cause of torticollis.

Professor Albert, ¶ of Vienna, referring to a child with torticollis, states that the sterno-cleido-mastoid may become contracted during intra-uterine life, or be injured during birth. In breech presentations and in difficult forceps delivery a laceration of this muscle may occur, and be followed by inflammation and contraction. While such injury is more frequent after head-last labors, yet it is also met with in vertex presentations, and if the forceps has been used.

On October 2, 1861, a paper was presented to the Obstetrical Society of London by Dr. Tyler Smith for Dr. W. J. Little, the title being "Upon the Influence of Abnormal Parturition, Difficult Labors, Premature Birth, Asphyxia Neonatorum,

* See Nadand, "Des paralysies obstétricales des nouveau-nés."

† "Med. Times," London, vol. ii, August 9, 1862.

‡ "Lancet," vol. i, 1863, pages 11, 236, and 313.

§ London "Med. Times."

|| "Gaz. hebdom. de med. et de chir.," May 19, 1876.

¶ "Obstet. Gaz.," September, 1882.

* "Obstet. Gaz.," from "Arch. f. Gynak.," March, 1883.

† "Ann. de gynéc.," 1874.

on the Mental and Physical Condition of the Child, especially in Relation to Deformities."* In this paper, which by the way mentions two cases of wry-neck that he attributed to difficult labors, the author says:

"It is impossible not to connect the persistent affections of the intellect, of volition, and of organic life, with the injury the several nervous centers suffered, in some instances before the fetus had reached the maternal pelvis, in others while in transit through it; and in a third set of cases, where the fetus was exposed to neither of these kinds of injury, it suffered from asphyxia neonatorum, suspended animation, and its concomitant congestions, effusions, capillary apoplexies of the brain, medulla oblongata, and spinal cord."

Dr. Langdon Down, in discussing the obstetrical aspects of idiocy, stated that in a very large number of cases of idiocy the subjects were born after difficult labors, these being unusually tedious, and he held that if a neurotic tendency was present the tedious labor and suspended animation might determine the catastrophe, where otherwise all might have gone fairly well.

The following note from one of Dr. Little's† correspondents may be of some interest; it is in reference to a young man in regard to whom inquiry had been made by Dr. Little:

"I have again ascertained he was asphyxiated for two hours when born, and that he has always been a weak creature, very slow in mental development, with difficulty in speaking, trembling and shaky, unable to fix his attention on a book, and a bit of a punster." The final statement, "a bit of a punster," is conclusive as to the intellectual feebleness of this unfortunate man!

These views are further strengthened by the statement of Dr. Arthur Mitchell‡ that he believes there is a connection between difficult labor and idiocy.

INJURIES OF THE TRUNK.—The chief lesions of the trunk are rupture of the connections between the dorsal vertebræ, or fracture of one of these, injuries to the abdominal wall by a badly directed blunt hook, effusion of blood in muscles, similar to those that have been referred to as occurring in the sternocleido-mastoid, retropleural hæmorrhages along the spinal column in case rupture of this column occurs, hæmorrhage into the abdominal or thoracic cavity, and collections of blood beneath the capsule of the liver, or of the kidneys, and rupture of the sacro-iliac joint. Ruge has collected forty-four cases of injuries to the fetus occurring in extraction after version, and twenty-nine of injuries in pelvic presentations; in the former there are three of rupture of the sacro-iliac joint. It is probable, as suggested by Zweifel, that some cases of ankylosis affecting this joint, of which the ætiology is obscure, are to be attributed to injury in birth. Zillner* has reported a rupture of the sigmoid flexure occurring in labor.

INJURIES OF THE ARMS.—In connection with these lesions those of the scapula and clavicle, which belong to the arms rather than to the trunk, will be considered. Delore states that fractures of the humerus are more frequent than all others; since they are usually readily cured, and are generally caused by *maladresse*, they are rarely published. But he further says that this accident may occur in the hands of the most expert accoucheur if the pelvis be contracted. It most frequently occurs in the disengagement of the arms after podalic version when extraction is necessary, and may also happen in pelvic presentation, but usually, if we do not have to extract the child—that is, if the expulsion can be left solely to nature—the arms will not ascend, but remain applied to the chest. Smel-

lie* states that he fractured the humerus in a case in which he turned and delivered by the feet, and this is the only one he gives, while he mentions three cases of fracture of the femur, two occurring in the practice of his assistants, and one in his own. All obstetricians agree that in bringing down an ascended arm it is important that no pressure be made until the internal angle of the elbow is reached, and that three or four fingers should be employed, and not one or two. Pajot regards it as important that the posterior arm should be liberated first. Küstner† describes separation of the epiphysis of the head of the humerus from the diaphysis as one of the injuries of labor which may be overlooked or falsely regarded as a luxation, fracture of the neck of the scapula, or injury to nerves. Fractures of the clavicle, separation from its sternal attachment transverse fracture of the scapula, separation of the epiphysis of the neck of the scapula, injury of the acromion process, and dislocation of the humerus have been observed. Fracture of the clavicle is most frequently caused by pressing directly with one or two fingers in the endeavor to bring the head through the pelvic inlet after podalic version, or in pelvic presentation. M'Clintock, in one of his annotations to the Sydenham Society's edition of "Smellie," observes: "Although Smellie gives no example of fracture of the child's clavicle during delivery by the pelvic extremities, yet, in my experience, it is a bone very apt to be broken by the manipulations of the accoucheur—more so even than the humerus; this may, perhaps, be explained by its greater degree of ossification."

PARALYSIS OF THE ARM.—Sinkler recognizes hemiplegia as, in some cases, the consequence of injury at the time of birth, either from the forceps or from the pressure of a prolonged labor. Nadaud gives seven cases of paralysis of the arm attributed to the forceps; the first one of this injury reported is one of Smellie's. Jacquemier mentions an instance of paralysis of the deltoid following a long and difficult, but spontaneous, labor; the recovery was complete in fifteen or twenty days. He attributed the disorder to compression of the axillary nerve against the humerus at the point of its attachment to the deep face of the deltoid. Fasbender found a tumor, as large as a pigeon's egg, situated above the right clavicle, in an infant soon after delivery; the hæmatoma gradually disappeared, but at first there was paralysis caused by nerve compression. Delore suggests that paralysis may be caused by the rupture of a nerve-trunk near its connection with the spinal cord. He states that this accident is not rare in the new-born or in young infants as a consequence of traumatism; it is followed by incurable paralysis, which is compatible with life if an upper member only is affected. Disengagement of the extended arms in pelvic deliveries, traction upon the axilla in delayed delivery of the body in vertex presentation, the traction in some cases being with the blunt hook, in others with the finger, have resulted in paralysis

* Sydenham Society's edition of Smellie's "Midwifery," vol. iii, pp. 296, 297. This great obstetrician, in the first volume, *op. cit.*, remarks: "In laborious or preternatural cases, when considerable force hath been used in delivering the child, the whole body ought to be examined, and if there is any mark or contusion on the head it will disappear if anointed with pomatum and gently rubbed off or chafed with the accoucheur's hand; if any limb is dislocated or broken, it ought to be reduced immediately; luxations, though they seldom happen, are more incident to the shoulder than to any other part, the humerus being easily dislocated, and as easily reduced. The ones of the arm and thigh are more subject to fracture than any other of the extremities; the first is easily cured, because the arm can be kept from being moved, but a fracture of the thigh-bone is a much more troublesome case, because, over and above the difficulty of keeping the bones in a proper situation, the part is often necessarily moved in cleaning the child."

† "Ueber die Verletzungen der Extremitäten des Kindes."

* "Trans. of the Obstet. Soc. of London," vol. xviii.

† *Ibid.*, vol. iii. ‡ "Med. Times," 1862, 1863.

* "Ctbl. f. Gynäk.," 1885.

of the arm. So, too, the same disability has followed a case in which the arm has protruded in shoulder presentation, and delivery been effected by podalic version. Luxation of the humerus has, in some instances, been mistaken for obstetric paralysis. Further, it is important to distinguish between cerebral and traumatic paralysis. Duchenne* gives an instance in which there were both cerebral and obstetric paralysis, the latter consequent upon a fracture of the ulna near the elbow.

Fractures of the femur may be spontaneous, or consequent upon artificial delivery. Meyer has recently† reported two cases in which spontaneous fracture of the femur was observed; in one a single femur was broken, but in the other both femurs. In May, 1847, Dr. Vanderveer‡ reported a case of such fracture in childbirth. But probably more fractures of the femur are to be attributed to the attempt to pull down a lower limb in pelvic presentation when the presenting part is already partially in the mother's pelvis, before pressing up that presenting part, or from the use of the blunt hook. Delore's experiments show that with the untired finger traction to the amount of fifteen kilogrammes may be made upon the groin, and this can not break the femur. If a force of fifty-five kilogrammes is employed upon the femur, fracture occurs; if the instrument is perpendicular to the bone, the latter gives way with a pressure of twenty kilogrammes. Again, the bone has been broken, or that which is equivalent, separation of the epiphyses been caused, from traction upon the leg. A. R. Simpson mentions an instance in which, podalic version having been performed, the right lower limb brought down, and traction made, subsequent examination showed that there were three such fractures.*

Luxations of the femur consequent upon obstetric operations, according to Ruge, are exceedingly rare; upon 300 autopsies of new-born infants he did not find a single true dislocation of this bone. Küstner, in referring to luxations of the hip, speaks as follows:

"Göschel relates a case in which Langenbeek reduced such luxation after the subject, a girl, was thirteen years old, and mentions in this connection that Stromeyer had met with twenty cases. The only possible way in which this injury could occur would be by sudden and violent force drawing down the limb, and then dislocation upon the ilium might result. But the force must be great. I have suspended to the leg of a child, from six to ten minutes, a weight of from thirty to forty kilogrammes, without any injury to the joint."

Complete paraplegia in connection with facial paralysis of the right side has been observed following a difficult labor in which the forceps was used. Examples of rupture of the spinal cord, in connection with rupture of a vertebra, have been observed, and, of course, paralysis of the lower limbs. It is remarkable that in two such cases the children lived for some hours. Paraplegia in the new-born is, as Nadaud states, usually an evidence of serious lesion of the cerebro-spinal organs, and the child dies after a short time.

I think the study of these cases of obstetric injuries, which might be greatly extended—for much more remains unsaid than has been said—ought, in the first place, to lead us to a larger charity for fellow-practitioners, as many of the most serious injuries in childbirth may occur without the slightest blame necessarily attaching to the accoucheur. Another lesson is that an important distinction should be made, as urged by Ruge, between podalic version and extraction, never resorting to the latter, unless absolutely necessary, after the performance of the former, and thereby many of the obstetric lesions of the fœtus

may be avoided. Very wisely, Lamotte says, referring to the injuries that may be done in labor to the child by the accoucheur, "The hand improperly used is more dangerous than any instrument."

Again, the question arises as to the safest manual means for the delivery of the head in head-last labors. In Cieslewicz's collection of cases of injuries of the fœtus in labor, there are several in which very serious consequences resulted from employing the Prague method. One of these, reported by Gusserow, showed, upon post-mortem examination, rupture of the vertebræ and most of the soft parts of the neck so complete that the head was attached to the trunk only by the skin and the vertebral arteries. Ruge, rejecting both the Prague and the Vienna method, prefers elevation of the occiput, bringing the face down, and carefully conducted expression, as least liable to injure the fœtus.

Another question of practical interest is as to the best method of delivery in pelvic presentations, when interference is necessary. Should we follow that employed by Goodell, in all cases bringing down a foot as soon as possible, and thus be commander of the situation, in case necessity for extraction arises? Must we use the blunt hook? Is the application of the forceps to the breech to be generally advised?

Again, while treatment of fractures of an upper limb, or of the clavicle, is said to present usually no great difficulty, can a similar statement be made as to fracture of the femur? What method of treatment is best?

In depressed fractures of the skull, is it not probable that some lives might be saved by the use of the trephine? and in other cases, not followed by death, perfect mental integrity insured?

(To be continued.)

NEW YORK STATE MEDICAL ASSOCIATION.

(Concluded from page 499.)

Discussion on Typhoid Fever.—Dr. ALFRED L. CARROLL opened the discussion with a paper in which he propounded seven questions: 1. Does the term typhoid fever properly include all the varieties described by observers, or are there other continued fevers still undifferentiated commonly grouped under this head? The author gave an affirmative answer to the second part of this question. 2. Is typhoid fever always the product of a specific contagium from a pre-existing case, or may it arise *de novo* from filth-fermentation? There were so many cases of adynamic fever in isolated rural districts, resembling typhoid fever, in which no direct connection with known previous cases of typhoid fever could be traced, that some were disposed to answer the first part of the question in the negative. The difficulties in the way of an exact diagnosis, and of proving the absence of specific contagion, were considered. 3. What part is played by micro-organic ferments in the causation of enteric fever? This question, and the one following, the author discussed from an historical standpoint. 4. Is there a disease of the lower animals transmissible to man as typhoid fever? 5. What media of causation or transmission of typhoid fever are to be guarded against in public or private sanitation? The greatest source of danger was contaminated water. Implicit confidence should not be placed in artificial methods of purification. The simplest and safest thing to do was to boil the water. The public water supply should be absolutely uncontaminable by drainage. 6. What are the complications and sequelæ properly associated with typhoid fever? 7. What are the indications for treatment, and are relapses and untoward complications favored by some antipyretic measures?

* See Nadaud, *op. cit.*

† "Arch. f. Gynakol."

‡ "New York Med. Jour."

* "Edinburgh Med. Jour.," 1880.

Dr. E. G. JANEWAY, discussing the first question, stated it as follows: Do we encounter in this state a form of continued fever not due to typhoid poison, but liable to be mistaken for typhoid fever? All physicians of practice must at times have seen cases in which they were in doubt as to the nature of the poison which was the cause of the fever. He had seen within one year as many as twenty cases of typhoid fever mistaken for remittent, malarial, typho-malarial, or simple continued fever. He thought the type of the disease had changed less than the diet and treatment, which now allowed it to run a more natural course, with less diarrhoea, etc. Typho-malarial cases were, he believed, simply cases of malarial fever with typhoid fever added, and he thought it wiser to stick to the nomenclature typhoid fever, and look upon the malarial element as a complication. As to the second question, difficulties were presented which to his mind prevented a thoroughly honest and yet a decisive answer. He admitted a germ as the original cause of typhoid fever, but it was difficult to give positive proof that the disease had never developed except from a pre-existing case. Alleged cases going to prove that it had developed *de novo* had many weak points. The speaker had long entertained the possibility of spontaneous origin, but he could not admit that the cases which he had seen, or those which had been communicated to him, or those of which he had read, proved it beyond doubt.

Dr. H. M. BIGGS, after describing the bacillus found in typhoid fever, said it might certainly be affirmed that the disease produced in animals by inoculation with typhoid bacilli was not similar to that which occurred in man, because the induced disease terminated rapidly (in twenty-four hours or four days); nearly the same symptoms and lesions existed as after inoculation with the sterilized bacilli, and also after inoculation with earth and other bacilli. The severity of the symptoms was almost directly proportional to the dose of the bacilli. He summed up the evidence as follows: There were invariably found in the spleen, the mesenteric glands, Peyer's patches, and sometimes the liver and kidneys, in cases of typhoid fever, peculiar short, thick bacilli. This bacillus was the only organism found in the internal organs in uncomplicated cases of the disease, and it was never found in any other condition of health or disease. All experiments thus far to produce this disease in the lower animals had been unsuccessful. The bacillus found in the stools of typhoid-fever patients had in a few instances been found in the water which was the source of the disease. This organism must bear some relation to the disease, either as cause, accompaniment, or result, and there were no grounds for supposing it an accompaniment or result.

D. E. SALMON, D. V. S., of Washington, discussing the fourth question, said the facts which came under his observation were necessarily one-sided. He knew of no facts to show that there was a specific disease in animals which would produce the specific disease in man attributed to the bacillus described by Dr. Biggs. In the cholera of hogs there was a bacillus which was identical in microscopical characters with the bacillus described in typhoid fever, and it was similar in its ability to live and multiply in reasonably pure drinking water. But he had never seen the cholera disease of hogs produce specific typhoid fever in man. Referring to outbreaks of scarlet fever alleged to have originated from an eruption on the cow, he thought it had not been proved. The lesion on the cow was that of cow-pox. A large number of micro-organisms did produce ptomaines, and these produced symptoms similar to those of specific diseases. As a bacteriologist, he had for a long time been of the belief that immunity from certain diseases had been brought about by the action of ptomaines, and perhaps in the future we should be able to separate the specific ptomaines produced by the

growth of the specific viruses of different contagious diseases, and by using these we should be able to produce a degree of immunity equal to that produced by one attack of the disease. If immunity was caused by these ptomaines, it seemed to follow that the germ could not produce the disease except by the ptomaine which it developed in the body and by lowering the vitality of the body. The only way in which we had been able to produce immunity by ptomaines was by inoculation.

Dr. CHARLES A. LEALE and Dr. E. D. FERGUSON discussed the fifth question in separate papers. As media of transmission, Dr. Leale spoke of the water, sewage, atmosphere, ice, food, vegetables, fruit, milk, clothing, and bedding. Flies could, he believed, also be the source of transmission of the poison. He quoted Carpenter approvingly on the disposal of sewage in farming.

Dr. FERGUSON considered methods of destroying the contagium, and traced the origin of two outbreaks of typhoid fever in Troy, both being due to contamination of the drinking water, aided in one case by inhalation of ground-air following an overflow.

Dr. CHARLES G. STOCKTON discussed the seventh question. The patient should have a large, airy, sunny room, a large single bed, and a good nurse, should not be overfed, and the temperature should be regulated when necessary, first, if possible, by sponging. Alcoholics and narcotics should be administered as the case demanded.

The Address in Medicine was read by Dr. JOHN CRONYN, of Buffalo, who pictured the part played by the different branches of medicine, physiology, pathology, and therapeutics, toward the advancement of the whole, which had its existence only for the prevention of disease and the restoration of health.

Cold as a Therapeutic Agent.—Dr. B. L. HOVEY, having briefly considered the use of cold as a therapeutic agent by the ancients and physicians of modern times, gave some personal experience with it.

Small-pox in Brooklyn; Defective Isolation and Defective Vaccination.—Dr. NELSON L. NORTH traced the recent epidemic of small-pox in Brooklyn, covering a year, to the case of an immigrant at Castle Garden. The number of persons found unvaccinated among those visited by the officials in the city was six thousand. He showed the defects of the present plan of vaccination and isolation in Brooklyn, not because that city was worse in these regards than others, but because he was better acquainted with it. The remedies proposed were, the passage of more exact laws having reference to the control of patients with contagious diseases, as well as stringent enforcement of those in existence. The unconstitutionality of such laws and the difficulty of controlling individuals constituted objections more apparent than real. We had entire control of the insane; the same might be true of small-pox patients. Treat them more humanely, banish the small-pox hospital, a relic of barbarism, give good nurses and physicians well enough paid to stay by the sick and care for them. A greater proportion of those in hospitals died than of those who concealed themselves at their homes. It was believed that some were sent to these pest-houses who did not have the disease, but there acquired and died of it. Insist upon better regulations therein, on comfort, cleanliness, care, and medical treatment, so that the patients could recover when recovery was possible, and the difficulties of the case would be practically overcome, and the isolation of the sick with small-pox would be easily effected. Vaccination should be made compulsory.

Specialists.—Dr. HENRY C. VAN ZANTZ in this paper made a plea in behalf of the general practitioner *versus* the specialists, who, he said, were becoming too numerous.

Epithelioma of the Vulva.—Dr. THOMAS H. MANLEY, of New York, read the histories of two cases of epithelioma of the vulva, a disease which he regarded as malignant, like cancer, and for which in these cases he had performed excision. Thus far the results had been good. Epithelioma of the vulva had received little attention in the books.

Discussion on Placenta Prævia.—Dr. GEORGE T. HARRISON, of New York, opened the discussion with a paper in which he first alluded to the importance of the study of the behavior of the cervix in the latter part of gestation and during labor. The older views seemed to have been established on a solid basis, but recently the arguments brought forward by Bandl had seemed to overthrow them in great part. The uterus was differentiated into the contracting and thickening upper part, and the expanding and thinning lower uterine segment and cervix. During labor the lower uterine segment was essentially passive, the upper part exhibiting active contractions, the boundary between the two being denominated by Schroeder the ring of contraction. The all-important symptom of placenta prævia was, of course, the hæmorrhage, the source of the bleeding being the placental site, and the cause being the separation of the placenta. In treatment the important problem to solve was to guard the patient against two dangers—bleeding first, sepsis second. The special liability of women who were the subjects of placenta prævia to septic infection was explained by the lower situation of the placenta, and by the lacerations so frequently attendant upon this condition, the agent of infection being the examining finger of the accoucheur. Anæmia further favored septicæmia. In the treatment, the bipolar method of version introduced by Braxton Hicks was advocated as the best means of fulfilling all the theoretical indications. Zweifel's method of avoiding perforation of the placenta in central implantation was especially commended. The problem of the future should be to diminish the terrible sacrifice of the child. Zweifel's method might help, as well as improvements in antiseptic procedures, enabling us to use the vaginal tampon and rupture the membranes without perforation of the placenta.

The questions raised by Dr. Harrison were as follows: 1. In cases of placenta prævia, what anatomical and physiological facts explain the hæmorrhage occurring during pregnancy, and why is hæmorrhage unavoidable during miscarriage or labor? This question was discussed by Dr. C. C. FREDERICK and Dr. ISAAC E. TAYLOR. The former did not think hæmorrhage was absolutely unavoidable.

Dr. TAYLOR said it had been shown by the anatomists that the body of the uterus and cervix were distinct, and he had demonstrated by the touch during the progress of pregnancy and labor, and by sight during labor-pains, that the cervix did not become coalescent or one with the body, but remained distinct, expanding and lengthening during delivery, while the body contracted and accomplished delivery. These views, which he had entertained as long ago as 1852, and expressed in a paper at the Academy of Medicine in 1862, had not been generally adopted, but had been revived by Hofmeier at the Obstetrical and Gynecological Society of Berlin in 1884. The cervix was not physiologically adapted for the implantation of the placenta, the proper habitat of which was the body of the uterus; and it made no difference at what part of the body the placenta was attached, if it was over the internal os that orifice would remain sealed until labor commenced, whether at an early period or not. The hæmorrhage which took place in placenta prævia occurred during relaxation, not during contraction of the uterus.

2. In this anomaly, what is the source of the hæmorrhage, and what is the mechanism of its arrest? Dr. DARWIN COLVIN and Dr. S. B. WYLIE McLEOD discussed these questions. Dr.

COLVIN said he had no very definite views of his own of the source of the hæmorrhage, and would not occupy time in quoting those of others. The arrest of it should be by bringing on labor, which he strongly advocated in order that the mother's life might be made safe.

Dr. McLEOD thought the source of the hæmorrhage might be either of those generally considered—the placenta, the uterine sinuses, or branches of the uterine artery or vein, or both, or all combined. As to the mechanism of its arrest, that of Simpson was to cut off the supply of blood to the placenta from the uterus by making the partial separation complete; this would also cause contraction and closure of the uterine sinuses. The tampon only temporarily delayed bleeding. There were other ways of stopping hæmorrhage here, as of stopping other forms.

3. If placenta prævia is diagnosed during pregnancy, is the induction of premature labor indicated? Dr. W. T. Lusk discussed this question. The physician should not leave his patient until her safety was secured. If he found the cervix soft and dilated, the patient should be anesthetized, the hand introduced, the membranes ruptured, and one inferior extremity brought down; in this way the hæmorrhage would be promptly controlled. The subsequent expulsion of the child should be left to nature. The finger, if possible, should be pushed between the uterus and the placenta, or, if not possible, through the placenta, in extracting the extremity. Of course, version was attended by serious loss of infantile life, but statistics showed that, with procrastination and the tampon, two out of three died, and more than half of those born living died within the first ten days. If pregnancy had advanced beyond the seventh month we should as a rule proceed to deliver, for the next hæmorrhage might result in the death of mother and child; if the child was not yet viable, the hæmorrhage usually led to abortion, and the treatment of it was like that of other cases of abortion.

4. During labor, in cases of placenta prævia, what mode of treatment best subserves the interests of the mother and the child respectively? Is that plan of treatment which best conduces to the preservation of the mother's life incompatible to a certain degree with the child's interest? Dr. R. L. BANTA and Dr. JOHN SHRADY discussed this question. Dr. BANTA favored Braxton Hicks's method of version. During the last ten years eleven cases had come under his notice; seven were treated by the older method, with the death of two mothers from septicæmia; the other women, treated by version, lived.

Dr. SHRADY presented certain points for future study: 1. The fetal mortality of placenta prævia being somewhat in excess of the maternal, the efforts of the accoucheur should be directed to the safety of the former. 2. In a given number of cases of cervico-lateral attachment, hæmorrhage might cease spontaneously or be arrested by Barnes's method of digital detachment. 3. Labor-pains induced by the escape of the liquor amnii might be severe enough to end in delivery with safety to both mother and child. 4. Dilatability of the cervix uteri was a *sine qua non* for any procedure. 5. To diminish the chances of mortality for a viable child, version should be considered as an early expedient. 6. Version under proper restrictions was not of necessity dangerous to the mother, while delay might utterly destroy the chances of the child. Delivery with the forceps was often a choice between expedients. 7. What best promoted the interests of the fetus also promoted those of the mother.

5. After childbirth, in placenta prævia, what therapeutical measures will most certainly guard against the dangers of hæmorrhage and septic infection? Dr. JOHN G. ORTON and Dr. WILLIAM H. ROBB discussed this question. Dr. ORTON said that,

if restricted to either ergot or friction over the nipples to arrest uterine hæmorrhage, he would choose the latter. As to septic infection, it should be avoided by cleanliness, washing out all clots, and well-known precautions.

Dr. ROBB would lower the head, seek to secure contraction of the uterus, and give a hypodermic injection of ergot, in order to arrest hæmorrhage. In a few cases he had obtained good effects from nuxvomica after administering ergot. If necessary, he would throw hot carbolized water into the uterus. The faradaic current had enabled him to maintain the uterine contraction. Antisepsis should be observed in all procedures.

A Case of Acute Mania following a Brief Attack of Articular Rheumatism.—Dr. JAMES C. HANNAN gave the history of the case, which was especially interesting from a diagnostic point of view. The autopsy had been made by Dr. Seymour, who had not, he thought, found sufficient lesions in the brain to account for the maniacal symptoms. The patient, besides having rheumatism, was anæmic.

A Case of Intrarectal Larvæ, with Gastritis, in an Infant.—Dr. CHARLES S. ALLEN reported the case. The dejections contained something which resembled under the microscope the larvæ of the blow-fly, which he was disposed to think had been ingested with the food.

Book Notices.

De la tuberculose nasale. Par le Dr. A. CARTAZ, ancien interne des hôpitaux de Lyon et de Paris, etc. Paris: A. Delahaye et E. Lecrosnier, 1887. Pp. 5 to 23.

In this well-written monograph the author enters a plea for the more careful study of nasal tuberculosis, and lays stress on the fact that correct data can only be obtained by the aid of the microscope. A review of the literature of nasal tuberculosis, with a citation of cases, is given. While the author inclines to the belief that nasal tuberculosis is secondary to the pulmonary lesion, he deprecates the hasty diagnosis of the disease in the nose, in subjects where well-marked pulmonary deposits exist, unless the facts are fully established by the presence of the characteristic bacillus. Attention is called to the error of frequently confounding syphilis and lupus with tuberculosis. The author's task has not been a light one, as his subject has not received that attention on the part of rhinologists which it deserves, and, if for no other reason than that, Dr. Cartaz's work will stimulate more careful research, and should be welcomed.

BOOKS AND PAMPHLETS RECEIVED.

Holden's Human Osteology, comprising a Description of the Bones, with Delineations of the Attachments of the Muscles, the General and Microscopic Structure of Bone, and its Development. Edited by Charles Stewart, Conservator of the Museum of the Royal College of Surgeons of England, etc., and R. W. Reid, M. D., F. R. C. S., Lecturer on Anatomy, Medical School of St. Thomas's Hospital, etc. Seventh Edition. Philadelphia: P. Blakiston, Son, & Co., 1887. Pp. ix-356. [Price, \$6.]

Lectures on the Diagnosis of the Brain, delivered at University College Hospital. By W. R. Gowers, M. D., F. R. S., Professor of Clinical Medicine in University College, etc. Second Edition. Philadelphia: P. Blakiston, Son, & Co., 1887. Pp. vii-254. [Price, \$2.]

On the Animal Alkaloids. The Ptomaines, Leucomaines, and Extractives in their Pathological Relations. Being a short Summary of Recent Researches as to the Origin of some Diseases by or through the Physiological Processes going on during Life. By Sir William Aitken,

Knt., M. D., F. R. S., Professor of Pathology in the Army Medical School. Philadelphia: P. Blakiston, Son, & Co., 1887. Pp. vi-61. [Price, \$1.]

Some Observations upon Pelvic Cellulitis. Read before the Medical Association of Georgia, April 22, 1887. By Virgil O. Hardon, M. D., Professor of Obstetrics and Diseases of Women and Children, Atlanta Medical College, Atlanta, Ga. [Reprinted from the "Atlanta Medical and Surgical Journal."]

The Urine. Memoranda, Chemical and Microscopical, for Laboratory Use. By J. W. Holland, M. D., Professor of Medical Chemistry and Toxicology, Jefferson Medical College of Philadelphia. Illustrated Philadelphia: P. Blakiston, Son, & Co., 1887. Pp. 43. [Price, 50 cents.]

Nasal Polypus, with Neuralgia, Hay Fever, and Asthma, in Relation to Ethmoiditis. By Edward Woakes, M. D., Lond., Senior Aural Surgeon and Lecturer on Diseases of the Ear at the London Hospital, etc. With Illustrations. Philadelphia: P. Blakiston, Son, & Co., 1887. Pp. xii-140. [Price, \$1.25.]

Four Months among the Surgeons of Europe. By N. Senn, M. D., Ph. D., of Milwaukee, Wis. Being a series of Letters to Dr. Chr. Fenger. [Reprinted from the "Journal of the American Medical Association."]

The Treatment of Pulmonary Consumption, with a Report of Forty Cases. By Thomas J. Mays, M. D., of Philadelphia.

Congenital Hydrocephalus. A Case in Practice. By G. T. Bartlett, M. D. [Read before the Southeast Missouri Medical Association, at Marble Hill, November 1, 1887.]

Surgical Clinic, St. Louis College of Physicians and Surgeons, service of Professor A. C. Bernays. Cases operated on during the First Month of the Winter Session, 1887-'88.

Reports on the Progress of Medicine.

SURGERY.

By MATTHIAS L. FOSTER, M. D.

The Administration of Anæsthetics.—Hewitt presents some very pertinent suggestions ("Practitioner," August, 1887) regarding the choice and administration of anæsthetics. While he admits ether to be ordinarily the better, he considers chloroform preferable in cases of patients suffering from some cardiac or pulmonary affection in whom the symptoms of pulmonary derangement preponderate, and in coarse, fat, flabby persons, in whom the respiration is frequently chiefly diaphragmatic, on account of the known tendency of ether to cause paralysis of the respiratory centers. Where capillary hyperæmia and venous engorgement are likely to constitute a serious difficulty or danger he considers that chloroform should be employed. The danger of inducing general anæsthesia in patients who are subject to obstructive dyspnoea is discussed at some length, but no means of avoiding this danger in cases where operation is necessary is suggested. His explanation of this danger is that while awake these patients call into action certain nervous mechanisms controlling muscles not employed in normal respiration to assist in overcoming the obstruction; that these extraordinary or vicarious centers fall victims to the anæsthetic in their usual sequence, leaving the entire burden of respiration to fall upon the higher centers, which have already proved unequal to the task. The blood becomes increasingly more and more venous until finally death may result from asphyxia. Artificial respiration may revive the patient. An important point is made regarding the administration of a hypodermic injection of morphine before inducing general anæsthesia, as is quite frequently done, especially in cerebral surgery, on account of the resulting diminished vascularity of the brain. But it should be borne in mind that morphine has a very sedative influence upon the respiratory centers, and that in susceptible patients, or in those with enfeebled or embarrassed respiration, its action, combined with that of the anæsthetic, may produce alarming symptoms. The greater susceptibility of

patients suffering from cerebral disease should also be remembered, and the morphine should be omitted if there is any tendency to coma.

Relief of Tympanites by Puncture of the Abdomen.—This operation, which is frequently performed by veterinary surgeons on the lower animals, has seldom been done on the human subject, although it seems to have usually been successful. Dr. J. W. Ogle has collated in the "Lancet" most of the literature on the subject from the earliest times to the present, and compared the opinions of the gentlemen who have performed the operation, showing clearly its value and safety. In extreme flatulent distension the pressure upon the diaphragm and the sympathetic nerves produces the effect of paralysis of the diaphragm, limiting the expansion of the chest cavity, and the exchange of respiratory gases in the blood, while it compresses the liver and interferes with the action of the heart. The dyspnoea and interruption of the circulation thus produced will end life in a short time if not relieved. In such cases, after ordinary means of relief have failed, it is recommended to plunge a fine trocar and cannula into the most distended portion of the abdomen and allow the gas to escape. This is always followed by an immediate relief of the symptoms, sometimes temporary but often permanent. If the relief is only temporary, the operation may be repeated a number of times. At times the gas seems to exist in compartments, as if separated by sharp bends and turns of the intestine. In these cases several punctures may be needed. A number of cases of obstinate constipation, dependent probably on paresis of the muscular wall of the intestine from overdistension, are reported to have been cured by the removal of gas in this manner. Possibly relief may be obtained in the same way in cases of volvulus. The chief danger to be apprehended is that of peritonitis, but this appears to be very slight. In a few cases fecal matter was found in the peritoneal cavity, but upon investigation it seemed that the escape had been post-mortem rather than ante-mortem. The operation is certainly indicated in all such cases, at least as a *dernier ressort*, but it must not be delayed until irreparable mischief has been effected by the prolonged pressure.

Cystitis.—Ultzmann recommends ("Internationale klin. Rundschau"; "Ctbl. f. Chir.," 1887, No. 30) in cases of irritable bladders to wash them out with a solution in lukewarm water of tincture of opium, cocaine $\frac{1}{4}$ per cent., resorcin $\frac{1}{2}$ per cent., and carbolic acid $\frac{1}{6}$ per cent. In case of ammoniacal decomposition of the urine he uses a $\frac{1}{10}$ -per-cent. solution of permanganate of potassium, or a solution of three drops of nitrite of amyl in 500 grammes of water. In phosphaturia, a $\frac{1}{10}$ -per-cent. solution of salicylic acid is recommended.

Resection of the Knee Joint.—With a view to preserving a movable joint after resection of the knee, Tilny proposes an operation by which the ligaments about the joint, which are usually sacrificed, may be saved ("St. Petersburger med. Wochenschrift"). Up to the time of writing no practical application of the method had been made. He proposes a crescentic incision from one condyle of the femur to the other, the convexity passing a little below the tuberosity of the tibia, instead of the middle of the patellar ligament, as proposed by Textor. The tuberosity of the tibia, having the patellar ligament attached, is to be removed with a broad chisel, directed upward and backward, the periosteum being first divided, and at least 1 cm. in thickness of the bone being removed. In the same way the epicondyles of the femur, with their attachments, including the lateral ligaments, are to be chiseled off. The crucial ligaments being then divided in the usual manner, the joint will be thoroughly laid open for the removal of the diseased portions of the joint and bones. After the diseased parts have been removed, the tuberosity and the epicondyles, still having their several ligaments attached, are to be replaced in their normal situations on the tibia and femur, and secured in position with ivory pegs. Three weeks after the operation, active and passive motion of the joint may be commenced, together with electrization of the muscles. In cases of joint disease with disorganization of the ligaments, this method is evidently impracticable.

Resection of the Prolapsed Rectum.—Gorski reports ("Przegląd lekarski," 1887, Nos. 8 and 9; "Ctbl. f. Chir.," No. 28) that Mikulicz performs the following operation in cases of prolapse of the rectum in which replacement is useless or impossible, or in which symptoms of incarceration demand interference: After thorough disinfection of the parts, he makes, under continuous irrigation, an oblique incision, 3 cm.

broad, just below the anus through the entire thickness of the outer portion of the intestine, and secures the cut edge of peritonæum to the peritonæum covering the inner portion with Lembert's suture. In this manner the entire prolapsed portion is encircled, and then removed by cutting through the inner part below the peritoneal sutures. The edges of mucous membrane are then united with interrupted silk sutures, and the stump is returned above the sphincter. Good results are said to have been obtained by Mikulicz, Billroth, and Nicoladoni.

Photoxylin.—Von Wahl ("St. Petersburger med. Wochenschrift," 1887, No. 20; "Ctbl. f. Chir.," 1887, No. 31) highly recommends a five-per-cent. solution of photoxylin, in equal parts of ether and alcohol, as a substitute for collodion in surgical operations. The advantages he alleges are its much more lasting attachment to the skin, which is affected neither by contact with fluids nor by washing, its impenetrability to fluids, and the even compression of the tissues effected by it. He maintains that by means of its use voluminous dressings may be dispensed with in small operations, in plastic operations on the face, in operations in the neighborhood of the male sexual organs, and in children, where the soaking of a dressing with urine might endanger the healing of the wound. After the wound is closed with sutures, he places over it a thin layer of absorbent dressing soaked with the solution of photoxylin. This remains eight or ten days, and, by its even compression, renders a drainage-tube unnecessary.

Krynski ("Archiv f. path. Anat. u. Physiol. u. f. klin. Med.," cviii, 1) also speaks in high terms of photoxylin. He calls attention to its great transparency, which makes it useful in microscopical preparations, for which purpose he has employed it during the last ten months. For surgical purposes he recommends it wherever one is accustomed to use ordinary or flexible collodion. For histological purposes he uses two solutions—one "thin," of one half to one per cent., the other "thick," of five per cent.

Fatal Obstruction from a Biliary Calculus.—Audry ("Lyon médical") reports a case of fatal intestinal obstruction from a biliary calculus. A man, fifty years of age, came under his observation complaining of severe abdominal pains, constipation, and vomiting of mucus and bile. The pains and vomiting soon subsided, but the constipation remained. A month later the symptoms returned, and the patient soon presented the appearance of a person suffering from intestinal obstruction. There was little or no tympanites, and there was no pain on pressure of the abdomen. No hernia could be found. The patient gradually sank. At the autopsy a very large biliary calculus, formed of many small calculi agglutinated together, was found blocking up the large intestine.

Hare-lip.—Owen ("Lancet," Aug. 20, 1887) prefers the following operation for hare-lip: The mucous membrane is removed from the shorter piece of lip from the apex of the cleft almost to the angle of the mouth. An incision is then made on the opposite side through the entire thickness of the lip from the apex of the cleft downward, at an angle of about 45°, to a point nearly midway between the opposite nostril and the border of the lip, thus forming a thick, serviceable flap with which to fill the lower part of the cleft. The raw surfaces on the two portions of the lip are secured in apposition with fine silver wire, the mucous membrane is carefully adjusted with horse-hair sutures, and the integumental edges are united in the same manner. The lip is steadied by a piece of waterproof strapping, extending over it from one cheek to the other. To obviate the puckering at the inner end of the incision through the lip, which will otherwise happen, the incision is continued for a short distance in an upward and outward direction. The advantages alleged for this operation are that the line of union is thick and strong, and that the cicatrix is eventually as inconspicuous as it is possible for it to be.

Cutaneous Calculus.—The removal of a cutaneous calculus from the cheek of a woman, aged sixty-five years, is reported in the "Lancet," Aug. 27, 1887. It was irregular, mammillated, of about the size of a quarter of a cubic centimetre, weighed about five grains, and was composed of phosphate and oxalate of calcium and cholesterol. The possibility of its having been taken from a salivary duct or from a dental fistula is said to have been carefully negatived.

Femoral Aneurysm. In the "Lancet" of Aug. 27, 1887, is a full description of the post-mortem examination of a femoral aneurysm

eighteen months after it had been treated by ligature of the external iliac artery by Mr. Anderson. At the seat of ligature the external iliac artery formed a solid cord one tenth of an inch in diameter; above this point it was filled with a clot as high as the bifurcation of the common iliac, below it was filled with a clot as far as the aneurysmal sac. The aneurysm was pyriform, two inches long, and involved the whole circumference of the femoral to below the origin of the profunda. It was almost filled with coagulum, partly soft, reddish and friable, partly pale, firm, and laminated. In the lower and back part was an irregular cavity, occupied in part by a coil of decolorized fibrin extending into the superficial femoral. Into this cavity opened also the profunda, the internal circumflex, and a large muscular branch. The external circumflex joined the profunda just below the point where it left the sac. After the ligation of the external iliac the patient was operated on for popliteal aneurysm of the opposite side, and when he was allowed to get up, two months after the first operation, pulsation recurred in the femoral aneurysm and remained until his death. Complete consolidation would probably have caused gangrene, as the superficial and deep femorals could be reached by the principal collateral stream only by its passing through the fundus of the sac. The popliteal aneurysm was treated by digital compression of the common femoral, together with galvano-puncture. It was found at the examination to be filled with a friable clot without fibrinous laminae, and appeared to have originally communicated with the main vessel by a rather small aperture. It is interesting to note that this patient finally succumbed to an aneurysm of the arch of the aorta.

Treatment of Tetanus with Morphine.—Dukes ("Lancet," Aug. 27, 1887) relates a case of tetanus resulting from extensive burns which grew steadily worse under the use of cannabis indica, potassium bromide, and chloral, until finally he commenced the subcutaneous injection of morphine. Under this treatment the sores healed, the tetanus disappeared, and the patient recovered. Each dose was regulated in size and frequency by the symptoms presented, and varied from one fourth to three fourths of a grain, the daily quantity varying between one fourth of a grain and six grains and a half. The duration of the treatment was five weeks. The distress of the patient was greatly relieved, but scarcely any sleep was produced, and at no time was there any contraction of the pupil. The constipation produced, however, was a great annoyance.

Miscellany.

The Ninth International Medical Congress and American Gynecology.—In an introductory lecture delivered at the University of Edinburgh, on the 19th of October, Professor Alexander Russell Simpson spoke in the following kindly terms, as we find by the "British Medical Journal":

"Besides having the satisfaction of helping to bring about some agreement in our method of describing the mechanism of labor, I felt well rewarded for my close attendance on the Obstetric Section in hearing the President's (Dr. Miller's) interesting address, in which he gave a brief sketch of the more noteworthy obstetricians of America, beginning with Dr. Samuel Bard, the physician of George Washington; a paper by Dr. Braxton Hicks on the 'Contraction of the Uterus throughout Pregnancy'; one by Professor Cameron on the 'Influence of Leukæmia on Pregnancy'; another by M. Charpentier, of Paris, on 'Experimental Uræmia'; a most scholarly one by Professor Lusk on the 'Prognosis of the Cæsarean Section,' which was followed by papers from Sænger, of Leipsic, and Professor Wathen, of Louisville; and a prolonged debate on the Cæsarean operations, occupying a whole forenoon. Papers bearing on the puerperal fevers and septicæmia by Kucher, of New York; More Madden, of Dublin; Warrington Earle, of Chicago; Lowry Sibbet, of Carlisle, Pa.; and Dr. Emil Poussie, of Paris, raised a long discussion, in which M. Doléris, Dr. Grailly Hewitt, of London; Professor Stewart, of Philadelphia; Dr. Lloyd Roberts, of Manchester; and many others took part. You may be sure the ever-engaging subject of the forceps was brought up, and also puer-

peral eclampsia, hæmorrhages, and other topics of obstetrical importance.

"In the Section of Gynecology there was also great activity. Some of the subjects there treated of might as well and more fitly have been brought before the Obstetric Section—such as 'Ectopic Pregnancy,' 'The Treatment of Pregnancy complicated with Uterine Fibroids,' and some others; but there was abundance of purely gynecological material. The venerable Dr. Dunlap had an interesting story to tell of the early struggles of the ovariologists, and could relate how the editor of the journal to which he sent the record of his own first case returned his paper to him with the intimation that the account of such an unjustifiable operation was unfit for publication. Fibroid tumors were dealt with in various communications, as by Dr. Marcy, the President of the Section, on their pathology, and by Dr. Apostoli on their treatment by means of electricity, in the use of which he has led the van. August Martin advocated the vaginal extirpation of the cancerous uterus, in which he has had such large experience; and the other side of the question was sustained by Professor Reeves Jackson, of Chicago, a sagacious and experienced gynecologist, and the medical companion of Mr. Clemens in the tour which you may have followed in 'The Innocents Abroad,' with much of the humor which the readers of Mark Twain enjoy. Of the shortening of the round ligaments Dr. W. L. Reid, of Glasgow, and others gave their experience. All these and others one would have liked to hear, but my regret at absence from their discussions was greatly lessened by the reflection that I was likely to meet most of the gynecologists there gathered, and many others besides, at the meeting of the American Gynecological Association, which was timed to be held in New York in the following week. This association, instituted in the centennial year mainly through the energy of Dr. Chadwick, of Boston, is a select society, which embraces in its membership the leading obstetricians and gynecologists of the New World, and has now published eleven volumes of 'Transactions,' containing a large amount of valuable material, whose extent and importance help us to understand the necessity that has arisen for making three sections at an international congress for the consideration of subjects which could, a decade ago, comfortably be discussed in one.

"The New York meeting in the hall of the Academy of Medicine was presided over by Dr. Skene, of Brooklyn, with whose name you are, or soon will be, familiar, and the address of welcome was delivered by Dr. Fordyce Barker, whose name has for two generations been familiar in obstetrics. I was pleased, and I couldn't help expressing my delight in seconding a vote of thanks, moved by Professor Grailly Hewitt, on the part of the strangers for the kindness we had received at the hands of our American *confrères*, to recognize in Dr. Skene a fellow-countryman, whose voice, after long years of residence in America, still retains a traceable Aberdonian accent. I was perhaps the more ready to diagnose it because I remembered that from that same county came three of the ablest obstetricians of the day, with whose voices my ears were well acquainted—namely, Dr. Matthews Duncan, Dr. Watt Black, and the late Dr. Angus Macdonald. As for Dr. Barker, I could not Scotsmanize him, but I noted that in the admirable portrait of him hanging on the wall of the Academy of Medicine among the other ex-presidents of the Academy, he was depicted wearing a purple hood, from which posterity might learn that for the great and good work he had done in midwifery he had been deemed worthy to receive the honorary degree of LL. D. from the University of Edinburgh.

"I have said that the 'Transactions of the American Gynecological Association' give evidence of the vast amount of earnest and faithful work that is wrought in our department by our transatlantic confraternity. And I would add that the noble services they have rendered in the past are an inspiration and incentive to them and us to further achievement in the future. Have you ever thought how much obstetrics and gynecology owe to America? We sometimes hear half-contemptuous reference to the scream of the American eagle. But in our section of medicine, at least, she has established the strongest claims to let her voice be heard."

An Office Thief.—Dr. Robert T. Morris, of 133 West Thirty-fourth Street, writes to us as follows: "An office thief is making a collection of hypodermic syringes in the city. He asks for a loan of the instru-

ment for a physician who has an emergency case in the vicinity, and fails to return. He is rather tall and thin, with a dark moustache. He wears a broad-brimmed, soft black hat. His manner is courteous, and his hands are dirty. He is about thirty-five years of age. If any intended victim will hold him, I will take the trouble to prosecute the thief."

The Health of Boston.—During the week ending Saturday, November 12th, the following numbers of cases and deaths from infectious diseases were reported to the Board of Health: Diphtheria, 16 cases and 6 deaths; scarlet fever, 68 cases and 10 deaths; typhoid fever, 14 cases and 4 deaths; measles, 5 cases and 1 death. There were also 31 deaths from consumption, 33 from pneumonia, 1 from whooping-cough, 16 from heart disease, 16 from bronchitis, and 5 from marasmus. The total number of deaths was 190, against 145 for the corresponding week last year.

Government Health Reports.—By direction of the Secretary of the Treasury, Dr. John B. Hamilton, Surgeon-General of the Marine-Hospital Service, has issued the following abstract of sanitary reports received during the week ending November 18th:

(Published in accordance with Section 4, act approved April 29, 1878.)

England and Wales.—The deaths registered in twenty-eight great towns of England and Wales during the week ending October 29th corresponded to an annual rate of 21.5 in a thousand of the aggregate population, which is estimated at 9,244,099. The lowest rate was recorded in Leicester, viz., 13.1, and the highest in Preston, viz., 32.1 in a thousand. Small-pox caused 19 deaths in Sheffield, 1 in London, 1 in Birmingham, and 1 in Bristol.

London.—One thousand seven hundred and thirty-eight deaths were registered during the week ending October 29th, including 33 from measles, 60 from scarlet fever, 31 from diphtheria, 44 from whooping-cough, 1 from typhus, 16 from enteric fever, and 16 from diarrhoea and dysentery. There were 485 deaths from diseases of the respiratory organs. Different forms of violence caused 66 deaths, and 6 suicides were registered. The deaths from all causes corresponded to an annual rate of 21.5 in a thousand. In greater London 2,087 deaths were registered, corresponding to an annual rate of 20.1 in a thousand of the population. In the "outer ring" 10 deaths from diphtheria, 9 from scarlet fever, and 10 from measles were registered.

Ireland.—The average annual death rate represented by the deaths registered during the week ending October 29th in the sixteen principal town districts of Ireland was 25.9 in a thousand of the population. The lowest rate was recorded in Sligo, viz., 9.6, and the highest in Wexford, viz., 47 in a thousand.

Dublin.—Two hundred and seventeen deaths were registered during the week ending October 29th, including 9 from measles, 4 from whooping-cough, 11 from scarlet fever, 7 from enteric fever, 10 from diarrhoea, and 1 from dysentery. Diseases of the respiratory organs caused 45 deaths. Two accidental deaths were registered, and in 31 instances the causes of death were uncertified. The deaths from all causes corresponded to an annual rate of 32 in a thousand.

Scotland.—The deaths registered in eight principal towns during the week ending October 29th corresponded to an annual rate of 22.2 in a thousand of the population, which is estimated at 1,299,000. The lowest mortality was recorded in Greenock, viz., 15.1, and the highest in Perth, viz., 25.9 in a thousand. The aggregate number of deaths registered from all causes was 554, including 5 from measles, 19 from scarlet fever, 3 from diphtheria, 26 from whooping-cough, 6 from fever, and 11 from diarrhoea.

Germany.—The deaths registered in fifty-two cities of Germany, having an aggregate population of 6,821,222, during the week ending October 22d corresponded to an annual rate of 19.5 in a thousand. The lowest rate was recorded in Rostock, viz., 10.4, and the highest in Münster, viz., 31.1. During the week ending October 15th the deaths registered corresponded to an annual rate of 19.9.

Buenos Ayres.—One thousand and four deaths were registered during the month of August, 1887, including 84 from small-pox, 22 from enteric fever, 3 from scarlet fever, and 58 from diphtheria.

Cagliari.—The United States consul at Florence, in his dispatch

dated October 24, 1887, states that he has "received from the consular agent at Cagliari the following report, dated October 21, 1887: 'The public health has been officially declared satisfactory, and that no more cases of suspicious diseases have occurred.'"

Palermo.—The United States consul, in his dispatch dated October 25th, states that "no cases or deaths occurred from cholera during the week ending October 23d. However, yesterday's official bulletin, sent to this office early this morning, reports 3 cases, followed by 2 deaths."

Denmark.—The United States consul at Copenhagen, under date of October 21, 1887, transmitted a copy of a quarantine order issued by the Danish Government, October 14, 1887:

"In accordance with this order, the quarantine is to be established with regard to all ships coming from Sardinia, and the importation of rags, hair, hides, etc., from the island is forbidden. Quarantine is hereafter to be observed with regard to the following places: All ports of Sicily, Italian continental ports on the coast between Cape Santa Maria di Leuca and Cape Miseno, all ports of Malta, and all ports of Sardinia. The provisions of section 2, paragraph 1, of the law of July 2, 1880, are hereafter to be observed with regard to the following places: The ports of the East Indies, Tonkin, and Cochin China, Italian ports on the coast between Cape Miseno and the French boundary, Trieste, all ports of Egypt, Red Sea ports, Rio de Janeiro and Havana. The prohibition of the importation of rags, hair, hides, etc., remains in force with regard to the following places: All ports of the East Indies, Tonkin, Cochin China, Chili, Sicily, Paraguay and Uruguay, Argentine Republic, and Austrian Hungary, the Italian ports between Cape Santa Maria di Leuca and Cape Miseno, all ports of Malta, and all ports of Sardinia. The prohibition of the importation of rags, used clothing, etc., remains in force with regard to Rio de Janeiro and Havana, and special attention is to be paid to the cleansing of all effects of travelers coming from these two places."

Havana.—Three deaths from yellow fever and 50 from small-pox are reported for the week ending November 5th.

Santiago de Cuba.—The sanitary inspector, under date of November 5th, reports that "the town is free from epidemic diseases, small-pox and scarlet fever having totally disappeared. A few cases of yellow fever are still under treatment at the military hospital, outside the city, and only 3 deaths have resulted from it this week."

MORTALITY TABLE, FOREIGN CITIES.

CITIES.	Week ending—	Estimated population.	Total deaths from all causes.	DEATHS FROM—							
				Cholera.	Yellow fever.	Scarlet fever.	Typhus fever.	Enteric fever.	Small-pox.	Diphtheria.	Other.
Paris	October 22	2,200,045	895	..	..	8	..	9	..	21	..
Paris	October 29	2,200,045	892	..	..	6	..	11	..	30	..
Glasgow	October 29	545,058	245	..	..	..	..	4	..	9	2
Warsaw	October 15	439,174	252	..	..	15	..	..	..	13	11
Warsaw	October 22	439,174	245	..	..	..	..	..	..	12	4
Calcutta	September 24	132,219	780	..	..	22	..	..	..	..	1
Calcutta	October 1	132,219	206	15	..	..	..	..	..	..	..
Amsterdam	October 22	378,686	136	..	..	..	..	..	..	1	4
Amsterdam	October 29	378,686	135	..	..	..	..	..	..	..	1
Rio de Janeiro	October 1	300,000	282	..	1	110	..	2	..	..	3
Copenhagen	October 18	200,000	130	..	..	..	..	..	..	3	3
Copenhagen	October 25	200,000	148	..	..	..	..	..	..	3	1
Munich	October 22	269,000	152	..	..	..	..	..	..	..	13
Palermo	October 23	250,000	97	..	..	..	..	1	..	1	..
Palermo	October 30	250,000	94	..	2	..	..	..	..	..	2
Edinburgh	October 15	258,220	80	..	..	..	..	2	1	..	..
Belfast	October 29	221,122	109	..	..	..	..	3	3	..	2
Rotterdam	October 29	195,545	79	..	..	..	..	1	..	..	..
Genoa	October 22	179,558	80	..	..	6	2	..	..	..	..
Genoa	October 29	179,558	87	..	..	13	1	..	..	..	..
Leipsic	October 29	170,000	56	..	..	..	..	..	..	..	1
Toronto	November 5	190,000	31	..	..	..	..	1	..	..	..
Havre	October 22	112,074	59	..	..	..	..	..	..	..	..
Havre	October 29	112,074	67	..	..	..	..	..	..	..	..
Reims	October 29	97,903	39	..	..	..	..	2	..	1	..
Mayence	October 22	67,707	29	..	..	..	2	..	..	..	..
Calao	October 15	31,000	..	..	..	..	..	1	..	..	..
Guayaquil	October 13	30,000	45	..	..	6	..	1	..	..	..
Guayaquil	October 20	30,000	77	..	..	..	..	..	..	..	..
Guayaquil	October 27	30,000	69	..	..	21	..	..	..	..	..
Gibraltar	October 23	23,631	8	..	..	1	..	1	..	..	..

UNITED STATES.

Philadelphia, Pa.—The State Board of Health of Pennsylvania passed a resolution, under date of November 9, 1887, that, in their

judgment, owing to the present situation in regard to the continuance of cholera along the shores of the Mediterranean and its transportation to the port of New York, immigrants sailing from infected ports, or near centers of infection, should not be allowed to land in this country until competent authorities have declared that the danger of infection has ceased in those ports or places.

Tampa, Fla.—Yellow Fever.—The quarantine inspector, Dr. J. Y. Porter, reports, for the week ended the 16th instant, 25 new cases and 6 deaths, making total cases approximately to date, 370; deaths, 66. Number in hospital under treatment, 12.

A Chinese Remedy for Croup.—At a recent entomological exposition, General Tchong-ki Tong, according to the "Progrès médical," gave an account of the uses to which certain insects are put in China. Among other things, he spoke of the treatment of croup with spiders. Seven large webs, two of which at least must contain living spiders, are made into a sort of paste, to which about forty grains of alum, previously dissolved, are added. The mixture is reduced to ashes, which are allowed to cool in the patient's throat, a procedure which is said to give relief at once.

In Search of Strophanthus Tablets.—"The following story," says the "British and Colonial Druggist," "is perfectly true, and is too good to be lost: A gentleman went into a chemist's shop late one evening for strophanthus tablets. He was politely told, 'We do not keep them, but can get them for you early in the morning.' He replied, 'I will try to procure them, and if I fail I will call, and you shall get them for me in the morning.' He returned in the course of an hour, and thus related his experience: Shop No. 1: 'Don't keep them, but can get them'; No. 2 threw the paper at me and said, 'I do not keep such rubbish'; No. 3 opened about forty drawers and said, 'I am very sorry, there has been a good demand for these lately, and we have sold out, etc.'; No. 4 went behind a screen, examined the paper closely, and was seen beckoning vigorously to some one to come to his assistance; a consultation ensued, he gravely came from behind the screen, and said, more in sorrow than in anger, 'I am very sorry indeed, sir, but we do not keep this kind of SOAP!!'"

ANSWERS TO CORRESPONDENTS.

No. 92.—Different micro organisms require various degrees of heat for their destruction. Practically, however, for purposes of disinfection, the temperature you mention (140° C.) would probably prove efficient. But exposure of a cutting instrument to that temperature "for three hours," as you suggest, would, we think, injure the temper. As to its injuring nickel or silver plating, we think much would depend on the quality of the plating. It is our opinion, however, that cutting instruments ought not to be plated. There are several reasons why exposure to dry heat is not "preferable to all other methods in rendering instruments aseptic." In the first place, there is the inconvenience of regulating the degree of heat; but, worse than that, dry heat of any degree compatible with the integrity of the instrument does not necessarily destroy or remove the organic matter that may adhere to the instrument—it may render it aseptic for the time being, but there it remains, ready to become septic again under favorable conditions.

No. 93.—The literary qualifications required of candidates for appointment in the medical corps of the army are: the ability to write a short satisfactory essay, which may be either autobiographical or on some professional subject—to be indicated by the board of examiners; a good common-school education, as shown by an examination particularly in English grammar, arithmetic, and the history and geography of the United States; also a good knowledge of chemistry and natural philosophy, English literature, Latin, and general history, ancient and modern. An examining board is appointed when there are vacancies to be filled, and usually sits in one of the large cities. A candidate's first step is to apply to the Secretary of War for an invitation to appear before such a board, of the place and time of whose sitting he will then be informed. According to our data, the vacancies average seven or eight annually. A newly appointed assistant surgeon receives \$1,600 per annum (payable in monthly parts), with quarters, and mileage (8 cents a mile) when traveling under orders.

No. 94.—All things considered, we think Gray's is the best textbook of anatomy for medical students.

No. 95.—The usual charges for type-writer copying in New York are 5 cents a "folio" (10 lines) for one copy, 8 cents for two copies, and 10 cents for three. A discount is usually made on large orders, but an additional charge is made if the original manuscript is very difficult to read, or if it contains much tabular or other intricate matter. We can not publicly recommend individual operators, but, if you wish, we will inform you by mail of an office in which excellent work has been done for us.

No. 96. The eighth volume of the "Index-Catalogue," the last one thus far published, carries the work to the heading "Medicine (Naval)."

No. 97. Whether or not you can collect a fee from a patient who failed to keep an office appointment depends, we presume, on the character of the appointment. If the arrangement was simply that the patient should call during your office-hours on a certain day, we doubt if you could recover; if, however, it was understood that you reserved a certain length of time for him, and if you can show that by so doing you lost opportunities with other patients, or were detained from your professional work, the case, we think, would be decided in your favor.

To Contributors and Correspondents.—*The attention of all who purpose favoring us with communications is respectfully called to the following:*

Authors of articles intended for publication under the head of "original contributions" are respectfully informed that, in accepting such articles, we always do so with the understanding that the following conditions are to be observed: (1) when a manuscript is sent to this journal, a similar manuscript or any abstract thereof must not be or have been sent to any other periodical, unless we are specially notified of the fact at the time the article is sent to us; (2) accepted articles are subject to the customary rules of editorial revision, and will be published as promptly as our other engagements will admit of—we can not engage to publish an article in any specified issue; (3) any conditions which an author wishes complied with must be distinctly stated in a communication accompanying the manuscript, and no new conditions can be considered after the manuscript has been put into the type-setters' hands. We are often constrained to decline articles which, although they may be creditable to their authors, are not suitable for publication in this journal, either because they are too long, or are loaded with tabular matter or prolix histories of cases, or deal with subjects of little interest to the medical profession at large. We can not enter into any correspondence concerning our reasons for declining an article.

All letters, whether intended for publication or not, must contain the writer's name and address, not necessarily for publication. No attention will be paid to anonymous communications. Hereafter, correspondents asking for information that we are capable of giving and that can properly be given in this journal, will be answered by number, a private communication being previously sent to each correspondent informing him under what number the answer to his note is to be looked for. All communications not intended for publication under the author's name are treated as strictly confidential. We can not give advice to laymen as to particular cases or recommend individual practitioners.

Secretaries of medical societies will confer a favor by keeping us informed of the dates of their societies' regular meetings. Brief notifications of matters that are expected to come up at particular meetings will be inserted when they are received in time.

Newspapers and other publications containing matter which the person sending them desires to bring to our notice should be marked. Members of the profession who send us information of matters of interest to our readers will be considered as doing them and us a favor, and, if the space at our command admits of it, we shall take pleasure in inserting the substance of such communications.

All communications intended for the editor should be addressed to him in care of the publishers.

All communications relating to the business of the journal should be addressed to the publishers.

Original Communications.

THE TREATMENT OF URETHRAL INFLAMMATION IN THE MALE.*

By H. W. RAND, M. D.,

CLINICAL PROFESSOR OF DISEASES OF THE GENITO-URINARY ORGANS, AND
ATTENDING SURGEON, LONG ISLAND COLLEGE HOSPITAL.

It is not the object of this paper to introduce any new line of treatment for urethral inflammation, as is so much the present fashion, but rather to give some personal experience in its management by methods already before the profession.

To read the reports of cases treated by new methods, and note the patients' rapid recovery, one would think that perfection was at last almost reached, and that all the older lines of treatment for this disease would soon be looked upon only as curiosities in therapeutics. True, some of the older modes of dealing with urethral inflammation should be, and some of them have already been, very properly abolished; but the same may be said of some of the more modern.

Why an apparently conscientious physician can report almost invariable success with a mode of treatment that another, who is an equally good and careful observer, fails to secure anything like the same results with, can, to the writer, only be explained on the ground that the first report was founded upon a too limited number of observations, and that the physician was fortunate enough to have a majority of those cases which get well quickly by attention simply to urethral hygiene—in other words, that the patients made, in many of such cases, a prompt recovery in spite of the local treatment adopted, and not because of it.

The statement of Cheyne, that iodoform in suppositories and eucalyptus-oil by injection will cure gonorrhœa in from seven to ten days, has not been verified by the experience of others. Pasqua cures gonorrhœa in eight to ten days with injections of chloral, one gramme in eighty grammes of rose-water; and Castellan alleges speedy recoveries from the use of a one-per-cent. solution of bicarbonate of sodium. But the average surgeon does not meet with so much success.

Perhaps the most remarkable statement of any that I have yet seen is that of Tinsley, who asserts that he can cure acute gonorrhœa in from twenty-four to forty-eight hours by using, four or five times daily, an injection of sulphate of morphine, 3 j, in rose-water, $\frac{3}{4}$ j. I was led to try this injection in one case, and kept the patient in bed to watch its effect; but by the end of the second day he was worse than before treatment, and I desisted. But, without wasting more time on things that are not always what they seem to be in the eyes of their advocates, let me proceed with the task proposed in the beginning of this paper.

If we admit the existence of a gonococcus as the contagium of gonorrhœa, we must, contrary to the teaching of

Bumstead and others, admit the existence of two distinct varieties of urethral inflammation; for, while most observers profess to have found the gonococcus in the pus in cases due to contagion, they have failed to find it in the discharge in cases of urethritis that were due to instrumentation or contact with simple irritants. Whether future observations confirm, or not, the assumption that there is a specific form of urethral inflammation of which the germ is the gonococcus, in addition to a simple variety in which such germ plays no part, the fact remains that, clinically, we meet with severe and with mild cases, dependent upon different causes, and it is of importance to discover the nature of the cause in each, so far as we can, in order to direct our treatment intelligently.

We should not only endeavor to learn the nature of the exciting cause, and the previous history of the case, but should inquire into the general health of our patient. Scrofula, rheumatism, and gout are generally accepted as predisposing causes, and are believed to influence the duration of the disease materially. Yet complete and prompt recovery occurs so frequently in this class of patients when the diathesis, whichever it may be, is well marked, and cases are often so prolonged in those apparently in perfect health and free from such diatheses, that it would seem as if their influence had been overrated.

Where, however, the patient's condition is such that his urine is over-acid, or loaded with urates, or with any other excretion in excess that may act as an irritant to the urethra during micturition, there we have ample cause for a protracted gonorrhœa, unless such abnormal condition is discovered and removed. For this reason occasional examinations of the urine should be made during the course of every urethral inflammation.

As a general thing physicians are too lax in laying down rules for their patients' guidance. An injection and some copaiba, with perhaps an alkali, are too frequently prescribed as routine treatment, but little being said on the subject of diet, rest, and freedom from sexual excitement. The avoidance of alcoholic drinks should be insisted upon, not only during the acute stage, but, in the majority of cases, throughout the course of the disease, and for some time after apparent cure. Coffee and strong tea, cocoa and lemon-juice, should be prohibited. Although lemonade is allowed by so high an authority as Zeissl, it is harmful, as I have often proved to the patient's satisfaction as well as my own. Even the ingestion of strawberries has often caused a return of smarting on urination, so they had best be avoided. Asparagus, celery, pickles, and condiments are on the list of forbidden things. During the acute stage, meat, which, besides its stimulating effect on the sexual organs, tends to increase the acidity of the urine, should be left out of the patient's diet, and farinaceous food substituted, especially in those of full habit. Milk, when it agrees, is an excellent diuretic, and a good substitute for meat.

Having taken the patient's history, given him explicit directions about his diet, urged him to take as much rest as possible, and to avoid everything tending to produce sexual excitement, we should next consider what medicinal treat-

* Read before the Medical Society of the County of Kings, September 20, 1887.

ment is indicated. This will depend not only upon the stage and severity of the disease, but upon the constitution and temperament of the patient as well. The line of treatment that succeeds best with the healthy, vigorous man, with the sexual instinct strongly developed, is not the best for the man who is his physical and mental opposite. In the first case, salines and bromides are generally highly useful; in the second, these remedies are less productive of good, and oftentimes decidedly harmful.

Where we have to deal with an acute case, the treatment for the first few days should be, in a measure, antiphlogistic. The extent to which this should be carried depends on the severity of the symptoms and the constitution of the patient. Enough of some saline should be given to produce at least two free evacuations daily. For this purpose I prefer sulphate of magnesium or Hunyadi water. The more active cathartics, as advised by some, do not, as a rule, seem to possess any advantages over salines. And it is well to diminish even the saline as soon as the more acute symptoms begin to yield, yet it may be continued in a smaller dose throughout the acute stage with benefit to such patients as are not weak or anæmic. Constipation should always be prevented during the entire course of the disease by some laxative appropriate to the case. While gentle purgation in strong, healthy subjects is beneficial for the first few days, where the symptoms are marked, it should on no account be continued beyond the inflammatory stage, and in debilitated subjects, as a rule, anything like purgation should be avoided from the first.

Opinion is divided as to the use of diuretics in this disease. Ricord taught that the more urine the patient passed the more he "fatigued his urethra" and predisposed it to inflammation, and yet he admits that the greater the amount of urine, the less the pain caused during its expulsion. He therefore chooses the least of two evils, and seeks to render the urine as "aqueous" as possible. Zeissl condemns diuretics as injurious, while Van Buren and Keyes, Bumstead and Taylor, and others, advise their use in all cases.

It has seemed to me that the more active diuretics are entirely uncalled for, and that in the majority of cases an abundance of pure water, such as the Hygeia or Bethesda, and perhaps milk or buttermilk, produce all the diuretic effect required. When, however, the urine is over-acid in spite of the administration of such diluents, a mild alkali, such as citrate of potassium, does good when given in sufficient doses to nearly or quite neutralize the urine. The fact that an alkali accomplishes more, and is less apt to disturb the digestive processes, when given two or three hours after meals, is familiar to every physician, but is often not insisted upon by him, and patients take it at their convenience. Any alkali, however, does harm rather than good if it disturbs digestion, as is often the case. A mineral acid will sometimes accomplish more than an alkali in patients with atonic dyspepsia; for if, as a result of imperfect digestion, the urine contains an excess of uric acid, oxalate of calcium, or any deposit that renders it irritating to the urethra, the acid, in certain of these cases, relieves this

condition by improving digestion and aiding assimilation. In short, I believe the habit of ordering an alkali for every case of urethral inflammation, as is advised by many good authorities, is not only injudicious, but, in some cases at least, harmful.

Hyoscyamus is usually recommended when smarting on urination is severe. In my experience, small doses of oil of sandal-wood relieve this symptom more than any other single remedy. I frequently combine ten minims of this oil with two or three grains of extract of hyoscyamus, and give this quantity two hours after each meal. The effect is more decided than when either remedy is given alone. As the inflammatory symptoms subside the dose of the oil can be increased to twenty or thirty minims, and the hyoscyamus omitted.

In some erotic individuals who are tormented with painful erections, full doses of bromide of potassium or sodium fulfill the double indication of alkali and sedative. I generally, however, give the bromide only at bedtime, preferring the above-mentioned treatment during the day.

Of all the internal remedies advised for gonorrhœa, I prefer the oil of sandal-wood. It is less apt to disagree with the patient than either copaiba or cubebs, and can be given earlier in the course of the disease. In small doses it is beneficial even in the most acute cases and while the inflammatory symptoms are on the increase. It is especially useful in cases complicated with cystitis. It seems to be most effective when alkalies are withheld during its administration, and when only a moderate amount of fluid is taken by the patient. The physician should always insist upon the patient taking his dose from an hour and a half to two hours after meals, and not at irregular intervals. It is said that this oil is so apt to be adulterated that it is unreliable, and I find there is considerable difference in the effect produced by that which comes from different sources. I have been led to depend either upon that freshly put up by a reliable druggist, or upon the capsules of one or two firms only from among the number represented in the market.

My experience with copaiba and cubebs does not probably differ from that of others. I give them much less frequently in private practice than I do oil of sandal-wood; but, when a case is prolonged, and the oil seems to have lost its effect, I resort to them where they are readily tolerated. It is, however, harmful to push any of these remedies, as is too often done, when after reasonable trial, alone and in combination, they are found to disagree with and disgust the patient. In dyspeptic subjects it is unwise to try copaiba at all, for it will almost always make matters worse. Some surgeons have discarded these drugs entirely, but, while their indiscriminate use is to be condemned, it is certain that they are, in many cases, valuable adjuvants to other treatment, when intelligently handled.

When even the oil of sandal-wood is not tolerated, the tincture of *Cannabis americana* can be given, and will be found a useful remedy. When the acute symptoms have subsided and the discharge has become muco-purulent or mucoid in character, the non-alcoholic fluid extract of hydrastis is of value, especially in debilitated patients with

poor appetite and impaired digestion. It is preferable to the tincture of chloride of iron in many such cases as are said to require iron. I have tried various other drugs in this disease, such as digitalis, salicylate of sodium, manzanita, kava-kava, etc., and have discarded them all except kava-kava, which, in the form of a solid extract, is at times a useful remedy in subacute cases.

In milder cases of urethritis the same general directions as to diet, rest, laxatives, and the avoidance of sexual excitement should be enforced for the first few days, until it is certain that the disease is to prove mild, when we may be less strict as to rest, laxatives may be uncalled for, and the patient may be allowed a more liberal diet. It is well in all cases for the patient to avoid alcoholic drinks and sexual excitement for at least two weeks after recovery.

Local Treatment.—In cases seen within the first few days, while the disease is confined to the anterior part of the urethra and the discharge is yet thin and chiefly mucous, it would seem as if injections of such solutions as are said to be capable of destroying the gonococcus would constitute the all-important treatment. I refer to such weak solutions as are supposed to be devoid of danger to the patient and yet destructive to the gonococcus.

Hitherto such treatment has not been so successful in my hands as its advocates would lead one to expect. Often, while the discharge is chiefly mucous, an injection of a weak solution of bichloride of mercury will apparently produce marked benefit, but I have been disappointed so often with this treatment, and have seen, in many cases, the symptoms increase so rapidly while I was carefully following up such injections, that I have been led to doubt the reputed virtues of the bichloride. We are very often at a loss to determine, especially during the first few days, whether our patient has been actually exposed to contagion and is in the initial stage of a gonorrhoea, or has only lighted up a mild inflammation by drink and sexual excess, which will subside in a few days if left alone. It is therefore difficult to estimate the value of any treatment that is begun on the first appearance of symptoms, and I have been led to believe that many of the reputed successes from the early treatment of urethritis by solutions of bichloride were in cases that would have proved mild and of short duration under very simple measures.

As so much has been said and written of late in regard to injections of bichloride of mercury, in solutions of various strengths applied in different ways, it may not be amiss to speak more at length of this subject. I have tried this treatment in upward of thirty cases with varied results. When a solution of 1 in 20,000 and upward, as the patient could tolerate it, was resorted to, with the same restrictions that should govern the use of any injection, it seemed to be productive of good in all cases, and in some appeared to act better than any other local remedy. Weaker solutions than 1 to 20,000 have not been proved to be destructive to the gonococcus, and should not therefore be relied on, if there is any truth in the assumption that the value of the bichloride in such cases depends upon its action as a germicide. And yet, from the reported cures with this drug, it would appear that solutions of 1 in 40,000, and

even 1 in 60,000, were about as effective as the stronger preparations.

Retrojections of the same solution, as hot as the patient could comfortably tolerate, did not give me good results when used early in acute cases. When the urethra was so inflamed and highly sensitive that urination caused pain, patients complained, sometimes bitterly, of the passage of the catheter, although a small, velvet-eyed, and well lubricated one was always used. I persevered for over a week with this treatment in five cases. But I was convinced that it did no good, if it did not do actual harm, and a change of treatment was promptly attended with benefit.

While I was giving such retrojections the catheter was so tightly grasped by the urethral walls in three cases that the solution would not flow, no matter how high the irrigator was held. I overcame this difficulty by momentarily closing the meatus around the catheter as soon as its eye was well within the fossa navicularis. The urethra, for the first few inches, was gently distended with warm fluid by this manœuvre, and while it was thus distended the instrument could be pushed onward with less friction and pain, and consequently with less tendency to spasmodic stricture. The same expedient I found useful when withdrawing the catheter. If the solution in the irrigator was allowed to flow out completely, the instrument was again grasped by the urethra, and considerable pain caused by its removal; whereas, by withdrawing it while the solution was still flowing, and thus slightly distending the urethra, pain was reduced to a minimum. If, however, in spite of this precaution, the catheter was still so grasped that any attempt to remove it produced pain, which would sometimes happen in subacute as well as in acute cases, the meatus was momentarily closed around the instrument, as during its introduction. But the urethra must on no account be over-distended, which may readily occur if pressure is kept up for more than an instant, or if the irrigator is held too high.

As an offset to my non-success with this treatment in cases markedly acute, I would testify to the value of retrojections of hot weak solutions of bichloride of mercury, chloride or sulphate of zinc, etc., in subacute and chronic cases, especially in those in which the deep urethra is involved. In several cases of urethritis occurring in patients while under treatment for stricture—such attacks being due to alcohol, sexual excess, and fresh exposure, and not to instrumentation—solutions of bichloride were found inferior to those of lead and zinc.

To return to the consideration of the increasing stage, some one has said that the severer the inflammation, the milder should be the local treatment, and this is a safe rule to adopt. I believe it is still the experience of the majority of physicians that in this stage, while there are much swelling of the lips of the meatus and marked pain on urination, the urethra should be left alone. The best local treatment here is that so highly recommended by Milton: frequent and prolonged soaking of the penis in water as hot as can be borne. Especially useful is this hot local bath during the act of urination, the pain of which it so much mitigates. General warm baths are also useful; but they should be warm enough to cause relaxation, for a tepid

bath has a stimulating effect on some erotic patients, and provokes erections.

When pain on urinating is very severe, and is not relieved by the means already mentioned, injections of a 4-per-cent. solution of cocaine are useful palliatives, if the act of injecting does not cause too much irritation. This brings up the question, When should we begin the use of injections? My answer to that would be, As soon as the good accomplished by such treatment outweighs the irritation produced by the act of administering it.

One of the best injections to begin with, which is soothing and at the same time slightly astringent, is the following:

℞ Pulv. opii..... 3 j;
Aque destil. bullientis..... 3 viij.

Mix, filter, and add

Liq. plumbi subacetat..... 3 ss.

This is practically the formula recommended by Van Buren and Keyes for balanitis, but much weaker. I sometimes add a grain of sulphate of atropine to each ounce of this solution, with apparently good effect.

If, however, even the mildest injections appear to increase the dysuria, as they occasionally seem to do when begun early, they should be stopped until the inflammatory symptoms have still further subsided. Injections should always be warm when given during the increasing or early part of the decreasing stage.

As the inflammatory symptoms subside, the solution of lead in the prescription should be increased to 3 j or more, as the patient can tolerate it, always, however, bearing in mind the rule that an injection should never be strong enough to produce pain, or even prolonged smarting.

Of the great number of injections recommended by various authors, most dependence is still to be placed on those containing the salts of lead or zinc. The following is a very useful form of injection:

℞ Zinci sulph..... gr. ss.-iij;
Extr. belladonnæ..... gr. j-vj;
Glycerini..... ʒ ss.;
Aque destil..... 3 j. M.

When the patient objects to a colored solution, we may substitute for the belladonna a grain of sulphate of atropine to each ounce of the injection.

In some cases nitrate of silver, in weak solution, answers better than either lead or zinc. I have frequently tried boric acid, chloral, permanganate of potassium, and other injections, but still prefer those above mentioned for general use.

It is maintained that injections are the most frequent cause of swelled testicle. Strong ones have undoubtedly often produced this complication, but I do not believe that this danger exists when only those that do not cause pain or prolonged smarting are carefully used. Some writers would have us believe that even the mildest injections are capable of causing inflammation of the epididymis, and that such complication rarely or never occurs where this treatment is not resorted to.

In my own experience I have met with more cases of swelled testicle in young men who were afraid of injec-

tions, and who depended upon internal treatment alone, than in those who had made proper use of local measures as well. The worst case of double epididymitis that I ever saw was in a patient with his first attack of gonorrhœa, who was treating himself with laxatives and alkalies alone. Some months ago a gentleman came to me with swelled testicle following an attack of urethritis for which he had been treated with internal remedies only. Shortly after the testicle had resumed its normal size he again contracted urethritis of a severer type than the former attack. This, however, subsided in three weeks, without complication, under treatment by oil of sandal-wood and injections. I might cite many other similar cases, but lack of time forbids.

It is generally advised that injections be discontinued if the testicle becomes involved. I do not believe that, when properly selected, they will be any more apt to aggravate this complication than they are to cause it; but, as the discharge usually decreases or disappears entirely during the first few days of an attack of epididymitis, the injection is as well omitted until the inflammation begins to abate.

Gelatin bougies of various medications I have tried and found troublesome to the patient, and not more effective than other measures. In two cases under my care in which the long ones were used, they appeared to excite inflammation of the neck of the bladder, for both patients had attacks of cystitis shortly after their introduction.

For some time past I have been using bougies, each containing boric acid, gr. xv; ext. belladonnæ, gr. ij; ol. theobromæ, ʒ ss. A competent apothecary can make this into a bougie of about No. 17 F. in diameter, and three inches long. I have not yet ventured to try them in very severe cases, but have used them in a number of subacute ones with excellent results. The bougie should be introduced after urination, and be retained an hour or more if possible. It must be dipped in oil or liquid vaseline before its introduction. Although this undoubtedly somewhat interferes with its action, too much irritation is produced if the bougie is used without first lubricating it. It requires more care to introduce these than the gelatin bougies, and they are just as troublesome in other respects, so that they can only conveniently be used in hospital cases, and in those private patients who can be induced to take the time required for their proper application. The only really effectual way of retaining any soluble bougie in the urethra is by keeping the meatus closed by lateral pressure with the thumb and finger.

When the discharge has become chiefly mucous, I find fluid extract of hydrastis superior, in many cases, to the injections above mentioned. The non-alcoholic fluid extract is the best preparation. Let the patient provide himself with a bottle of distilled water, and begin with one part of hydrastis to eight of water, a strength which almost any urethra will bear at this stage, and gradually increase the proportion of hydrastis until a feeling of warmth is felt.

It has recently been stated that the pus in urethritis is acid in reaction, and that a cure is promptly effected by injections of a solution of bicarbonate of sodium. I have not tried this alkaline injection, but have tested the reaction of

the discharge in upward of twenty cases, and in all it was alkaline and not acid. It is fair to state, however, that none of these cases were of the most severe type, although inflammatory symptoms were well marked in at least one half the number, and the test was made early in the disease.

A word in regard to syringes. The conical pointed instrument is the one now usually recommended, and is, as a rule, the best for general use; but I frequently meet with a patient having a small meatus, who can use a syringe with a short nozzle more effectively and with less irritation. Such a one, however, should be of rubber, and the nozzle only long enough to just enter the fossa navicularis. The patient should close the meatus above the nozzle, and not press the glans against it. The selection of a proper syringe should be a part of the physician's duty. He should also be assured that the patient knows how to administer an injection; for many who profess to know all about this mode of treatment will completely fail when asked to demonstrate the process. In all cases it is a good rule to have the patient bring his syringe to your office, and show his ability, or inability, to carry out your directions. If he fails, a few lessons will soon give him the necessary information.

Considerable difference of opinion exists as to the quantity of fluid to be used at each injection, and the length of time it should be retained in the urethra. Thompson says that one drachm to one drachm and a half is sufficient to distend the urethra for three inches and a half to four inches, and recommends a syringe of that capacity only. Other authors assert that one holding less than half an ounce is useless. Of the two, the larger is the best for general use, although one holding three drachms is more convenient and large enough for the majority of cases. While not more than one drachm of fluid should be injected early in the disease, when only the anterior part of the urethra is involved and its normal capacity so much diminished by the swollen membrane, later on, three or even four drachms may be required to reach all the diseased surface.

Few patients can be induced to take sufficient time to get the full benefit of an injection. The longer the solution is kept in contact with the inflamed membrane, the greater the benefit, if this prolonged distension of the urethra does not cause pain and force the patient to expel the fluid. This rarely happens, however, unless the injection is too strong, or the glans is too tightly pressed in the effort to retain it.

The frequency with which injections should be used, and the necessity of occasionally discontinuing them for a day or two, so as to see what the discharge amounts to, uninfluenced by such treatment, are points which need not detain us.

When the patient reports himself cured, it is too often the custom for both physician and patient to relax their vigilance, and in a few days the discharge may return. Far better is it for you to insist on attention to all the rules you lay down for him in the beginning, until at least two weeks have elapsed without the appearance of any discharge on rising in the morning, and for a longer period if the first few drachms of urine passed contain shreds of muco-pus that warn us of still existing trouble. Of course, if this

latter condition persists beyond a few days, it will suggest to the surgeon the probable existence of some lesion other than the inflammatory one of which we have been speaking, and he will proceed accordingly. That, however, does not concern us in the present paper, for I have been dealing only with the treatment of inflammation of the urethra without any special reference to its complications or sequels.

A REPORT OF TWO CASES OF HEAT-STROKE.*

BY W. H. KATZENBACH, M. D.

THE following cases are reported as examples of the two varieties of heat-stroke. The first is of the congestive form, heat apoplexy or thermic fever; the second of the cardiac form, or heat exhaustion.

They are of interest from a diagnostic point of view and on account of the time and manner of the occurrence of the attacks. In recovery from thermic fever, as a rule, certain sequelæ are left, such as persisting headache, epilepsy, mental weakness, insanity, etc., while in the cardiac cases "when recovery takes place it is complete, leaving no sequelæ" (Fagge, "Practice of Medicine"). In this respect these cases are exceptional.

CASE I.—E. M., fifty years of age, a large, heavily built domestic, on June 30, 1887, had been busy all day with general housework. At 9 o'clock in the evening she was found in the basement dining-room insensible. I saw her at 9.30. She was then sitting on a chair with her lower limbs extended, and her head thrown over on her right arm, which was resting on the table. It was impossible to rouse her. Her face was flushed, skin hot, respiration deep and somewhat noisy, not stertorous; pupils normal. There was general muscular relaxation, but no paralysis. There were no signs of pulmonary or cardiac disease. The breath gave no odor of alcohol.

The radial pulse was 120 to the minute, full and bounding, the axillary temperature 106.2° F. There had been no vomiting nor relaxation of the sphincters. The day of the attack and the preceding had been hot. This fact and the statement of her mistress that she had been working all day were deemed sufficient to warrant the conclusion that the patient was suffering from heat-stroke.

The following shows the changes in temperature for the days referred to:

June 29th.		June 30th.	
3 A. M. . . . 68°	3.30 P. M. . . 94°	3 A. M. . . . 72°	3.30 P. M. . . 95°
6 A. M. . . . 68°	6 P. M. . . . 84°	6 A. M. . . . 67°	6 P. M. . . . 88°
9 A. M. . . . 77°	9 P. M. . . . 77°	9 A. M. . . . 68°	9 P. M. . . . 82°
12 M. 83°	12 P. M. . . . 75°	12 P. M. . . . 72°	12 P. M. . . . 78°
Average 78.25°		Average 77.75°	

Her clothing having been removed, she was placed on a mattress on the floor in a line with the passageway between the rooms, where a faint breeze could be felt, and sponging with ice water and vigorous fanning were begun. Cloths wrung out of ice-water were applied to the head. At 10 P. M. a five-grain capsule of acetanilid was put into her mouth, and teaspoonfuls

* Read before the New York Clinical Society, October 28, 1887.

of water were given to favor its being swallowed. At 10.20 her temperature was 105.2°. At 10.45, pulse 116, temperature 103.3°. At 11, pulse 116, temperature 102.5°. Sponging and fanning had been continued up to this hour, when she regained consciousness and protested against their further use. She then sat up, put on some clothing, and walked up one flight of stairs. She said she felt comfortable, and expressed the opinion that she needed no further attention. Directions were left for another acetanilide capsule, to be given after midnight if fever should continue.

I left town the next day, and did not see this patient again during the summer. She changed her place of service about September 1st, and after I had made some effort to find her she appeared at my office to-day, when the following statement was obtained from her:

Painters had been at work in the house for several days, and the odor of paint had caused her sick-headache and dizziness. Off and on through the day of her attack she had felt sick at the stomach, dizzy, and "trembling." In the afternoon, while scrubbing the floor of a sunny room, she felt very hot, but perspired freely. She cooked dinner in the evening, but dizziness continued. Objects looked red, the gas-jet appearing like a red star. Her hands trembled so that she could scarcely wash and put away the dishes. She remembers that she did put some away, but from that time until she regained consciousness at 11 P. M., and asked the time, everything is a blank. She does not remember how she reached the chair in the dining-room.

Her fever continued through the night after I left her. She slept very little, and the next morning headache and dizziness returned, and continued until July 4th. From this time she felt well, except when she went into the yard while the sun was shining. She did not venture into the street until September, but soon became accustomed to the sun. To-day she says she is perfectly well, and has had no headache for several weeks.

CASE II.—Mr. L., a merchant, thirty-nine years of age, of abstemious habits and with no history of venereal disease, dwelling in an inland town of New Jersey, had been closely occupied with his business during the past July. The month, it will be remembered, was unusually hot. After several days of suffering with pain at the top of his head, he arrived at the sea-shore on August 2d. On August 3d the temperature had fallen, the sun was shining brightly, and a pleasant easterly wind prevailed. In the forenoon of this day, as he came out of his bath-house, he complained to his wife, who accompanied him, of his head feeling hot, and wore his hat to the surf, about fifty yards distant, for protection from the rays of the sun. He bathed ten or fifteen minutes, and, though not fatigued, came out of the water and sat on the sand. With no premonition, he suddenly felt a sharp, darting pain through the head, followed in a few moments by another more severe. He started for the bath-house, bit the arm of his wife, who was assisting him, vomited, and fell insensible on the sand. He was carried to the pavilion, where I saw him a few minutes later. His general surface was pale and cool; respiration slow and shallow; pulse very feeble and flickering; axillary temperature 97° F.; pupils of moderate size. As I took his hand he opened his eyes feebly, asked "What is the matter?" and relapsed into insensibility. Two syringefuls of brandy were immediately injected under the skin. His bathing suit was removed, when it was discovered that he had had an evacuation from the bowels. He was rubbed dry, covered with blankets, and surrounded with hot-water bags and bottles. There was some response of the heart to the brandy given hypodermically, but, the pulse continuing weak, $\frac{1}{160}$ of a grain of atropine was injected. He was

kept quiet, and given brandy and water in small quantities by the mouth. His condition steadily improved, and in an hour or so his surface was warm, and his radial pulse of good volume. He regained consciousness, but appeared dull. About two hours after the beginning of the attack he vomited, and complained of severe pain at the top and back of his head. This was relieved by morphine subcutaneously. From this time he rested quietly on a cot until 5 P. M., when vomiting was repeated. At 7 P. M. he was carried on the cot to his hotel. Complaining of return of headache, he was given another subcutaneous injection of morphine. He slept through the night, and awoke in the morning with nausea. This disappeared after a cup of black coffee, and from this time he had no disturbance of the stomach, but a good appetite and digestion. At noon pain at the vertex and occiput returned with increased severity, and from the latter point extended down the spine, buttocks, and posterior aspect of the thighs. He complained also of intense pain and tenderness of the eyeballs, intolerance of light, and clouded and double vision. The pupils were normal; the ocular muscles were not impaired in their action. He rapidly became deaf, but had no pain in the ears. In addition to pain in his lower limbs, there was weakness, so that he could scarcely totter across his room. The patellar tendon reflex was absent. He was irritable and impatient, but otherwise his mental condition was not disturbed.

Codeine and bromide of sodium were prescribed. In eighteen hours he took three grains of the former and half an ounce of the latter with no relief. Morphine was required to be given subcutaneously at night to secure sleep.

At my request, Dr. Hall, of Philadelphia, a summer resident, made an examination of his eyes and ears. The optic discs were swollen, and there were hæmorrhages into the retinae. The appearance of the ears was normal. Bichloride of mercury, gr. $\frac{1}{30}$, and iodide of potassium, gr. v, were ordered to be taken three times a day. He was given twelve minims of Magendie's solution of morphine subcutaneously every night. No improvement appeared until a blister was applied to the nape of the neck, and the dose of the iodide was increased to gr. xv, three times a day, the bichloride being unchanged.

His pulse ranged from 72 to 88, his temperature from normal to 99.5° F. The urine remained normal. When improvement began it progressed rapidly. The head pains were the first to get better, then the ocular pain and disturbed vision; afterward, the deafness and weakness of the lower extremities; so that in ten days from the beginning of the attack he was able to walk on the hotel piazza. He became brighter and more cheerful, and enjoyed a good appetite and digestion. On August 14th he took a walk of some distance. On August 15th he returned home. The pain in his head had not entirely gone, so he was requested to continue the mercury and iodide of potassium, and to keep away from his business for a time.

August 25th he writes: "I am getting along very nicely. I remained very quiet for a few days after returning home, but gradually grew stronger, and had less pain in my head, and on Tuesday [23d] I ventured down to my place of business to attend to some light duties." "Last night was the first real good night's sleep I have had since I was first taken, and I assure you I felt refreshed this morning. My eyes have pained me, and my head has felt top-heavy the last day or two." "I shall in a few days be able to attend to business the same as ever."

October 14th he writes: "My general health has been good since I wrote you last, with the exception of nervousness. I find that on getting excited it works on my nerves, and I can not sleep at night. That, I believe, is the only thing I can complain of." "My appetite has been excellent. I kept on with the tonic three or four weeks and stopped. Have taken no other

medicine since. I have been in the sun for some time on two or three occasions, but it does not seem to affect me any. I really feel as well as I ever did, with the exception of being very nervous at times. I am not troubled with any pain in the head, as I was afraid I should be. I have lost but two or three days from business since the first week after I returned home."

THE PNEUMATIC RESISTANCE VALVES.

By SOLOMON SOLIS-COHEN, A. M., M. D.,

PHILADELPHIA.

THE great desideratum in the pneumatic treatment of pulmonary disease has been a cheap and portable apparatus.

Some four years ago I presented to the profession an apparatus combining the bellows and gasometer plans, which has since been used with great satisfaction by many of my co-laborers as well as by me. Simple as this instrument is, and although nothing better has yet been suggested, it still falls short of the ideal apparatus for home use by patients; and further experimentation has convinced me that if we confine our attention to *facilitating* the respiratory act, we shall not be able, until some new form of force is discovered, to produce either a cheap or a compact instrument that will be really serviceable, as the expenditure of force against atmospheric pressure is needful in both phases of the act of respiration, and machinery capable of developing the necessary power—if only a foot-bellows—must occupy more or less space and be more or less expensive.

For office use, however, and for home use by patients who need to be assisted to respire, I still prefer the Cohen-Richardson apparatus as being equally efficient with any, while simpler, neater, smaller, cheaper,* and more convenient than any other reliable instrument with which I am acquainted.

For use by patients who possess a sufficiency of unimpaired lung tissue and who preserve the power of muscular exertion, I have had an apparatus made which produces the desired physical and physiological effects by *opposing* the patient's respiratory efforts. Thus the necessity for any apparatus to supply power is avoided. We introduce into the current of respired air a measured impediment which acts synergistically with atmospheric pressure, and the patient's muscles supply the power to overcome both. We thus strengthen the respiratory muscles by exercise qualitatively appropriate and quantitatively regulated. We prolong the affected phase of respiration, rendering it more efficient, and during the entire period of performance differentiate between the pressure upon the pulmonary surface and that upon the general periphery, producing the well-known mechanical effects of such differentiation.

Inhalation, being resisted by a spring-valve adjusted to any desired pressure, is performed as from a partial vacuum. The chest-walls are expanded beyond the ordinary range, and the contained air of the lungs is rarefied to a degree beyond the ordinary negative pressure (-1 mm. Hg).

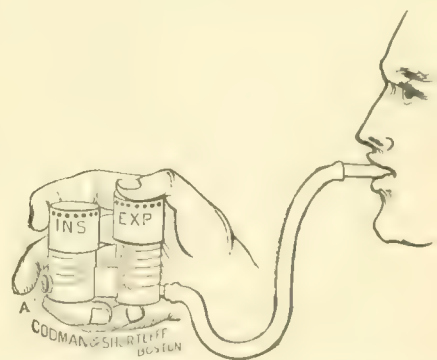
* It costs, complete, about thirty dollars.

equivalent to the tension of the spring by which the entrance of air is opposed. When, by the diminution of air-pressure on the thoracic side of the valve, atmospheric pressure upon the external side is left free to act, the air enters the lungs, and is there rarefied by the further expansion necessary to maintain the current, for as soon as pressure upon the thoracic side loses its (extra) negative quantity exactly equal to the positive quantity of the spring, the latter prevents further ingress of atmospheric air. All the air between the valve and the pulmonary capillaries is, therefore, rarefied air, and its degree of negative pressure is regulated by the degree of positive pressure represented by the tension of the spring. The latter is regulated by a screw.

Exhalation, being resisted in a similar manner by a spring valve, is performed as into a denser atmosphere. An increased muscular effort is necessary in order to contract the chest upon the contained air, and, by condensing it, overcome by positive pressure the resistance of the valve. All the air between the valve and the pulmonary capillaries is, therefore, compressed to a degree (in excess of the ordinary positive pressure of $+2$ to 3 mm. Hg) equivalent to the tension of the spring; and the contraction and necessary effort must be continued throughout the act in order to maintain the current.

If, then, we represent atmospheric pressure by P , the tension of the spring (and friction) by S , and the ordinary positive or negative pressure of respiration by $\pm P$, the pressure within the thorax during inhalation will be $P - S$, and during exhalation $P + S + P$, or, disregarding the constant P , the alteration of intra-thoracic pressure during inspiration is $-S$, and during expiration $+S$.

The instrument manufactured for me by Messrs. Codman & Shurtleff, of Boston (shown in the figure), is an improvement upon the rough sketch submitted to them, and I desire to acknowledge their many courtesies.



It consists of two small hollow cylinders of metal, closed in air-tight at the bottom and open at the top, where they are covered by cylindrical caps, communicating by a row of perforations with the atmosphere. The two cylinders communicate at the bottom by means of a junction-tube connecting them antero-posteriorly, and the caliber of the tube is prolonged beyond the posterior cylinder into a nipple upon which fits a rubber tube with a mouth-piece. The anterior cylinder is perforated at the front, opposite the junction-tube so that a free passage to and from the mouth-piece and at

mosphere is thus afforded. Above the level of the junction-tube in each cylinder is an ebonite valve, pressed upon by a spiral spring connected with the cap. In the anterior (inspiratory) cylinder the valve will yield to downward pressure sufficient to overcome the tension of the spring. In the posterior (expiratory) cylinder it will yield to upward pressure. The tension of the springs may be regulated by turning the caps. It is increased by descent of the cap in the expiratory valve, by ascent in the inspiratory valve.

A scale on the outside of each cylinder shows the pressure-equivalent of the spring-tension (and friction) in fractions of an atmosphere, from $\frac{1}{10}$ to $\frac{1}{30}$.

The size of the metal work, when the caps are screwed down, is only two inches by two inches and a half by one inch. A convenient length for rubber tube and mouth-piece is about ten to twelve inches. Each patient should purchase an instrument for his own use, as the cost is but trifling.* With the one intended for office use, in preliminary observations, a number of mouth-pieces should be obtained. The instrument may be cleansed with running water, not warm, however. Boric acid may be added to the wash-water if desired.

If the cylinders be held in the hand and the mouth-piece taken between the lips, there are three possible channels of communication through the instrument between the lungs and the atmosphere.

1. In either phase of respiration: Below the valves, through the junction-tube and anterior perforation.

If the latter is occluded by the finger, the air can pass:

2. *Into the lungs through the anterior cylinder, by depressing the valve, to accomplish which the intra-thoracic air-pressure must be lowered.*

3. *Out of the lungs through the posterior cylinder, by elevating the valve, to accomplish which the intra-thoracic air-pressure must be raised.*

To use the instrument, the spring of the desired valve is adjusted by turning the cover until its lower edge corresponds with the mark upon the scale representing the pressure to be employed. The finger is placed over the opening during the phase of respiration to be affected, and removed during the opposite phase. When both phases are to be affected, both valves are adjusted, and the finger is kept over the opening during the entire act. It is not necessary to hold the nostrils.

The physiological effects of inspiration of rarefied air, briefly stated, are:

The normal effects of inspiration exaggerated.

There is increase of the muscular effort necessary to produce expansion of the chest, of the time necessary to complete the act, and of the volume of air necessary to be inhaled to furnish a sufficient weight of oxygen. If the requisite effort can be made, there is increase in the elastic tension of the lungs and in the volume of tidal air. The subsequent contraction of the chest is at first passively facilitated, afterward impeded from resistance of the denser outer air. Pulmonary ventilation and gaseous exchange are, on the whole, increased, vital capacity augmented, and the muscles of inspiration strengthened. Thoracic aspira-

tion being increased, the blood tends at first to leave the periphery and accumulate within the thorax, but as more blood than usual is delivered to the left ventricle, and this is able to contract with a sufficient degree of force to overcome the higher peripheral pressure, the final equilibration is established by a quickening of the circulation, with an increase in the fullness, blood-pressure, and musculo-elastic tension of the arteries.

Expiration into compressed air likewise exaggerates the normal effects of expiration.

The act being impeded, increased muscular effort becomes necessary; the time is prolonged, and, provided there is sufficient muscular power to overcome the obstacle, a greater volume of air is exhaled.

If the power is insufficient, the volume of tidal air becomes gradually diminished in both phases of respiration, subsequent inspirations being rendered shallower. The excursions of the diaphragm and of the thoracic walls become less and less, but at the expense of contraction, fixed expansion being finally maintained, and, if the procedure is pushed to excess, apnoea may result. Pulmonary ventilation is diminished, and gaseous exchange is retarded. But, although the excretion of CO_2 is diminished, the absorption of O by the hæmoglobin is said to be facilitated.

When, however, the amount of muscular effort sufficient to expel the ordinary volume of tidal air can be exerted, pulmonary ventilation and correlative effects are increased. In either case, the ultimate effect is increased power in the respiratory muscles, increased thoracic expansion, and increased vital capacity.

The blood is expelled from the chest and forced toward the periphery. Cardiac dilatation is antagonized, systolic contraction is aided. The heart and lungs are therefore depleted, and the systemic vessels, especially the veins, overfilled. Unless the subclavian artery be compressed by the employment of too great a pressure (in which case the pulse may disappear), the pulse becomes slower, full, and hard.

The effects, then, are similar to those obtained in Valsalva's and Mueller's experiments, but less in degree, owing to the lesser pressure. In Valsalva's experiment with forced expiration there is an average pressure of + 87 mm. Hg, and in Mueller's experiment with forced inspiration there is an average pressure of - 57 mm. Hg. With the pneumatic resistance valves, as here constructed, the possible range of the apparatus is only ± 10.8 to 25 mm. Hg.

Here, then, lies the chief advantage of the apparatus over such instruments as "Dobell's residual air-pump" and others utilizing the same principle, as well as over simple voluntary forced respiration, in that it allows the pressure to be accurately adjusted to the requirements of the case.

It will also be seen that such undesirable disturbance of the circulation as might be caused by the employment of either valve may be neutralized by the use of both, in which event we would then have an *exaggerated respiration in both phases*, increasing synergistic effects and neutralizing antagonistic ones.

The therapeutic applications will be chiefly in cases of asthma, chronic bronchitis, emphysema, incipient phthisis,

* Four dollars.

chronic pleurisy with effusion, and dilated heart. As a measure of regulated pulmonary gymnastics, I anticipate for the instrument a useful place in the hygiene of ill-developed children and adolescents, more especially in the prophylaxis of phthisis.

The times, duration, pressure, choice of valves, etc., will vary with the circumstances of the individual cases, and no hard-and-fast rule can be given.

Speaking very generally, I should say that from twenty-five to one hundred inspirations, once, twice, or three times a day, would express the usual range. In asthma both valves should be employed, but with a greater expiratory than inspiratory pressure, the object being to prolong the acts, to confine the air in the chest, and to relax spasm.

In chronic bronchitis, pleural effusion, incipient phthisis, and dilated heart, where the exercise of pressure upon congested vessels, unused alveoli, inflammatory products, or cardiac chambers is the object, the expiratory valve will, as a rule, be preferable.

In emphysema the use of the inspiratory valve seems to be indicated as a means of diminishing the intra-alveolar pressure, and permitting such contraction as may still be possible. As a measure of respiratory gymnastics, the employment of both valves will usually be indicated.

As before stated, however, the personal and pathological equations must be studied independently in each case, and the treatment modified accordingly. As in the employment of any other powerful agent, intelligent discrimination and caution will be necessary. That which, properly used, is productive of good may be even more productive of harm if used improperly. It is hardly necessary, but it may be as well, to add that the resistance-valves are offered to the profession, not as embodying any new mechanical or therapeutical principle, and not as being capable of doing anything more than experience has shown can be legitimately alleged for pneumatic treatment, but as a cheap and convenient instrument, which may be with safety intrusted to an intelligent or obedient patient, who, if he does not thus receive a pocket-climate, is at least placed in position to obtain some of the benefits of pneumato-therapy.

WOMAN AND NATURE.

By LOUISE FISKE-BRYSON, M.D.

A NOTED gynecologist in private conversation once made the sweeping statement that cultivated women were absolutely devoid of natural human instincts, and must in consequence take an intellectual view of the situation, allowing reason to supply, as far as possible, the place of what ought to exist and yet does not. The speaker added that he believed instincts had been educated all out of American women.

To secure some data upon this subject, twenty-five cultivated women were closely questioned in regard to the matter of instincts. They were of average or superior intelligence, had received excellent advantages of education and travel, and occupied good social positions. Their ages ranged from twenty-five to forty. In style, temperament,

and quality there existed great variety, as well as in height, weight, and physical development. They had married somewhere between the ages of nineteen and thirty-five. Nearly all were mothers. These women answered unreservedly and with apparent sincerity.

In the case of five the answers were negative. Only through hearsay did they know anything of human instincts. The maternal instinct *seemed* to be normally developed in them all; but closer questioning proved it to be what I shall have to call the æsthetic view of maternity, as it dealt largely with ribbons, laces, pink cheeks and bright eyes, and the proud knowledge of possession. The sense of protection was entirely absent. There was no real willingness to give up liberty or pleasure for maternal duties, though public opinion secured a fair share of attention to them. None of these women wished to suckle their own infants, and some were physically incapable of the task. Nine women confessed to occasional and somewhat variable knowledge of the sexual instinct. The maternal instinct was developed normally in all, and the sense of protection present. They suckled their own infants, occasionally under protest; but they did it all the same, and took excellent care of them in other respects.

Eleven women stated that they were conscious of possessing natural human instincts—sexual, maternal, and the sense of protection. All of them who were mothers suckled their own infants from preference as well as principle. In the case of three, lactation proved an unusually severe strain; yet any medical suggestion concerning artificial feeding was met with quiet scorn. There was literally no use in talking. Persist they would, and persist they did. The children of all these mothers excel in strength and beauty, both of mind and body. The women themselves possess a high order of intellect, together with great energy and marked force of character. One is a royal beauty, admired of two continents, whose child is as handsome as herself. Four are physicians, three are engaged in literature, and three are exquisite and dignified matrons whom to know on easy terms of familiar friendship is in itself a liberal education. They all have done and are doing sound solid work that is of value to the world. In the minds of all these women lies the firm conviction that their children are their best creation. As one said laughingly, she combined from the force of necessity the two *great* professions—maternity and medicine.

From the foregoing, the following conclusions may be drawn:

1. Cultivated women, of the highest type and of most value to the world, are in no wise deficient in natural instincts.
2. Cultivated women of a lower type, of the order known as *petites maitresses*—women of elegant pretensions—are more or less deficient in natural instincts.
3. Cultivated women of still another type, *without particular aspirations of any kind*, are often devoid of natural instincts and hopelessly astray in all that pertains to nature.
4. Women belonging to the second and third types are spoken of in and out of the books as American women, a statement that fails in abstract justice to the race. Women of the first type are also Americans.

5. Happiness is not possible to women outside the lines of nature; and, therefore,

6. It is the duty of physicians to recognize the fact that some have

"Wandered away and away
From Nature, the dear old nurse,
Who would sing to them night and day
The rhymes of the universe,"

and to search out the causes, and restore as far as possible these unfortunate women to harmonious living by correcting false impressions and wrong ideas.

Three agents have been instrumental in giving women wrong ideas concerning instincts. One is education. To paraphrase Madame Roland, "O Education! what crimes have been committed in thy name!" Another is so-called religious training. Judaism is not responsible for the false doctrine that the body is the arch-enemy of the soul. The Hebrew race have lived always in the lines of nature, as their high average of talent and power continually testify. Nowhere in the Old Testament is there condemnation of instincts. Rather is this false notion a dark Buddhistic cloud that settled over early Christianity—a dark cloud that the bright rays of science must in time utterly dispel. Late physical development among cultivated American women is another factor in the matter. Of five women questioned at random, three stated that they had increased from half an inch to two inches in height since the age of twenty, and developed into womanly proportions between the ages of twenty-five and thirty. This is not the way they do in books. The rules of feminine development in literature are most precise, and seldom vary. It is true that girls of the higher class often menstruate early—at eleven, twelve, sometimes at ten years. Yet the presence of function is no proof of perfected structure. Sometimes this early menstruation means overtaxed emotions, or some inequality of development, or deficient nutrition. It has misled writers into stating that American women develop early. The exact truth seems to be this: American girls of the cultivated class frequently menstruate early, and American women of similar social position develop late. Those of the twenty-five women questioned about instincts who acknowledged having any, stated they had not been conscious of them at first, but that as time went on they seemed to develop. The average age of their conscious recognition was about twenty-seven. If this late consciousness is accompanied by equally late perfection of structure, it follows that very early marriage and maternity among all educated women is always as much an outrage against nature, as the surgeon knows only too well it is frequently in certain individual cases.

There is still another reason why some of us take a wrong view of life and its relations—an unrecognized reason. American women, as a rule, receive a better literary education than American men of the same class. This gives a superficial excellence that dazzles men who marry them into faith in their absolute superiority. If literary distinction were the standard by which to judge intrinsic merit, this might be true. Such distinction is but the pale reflex of life; and life, with character as its outcome, is the ultimate test of the *ego*. A man who keeps his promises,

who meets responsibilities with cheerfulness and generosity, and who is reliable throughout, can well afford to be ignorant of sonnets, *chiaroscuro*, and the *Niebelungenlied*. Just here the women under consideration gain an unfair advantage which they use selfishly or unconsciously, according to their quality. They sit enthroned after the manner of a goddess, "too bright, too good for human nature's daily food," receiving care, kind consideration, and homage unlimited, giving little or nothing in return and strangely forgetful of the written and unwritten terms of their contract. Year after year they continue to dodge responsibilities, growing less helpful and less happy as time goes on, until they undergo a species of race degeneration and sink into a condition of chronic half-invalidism. I am well aware there is another side to this picture; that there are men with an oppressive iron will that crushes feminine fancies and lops off innocent whims till there is no sap left in women to bud or blossom any more; men capable at all times of Richard III's calm brutality in his answer to Anne Neville's humble inquiry, "What have I done?" "To me the worst of crimes, outlived my liking." But they are rare, and not the exponents of American civilization, which is all chivalry and genuine kindness.

We live in a revolutionary time. The old order of thought has given way, and the new is not yet crystallized. In this transitional period domestic life suffers loss. It is not noble and dignified as of old, nor yet the fair and gracious estate it will eventually become. If I had time to be a woman with a mission, I should go up and down the world trying to persuade other women that by being the patient mothers of children, good housewives, and real companions to the men of their choice, they were doing the best there was to do. The wife stands at the point of power, for complete living is only to be found in the union of two. This relation satisfies all the needs of a woman's nature, presents that variety and periodic change so essential to healthful feminine growth, and affords the best conditions for the development of mind and character. Herbert Spencer is right when he says: "It is a truth yet remaining to be recognized that the last stage in the mental development of each man and each woman is to be reached only through the proper discharge of the parental duties. And when this truth is recognized, it will be seen how admissible is the ordination, in virtue of which human beings are led by their strongest affections to subject themselves to a discipline they would else elude." This is the way a little child shall lead them. To the last syllable of recorded time, one profession for women must ever hold the first rank as a calling of great dignity and beauty—the profession of a matron.

15 WEST THIRTY-FOURTH STREET, NEW YORK.

Reflex Neuroses from Constipation.—The "Lancet" says: "Besides disturbances of the circulation, and especially palpitation, irregularity of pulse, and vertigo, which may be attributed to excitation of the cardiac branches of the great sympathetic, Kisch believes that rebellious hemicrania often recognizes no other cause than constipation. . . . Although Kisch has collected forty-eight cases in which cessation of constipation was followed by relief from diverse and chronic neuralgic, we may well question whether intestinal sluggishness was the *causa causans* of the various neuralgic. The alteration of even one element can not be effected without the production of more than one result."

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FÆCAL ANÆMIA.

At a recent meeting of the Medical Society of London, Sir Andrew Clark read a notable paper entitled "Observations on the Anæmia or Chlorosis of Girls, occurring more commonly between the Advent of Menstruation and the Consummation of Womanhood." Under this title the "Lancet" publishes the paper, but it more pithily expresses the view that the author took of the affection in the caption "Fæcal Anæmia," which heads its report of the discussion. It is not a particularly new idea that various diseases of the system at large, especially those that simulate the manifestations of certain diatheses, owe their origin and maintenance in great measure to inadequate intestinal action. Anæmia is no exception, and it is safe to say that almost every acute and experienced observer looks upon it as at least decidedly aggravated and protracted by torpor of the intestinal canal. Nevertheless, so far as we are aware, never before has so thorough and convincing a case been made out for the theory of the dependence of anæmia on constipation as in Sir Andrew Clark's paper.

We have not space to give a summary of the argument, but must content ourselves with presenting some of the more practical aspects of the author's conclusions. The crucial test of the theory, he admits, is in the treatment, and he maintains that the treatment which most speedily and effectually cures the disease is that in which, by the use of tonic aperients, full and regularly recurring action of the bowels is produced; that with the suspension of this treatment the disease recurs, to subside again on its resumption; and that no treatment appears to be permanently successful which does not provide means for securing daily relief to the intestinal canal.

In ordinary cases, he would direct the patient to sip a quarter of a pint of cold water on waking in the morning; to take a tepid sponge-bath on rising, drying herself quickly and then being rubbed briskly with towels; to clothe herself warmly and loosely, taking care that there is no constriction of the body or of the limbs. She should have four simple, but liberal meals, daily: Breakfast, between eight and nine, of whole-meal bread and butter, with one or two eggs, some broiled fresh fish, or the wing of a cold chicken or pheasant, and, toward the close of the meal, half a pint of equal parts of milk and tea, not infused longer than five minutes; lunch or dinner, between one and two, of fresh, tenderly dressed meat, bread, potato, some well-boiled green vegetable, and any simple farinaceous pudding or cooked fruit, preferably apple, drinking one glass of Burgundy, clear or in half a tumblerful of water; tea, between four and five, of whole-meal bread and butter, with a cup of equal parts of tea and milk; and dinner or supper, between

seven and eight, resembling the midday meal, but smaller in quantity. Nothing is to be taken after this meal, and nothing between meals. The patient should walk at least half an hour twice a day, and as much more as her strength and convenience will allow. She should go to bed about ten o'clock, and at that time the sponging and toweling should be repeated. The bedroom should be cool and well ventilated. The patient should "lead a simple, regular, active, occupied, purposive life," and not notice or distrust herself. This seems to us an excellent regimen in the main, but we would substitute coffee for the tea.

Together with these hygienic instructions, Sir Andrew Clark prescribes an old-fashioned ferruginous cathartic, to be taken twice a day—usually some such acid mixture as one of twenty-four grains of sulphate of iron, six drachms of sulphate of magnesium, a drachm of aromatic sulphuric acid, two drachms of tincture of ginger, and eight ounces of compound infusion of gentian or quassia, one sixth part of which is to be taken twice a day, at about eleven and six o'clock. Occasionally this causes nausea, dries the skin, and is otherwise ill borne. In such cases he prescribes a mixture which is much the same, save that it contains two drachms of bicarbonate of sodium instead of the aromatic sulphuric acid, together with a drachm of spirit of chloroform. If neither mixture agrees, he orders sulphate of iron in pills, to be taken with the meals, and a saline aperient in the morning. Under this plan of treatment, nine girls out of ten recover their health in from a month to three months, and the recovery is very likely to prove permanent if they are then ordered a pill of aloes, myrrh, and iron, to be taken once or twice a week in doses just sufficient to bring about a moderate natural action of the bowels.

HEART TROUBLES IN CONNECTION WITH TYPHOID FEVER.

OF the many complications and sequelæ of typhoid fever, there are few, if any, of greater importance than affections of the heart and blood-vessels. Within the last few years pathological study has shown how common they are, and the profession has been made acquainted with them largely by the teachings of Hayem, Martin, Barié, Osler, and others; but our clinical knowledge of the subject has hitherto been very meager. The pathologist could readily explain the sudden deaths that were so common in typhoid fever, even during the period of convalescence, but the clinician did not always foresee the probability of such a termination, and consequently too often failed to take precautions to prevent it. Such being the case, a recent essay by Landouzy and Siredey, the first portion of which has been published in the "Revue de médecine," is particularly opportune. Last year the same authors drew attention to the lesions of the heart and the blood-vessels found in typhoid fever, and since then they have studied the subject from a clinical as well as from a pathological point of view.

The article alluded to gives the results of their observations in fourteen cases. In one case, that of a woman, death took place quite suddenly on the twelfth day of the fever, the

patient dying in syncope on sitting up in bed. On the day before her death her pulse was 96, irregular, and compressible, and there was a soft systolic murmur. Diffuse sclerosis of the heart and kidneys was found post mortem. In another case, a girl, eighteen years of age, previously healthy, died rather suddenly on the twelfth day of the fever. At the autopsy, periarteritis and diffuse myocarditis were found. There had been no clinical evidences of the pathological lesions until an hour or two before the girl's death. In the next case, a man, twenty-three years old, died on the forty-third day of the fever, after having had several intestinal hæmorrhages. The heart-sounds were free up to the very last. There was infiltration of embryonic cellular elements in the walls of the blood-vessels of the viscera, especially the heart and the liver. In another case, cardiac pain and a loud systolic murmur were developed on the tenth day of a moderately mild attack of typhoid fever. After a few days the pain and the murmur gradually grew less intense, and in fifteen days both had entirely disappeared, and the patient made a good recovery. In another case there were signs of mitral insufficiency during the third week, and when the patient left the hospital, convalescent, the murmur had become more intense. In another case the interesting observation was made of the development of a double aortic lesion during a relapse of a mild attack. The patient was slow in recovering, and left the hospital with a loud diastolic murmur. Two other cases were instructive from the fact that, the patients' hearts having been carefully examined from day to day during a rather mild attack, a mitral murmur made its appearance in each case during convalescence, which seemed to be progressing favorably. In three cases the patients were admitted into the hospital for various heart affections which, on careful investigation, were traced back to attacks of typhoid fever occurring two, five, and fifteen years before.

These observations are especially interesting at a time when thoughtful physicians are disposed to question if the routine employment of internal antipyretics in typhoid fever is not doing harm. In the course of a discussion at the New York Academy of Medicine, not long ago, Dr. Loomis made the statement that during his last term of service at Bellevue Hospital he had had a much smaller percentage of fatal cases of typhoid fever than his immediate predecessor—simply, he thought, from his having omitted the use of internal antipyretics. Drugs of this class, as is well known, are nearly all cardiac depressants, and, in the light of our present knowledge, should be used with a very sparing hand. The writer vividly recalls a mild case of typhoid fever in which the persistent administration of acetanilide came near bringing about a fatal result. Lately such a result has been recorded in a German journal; in that instance the dose was small, and had been repeated only two or three times.

MINOR PARAGRAPHS.

CATHETERIZATION OF THE URETERS.

At a recent meeting of the Obstetrical Society of Philadelphia, for notes of which we are indebted to the secretary, Dr.

B. C. Hirst related the case of a young primigravida who had pus and albumin in her urine, and complained of pain in the region of the right kidney. Three weeks after her delivery both the amount of urine and that of its abnormal ingredients showed a decided diminution, and the temperature rose to 104° F. These questions then came up: 1. Was the right kidney the seat of a calculus, which had suddenly plugged the outlet, or was the pain on the right side referable to a diseased state of the left kidney—a possibility to which attention had been called especially by Mr. Knowsley Thornton? 2. Were both kidneys diseased? 3. Did the pus really come from the kidney or from the bladder? These questions Dr. Hirst had been able to solve by the use of ureteric catheters, which had been brought to the society's attention and kindly loaned to him by Dr. Kelly. Urine from the two kidneys was collected in separate test-tubes, and it was shown that both kidneys were diseased, but the right one more decidedly. Dr. Hamill said that he, too, had used the catheters satisfactorily since the preceding meeting, and Dr. Kelly stated that he had used them successfully in a case of ureteritis in a young unmarried woman, and had found no difficulty in passing them.

A NEW LARYNGOLOGICAL JOURNAL.

THE French already had several creditable journals of laryngology, but nothing but good to the specialty can come of the appearance of a new one, especially one so well calculated to win respect as the "*Archives de laryngologie, de rhinologie et des maladies des premières voies respiratoires et digestives.*" Notwithstanding its verbose title, which, we venture to predict, will seldom be given it in citations, the new journal impresses us favorably. It is edited by Dr. Albert Ruault, with the collaboration of Boucard, Cornil, Verneuil, Trélat, and a number of other well-known gentlemen, and published by G. Steinheil Paris.

MEDICAL DIRECTOR VOLLUM'S REPORT.

THE profession is accustomed to the excellent annual reports prepared by the Surgeon-General of the army, but it is not common in times of peace, so far as our memory goes, for department medical officers to be called upon for reports concerning the sanitary state of the forces under their care. The Adjutant-General of the Department of Texas, however, lately called for such a document from Lieutenant-Colonel and Surgeon Edward P. Vollum, which has been issued in the form of a sixteen-page pamphlet. Dr. Vollum's report is to a great extent statistical, but it deals also with a number of matters of general sanitary interest, and we trust that the custom of issuing such reports will become more general.

ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending November 29, 1887:

DISEASES.	Week ending Nov. 22.		Week ending Nov. 29.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever.....	27	7	18	7
Scarlet fever.....	95	18	100	12
Cerebro-spinal meningitis....	2	2	4	3
Measles.....	41	6	46	8
Diphtheria.....	133	42	184	58
Small-pox.....	1	0	0	1

The late Dr. Theodore Romeyn Varick.—At a largely attended meeting (the largest ever held in the county) of the

profession of Hudson County, held in Jersey City, N. J., Saturday morning, November 26, 1887, the following preamble and resolutions, presented by the committee, consisting of Dr. Gordon, Dr. Kopetschny, and Dr. Morris, were unanimously adopted:

The hand of death having removed from among us our esteemed associate, Theodore Romeyn Varick, whose long and distinguished services as physician and surgeon render it eminently proper that we should place upon record our appreciation of his merit; therefore, be it

Resolved, That in his close identification with a specific aim (the advancement of the art of surgery), his devotion to the profession, his self-reliance and unswerving principle, striving for the right as best he understood it, he has really fulfilled his mission, and in his death the profession has lost one of its ablest exponents, the people a great friend, and the State an estimable citizen.

Resolved, That we tender to his afflicted family our earnest sympathy in this their hour of trial.

Resolved, That we attend the funeral services from his late home in a body, and that a copy of these resolutions, signed by the president and attested by the secretary, be transmitted to the family of the deceased, and published in the city papers and the "New York Medical Journal" and the "Medical Record."

[Signed.] { A. A. LUTKINS, M. D., *President*.
{ W. PERRY WATSON, M. D., *Secretary*.

The following are the resolutions of the Medical Board of St. Francis Hospital regarding the death of the late Dr. T. R. Varick:

The Sisters in charge and the medical staff of St. Francis Hospital, Jersey City, deploring the sudden and unexpected death of their late distinguished associate, Dr. Theodore Romeyn Varick, unite in giving public expression to their great sorrow, and desire to place on record their appreciation of the exalted character, superior abilities, and valuable services to the science of medicine of their late friend and colleague.

Resolved, That words are inadequate to express our sense of bereavement in the loss of one who pre-eminently excelled in all the attributes of a great and true physician; his erudition of mind, clear and logical; his many and valuable contributions to medical science—particularly in the branch of surgery—original, concise, and practical; his noble devotion to his profession, and the tireless industry exemplified in the daily practice of his art; his purity, simplicity, and sterling honesty of character—open and frank himself, he hated sham and deceit; his courtesy and ethical conduct toward his professional brethren.

Endowed with all the virtues that add luster to the character of a Christian gentleman, he was loved, revered, and admired by his friends.

That the great heart, actuated by the highest aims and noblest impulses for the betterment of suffering humanity, and so full of love and generosity for his friends, is stilled in death, is a grief to us that time is powerless to assuage.

Resolved, That we tender to the family of the deceased our deep sympathy in this great affliction that has come upon them. Words indeed, we know, are idle to comfort anguish of heart such as theirs, and we can but sorrow with them.

Resolved, That a copy of these resolutions be sent to the family of the deceased and be published in the Jersey City daily papers, the New York "Medical Record," and the "New York Medical Journal."

Society Meetings for the Coming Week:

MONDAY, *December 5th*: New York Academy of Sciences (Section in Biology); Medico-chirurgical Society of German

Physicians (annual); Morrisania Medical Society (private); Brooklyn Anatomical and Surgical Society (private); Utica, N. Y., Medical Library Association; Boston Society for Medical Observation; St. Alban's, Vt., Medical Association; Providence, R. I., Medical Association; Hartford, Conn., City Medical Association; Chicago Medical Society.

TUESDAY, *December 6th*: Kings County, N. Y., Medical Association; New York Obstetrical Society (private); New York Neurological Society; Elmira, N. Y., Academy of Medicine; Buffalo Medical and Surgical Association; Ogdensburg, N. Y., Medical Association; Medical Societies of the Counties of Herkimer (semi-annual—Herkimer) and Saratoga (Ballston Spa), N. Y.; Hudson, N. J., County Medical Society; Androscoggin, Me., County Medical Association (Lewiston).

WEDNESDAY, *December 7th*: Harlem Medical Association of the City of New York; Medical Society of the County of Richmond, N. Y. (Stapleton); Penobscot, Me., County Medical Society (Bangor); Bridgeport, Conn., Medical Association.

THURSDAY, *December 8th*: New York Laryngological Society (annual); Society of Medical Jurisprudence and State Medicine; Brooklyn Pathological Society; Medical Society of the County of Cayuga, N. Y.; South Boston, Mass., Medical Club (private); Pathological Society of Philadelphia.

FRIDAY, *December 9th*: New York Academy of Medicine (Section in Neurology); Yorkville Medical Association (private); Medical Society of the Town of Saugerties, N. Y.

SATURDAY, *December 10th*: Obstetrical Society of Boston (private).

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from November 13 to November 26, 1887:*

PERIN, GLOVER, Colonel and Assistant Surgeon General. Retired from active service, November 17, 1887, by operation of law. S. O. 268, A. G. O., November 17, 1887.

BYRNE, C. B., Captain and Assistant Surgeon. Relieved from, temporary duty at Fort McHenry, Maryland, and will return to his proper station, Washington Barracks, D. C. S. O. 242, Division of the Atlantic, November 11, 1887.

WALKER, F. V., First Lieutenant and Assistant Surgeon. Relieved from duty at post of San Antonio, and assigned to duty at Fort Ringgold, Texas. S. O. 130, Department of Texas, November 8, 1887.

SMITH, A. K., Lieutenant-Colonel and Surgeon. Assigned to duty as Attending Surgeon in New York city. S. O. 269, A. G. O., November 18, 1887.

SMITH, J. R., Lieutenant-Colonel and Surgeon. Ordered for duty as Medical Director, Department of Dakota. S. O. 269, A. G. O., November 18, 1887.

HORTON, S. M., Major and Surgeon. Granted six months' leave of absence on surgeon's certificate of disability. S. O. 269, A. G. O., November 18, 1887.

ARTHUR, W. H., Captain and Assistant Surgeon. Granted two months' leave of absence, with permission to apply for two months' extension, to take effect on the arrival at Fort Niagara, N. Y., of Assistant Surgeon Paul R. Brown. S. O. 269, A. G. O., November 18, 1887.

KEAN, J. R., First Lieutenant and Assistant Surgeon. Granted two months' leave of absence, to take effect about December 1st. S. O. 269, A. G. O., November 18, 1887.

BROWN, PAUL R., Captain and Assistant Surgeon. Ordered to Fort Niagara, N. Y. S. O. 270, A. G. O., November 19, 1887.

SKINNER, JOHN O., Captain and Assistant Surgeon. Ordered to Fort Ontario, N. Y. S. O. 270, A. G. O., November 19, 1887.

RICHARD, CHARLES, Captain and Assistant Surgeon. Ordered to post near Denver, Col. S. O. 270, A. G. O., November 19, 1887.

CARTER, E. C., Captain and Assistant Surgeon. Ordered to Willet's Point, N. Y. S. O. 270, A. G. O., November 19, 1887.

Naval Intelligence.—*Official List of Changes in the Medical Corps of the United States Navy for the two weeks ending November 26, 1887:*

RIXEY, P. M., Passed Assistant Surgeon. Ordered to the Naval Dispensary, Washington, D. C.

NASH, F. S., Passed Assistant Surgeon. Detached from duty at the Smithsonian Institution and ordered to Washington Navy-Yard.

OBITUARY NOTES.

Theodore Romeyn Varick, M. D., of Jersey City, N. J., died suddenly, on Wednesday evening, November 23d. The deceased was born in Dutchess County, N. Y., June 24, 1825. He was graduated from the Medical Department of the University of the City of New York in 1846. After practicing a little over two years in New York, he settled in Jersey City, where he soon entered upon a prominent and useful career. Dr. Varick was a surgeon of great experience and of striking originality. He was not a copious writer, but the occasional papers that he prepared, several of which have appeared in our columns, were all eminently practical and replete with sound sense. His manly qualities endeared him to those who knew him personally, and his loss will be acutely felt both in the profession and in the community in which he lived.

Letters to the Editor.

THE INFLUENCE OF THE CORSET ON THE BREATHING CAPACITY.

36 WEYMOUTH STREET, LONDON, November 16, 1887.

To the Editor of the New York Medical Journal:

SIR: I have read with the most lively interest the excellent article on "The Corset," by Dr. Robert L. Dickinson, in your issue of the 5th inst. Having myself been engaged for many years in a crusade against stiff and unyielding stays of every description, I beg your permission to supplement some of the author's statements by a few facts, some of which have been already brought under public notice in my former writings, and more especially in "Voice, Song, and Speech," of which Mr. Emil Behnke is joint author with me.

There is, first of all, no doubt whatever that a woman's breathing capacity is seriously interfered with by stays, for we have time after time demonstrated, by means of the spirometer, that a woman who with a corset on will register, say 100 cubic inches, can, after removal of that pernicious garment, attain to an average of 130 to 140 cubic inches.

I also heartily agree that the diaphragm is, in the words of your author, "a muscle capable of developing to meet increased demands as much as any other that the athlete strengthens."* We have been in the habit of causing patients and pupils to undergo regular diaphragm gymnastics, with the result of developing their breathing capacity to a really wonderful extent. I may mention, as a case in point, that of a clergyman who had completely broken down in voice, and whose "vital capacity"

* The most noted example that I ever saw of this was in the person of the late Jules Perkins, the eminent bass singer and a native of Boston, Mass. He was a pupil of Lamperti, of Milan, so well known as an advocate of deep breathing for the purposes of singing.

was increased by two weeks' practice from 200 to 272 cubic inches. In cases of so-called functional loss of voice—often a premonitory sign of phthisis, and depending on insufficient motor (breath) power—similar exercises are of the greatest service.

Finally, I would emphatically indorse Mr. Walsh's opinion that "the agricultural woman who knows not stays breathes more like a man than the town female." I am, indeed, strongly inclined to think that the difference in the breathing of men and women is owing to the baneful influence of stays, skirt-strings, etc., continued through generations, rather than to structural differences. Nor is this with me merely a matter of conjecture, for Mr. Behnke and I have frequently had the opportunity of testing the breathing capacity of girls whose bodies have been allowed to develop in a natural manner, and, although they are no doubt still handicapped by the effect of inherited evil influences, yet their breathing capacity has invariably been considerably above the averages accorded to them, not only by Hutchinson, but also in the more recent tables by Charles Roberts, which are considerably higher. It is only fair, therefore, to assume that the female offspring of such girls in coming generations—similar conditions of physical education being observed in both sexes—is likely to have as great a breathing capacity as the male of corresponding height and age.

This matter might be put to a test even now if some scientific observer, having the opportunity of temporary sojourn among uncivilized nations, would provide himself with the few necessary instruments and give us the results of his experience.

LENNOX BROWNE.

Proceedings of Societies.

NEW YORK CLINICAL SOCIETY.

Meeting of September 23, 1887.

The President, Dr. ROBERT ABBE, in the Chair.

Double Stricture of the Rectum, caused by Plastic Exudation in the Pelvis.—Dr. C. B. KELSEY reported a case and exhibited the pathological specimen (see page 435).

Remarks upon Spina Bifida, with the Report of Four Cases.—Dr. L. E. HOLT read a paper on this subject, and exhibited the pathological specimen from one of the cases (see page 519).

Spina Bifida.—The PRESIDENT reported a case and exhibited the specimen. A girl, ten weeks old, well nourished, showed no signs of a tumor until she was a week old. Three months before the birth of the child the mother fell, striking the lower part of her back on a chair. To this fall she attributed the deformity of the child. The tumor, which was situated on the lower lumbar vertebra, measured five inches across by three inches in vertical diameter. It was translucent and covered with tense, shining skin. As it seemed ready to burst, four ounces of fluid, which was transparent, colorless, and contained sugar, were withdrawn. Four days later, the tumor having re-filled, the same quantity of fluid, which was this time of a faint straw-color, was again aspirated. It was judged that the tumor had contained about twelve ounces.

On September 24th, four days later, the tumor was again tense and highly distended, the skin having become reddened and thickened. Half an ounce of fluid was withdrawn, and a drachm of Morton's fluid injected. No reaction or shock fol-

lowed. The child was kept in a horizontal posture with her face upward. For three days following she did not nurse well, but, beyond being restless, did not seem ill.

On the 28th the child, when seen, was restless; crying and trembling when handled, but comparatively quiet when left alone. The sac was now decidedly shrinking, and its walls had



become greatly thickened. The tumor was hot and the child's temperature 106° F. Ice-cloths were ordered to be applied to the tumor and the spine.

On the 29th the same improvement was manifested. The sac had become smaller and quiescent, while the child nursed better, and its temperature was 103° .

On October 1st (the seventh day) the child was worse. Spinal irritation was well marked, the trunk being rigid, the head thrown back, and the eyes deflected to the left. There were slight tremors from time to time. The sac appeared in good condition, and the fontanelles were not too full. Ice-cloths were ordered to be applied to the head and the spine.



On the 2d the child's temperature was low, the skin was cool, the pupils were small and did not react, and there was an increased apathy, amounting to semi-coma. The tumor, if anything, had shrunk a little. The child did not nurse much, but it had no spasms or tremors.

On the 3d the child died quietly. The tumor, *post mortem*, was found occupying the upper sacral vertebra, and containing two major cavities, one on either side. These cavities were connected with the spinal canal, and were lined with the dura. The central part of the tumor, into which the fluid had been injected, was filled with pus. The suppuration extended to the lateral cavities, where the fluid was less purulent. The cord

spread out after entering the cavity, and then passed into the median line. The central canal of the cord contained some pus. This specimen illustrated the risk of injecting Morton's fluid. The operation had been performed under antiseptic precautions.

Dr. G. M. TUTTLE had seen, in Bellevue Hospital, a similar case, in which a cure was said to have been effected. A large tuft of hair had grown over what had been the site of the tumor.

Dr. HOLT also had seen a similar case, in which the patient had recovered. Over the tumor there was a small abscess. After the abscess was opened, the whole sac contracted and healed. Six months later, the child having died of some other affection, the above-mentioned state of things was confirmed by an autopsy.

Regarding the growth of hair in cases of spina bitida, it was common in simple cases of fissure of the spinal cord without any tumor.

Multiple Peripheral Neuritis of Alcoholic Origin.—

Dr. TUTTLE reported two cases which he had recently observed. Both presented the typical symptoms of multiple peripheral neuritis, but their chief interest lay in the profound effect of the alcoholic poison upon the central nervous system.

The first patient, a married woman, aged twenty-nine, was admitted into the New York Hospital on August 7, 1887. She had used alcohol in various forms immoderately for four years, and for two or three years had manifested symptoms of chronic nephritis. Two weeks before her admission she began to vomit all food, she had marked fever, and both feet and legs began to swell and to show loss of muscular power, especially in the muscles of the anterior aspect of the legs, causing both feet to drop and turn inward. There was also excessive tenderness to pressure, not only in the muscles of the legs and thighs, but also in those of the arms and trunk. The patient rapidly lost power, lying helpless in bed, and soon passed into a condition of low muttering delirium. The urine and feces were passed involuntarily. When she was admitted into the hospital her condition was one of great prostration. She had the appearance of a person suffering with delirium tremens. Her tongue was brown, dry, and tremulous. Her rectal temperature ranged

from 99° to 102° , the surface temperature being uniformly 98.5° . Both legs and feet were somewhat edematous, but at the same time much emaciated and atrophied. The feet were extended and rotated inward, and the power to move them was gone. Both hands dropped at the wrist, and the grasp was very feeble. Pressure over the nerves, especially the sciatic and the musculo-spiral, gave excruciating pain. The superficial reflexes, especially the plantar, were delayed, but greatly exaggerated. Areas of anesthesia and hyperaesthesia were noted on the legs. The knee-jerk was absent. Electrical examination, with thirty-six cells, showed degenerative reaction of the peroneal muscles, with normal reaction in the extensors of the toes on both sides. Subsequently pressure-sores developed over the left external malleolus and over the right trochanter. The patient complained of dimness of vision, and ptosis of both upper eyelids was noticed. Examination with the ophthalmoscope showed the outlines of the optic discs poorly defined, with cloudiness at the papilla.

At the end of a month the fever was gone, the intellect was clear, the hyperaesthesia had disappeared, and the patient had regained considerable power, so that she could extend the hands in a line with the forearms. Control over the sphincters also returned, and from this time on improvement was rapid,

although, when she was discharged from the hospital, at the end of two months, the feet were still extended and the patient could not stand.

The second case presented an almost exactly analogous series of symptoms, but the patient died at the end of about three months from the onset of the disease. An autopsy could not be obtained. A reliable history of the abuse of alcohol was wanting in this case.

Dr. MILLS remarked that there were three classes of cases of alcoholic origin, which were liable to be mistaken for one another. In one class the spinal cord and brain were involved; in another class the spinal cord alone was affected; in the third class the peripheral nerves only were the seat of disease. The differential diagnosis between the two latter was extremely difficult, but great stress was laid upon the tenderness along the course of the nerve trunks as pathognomonic in cases of neuritis. The rapid recovery of the patient in one of the cases reported by Dr. Tuttle would not favor the diagnosis of multiple neuritis, as recovery was usually slow.

Persistent Consolidation after Pneumonia.—Dr. TUTTLE mentioned a case of persistent consolidation of the lung after pneumonia in a man forty years old. During a period of eleven weeks, for which time the case was under observation, the lung showed no changes of physical signs. The patient was free from symptoms, there being no cough nor expectoration. The temperature, observed very carefully, showed no fluctuation whatever. Though the physical signs remained the same, the patient's general condition improved, and he even gained in weight. The lung had been aspirated several times, but no fluid could be obtained.

The PRESIDENT had seen a case of persistent consolidation of a lung in a syphilitic patient. Under the administration of iodide of potassium the consolidation was rapidly cleared up.

Dr. H. M. BIGGS mentioned a case that had presented all the physical signs of a consolidation of the lung. The lung had been aspirated several times without result. At the thirteenth aspiration, however, fluid was obtained.

A Supernumerary Arm.—Dr. FRANK HARTLEY mentioned the case of a boy, ten years old, who presented an entire third arm on the right side. The scapula of the supernumerary arm, however, was wanting. The parents were healthy, and were not consanguineous; yet, of the other children, one had a mole, another had Pott's curvature of the spine, and the third showed the remains of a spina bifida.

Spinal Concussion.—Dr. W. G. THOMPSON related the history of the case of a man, twenty-five years old, a clerk, of temperate habits, who was admitted into the Presbyterian Hospital on September 17, 1887. Five weeks previously, while in perfect health, he had met with a railway accident, in which he was violently thrown against the right arm of his own seat, striking the right side of his back. He was rendered unconscious for a few moments, and could not articulate distinctly for an hour. He suffered great pain over the seat of the injury for several days. There was loss of power in the right leg, with partial loss in the left leg. Both arms were paralyzed. He urinated involuntarily, and the urine contained blood. He denied having been bruised anywhere, except upon the right side and the right lumbar region. He recovered the use of his left arm in a few days, and shortly after the use of his left leg. The urine remained bloody for two or three weeks. The patient thought that it contained small blood-clots. In addition to the paralysis, there was a corresponding loss of tactile sensibility; there was also a marked sensation of cold in the right leg. During the five weeks which had elapsed subsequent to the accident, there had been a gradual improvement. At the time of his admission into the hospital there were perverted sensation and

anæsthesia over the right leg extending upward over the right side of the back to the upper limit of the distribution of the second lumbar nerve. No tenderness was discovered over the kidneys, nor over the upper part of the spine; but a positive soreness was felt over all the lumbar vertebrae, most marked over the third. An apparent prominence over the fourth had appeared since the accident. Control over the sphincters of the bladder and rectum had returned. The urine was normal. Three days later there was a marked improvement in the movement of the right leg, with a slight diminution of the anæsthesia.

Dr. STARR thought the case might come under the head of hysterical paralysis following an injury.

Black Measles, followed by Gastric Ulcer and Fatal Hæmorrhage.—The PRESIDENT reported a case of this character (see page 486).

Profuse Hæmatemesis from a Gastric Ulcer (?).—Dr. W. B. ANDERTON related the history of the case of a lady, aged fifty-five, whose family and personal history threw no light upon the case. She had always had good health, and been temperate in her habits. The menopause occurred eight years ago. When first seen, she had just vomited for the first time. The ejecta contained two small blood clots and some undigested food, the latter of which she had eaten an hour previously. The emesis had been preceded by nausea, but not by pain. A physical examination showed the patient to be well preserved and not cachectic. The heart, lungs, liver, and spleen were normal, and so was the urine. There was no evidence of a gastric tumor, but pressing deeply over the epigastrium caused pain. Morphine was administered hypodermically and bismuth given by the mouth. An enema brought away a small quantity of coagulated blood. No unusual symptom occurred until the third day, when she vomited a large quantity of blood. Half an hour later she was colorless, the pupils were dilated, and she was bathed in a profuse cold, clammy sweat, while her pulse was exceedingly feeble and rapid. She was very restless and complained of great thirst. Morphine and ergot were given hypodermically, the head was lowered, hot bottles were applied to the extremities, and an ice-bag was placed over the epigastrium. Reaction soon took place, and there was no return of the vomiting. The next day she had several large, tarry movements. Rectal alimentation was strictly carried out. The patient made a good recovery. Two years later she was in good health and there had been no return of the vomiting.

Dr. BIGGS said that in these cases the hæmorrhage usually came from an artery. In one case of sudden fatal hæmorrhage that he had seen, one of the small arteries of the gastric mucous membrane was filled with a clot. In another case, in which there were no premonitory symptoms, the patient, a young man, was seized with a severe pain, which was followed by symptoms of general peritonitis. The patient died within thirty-six hours. At the autopsy, a large ulcer was found, which had perforated the mucous membrane and caused the peritonitis.

PHILADELPHIA COUNTY MEDICAL SOCIETY.

Meeting of October 26, 1887.

(Concluded from page 611.)

Injuries of the Fœtus during Labor.—Dr. Parvin's paper having been read, Dr. W. T. Lusk, of New York, said that, while we should exercise charity toward those under whose care these accidents might happen, at the same time we should, as scientific men, look upon this record as most humiliating, and ask ourselves if we should exercise this charity toward ourselves as individuals, if these accidents fell to our lot. There

might be one or two matters which had been overlooked by the author, or which it might be well to make more emphatic. In speaking of fractures of the skull occurring in spontaneous deliveries, cases which occurred many years ago had been given. In modern times reports of fractures in head-presentations terminating without the intervention of art were very rare. The speaker's attention had been called to one such case reported by Veit. The patient had received large doses of ergot. When the child was expelled it was found that the right parietal bone was separated from its fellow, from the occipital, and, to a great extent, from the frontal bone, and two fractures were found in the bone itself. It was a question whether the cases of spontaneous fracture reported many years ago were due to the abuse of this certainly most unreliable drug. During the last summer he had seen a very interesting case of depression of the skull following a rather easy forceps delivery, having been sent for because the question had arisen between two practitioners as to the advisability of trephining the skull, introducing an instrument, and elevating the depressed bone. He was not sure that this might not be good practice in some instances, but so far we had had no experience as regards results. We knew that if the child showed no immediate symptoms from the depression it was likely to thrive, and that in time the depression nearly or entirely disappeared. In the case referred to it was decided to wait, and the child had been thriving since, but there was still a quadrilateral depression in the frontal region which had not entirely disappeared. The speaker had felt quite certain that the mother had a contracted pelvis with projection of the promontory, but, on making an examination some three or four weeks after the birth of the child, to his surprise he had found that the woman had a fairly roomy pelvis. The antero-posterior diameter measured at least three inches and three quarters. The only conceivable cause of the depression was the blade of the forceps. This was to him certainly a novelty.

With reference to the amount of force which might be exerted on the neck of the child, if we relied upon the experiments to which reference had been made, we were likely to be led into error. There was no doubt that the resistance of the neck under pressure varied greatly in different subjects. While the neck of one child would bear a weight of 160 pounds, the vertebræ of another would separate under a much less amount of tension. He did not believe that there were ever circumstances in which such an enormous pressure as 160 pounds should be exerted. If the after-coming head was retained by tonic retraction of the womb, such traction force must tear through the cervical tissues. If the head was retained by the brim of the pelvis, it was nearly certain that the child would be still-born when the necessity for such an amount of force existed. It was a question whether we should ever use much force in pulling on the child—whether, indeed, the head could not better be shoved through the pelvis by suprapubic pressure, in the manner described by Dr. Goodell and Dr. Taylor.

There was one injury to the child which he did not think had been particularly referred to by the author—dislocation of the occipital bone, which sometimes occurred. In the case of a flattened pelvis, where the head entered in the transverse diameter, it would sometimes happen, where the forceps was used, that the pressure of the blades bore directly upon the forehead and upon the occiput. This would be tolerated for a certain length of time, but, when continued, the pressure ultimately affected the medulla oblongata. It was then difficult to get the child to breathe, the respiratory sense being destroyed, and often the child was born dead as the result of such pressure. It was always well to be careful that, when the blades of the forceps could not be applied to the sides of the head, they were applied in the oblique diameter.

With reference to fracture of the clavicle, it sometimes happened that this injury was due to direct pressure; more frequently, according to Ruge, it was due to the introduction of the hand into the vagina to bring down an extended arm. If the pelvis was small and the vagina rigid, and there was insufficient room for the hand, as the result of pressure upon the shoulder, the clavicle was apt to bend like a bow and break in the middle.

In a well-conducted labor the arms should not become extended above the head. In cases where this did take place the directions were given to draw on the elbow and push the arm over the face, but where the space was small one could not always press the arm around the front of the face in the limited time required to extract the child alive. In these cases he thought it justifiable to break the arm to accomplish delivery. Cases of true dislocation were probably exceedingly rare; at least we had no evidence of cases where the lesion had been demonstrated by dissection, but separation of the epiphysis closely resembled dislocation backward or forward, and, until dissections were made, dislocation had been considered a common accident. One or two points in regard to separation of the epiphysis were of interest. As a consequence of this fracture, Küstner had shown that the cartilaginous portion of the bone was rotated outward by the action of the infra-spinatus, the supra-spinatus, and the teres minor muscles, while the shaft was rotated inward by the pectoral muscle, the latissimus dorsi, and the teres major. If the position of the arm was not rectified and union was allowed to take place, the movements of the arm would be more or less affected. Both external and internal rotation could then be accomplished only to a slight extent. Separation of the epiphyseal end of the humerus closely simulated paralysis, and some recent writers had gone so far as to assert that all cases of supposed paralysis of the arm were really cases of this injury. This was, however, not the case. Last summer he had attended an excitable primipara, who early in labor passed into a maniacal condition, which made it necessary to keep her anesthetized. After the chloroform had been given for two or three hours, the cervix was partly dilated, and, not wishing to continue its employment, for the immunity which attended its use in labor did not apply to its prolonged administration, he put on the forceps before dilatation was complete, and with considerable difficulty extracted the head through the cervix, the vagina, and the vulva. The perineum did not tear, but, the moment the head escaped, the vaginal orifice closed down tightly on the neck of the child, and he was compelled to introduce two fingers into each axilla to complete the delivery. After the birth one arm was found to be paralyzed. As he knew such cases had recently been asserted to be cases of epiphyseal separation, he examined the arm with great care, but failed to find the slightest evidence of fracture. There was no pain. There were no evidences of brain disturbance, although the pressure of the forceps had been continued for a long time. The galvanic current was applied to the arm, frictions were employed, and it was kept warm, and in about ten weeks the child began to move it, though recovery was still far from complete. In regard to extraction in breech cases, it was nearly impossible, where the arm had been bent behind the neck, to extricate it without fracture. Then why not fracture the arm? Was the physician responsible if this accident occurred as the result of efforts to release the member? He would say No, but he was responsible for the displacement of the arm behind the head. If he left the body alone and did not twist the trunk, the arm would not remain extended. The child did not flex its arm spontaneously and place the forearm underneath the occiput.

There was a case recently reported by Engelbach which he

would add to the list of accidents. In this case the child was born with an enormous swelling of the scrotum, due to an effusion of blood into the tunica vaginalis of each side.

The speaker had taken some interest in the questions connected with the extraction of the breech when both extremities were reflected upward, and he wished to reiterate what he had said two or three years before with reference to the use of the forceps to the breech. In a recent brochure Küstner had condemned this method, but confessed that he had never tried it. Everybody knew that, in the exercise of the usual method, a person with strong fingers was capable of exerting a great deal of force, which bore to a great extent on the sacro-iliac synchondroses, and under these circumstances rupture of the sacro-iliac joint was likely to take place—a rupture which might be followed in after-life by the development of the Nägele deformity. The application of the forceps to the breech was easier than a person who had not tried it would suppose. He spoke of cases where the breech had reached the floor of the pelvis. Here it was not necessary to use a great deal of force. If the breech was brought down to the perineum and then allowed to recede, and this was continued until physiological softening of the pelvic floor and perineum took place, a very moderate degree of force was enough. He thought that the use of the forceps under these circumstances was attended with less risk to the child than the employment of the fingers or the blunt hook. He had succeeded with the forceps in three cases where the fingers had been used in vain.

Dr. E. Wilson had been glad to hear the last speaker condemn the use of great force in delivery by forceps, or by traction in cases of breech presentation. With reference to the application of the forceps to the breech, he had participated in but one case where such application was made. This was a case of first labor, and the physician had applied the forceps to the breech on the supposition that it was the head. As the labor was progressing satisfactorily and safely, cautious traction was made with the forceps, and the labor terminated without injury to the mother or the child.

Dr. H. LEAMAN thought that the presentation of this subject had been opportune. He believed that we were entering upon a new period with reference to the subject of labor. We were passing out of the instrumental, or what may be called the obstetric period, and into the gynæcological period, which was essentially physiological. The careful studies of gynæcologists had forced upon obstetricians the careful use of instruments. Some of the injuries referred to he had seen. In his early practice he had been unfortunate enough to fracture the inferior maxilla, but that had been the only case in a practice of twenty years. He had seen the clavicle broken, and he had seen paralysis. He had recently had a case of facial paralysis, which was due to the fact that the sacrum was greatly curved, the coccyx being movable. The presentation was vertex left front, but the head was held from complete rotation by the deep curvature of the sacrum. This was overcome without difficulty by the application of the forceps. The instrument was then removed, and the labor allowed to proceed. The caput succedaneum was on the right parietal region, while the paralysis was on the left side. This passed off in the course of six weeks. The injuries referred to are rare, and he believed that they had been necessary in the course of events. It was to be hoped that they might in great measure be prevented in the future. There was one injury, not mentioned, which he was satisfied existed to a greater extent than any referred to. He believed that too much haste in delivery and in tying the cord often caused non-closure of the foramen ovale. The whole idea in the instrumental, or obstetric, period had been to get the child out. He had made a number of post mortems in the case of children,

and had too frequently found the foramen ovale open. Many of the nutritive diseases of childhood were doubtless due to malnutrition resulting from a persistent foramen ovale.

Dr. WHARTON SINKLER said that a very large proportion of the paralyses that he had met with in infants had followed instrumental or prolonged and difficult labors. The most frequent form was facial paralysis, either unilateral or bilateral. This generally resulted from the pressure of the forceps upon the facial nerve or upon the mastoid process. It might, however, result simply from the impaction of the child's head in the pelvis without the use of the forceps. Hemiplegias were often met with in the newly born as a result of the use of the forceps. A few days ago he had seen a child with right hemiplegia, and the mother stated that she had been delivered with the forceps, and that immediately after birth there was a deep depression behind the child's left ear. He found upon examination of this child, who was now sixteen months old, that a depression still existed in the left mastoid process. There was right hemiplegia. The right leg was spastic and the movements of the arm were limited and inco-ordinate. Spastic paralysis and what was sometimes called double spastic hemiplegia very frequently occurred in children who had been born by the breech. These conditions generally persisted during life and were associated with a feeble condition of the intellect. The author had referred to injuries to the sterno cleido-mastoid muscle. The speaker had seen cases where the child had lost power in all the muscles of the neck so that it was unable to support the head. In some of the cases delivery had been by the breech and considerable traction made. Some had followed delivery with the forceps, perhaps from pressure on the spinal accessory nerve, or perhaps from extravasation of blood. In a case of paralysis following difficult or instrumental labors, the lesion was often an extravasation of blood over the motor convolutions, a meningeal hemorrhage. If the amount of the extravasation was great, the prognosis was, of course, bad, but in some of the cases, especially where there was paralysis of one arm alone, the child entirely recovered the use of the limb; and in facial paralysis recovery as a rule occurred in a few days, but the condition might persist during life.

Dr. C. B. NANCREDÉ thought that the treatment of injuries of the soft parts was too often left to the nurse, who either did nothing or did that which ought not to be done. It had recently been shown that even the slightest injury of the scalp might end in periostitis, inflammation of the sinuses, meningitis, encephalitis, and often pyæmia. The prompt carrying out of antiseptic precautions greatly reduced the mortality from such injuries. Although in these cases certain forms of antiseptic dressing might be impossible, the principle of antisepsis was easily carried out in many ways. Here, of course, the Lister dressing or the application of any irritant or poisonous substance was out of the question. But we might use boric acid freely, and it had the special advantage of being a dry dressing.

Depression of portions of the bones of the skull without fracture was readily understood when we studied the anatomy of the bones usually broken—viz., the parietal, the frontal, the occipital, and the squamous plate of the temporal. Ossification proceeded from the center in ray-like projections of bony fiber which, near the free edges of the bone, readily admitted of various new relations to one another without actual rupture of the osseous fibers. He believed, however, that fractures were more common than was generally supposed, but that they were not noted, because the break was usually a simple fissure or because it was concealed by a marked "caput" or cephalhematoma, since such injuries were usually met with after hard or instrumental labors. He would call attention to the fact that simple fracture of the skull was in itself of no consequence. The in-

juries to be feared were those done at the same time to the subjacent tissues by the force which produced the fracture. If he ever saw a case in which he was convinced that paralysis was due to depression, he might trephine. The recently published statistics that seemed to indicate that trephining under antiseptic precautions was entirely without danger were not to be relied on, and, while he was a thorough believer in antiseptics, he must call attention to the fact that, as inflammation of the membranes or brain might occur from injury without any break of the cutaneous surface whatever, it might occur after and because of trephining, despite antiseptics. Trephining could not remove many of the conditions referred to by Dr. Sinkler, which were the real sources of danger, such as effusion of blood upon the surface of the brain or in the arachnoid. Fractures producing epileptic seizures, etc., later in life, were rough fractures where projecting spicula or rough edges impinged on the brain or membranes; and such fractures—except perhaps, very rarely, projecting rough edges—could not occur in the infant skull, which was devoid of an internal table, from the shattering of which, in fractures in adults, secondary nerve trouble resulted. In the skull at birth the articular eminence which kept a dislocated adult jaw from returning to its normal position was practically absent, so that a dislocation of the jaw could not be produced unless the force was sufficient to tear the soft tissues surrounding the articulation, giving rise to a compound dislocation. If the force applied was less than this, as soon as its application was suspended the jaw returned to its normal position.

He believed that fracture of the long bones during labor was not very common, but that separation of their epiphyses was, for their union with the shaft was effected at this time only by the periosteum and soft cartilage. It had been shown that a few pounds' weight exerting cross-strain would cause the separation, while six times the weight applied by direct traction would produce no injury. He did not believe that the injuries reported as dislocations were dislocations; they were separations of the neighboring epiphyses or pathological displacements. Any one accustomed to dissect the body of the new-born child knew how readily such separations were produced. No one had ever been able to produce a luxation in an infant's cadaver, because of this ease of separation of the epiphyses. Dr. Lusk had described a case of separation of the upper epiphyses of the humerus which produced a peculiar displacement. Probably in this case all the epiphyses of the proximal end were together separated from the shaft. He would advise, in the reduction in a similar case, the method proposed by Dr. Moore, of Rochester. In the treatment of fractures of the fetal humerus, a friend of the speaker's had had good success by fixing the whole upper extremity in a straight position with a molded splint. Fractures of the femur were more difficult to manage. Here sheet vulcanite, which could, by softening in hot water, be accurately molded to the limb, had better be used, because it would absorb neither urine nor feces. An anterior splint should be made which would extend well up over the abdomen, and a posterior splint to reach from the buttock well below the knee, thus fulfilling the important indication of fixing the joints above and below the fracture. It only required ten or twelve days for firm union to occur.

In speaking of torticollis, the sterno-cleido-mastoid muscle had alone been referred to. It was possible that in some cases this was the only muscle at fault, but in most instances several other muscles, such as the trapezius and the scalenes, were involved. He had seen instances of injuries to this muscle in the newly born, but had never traced the cases in later life. Again, in a recently treated case of so-called congenital wry-neck, absolutely no history of injury during labor could be elicited.

Dr. W. GOODELL presented for inspection a specimen of firmly united fracture of an infant's humerus, of which he was not ashamed, but rather proud; for by the fracture he had saved the child's life. It was a case of breech presentation, where the heart's action was failing and the ominous convulsive movements of the child were giving out, which indicated the near approach of death. The arm was up alongside the child's head, and, if he had had more time, he could have brought it down without injury; but every second was precious. So he snapped the arm, and quickly extracted a living child. It died a few months after of cholera infantum, and the mother, knowing his interest in the case, had allowed him to obtain the specimen. He had reported elsewhere a unique case, where fracture was produced by the maternal forces. The vertex presented, the pains were strong, the passages were ample, but the head did not descend. Suddenly, during a very severe pain, a hand shot out of the anus, without tearing the perinæum. While he was gazing on it in amazement, another pain suddenly took place. There was an audible snap, the hand as quickly disappeared from the anus, and the child was born with a fracture of the clavicle. The rent in the vagina was sewed up, and the fracture dressed with adhesive strips. The vaginal wound healed perfectly, and the child recovered without deformity. This remarkable accident he attributed to the arm being thrown across the nucha. The protruding hand perforated the vagina, and was button-holed there. Then the advancing body forcibly dragged the arm down the back of the child, and the clavicle was fractured by the twist or strain it got.

In a case seen with Dr. James F. Wilson, fracture of the clavicle, and of the skull also, occurred. It was an exceedingly difficult case. The woman had been delivered in her first labor by craniotomy by Dr. Wilson, in conjunction with the late Dr. Parry. In this, her second labor, after using the forceps ineffectually, turning was performed, and delivery effected in a very few minutes by vigorous traction and by very great pressure from above. The fractures were caused by the projection of the sacro-iliac promontory. The child recovered perfectly.

The speaker had repeatedly seen facial paralysis, but in instrumental labors it had occurred only when the blades of the forceps were not applied exactly to the sides of the child's head. Dr. Parvin had spoken of the child living a few hours after the performance of craniotomy. It was to such an occurrence that we owed the travels of Mungo Park, who was a physician, but who, early in his professional career, was so disgusted by this accident that he gave up practice. In his case the infant lived to manhood. With regard to head-last labors, the speaker had tried to extract the breech by the use of the forceps on the buttocks, and had succeeded with it, but it was apt to slip off. He therefore always brought a leg down in breech cases, and then he had command of the situation. The force of traction which the neck would bear was uncertain, and doubtless varied greatly, but he believed that the man who, in trying to save the child, broke the most necks, saved the most children, and he respected him accordingly. Such labors were always very dangerous to the child; the percentage of deaths was a very large one. He looked on a child presenting by the breech as a child drowning, to which help must be sped—help at all hazards. It was emphatically a case of "neck or nothing," and we must not sacrifice the life of the child to any sentimental considerations about breaking its neck.

One point that perhaps did not come strictly under injuries to the fetus, but might be considered here, since it caused the death of the fetus, was pressure on the cord, produced or wound round the neck, by one of the blades of the forceps, and especially by the occipital one, when the blades were not ap-

plied exactly to the sides of the head. He was sure this had occurred at his hands. An annoyance in cases of face presentation was the subsequent unnatural position of the child, which for days would lie with its head greatly extended, though it ultimately took the natural position.

Dr. D. LONGAKER wished to speak of injuries to the soft parts of the head, from the application of the forceps and from pelvic deformities. He had reported a case where, after premature delivery with the Tarnier forceps, through a rachitic pelvis with a conjugate diameter of three inches, there was a rather clean-cut contused wound in the left anterior parietal region, which he was morally certain was not made by the extremities of the forceps, but occurred when the head suddenly slipped through the narrowed conjugate diameter. Then there were wounds caused by faulty construction of the forceps, particularly an excessive cephalic curve, which brought the distal extremity of the blades into close apposition. He had seen one out and several severe bruises produced in this way. A peculiar parchment-like condition of the bones of the foetal head was sometimes observed, especially of the parietal bones, and he had seen it so marked that he was able to diagnosticate it through the abdominal walls, but had never known it to lead to fracture. Fracture of the long bones had only occurred in his experience where the difficulties in the delivery of a living child had been insurmountable. He had seen one case of separation of the epiphyses of the humerus, in a very large child which was dead when born; and one fracture of the femur from the application of the fillet, this being also in a difficult extraction of a dead child. He fully agreed with Dr. Leaman as to the injury of tying the cord too soon. The researches of Budin had fully shown this. He thought we ought to lay down the definite rule that the cord should never be tied until it was flabby, pale, and pulseless. It had happened to him also to compress a loop of the cord in the application of the forceps. He was glad to learn that Dr. Goodell succeeded in converting face into vertex presentations by the introduction of the hand, but if we failed in this we produced an early rupture of the membranes with all its undesirable effects. For this reason the method of Schatz, of Rostock, was to be preferred.

Dr. B. LEE said that there were very few cases of hemiplegia or paraplegia, as they came to the orthopædist, which could be traced back to injury received at the time of birth. When he spoke of the orthopædist he did not mean a physician who had frequent opportunities of seeing infants within a week of birth, but one whose patients came to him ordinarily at five or six years of age. The rarity of these instances in his experience might be due to the fact alluded to by a previous speaker, that the foetus was simply a gelatinous mass, and therefore little susceptible of injury; but he had been rather inclined to attribute it to the prudence, skill, and caution of the obstetricians. He was entirely in accord with the opinion already expressed that, when lesions of the nervous system could be traced back to parturition, they were irritative rather than paralytic in their character—of the nature of spastic paralysis or spastic contractions. Such cases were usually incurable, and generally accompanied by a certain degree of mental deficiency. But he believed that the majority of these children were either so completely spoiled that no doctor ever had a chance to do anything for them afterward, or that the lesions were transient, as in facial paralysis, and were entirely recovered from in infancy. In the little Yankee town in which the distinguished guest of the evening and the speaker had played together as boys there used to be a slang phrase in vogue among the boys, which he doubted not he would remember—"Push, and if you can't push, pull," indicating, in a rude way, the fact that force might often be exerted more effectively by pressure than by traction. Now,

if he might venture to leave a thought with the obstetricians present, it would be that they should depend less upon pulling, and rely more upon nature's plan in the expulsion of the foetus—pushing, or pressure.

Dr. H. C. WOOD said that the remarks of the last speaker had been entirely contrary to his own experience. We did not see hemiplegias and paraplegias due to injury during labor, in children of five or six years, simply because children so injured never lived so long. What we did see were the cases of spastic paralysis. Spastic paralysis was the secondary effect of an earlier destructive lesion, the immediate evidences of which might have been entirely overlooked. In all such cases presenting at his clinic he inquired as to the history of the labor, and invariably found that it had been unusually severe or instrumental. The brain at birth was so soft, so liable to injury, that, while he would not have the obstetrician entirely discard the use of the forceps, he thought he should never take it in his hand without bearing in mind the possibility that it would do serious permanent injury to the nerve-centers of the child.

Dr. W. H. PARISH said that, though Dr. Wood was no obstetrician, he talked like a very sensible one. The speaker believed that the forceps in proper hands saved the lives of many children, but where improperly used it not infrequently sacrificed the child's life and led to subsequent harm. Its application at the superior strait was, under some conditions, exceedingly dangerous to the child. Last year he had seen a laceration of the child's perinæum extending from the vulvar orifice clear through to the rectum, produced evidently by the tip of one blade of the forceps, which the practitioner had attempted to apply to an unrecognized breech. He recalled the case of a robust Irish woman at the Blockley Hospital, who had borne five or six healthy children. Labor was delayed, and ergot was freely and, of course, improperly given, in his absence, until the contractions came on with unusual force. The child was speedily expelled, but died in a few minutes. At the autopsy he found that the principal lesion was a separation of the lateral, or articular, segment of the occipital bone, which was pressed in upon the medulla, doubtless by the excessive contractions produced by ergot. Recently a friend of his had seen in consultation a child which had presented by the breech, and whose scrotum had become considerably distended from œdema; the medical attendant, mistaking the scrotum for the bag of waters, had cut it open and cut into the testicle.

Dr. J. PRICE desired to call attention to the fact that the Simpson forceps probably made less compression of the head than any other form in use. As to the frequency of separation of the head and trunk by traction in head-last labors, he knew of two cases in which it had occurred this summer in Philadelphia. In one the patient died after Cæsarean section for the removal of the head; and the other died and was buried with the head still in the cavity of the uterus.

Dr. J. L. LUDLOW said that when he was a student Dr. Hodge taught that the forceps should be applied only after careful deliberation and consultation. Since then the forceps had come into more common use, and there were certain practitioners who, if labor did not terminate in a certain set time, would always apply it, and who thus got a reputation for quick delivery, and drew patients. The obstetrician needed a great deal of patience, and great injury was often done by want of it.

Dr. PARVIN said that the reason obstetric paraplegia was not seen at six or seven years was that such paraplegia was caused by rupture of the spinal cord, connected with fracture of some portion of the vertebral column, and death followed very quickly, usually within a very few hours. As to the treatment of fractures of the femur in the new-born, he regretted that a gentleman present had not narrated a case of such injury to

which several practitioners had been called. Their first effort was to extend the limb completely, in order to treat the fracture somewhat after the manner of treatment in the adult, but, finding their efforts vain, it suddenly flashed upon the minds of the surgeons and obstetricians that an infant did not have its lower limbs extended, and they resorted to a more rational method of keeping the ends of the broken bone in contact, and it was completely successful. He was not prepared to admit that dislocations of the humerus or femur could not occur in labor, because reputable observers professed to have seen them, though, of course, they were quite rare. He could not help regretting that some time had not been given to the discussion of the best method of extracting the head, especially in pelvic presentation or after podalic version. Was there not a better way to bring the head through a narrowed pelvic inlet than by the great traction upon the body which had been recommended? It seemed impossible to make that traction directly in the axis of the inlet, and hence much of it was lost, and therefore useless or injurious, force. Finally, the relation of protracted labor and forceps delivery to remote disorders of the nervous system, and especially to idiocy, probably had not elicited the consideration that its importance demanded.

NEW YORK ACADEMY OF MEDICINE.

Meeting of October 6, 1887.

The President, Dr. A. JACOBI, in the Chair.

The Modern Method of Treating Syphilis.—Dr. P. A. MORROW read a paper with this title. The modern method of treating syphilis, he said, differed in the mode of administering the remedy, not in the remedy employed, from the treatment of four hundred years ago. With the addition of iodide of potassium, mercury still remained the basis of all special curative treatment. The new mode of administering the drug hypodermically had not found much favor in this country, but it had been revived and was being considerably used in Europe. He had visited the hospitals at Paris the past summer, and there observed the method of using it and the results obtained, constituting in a sense personal experience with it.

In endeavoring to appreciate the therapeutic worth of the modern method of treating syphilis we were confronted by a mass of confusing clinical statistics, as well as contradictory statements on the part of the experimenters—some bearing testimony to its superior efficacy, others depreciating its value and condemning it as injurious and impracticable. A careful weighing of this clinical testimony, balanced by the author's own observation and experience, justified the following conclusions: 1. The hypodermic use of mercury, in simplicity, convenience, accuracy, rapidity of action, and the development of a maximum effect from a minimum quantity of the drug, constituted a decided improvement. 2. It was not so apt to cause salivation, gastro-intestinal disorders, and other toxic symptoms. 3. There was a remarkable unanimity of opinion among observers as to its efficacy in suppressing the active manifestations of the secondary stage, and hastening their involution. 4. The statements that the subcutaneous introduction of mercury increased its potentiality and widened the range of its specific action, enabling it to subdue not only refractory secondary lesions which resisted ordinary treatment, but also the tertiary lesions, might be considered as still *sub judice*. 5. The allegation of greater permanence of effect, preventing relapses and preserving the patient from manifestations of the diathesis for a long period, was not proved. 6. The more pretentious allegation that the hypodermic introduction of 25 centigrammes of the bichloride, or 40 centigrammes of calomel, cured syphilis, must be rejected

as extravagant and absurd. 7. The irritant action of mercury introduced hypodermically, manifested in the production of pain and local accidents, rendered its general employment in the systematic treatment of syphilis impracticable. 8. The proper position of the hypodermic method in the therapeutics of syphilis was in the category of adjuvants. 9. Its employment was indicated when the necessities of the case demanded a rapid and intense mercurialization. In certain emergencies, when the integrity of an important organ was threatened, for example, its prompt and energetic action rendered it superior to other modes of mercurialization. 10. In exceptional cases, varietal syphilis, for example, where the exigencies of the situation demanded secrecy in treatment, with the speediest possible suppression of the symptoms, this method was to be recommended. 11. It constituted a most excellent reserve method in cases where gastro-intestinal irritability was so marked as to forbid the introduction of mercury by the stomach. 12. In cases of tertiary syphilis, where an iodine idiosyncrasy was so marked that iodide of potassium could not be employed, hypodermic injections of mercury should be substituted. While his own impression was that the hypodermic method would never supersede the common modes of employing mercury, he regarded it as a decided acquisition to our therapeutic resources against syphilis—too valuable to be ignored or practically disregarded, as had been the case in this country.

Dr. E. B. BRONSON agreed in the main with Dr. Morrow. About 1869 he employed mercury hypodermically, but had to give it up or lose his practice. The pain and accidents following the injections caused the patients to rebel against them. He had employed the bichloride mostly, with chloride of sodium in equal quantity.

Dr. R. W. TAYLOR's experience with the method had extended over about seventeen years. He now resorted to it only in special cases. He had given up its general use early, because the patients shunned rather than sought him. He had tried all the preparations, and had found the bichloride the best, an injection consisting of one eighth of a grain dissolved in ten drops of distilled water. The pain, swelling, etc., were great drawbacks to the method.

Dr. F. R. STURGIS gave his experience with injections of mercury in 1869-'70. The patients had vigorously protested and he had discontinued the practice.

Dr. L. D. BULKLEY had not been able to convince himself that there was any advantage to be gained by substituting the hypodermic for other methods which had been tried and proved efficacious.

The President had used calomel injections, but would never do it again. Tumefaction and abscess had resulted. He had used injections of corrosive sublimate a great deal, and he had come to reduce the doses. In one class of cases he had employed them certainly to advantage, namely, cases of hereditary syphilis, with severe early lesions.

MEDICAL SOCIETY OF THE COUNTY OF KINGS.

Meeting of September 29, 1887.

The President, Dr. WILLIAM WALLACE, in the Chair.

Dr. C. E. DE LA VERGNE, Secretary.

The Treatment of Urethral Inflammation in the Male.

—A paper on this subject was read by Dr. H. W. RAND (see page 619).

Dr. G. WACKERHAGEN thought that the treatment in the acute stage should be based entirely upon antiseptic principles. First, as regarded cleanliness, which was most important of all, he instructed his patients to take a hot sitz-bath every night and

morning, to use frequent injections of a weak solution of bichloride, and to change the dressings frequently. For internal treatment he had found carbolic acid an excellent remedy largely diluted with gum-water, also bicarbonate of sodium with Vichy. He thought that the complications of gonorrhœa were generally due to excess of treatment, and the prolongation of the disease to the filthy condition in which these patients so often kept themselves.

Dr. E. A. LEWIS said that there was no one disease for which there were so many different methods of treatment, and this lack of uniformity among physicians was due to the fact that each had his own pet methods of treatment. He did not think that physicians were careful enough in giving instructions to their patients, and it was due to the patients themselves, in a marked degree, because they considered the disease a very mild one, and did not follow the instructions given. One point of which he wished to speak was the time to give injections. It was the first time that he had heard the rule laid down as in the paper, and he believed it one that would bear commendation. It had been his custom not to use injections until the first inflammation had subsided.

Dr. WILLIAM ANDERSON would like to ask Dr. Rand if he had found any statistics showing what would be the duration of this disease under the expectant treatment. He had begun to think that it was one of those self-limited diseases that would get along if it was let alone. In other diseases an effort was made to get at the real value of statistics. He was all at sea in regard to the treatment.

Dr. RAND said that it was difficult to get reliable statistics. To judge from the experience of the French, gonorrhœa, under treatment that was chiefly expectant, would not terminate in less than eight weeks. Bumstead said gonorrhœa left to itself rarely terminated in less than three months. Otis maintained that his patients recovered in four to six weeks without injections, or any internal remedies other than alkalies and diluents, but this included cases of simple urethritis. In cases prolonged beyond four weeks he would examine for stricture.

Dr. F. W. ROCKWELL remarked that he would like to make a correction. He did not think the author was right as to the time given—four weeks.

Dr. RAND thought he was not mistaken. Otis's words were, he believed, search for stricture should be instituted after four, or perhaps it was after six, weeks.

Dr. F. W. WUNDERLICH remarked, in regard to cases where injections had been kept up for a long time without giving relief, that he had found the use of the endoscope of great value; it enabled us to ascertain more accurately the seat and character of the lesion, and to make applications directly to the diseased parts.

Dr. H. L. COCHRAN said that, in speaking to one of the older members of the profession, he had asked him what his methods of treatment were, and he had been told that he put these patients on the use of full doses of tincture of conium, made fresh from the English leaf. He had also said that he kept them on full doses until they felt the physiological effect (of conium), or until the acute stage had passed. For injections he used $\frac{1}{2}$ grain of chloride of zinc to the ounce of distilled water after the acute stage. The speaker had tried it in a few cases with fair results. The tincture of conium seemed to prevent chordee, and in some cases the discharge had entirely ceased in two weeks. He had met with cases that had resisted this treatment as well as any other.

Dr. RAND said that, in regard to warm injections, he had referred especially to their being given warm when used early in gonorrhœa. The most that the patient would generally do, in protracted cases, was to carry the bottle in his pistol-pocket, and

consider the heat thus obtained sufficient. He had made no mention of the endoscope, although he frequently used it, because when it became of service to the patient he usually had some granulation patch or point of persistent ulceration in the urethra, and he had not intended to cover any of the complications or sequelæ of the disease. In reference to the use of lemon-juice, he believed that its injurious effects were due to the production of crystals in the urine that caused irritation during micturition. At all events, he had frequently had patients, in whom the pain on urination had entirely subsided, complain of its return after drinking lemonade.

Book Notices.

Pathology and Treatment of Ringworm. By GEORGE THIN, M. D. London: J. & A. Churchill, 1887. Pp. 7 to 87.

It gives us great pleasure to commend this excellent little treatise to our readers. It presents the whole subject in a readable style, and without padding. When we have read it we feel that we know the author's views on the subject, and that they are sound, because they are founded on intelligence and careful observation. The sections that treat of the fungous growth in cultivation media is described, the best media to be used are indicated, and directions are given how to make the cultivations. These sections are very fully illustrated with woodcuts, showing the growth of the fungus in various stages. Dr. Thin believes that the microphyton has no relation to other fungi, and that it is the sole cause of ringworm. He differs with Dr. A. R. Robinson in regard to the location of the spores in the rete mucosum and corium, as he has invariably found them in many microscopical sections between the hair-shaft and the inner root-sheath. It is proper to say that Dr. Thin's investigations were made in a case of ringworm of the horse.

The sections on treatment are practical, and the directions for carrying out the author's own methods are fully and carefully given. Other plans of treatment besides his own are discussed, and he gives an appendix describing the methods of Vidal, Lailler, and Besnier, as furnished him by personal correspondence. The book will be found very serviceable to all who are called upon to treat this disease of the skin.

The Diagnosis and Treatment of Eczema. By TOM ROBINSON, M. D., L. R. C. P. Lond., M. R. C. S. Eng. etc. London: J. & A. Churchill, 1887. Pp. 136.

THE matter of this little book covers more ground than its title would indicate, and its author has attempted to give us a complete treatise upon eczema. We are sorry that we can not say that it is the best book we have read upon the subject. It contains much that is valuable, together with much that seems to us erroneous. Pityriasis rubra and sycosis are both considered by Dr. Robinson as forms of eczema. We are told that the edge of an eczematous patch is never sharp and distinct. In orbicular eczema the edge is sharp and distinct. Lupus erythematosus is regarded as probably a form of eczema, and it seems to us that the author has mistaken this disease for eczema when he speaks of a form of the latter which occurs upon certain regions of the scalp, and is always followed by permanent baldness. These are but a few of the statements made by our author that seem to us somewhat astonishing. That our Dr. A. R. Robinson should be spoken of as "Robinson, of Philadelphia," is not so surprising in the writings of a foreigner.

The treatment that is presented to us is meager. The chief value of the book is that it gives us the author's own views, which are very definite and stated without reserve.

BOOKS AND PAMPHLETS RECEIVED.

Anatomy, Descriptive and Surgical. By Henry Gray, F. R. S., Fellow of the Royal College of Surgeons, etc. The Drawings by H. V. Carter, M. D., Late Demonstrator of Anatomy at St. George's Hospital. With additional Drawings in Later Editions. Edited by T. Pickering Pick, Surgeon to, and Lecturer on Surgery at, St. George's Hospital, etc. A New American from the Eleventh English Edition. Thoroughly revised and re-edited, with Additions, by William W. Keene, M. D., Professor of Surgery in the Woman's Medical College of Pennsylvania, etc. To which is added Landmarks, Medical and Surgical. By Luther Holden, F. R. C. S., with Additions by William W. Keene, M. D. Philadelphia: Lea Brothers & Co., 1887. Pp. 1100. [Price, \$6.]

Text-book of Therapeutics and Materia Medica, intended for the Use of Students and Practitioners. By Robert T. Edes, A. B., M. D., formerly Professor of Materia Medica and Jackson Professor of Clinical Medicine in Harvard University, etc. Philadelphia: Lea Brothers & Co., 1887. Pp. xi-17 to 552. [Price, \$3.50.]

Surgical Pathology and Morbid Anatomy. By Anthony A. Bowlby, F. R. C. S., Surgical Registrar and Demonstrator of Surgical Pathology at St. Bartholomew's Hospital, etc., London. With One Hundred and Thirty-five Illustrations. Philadelphia: P. Blakiston, Son, & Co., 1887. Pp. xvi-543. [Price, \$2.] [Students' Guide Series.]

To what Extent can we classify Vesical Calculi for Operation? With a Report of Cases and Remarks on the Different Methods employed. By A. Vander Veer, M. D., of Albany, N. Y. [Reprinted from the "Transactions of the American Surgical Association."]

A Practical Treatise on Materia Medica and Therapeutics. By Roberts Bartholow, M. A., M. D., LL. D., Professor of Materia Medica, General Therapeutics, and Hygiene in the Jefferson Medical College of Philadelphia, etc. Sixth Edition, revised and enlarged. New York: D. Appleton & Company, 1887. Pp. xxiv-802. [Price, \$5.]

An Experimental Study of the Effects of Puncture of the Heart in Cases of Chloroform Narcosis. By B. A. Watson, A. M., M. D., etc., Jersey City, N. J. [Reprinted from the "Transactions of the American Surgical Association."]

A Complete Hand-book of Treatment, arranged as an Alphabetical Index of Diseases to facilitate Reference, and containing nearly One Thousand Formulæ. By William Aitken, M. D. (Edin.), F. R. S., etc. Edited, with Notes and Additions, by A. D. Rockwell, A. M., M. D., etc. New York: E. B. Treat, 1887. Pp. 5 to 444.

Comparison between the Surgical Diseases of the White and Colored Races. By Louis McLane Tiffany, M. D., Professor of Surgery in the University of Maryland. [Reprinted from the "Transactions of the American Surgical Association."]

Supra-public Lithotomy: a Historical Sketch. By Charles W. Dulles, M. D., Surgeon to Out-Patient Department in the Hospital of the University of Pennsylvania, etc. [Reprinted from the "Transactions of the Medical Society of the State of Pennsylvania, 1887."]

Dryness of the Throat from Excessive Tea-drinking. By J. Walker Downie, M. B., F. F. P., S. G. [Reprinted from the "Practitioner."]

sumed for the foetal eye of man and mammals, does not exist. 2. Besides the well-known superficial, marginal, vascular network, there exists in man and mammals, more or less developed, a second system of deep marginal vascular loops. 3. The pathological blood-vessels in superficial, cutaneous, or conjunctival keratitis arise from the superficial system of vascular loops, which anastomose with the conjunctival and episcleral blood-vessels. The pathological blood-vessels in deep scleral keratitis, on the contrary, arise from the deep network of vascular loops, which anastomose with the scleral blood-vessels. 4. The superficial neoplastic blood-vessels of the cornea divide in an arborescent manner, anastomose, and form networks; the deep vessels, on the other hand, divide like a broom-end, the arteries being always accompanied by their corresponding veins.

Contribution to the Pathological Anatomy and Pathogenesis of Glaucoma.—Birnbacher and Czernak have made a number of careful experimental investigations into the pathogenesis of glaucoma ("Arch. f. Ophthalm.", xxxii, 4), and have deduced the following conclusions: In searching for the effects of the changes in the circulation upon the intra-ocular tension, the most satisfactory results are found in the observations of Schultén, as follows: An increased blood-supply, as well as an obstructed venous circulation, increases the intra-ocular tension. Diminished tension of the intra-ocular vessels increases the intra-ocular tension. An active vascular dilatation may be caused by irritation of the trigeminus. A diminished blood-current and an increased vascular tension diminish the intra-ocular tension. It is thus seen that the degree of the intra-ocular tension depends not only on the degree of the transudation pressure in the capillaries, but also on the degrees of resistance to filtration in the permeable limits, and also on the width of the lymph-channels of exit. An increase of the tissue-tension in the uveal tract is always accompanied by a similar increase in the retina and vitreous, and hence will exert its action upon that part of the coats of the eyeball, which is not directly exposed to the pressure of the fluid of the uveal structures; that is, the lamina cribrosa. Another factor which may cause a permanent increase of tension is found in the changes which obstruct the exit of the tissue-fluid. These consist in obliteration of the circumvascular spaces around the vortex-veins, in the closure of the angle of the anterior chamber by the degenerated and adherent iris, and in the degeneration and fibrous adhesion of the walls of Schlemm's canal. These processes cause a thickening or condensation of the channels of filtration, and eventually an obliteration of these channels. There results then a diminution of the lymph-current of exit and a consequent increase of the intra-ocular tension, if no compensatory change occurs. Yet, in spite of all these reasons, the term glaucoma is but a symptomatic conception, and we have as yet no proof that it covers the conception of a distinct, individual disease. The chronic inflammatory changes, and the more or less pronounced oedema of the superficial tissue-layers of the anterior segment of the eyeball, explain all the clinical appearances. The great dilatation of the episcleral and conjunctival vessels is to a certain extent due to the chronic inflammation. The oedematous infiltration of the subconjunctival tissue, and of the corneal epithelium and corneal parenchyma, is the result of the increased tension in the episcleral veins. The discoloration of the circumcorneal zone is due partly to the vascular injection, partly to the altered hæmatoidin from old hemorrhages, and partly to thinning of the sclera. The corneal cloudiness is sometimes the result of superficial inflammation. The disturbances of sensibility of the cornea may be easily deduced from the above-described processes, and they in turn are the cause of the development of vesicles sometimes seen. The shallowness of the anterior chamber results from the peripheral adhesion of the iris with the cornea. The deposit of pigmented and unpigmented cells upon the posterior surface of the cornea is due to the obstructive and inflammatory changes in the ciliary body. The changes in color and the indistinctness of the surface of the iris, the ectropion of the ciliary margin, and finally the dilatation of the pupil, are in part the consequences of the shrinking membranous deposits upon the posterior surface of the iris, and are in part due to the atrophy of the iris tissue. The immobility of the pupil is also due to atrophy of the sphincter muscle. The opacities of the vitreous are partly the result of hemorrhages and partly due to masses of wandering cells. The peripheral degeneration of the retina and of the pigment-epithelium is a further

Reports on the Progress of Medicine.

OPHTHALMOLOGY.

By CHARLES STEDMAN BULL, M. D.

The Blood-vessels of the Cornea in the Normal and Pathological State.—Schöbl ("Ctrbl. f. prakt. Aug.," Nov., 1886) draws the following conclusions from his observations on the vessels of the cornea: 1. A pre-corneal vascular network, which has hitherto been as-

proof of the inflammatory changes in the ciliary body and choroid. The anatomical causes of the functional disturbances are: 1. The cloudiness of the media. 2. The degenerative changes in the equatorial region of the retina caused by the chorioiditis. 3. The stasis in the retinal vessels. 4. The atrophy of the optic nerve-fibers. The intercalary, ciliary, and equatorial staphylomata are the result of the diminished resistance of the scleral tissue and the increased intra-ocular tension. The rigidity of the sclera is not merely a senile change, but is also the result of an increased intra-scleral tension caused by the increased intra-ocular tension.

General Hæmorrhage into the Vitreous; Ophthalmotomy; Cure.—Rolland ("Rec. d'ophthal.," January, 1887) reports an interesting case of a boy, aged twelve, who five days before had received a blow on the left eye from a bursting fire-cracker. There was an extensive ecchymosis of the lower lid and conjunctiva, extending into the *cul-de-sac*. The lower lid was edematous, and there was a circumcorneal injection, with slight loss of brilliancy of the cornea, and a clot in the anterior chamber. The pupil was dilated *ad maximum* and did not react to the stimulus of light. There was no reflex from the fundus, owing to an enormous intra-ocular hæmorrhage, and the vision was reduced to zero. Forty-six days later, there being no change in the subjective or objective symptoms, Rolland determined to operate. The operation was done under rigid antiseptic precautions, and consisted in plunging through the sclera between the superior and external recti muscles, and five millimetres back of the ciliary region, a sort of sclerotome, four millimetres wide and hollowed out on each surface of the cutting blade by a groove, which began at two millimetres from the point of the instrument. After the instrument had penetrated the vitreous about half a centimetre, he rotated the handle 90°, and there immediately escaped from the eye a quantity of bloody fluid. The instrument was then withdrawn and the wound dressed antiseptically, but without a suture. The next day the patient was able to count fingers. Two weeks later the patient read at fifteen centimetres type No. 1 of the Galezowski scale. There was no scotoma, and the media of the eye had become entirely transparent.

Injuries of the Eyes by Dynamite.—Von Hippel's paper ("Archiv f. Ophthal.," xxxii, 3) is based upon his observations of twenty cases of such injury, and the injuries were of various kinds and degrees of severity. There was usually an extensive, sometimes superficial, sometimes deep burning of the skin, of the face, and lids. In addition there were subconjunctival ecchymoses, a more or less pronounced burning of the conjunctiva, sometimes accompanied by a marked injection and extensive chemosis surrounding the cornea like a wall, and sometimes characterized by that yellowish-gray discoloration and an absolute absence of visible vessels. Numerous foreign bodies of various kinds were also found both in the *cul-de-sac* and in the eyeball itself. There were often extensive lacerated wounds of the sclera and cornea also. The most characteristic changes were seen in the cornea, which in all cases was covered with a large number of grayish punctate opacities, which were sometimes in the epithelium and sometimes in the deeper layers of the cornea. These were usually caused by minute grains of sand driven into the cornea by the force of the explosion. In all the cases the corneal epithelium of the cornea was burned, and in many instances lifted off from the underlying parenchyma and hanging in shreds. These changes are met with only in the milder forms of injury. The most frequent complication of these superficial injuries were the perforating wounds of the cornea. The next most frequent complication were wounds of the sclera, which were always accompanied by detachment of the deeper membranes of the eye and prolapse of the vitreous. In one case the wound extended from the corneal margin nearly to the optic disc, and the globe had been emptied of its contents. There were almost always signs of iritis, and not infrequently the iris was detached at its ciliary margin. If the cornea was lacerated, the iris was usually torn also. In many cases fine particles of sand were found in the anterior capsule and in the lens itself. Extensive rupture of the capsule was also accompanied by rapid development of cataract. In one case Von Hippel was enabled to watch the development of an abscess in the vitreous. In twelve cases there was no perception of light immediately after the accident, showing how frequently total detachment of the vitreous occurs after dynamite explosions. The presence

of large foreign bodies in the vitreous after these accidents is rare, occurring in but one case of the twenty examined. The prognosis of these injuries is very unfavorable. Of the twenty patients, eight became hopelessly blind in both eyes, and seven in one eye. All the cases in which perforation of the cornea or sclera was complicated by cataract were lost by irido-chorioiditis or panophthalmitis ending in phthisis bulbi. As regards treatment, the first step is to remove all foreign particles from the surface of the skin, conjunctiva, cornea, and sclera. The *cul-de-sac* are then to be washed with a warm solution of mercuric bichloride (1 to 5,000). Then the face should be covered with a thin gauze soaked in the same solution, and kept constantly wet until the burned portions of the skin have sloughed off. In cases of corneal wounds, if they gape, they are to be closed with sutures.

A Case of Injury to the Eye by Lightning-stroke.—Kries reports an interesting case of this nature occurring in a boy aged ten (*ibid.*). On being struck, the bystanders stated, the boy turned round and round several times, and then fell backward to the ground unconscious, and remained in this condition for two hours. He then gradually regained his consciousness, and could move all his limbs. The lids of both eyes were very much swollen, and there was constant lacrymation. On the right temple and right side of the forehead there were fresh, irregular burn-marks in the vesicular stage, and these extended along the right sterno-cleido-mastoid muscle down the right side of the body to the right foot. The eyelashes were burned off on both sides. There were incomplete ptosis, ciliary injection, and diffuse opacity of the cornea on both sides. In the right eye there was equatorial cataract, which reached to the anterior cortex, also a large stellate posterior polar cataract. There was absolute amaurosis, though the pupil reacted promptly to reflex stimulus. In the left eye there were beginning cataract, normal fundus, $V = \frac{1}{2}$, and normal field of vision. The tension in both eyes was markedly lowered. Two weeks later there were in the right eye two anterior synechiæ, and the lens opacity had increased. In the left eye the opacities of the cornea and lens had entirely disappeared. Two months after the accident the ptosis had disappeared, and both corneæ were clear. In the right eye the cataract was mature, and the light-perception and projection were normal. The pupil reacted promptly to direct and reflex irritation. Five weeks later the cataract was extracted with some difficulty through a modified linear corneal wound, and the patient then counted fingers at five metres with + D 10 Sph. The consequences of the lightning-stroke in this case were direct burning in consequence of the high temperature and physico-electric action on the nerve substance, and the secondary changes—as iritis, irido-cyclitis, and the formation of cataract.

The Pupil-symptoms met with after Injuries to the Head.—Hutchinson, Jr. ("Ophth. Rev.," April, 1887) has been investigating the condition of the pupil after injuries to the head, and makes the following brief statement in regard to the subject as far as yet investigated: In concussion of the brain, during the stage of collapse, the pupils are neither contracted nor dilated, and they respond to strong illumination. This response is not always as rapid as it should be normally; not infrequently the pupils tend toward slight myosis, and inequality in size is occasionally seen. When one pupil only is markedly dilated, there are sometimes signs of irritation, probably by small hæmorrhages into the cortex on the same side. Whatever view may be taken as to the condition of the cerebral circulation, it is not doubted that the cerebral functions are, to a more or less complete degree, suspended by the violent shaking that the brain undergoes. Hence, the condition of the pupils would be expected to be the same as during sleep and the anæsthetic stage of chloroform inhalation, and in animals deprived by experiment of their cerebral lobes. In a few cases of concussion, fixed mydriasis on both sides has been noticed for a time. Although it is at present impossible to fully account for the cases in which one-sided mydriasis follows concussion and persists for a considerable period, still these cases are exceptional, without evidence of severe injury to the brain. With the onset of inflammatory symptoms, the pupils become strongly contracted, although the lesion may be at some distance from the corpora quadrigemina.

The Nutrition of the Eye, based upon Experiments with Fluorescein and Naphthaline.—Panas ("Arch. d'ophthal.," March-April,

1887) gives the results of his experiments in the following conclusions: The pathological, disorganizing current which in these experiments replaced the physiological, nutritive, reparative current, followed exclusively the path or channel through the optic nerve, retina, and vitreous, and thence extended to the lens. The entire anterior segment of the eye remained entirely free from this pathological process, which proves the existence of other channels of nutrition which escaped the action of the naphthaline, because they are of a different character from the posterior channels. The current thus established from the optic nerve toward the interior of the eye induces an accumulation of fluid between the retina and the hyaloid, and also between the two layers of the retina, as if to demonstrate the actual existence of these two spaces. The current, loaded with leucocytes and crystals, then penetrates the vitreous, owing to the anatomical connection between it and the optic papilla. The subsequent alterations of the transparency of the lens prove that the nutrition of this organ depends upon this same optico-retinal current. Pathology, as well as experimentation, proves that the various forms of chorio-retinitis are more likely than other diseases of the eye to give rise to symptomatic cataracts. Panas found also that rabbits which had been nourished by naphthaline for a sufficiently long time not only became affected with cataract, but also became amaurotic, owing to the grave lesions existing in the retina and vitreous.

Investigations into the Influence of Chronic Alcoholism on the Organ of Vision.—Uthoff's paper is very long and involved ("Arch. für Ophthal.," xxxii, 4). His conclusions are based upon the microscopical examination of the eyes of seven patients who died of chronic alcoholism. The ophthalmoscopic examinations showed a distinct atrophic discoloration of the temporal halves of the discs. The microscope showed that the degenerative process involved the entire temporal half of the optic nerve, and extended more and more into the nerve, the farther upward and downward the sections passed eccentrically through the disc. The disturbance of vision was not always proportional to the pathological changes in the disc. In none of the cases was there complete atrophy of the ganglion-cell layer of the retina in the corresponding affected parts of the retina. In the intra-cranial portions of the optic nerves Uthoff found the degenerated part in the center still, in the form of a horizontal oval, but just in front of the chiasm the form changed to an oblique diagonal from above and outward, downward and inward. His observations lead him to agree with Bunge that in the optic tract the fibers of the crossed and uncrossed bundles, which go to the macula lutea, lie side by side. He concludes also that those nerve-fibers which innervate the infero-temporal quadrant of the retina also run in a corresponding quadrant in the papilla. The enormous hypertrophy of the interstitial connective-tissue septa is due to a retrobulbar neuritis. The increase of nuclei was demonstrable in every case. The optic-nerve sheaths were in all cases normal. In some of the cases there was a pronounced development of new vessels, with thickened and sclerosed walls. Among one hundred and thirty-nine cases examined ophthalmoscopically, there were only sixty-five in which there was any functional disturbance. In only four cases was there any discoloration of the inner half of the disc. Out of one thousand cases examined, there were only nine in which there was any functional disturbance without any ophthalmoscopic change in the discs. In only six cases was there any hyperemia of the papilla. In forty cases of cloudiness of the papilla the cloudiness also extended a varying distance into the retina. In 6 per cent. of the cases there was an abnormal condition of the pupils. In four cases there was a partial xerosis of the ocular conjunctiva. In thirteen cases there were distinct nystagmus-like contractions of various ocular muscles, especially the internal and external recti. In only three cases were there paralyzes of one or more muscles, and those were bilateral abducens paralyzes.

A Decided Improvement in the Construction of Lacrymal Probes.—Theobald ("Amer. Jour. of Ophth.," March, 1887) advises the use of aluminium in the manufacture of lacrymal probes, as preferable to silver. The chief advantage is lightness of weight, which is a special desideratum in the larger-sized probes. Another advantage is that its surface is much smoother and more slippery than that of the silver probes, so that an aluminium probe can be introduced into and withdrawn from the nasal duct with greater ease. These probes are of about the same stiffness as the pure silver probes, but the difference in

weight is about as one to four. It has been found practicable to make probes as small as numbers 7 and 8 of the new metal.

Certain Retinal Reflexes visible with the Ophthalmoscope.—Gunn ("Roy. Lond. Ophth. Hosp. Rep.," xi, 3) refers to the peculiar shifting reflex often met with in examining the eyes of young people, known as the "shot-silk" or "watered-silk" retina, and to a somewhat similar reflex which sometimes maps out the region of the macula, describing an elongated oval with its long axis horizontal. In attempting to explain these phenomena, he calls attention to the fact that the limitans interna does not by any means present a uniform concave surface, but has often slight or even considerable irregularities in its curvature. The larger retinal vessels often lie superficially in the nerve-fiber layer, and the limitans interna, instead of stretching straight across, is here elevated by the convexity of the vessel, so that there is a projection of the limitans corresponding to the course of the vessel, with a concavity on each side of it. The vessel does not, however, maintain the same uniform level in the retina, but undulates antero-posteriorly. In the macular region outside the fovea centralis the retina is thicker than it is in the circummacular region, so that there is a convexity near the periphery of the macula, with a concavity bounding it externally. Gunn suggests that the light from the mirror, falling upon the sloping side of such a convex surface and meeting it at its "critical angle," undergoes total reflection, and thus illuminates an area of the neighboring retinal surface. This reflected light is visible to the observer when it ultimately falls upon a surface so placed that reflection occurs in the direction of and through the pupil of the eye under examination. The changes in the curve of the hyaloid due to the dipping of the vessel previously mentioned would account for the shimmer being occasionally visible over part of the vessel's course. That the appearance is not universal even in the young is probably due to the fact that all such retinæ do not present irregularities of their inner surface sufficient to allow of the reflected rays again becoming visible. The retina, developed from the epiblastic optic vesicle, may often be too large to conform regularly with the inner surface of the mesoblastically formed outer coats, so that unusually great irregularities will consequently exist on its inner surface. As the eye grows, however, the incompatibility will gradually become less, and by the time adult age is reached the retina will be more accurately fitted to its inclosing cup, and the pre-existing irregularities to a large extent flattened down.

A Refraction Ophthalmoscope.—Jackson ("Ophth. Rev.," Jan., 1887) has endeavored to avoid the disadvantages of the Reckoss disc by placing the lenses in two slides, moving vertically, immediately back of the mirror. These slides do not in the least interfere with the inclination of the mirror, whatever its width. They are moved by pressure of the tip of the forefinger on one of the milled projections at their lower extremities, and a spring-catch, acting on each, secures the centering of the lens at the sight-hole. The size and number of the correcting lenses are, of course, limited. Five lenses of a diameter of five millimetres are placed in each slide, and a sixth may be added by allowing the slide to project some millimetres above the mirror when the strongest lens is in use. The series recommended by Jackson are as follows: In the first slide, 1, 2, 3, 4, and 10 D convex; in the second slide, 0.50, 2.50, 5, 10, and 25 D concave. These give as combinations: Convex, 0.50, 1, 1.50, 2, 2.50, 3, 3.50, 4, 5, 7.50, and 10 D; concave, 0.50, 1, 1.50, 2, 2.50, 3, 4, 5, 6, 7, 8, 9, 10, 15, and 25 D.

A New Tonometer.—Priestley Smith ("Ophth. Rev.," Feb., 1887) has devised a new tonometer, which consists of an oblong brass box, hollowed out underneath at the front and closed at the top by a slip of glass, which slides in like the lid of a box, and is held in place by a screw at the back. The glass slide retains the working parts in position; when it is removed, the whole instrument is readily taken to pieces. Pressure is made upon the eye by means of the "ram," a piece of thin ivory having the shape of a cross, so that it can be introduced where it touches the eye, and resting at the other end on the upright area of a weighted lever; the weight which forms the horizontal arm of the lever is adjusted to balance a pressure of ten grammes exerted horizontally on the front end of the ram. On the upper surface of the ram, at its front end, lies a second piece of ivory, the "crescent," the anterior edge of which is hollowed to fit the convexity of the eyeball, the curvature being that of a circle 25 mm. in diameter. Next the

posterior end of the ram is fixed a small upright pin, which forms a center of movement for the pointer. This pointer is made of steel, and lies flat upon the surface of the ram, being kept upon its pin only by the glass slide which is immediately above it. The apex of the pointer travels over a millimetre scale engraved on the ram. The pointer is connected with the crescent by a wire. The posterior end of the wire is bent so as to drop into a hole in the pointer; the anterior extremity carries a vertical pin, which forms a pivot on which the crescent can to a certain extent rotate. The operator holds the instrument horizontally, and applies the tip of the ram to the surface of the eyeball, making gentle, steady pressure upon it. The ram dimples and depresses the wall of the eye until the resistance of the sclera becomes equal to the pressure exerted by the lever; the ram can then enter the eyeball no farther, and begins to slide backward in the box. The instrument is then removed from the eye. Meanwhile the crescent and pointer have registered the depth of the impression made. At the beginning the edge of the crescent and the tip of the ram exactly coincide, but, as the ram advances, the crescent, which offers no resistance beyond the weight of the pointer, slides backward and communicates its movement to the pointer. The pointer magnifies the movement exactly ten times, and the divisions of the scale indicate the depth of the pit in the eye in tenths of a millimetre. In using the tonometer the patient should be seated facing the window; his head should be vertical, and the eyes should be directed upward at an angle of 45°, or rather more. The surgeon, standing behind him, depresses the lower lid with the forefinger of the corresponding hand. He takes the tonometer in his other hand, steadies it by resting it lightly on the finger which depresses the lid, and presses it gently and steadily against the eye at a point 4 mm. below the cornea. The pressure is continued until the pointer refuses to move farther. The tonometer is then removed, and the position of the pointer noted.

Miscellany.

The Forgotten Worthies of Medicine.—"A volume," says the "Lancet," "might be devoted to this theme, and one of its most interesting chapters would be descriptive of the heroic life and death of Eusebio Valli. That gifted Tuscan physician, whose anticipations of Pasteur's prophylactic treatment of rabies have already been noticed in the 'Lancet,' met his death at Havana in circumstances which do honor to himself and to his calling. From his Oriental experience with the plague, he had convinced himself that inoculation might be extended to yellow fever—as, indeed, it has quite lately been by Dr. Freire at Rio de Janeiro. In 1815 he was acting as ordinary physician to the Military Hospital at Dijon, in France, and, with the sanction and aid of King Louis XVIII, he set sail on December 14th of that year for America, to put his theory to the proof. Arrived at Philadelphia, he had an interview with the celebrated Dr. Moore, who warned him against the attempt; but Valli made the characteristic reply: 'Believing in the contagious character of yellow fever, I propose to inoculate myself with the perspiration of the moribund from that disease, and also with the bile taken from their dead bodies, modifying the poison with the self-same reagents I employed in my experiments on the plague of the East. If it is inscribed in the Book of Fate that I am to fall a victim in this great ordeal, my death will not be without honor.' In 1816 the yellow fever did not visit North America, so Valli set out for Havana in quest of patients suffering from the malady. He presented himself to the public health authorities of that city, and they so far approved his design as to nominate two physicians, Dr. Antonio Machado and Dr. Romay (who afterward wrote his *Biography*), to be his assessors. On September 20, 1816, he was conducted to the Hospital of St. John the Divine, in Havana, and there he found a patient from yellow fever *in articulo mortis*. Valli watched the aspect of the sufferer—the black sanious blood oozing from his mouth and from other parts of his body—and, having felt his pulse, he withdrew. He returned next day to the bedside of the patient, now a corpse. Then,

before proceeding to inoculate himself with the vomit and the bile, he put on the nightgown of the deceased, saturated as it was with perspiration, and rubbed it well over his back, breast, and abdomen. He had not long returned to his abode when the first symptoms of the peculiar malaise supervened. On the evening of the next day, September 21st, he sent for Dr. Romay, who found him pale as death, his strength gone, the life rapidly ebbing. He could pronounce only a few broken sentences, interrupted by long-drawn sighs. He said: 'My fate is irrevocable; I am dying.' Everything that his medical friends could do for him was done; but, after lingering in a comatose state till the third day from his seizure, he expired (September 24th). The Sociedad Económica, of Havana, in grief and admiration for their guest, caused his portrait to be hung in the public library of the city, an honor up to that time accorded to but two members of the Society, and they also had inscribed on his tomb an epitaph, still read by the stranger in the cemetery of Havana, and of which the following is a translation: 'To God, the All-good and Almighty. Here lies Doctor Eusebio Valli, victim to his love for mankind; the Economic Society of Havana solicits for his memory the prayers of the pious. Anno Domini 1816.' A descendant of Valli's, the Cavaliere Giuseppe Valli, advocate, has recently been at pains to collect all the papers and documents relating to his illustrious kinsman, and to weave them into a suitable memoir—mainly by the help of Spanish and other foreign coadjutors, his compatriots, by their neglect of the good and great physician's name and memory, having incurred the reproach now launched at them by his latest biographer: *Nemo propheta in patria sua!*"

Ventilation of the Beds of the Sick.—Dr. Morrill Wyman, of Cambridge, Mass., writes as follows to the "Lancet":

"In the Cambridge (Mass.) Hospital there is an arrangement for the ventilation of the beds not generally known; it is so effective that I wish to describe it. Beneath each bed is a ventilating tube of about eight inches diameter, fifty square inches area, leading directly through the floor to a foul-air trunk, beneath which it communicates with the main ventilating chimney. About 2,000 cubic feet of air an hour is thus drawn from beneath each bed. This ventilating tube is connected with the bed above by a four-inch pipe of tinned plate, with a proper cover and joints, which passes around the side or foot of the bed and into it beneath the clothing. This pipe is lengthened with one of the same size of pasteboard or other substance, a non-conductor of heat, reaching to any part of the bed. By this simple means foul air is removed as fast as formed, the bed kept free from odor, and the patient's body is no longer surrounded with contaminating gases. As the air presses inward through the porous bed-clothing none escapes into the ward. Further, a two-inch flexible pipe is adjusted to that just described, and slipped over the hollow handle of the bed-pan when in use, carrying off odor from that also. In the same hospital similar means connect the beds in the private wards with the chimney of an ordinary fireplace, up which the pipe reaches about four feet to insure a good draught with a moderate fire; the part in the chimney is of black iron. The advantages of such an arrangement in cases of sloughs, foul ulcers, cancers, and in fevers with frequent fecal dejections, are obvious. It may be supposed that the passage of air through the bed would cool it too much. Practically it does not; probably the quantity of air passing is about the same as in beds ordinarily at the same temperature of the room, but in a different direction."

The New York Cancer Hospital, in Eighth Avenue and One-hundred-and-fifth and One-hundred-and-sixth Streets, will be opened with appropriate exercises on Tuesday, the 6th inst., at 3 o'clock P.M. Short addresses will be made by the president, John E. Parsons, Esq., and by Dr. Fordyce Barker and Dr. W. H. Draper. The medical profession is invited to be present. The building will be open for inspection from 3 to 6 o'clock of the same day, and patients will be received on Wednesday, the 7th inst. The nearest elevated railway station is at One-hundred-and-fourth Street, and the exit from the Central Park at One-hundredth Street.

The New York Society for the Relief of Widows and Orphans of Medical Men recently elected officers as follows: Dr. Gouverneur M. Smith, president; Dr. Henry Tuck, Dr. Everett Herrick, and Dr. W. C.

Livingston, vice-presidents; Dr. Willard Parker, secretary; Dr. John H. Hinton, treasurer; and Dr. E. C. Seguin, Dr. J. J. Milhau, Dr. Willard Parker, Dr. Isaac E. Taylor, Dr. J. W. Warner, Dr. W. T. White, and Dr. A. F. Currier managers for three years. The society's assets were reported as amounting to \$157,766.11.

The Kings County Medical Association.—At the next meeting, to be held at No. 398 Fulton Street, Brooklyn, on Tuesday evening, the 6th inst., an adjourned discussion on "Antipyretics" will be opened by Dr. J. D. Rushmore.

The New York Academy of Medicine.—At the next meeting of the Section in Neurology, on Friday evening, the 9th inst., Dr. Allan McLane Hamilton will read a paper on "The Detection of Concealed Delusions by means of Nitrous-Oxide Gas," and Dr. R. W. Taylor and Dr. R. Van Santvoord will read papers each entitled "Two Cases of Raynaud's Disease, with Remarks."

At the next meeting of the Section in Surgery, on Monday evening, the 12th inst., a discussion on "The Treatment of Obstinate Club-foot by the Open Incision" will be opened by Dr. Mason Jones, and continued by Dr. Sayre, Dr. Poore, Dr. Shaffer, Dr. Gibney, Dr. Gerster, Dr. Judson, and others. Dr. Newton M. Shaffer will read a paper "On the Treatment of Ununited Fractures of the Femur by Portable Traction and Fixation Apparatus." Dr. R. T. Morris will read a paper "On Fracture of the Fibula from Adduction of the Foot."

At the next meeting of the Section in Orthopædic Surgery, on Friday evening, the 16th inst., Dr. V. P. Gibney will read a paper on "The Treatment of Flat-foot."

At the next meeting of the Section in Ophthalmology and Otology, on Monday evening, the 19th inst., Dr. O. D. Pomeroy will read a paper entitled "Some Points in the Management of the Eustachian Tube in certain Ear Affections," and Dr. C. H. May will present "A Résumé of Experience at the Aural Clinic of Professor Schwartz, in Halle, Germany, with Exhibition of Instruments."

The Health of Boston.—During the week ending Saturday, November 26th, the following numbers of cases and deaths from infectious diseases were reported to the Board of Health: Diphtheria, 21 cases and 7 deaths; scarlet fever, 64 cases and 17 deaths; typhoid fever, 12 cases and 3 deaths; measles, 11 cases. There were also 29 deaths from consumption, 21 from pneumonia, 1 from whooping-cough, 15 from heart disease, 18 from bronchitis, and 5 from marasmus. The total number of deaths was 189, against 164 for the corresponding week last year.

The Health of San Francisco.—According to the Health Department's "Condensed Statement of Mortality," for the month of October, there were 486 deaths from all causes during the month, including 2 from cholera morbus, 22 from cholera infantum, 25 from croup and diphtheria, 15 from cerebro-spinal meningitis, 4 from dysentery, 6 from diarrhoea, 1 from erysipelas, 8 from typhoid fever, 5 from measles, 2 from whooping-cough, 2 from pyæmia, 1 from septicæmia, 1 from scarlet fever, and 2 from small-pox.

Government Health Reports.—By direction of the Secretary of the Treasury, Dr. John B. Hamilton, Surgeon-General of the Marine-Hospital Service, has issued the following abstract of sanitary reports received during the week ending November 25th:

(Published in accordance with Section 4, act approved April 29, 1878.)

England and Wales.—The deaths registered in twenty-eight great towns of England and Wales during the week ending November 5th corresponded to an annual rate of 21.4 in a thousand of the aggregate population, which is estimated at 9,244,099. The lowest rate was recorded in Hull, viz., 12.7, and the highest in Halifax, viz., 31 in a thousand. Small-pox caused 21 deaths in Sheffield.

London.—One thousand seven hundred and thirty-five deaths were registered during the week ending November 5th, including 30 from measles, 60 from scarlet fever, 19 from diphtheria, 44 from whooping-cough, 25 from enteric fever, and 20 from diarrhoea and dysentery. There were 506 deaths from diseases of the respiratory organs. Different forms of violence caused 49 deaths, and 5 suicides were regis-

tered. The deaths from all causes corresponded to an annual rate of 21.5 in a thousand. In greater London 2,096 deaths were registered, corresponding to an annual rate of 20.2 in a thousand of the population. In the "outer ring" 12 deaths from diphtheria and 13 from measles were registered.

Ireland.—The average annual death rate represented by the deaths registered during the week ending November 5th in the sixteen principal town districts of Ireland was 26.7 in a thousand of the population. The lowest rate was recorded in Kilkenny, viz., 4.2, and the highest in Waterford, viz., 39.4 in a thousand.

Dublin.—Two hundred and ten deaths were registered during the week ending November 5th, including 6 from measles, 2 from whooping-cough, 19 from scarlet fever, 7 from enteric fever, 5 from diarrhoea, and 1 from diphtheria. Diseases of the respiratory organs caused 42 deaths. Three accidental deaths were registered, and in 32 instances the causes of death were uncertified. The deaths from all causes corresponded to an annual rate of 31 in a thousand.

Scotland.—The deaths registered in eight principal towns during the week ending November 5th corresponded to an annual rate of 20.6 in a thousand of the population, which is estimated at 1,299,000. The lowest mortality was recorded in Leith, viz., 15.1, and the highest in Paisley, viz., 29.1 in a thousand. The aggregate number of deaths registered from all causes was 515, including 6 from measles, 14 from scarlet fever, 6 from diphtheria, 26 from whooping-cough, 6 from fever, and 8 from diarrhoea.

Malta and Gozo.—During the month ending October 15th there were 295 deaths from cholera.

Gibraltar.—The secretary of the board of health, under date of October 25th, states that, "with reference to the orders of the board of health of the 10th, 15th, and 19th August and 8th September, it has been decided that the quarantine against Sardinia, Civita Vecchia, and southern Italy be raised, with the exception of Calabria, from Amantia to Cotrone, round Cape Spartivento."

Havana.—Three deaths from yellow fever and 48 from small-pox are reported for the week ending November 12th.

MORTALITY TABLE, FOREIGN CITIES.

CITIES.	Week ending—	Estimated population—	Total deaths—	DEATHS FROM—									
				Cholera.	Yellow fever.	Dysentery.	Typhoid fever.	Scarlet fever.	Diphtheria.	Whooping-cough.	Measles.	Small-pox.	Other.
Paris.....	November 5.	2,260,045	920	..	..	..	5	..	16	5	14	..	..
Warsaw.....	October 29.	439,174	258	..	..	11	..	..	..	9	9	..	..
Calcutta.....	October 8.	442,219	204	15	..	..	..	..	..	..	..	..	..
Amsterdam.....	November 5.	378,686	137	..	..	..	..	..	3	..	..	..	..
Rome.....	September 17.	372,779	171	..	..	..	..	..	8	..	1	..	..
Munich.....	October 29.	269,003	111	..	..	..	..	..	1	..	8	..	..
Edinburgh.....	November 5.	258,629	89	..	..	..	1	..	1	..	1	..	..
Palermo.....	November 6.	259,000	111	..	..	..	..	..	2	..	1	..	..
Belfast.....	November 5.	224,422	117	..	..	..	..	..	3	5	1	..	..
Leipzig.....	November 5.	170,000	49	..	..	..	..	..	2	..	..	..	..
Trieste.....	October 22.	150,157	85	..	..	13	..	..	..	1	3	..	..
Toronto.....	November 12.	130,000	25	..	..	..	..	..	..	..	..	..	..
Stuttgart.....	November 5.	125,510	34	..	..	..	..	..	..	..	..	..	..
Havre.....	November 5.	112,074	68	..	..	..	..	8	1	1	1	..	..
Bremen.....	October 29.	119,000	26	..	..	..	..	..	..	..	..	..	..
Reims.....	November 5.	97,003	44	..	..	1	..	..	1	..	..	..	..
Leith.....	November 5.	72,246	21	..	..	..	..	..	..	1	..	..	..
Mayence.....	October 29.	65,502	..	..	..	..	..	..	..	1	2	..	..
Merida.....	November 8.	48,822	19	..	1	..	..	..	..	..	..	..	..
Cienfuegos.....	October 31.	35,464	16	..	3	3	..	1	..	..	..	..	..
Cienfuegos.....	November 7.	35,464	14	..	1	6	..	..	..	..	..	..	..

UNITED STATES.

Tampa, Fla.—Yellow Fever.—The sanitary inspector reports as follows:

"For week ending November 23, 8 cases, 4 deaths—making, approximately, 380 cases and 71 deaths.

"November 2nd.—For two days, 5 new cases, 1 death. Among sick to-day, two refugees who returned last week. Please warn, through press, all persons away from here not to return yet, as it is not safe. Although there has been a freeze, there are yet cases, and the infection is still here.

"November 24th.—No new cases and no deaths to-day. All Savannah nurses have been discharged and sent home, and three Key West nurses to-night."

The Methodist Hospital, Brooklyn.—The first pavilion of this new hospital, founded by Mr. George I. Seney, will be opened with appropriate ceremonies on the 15th inst. It will afford accommodation for about seventy-five beds, and will be thoroughly equipped for the work of a general hospital. Two resident medical officers are to be appointed at once, and the medical board solicits applications from recent graduates. It is desired that at least one of the appointees shall have already had hospital experience. Application should be made to Dr. L. S. Pilcher, 145 Gates Avenue, Brooklyn, or to Dr. A. E. M. Purdy, 304 Madison Avenue, New York.

THERAPEUTICAL NOTES.

Treatment of the Sound Limb in Sciatica.—Dumontpallier and Raymond ("Comptes rendus de la soc. de biol."; "Lyon méd.") have found in several cases of sciatica that irritation of the opposite limb, and especially spraying it with chloride of methyl, produced speedy amelioration of the pain. The method is said not to be of so much value as treatment addressed directly to the course of the affected nerve, but it is accounted interesting as affording an example of localized analgesia due to inhibition, certain sensory centers in the spinal cord being inhibited by irritation of neighboring sensory centers.

Salol as a Remedy for Sciatica.—Aschenbach (quoted in the "Lancet") has found that salol, taken internally, mitigates his sciatica better than any other remedy. He first took seven grains and a half, and subsequently, on the same day, fifteen grains.

Common Salt in the Treatment of Migraine.—Rabow ("Therap. Monatsh."; "Ctrbl. f. klin. Med.") states that, where an attack of migraine is ushered in with gastric symptoms, common salt, taken at once, usually checks it, although it sometimes fails. From half a teaspoonful to a teaspoonful is to be swallowed dry, and then the patient is to drink a little water.

Antipyrine as a Hæmostatic.—Olikoff ("Russk. Meditz."; "Lancet"), having seen an account that antipyrine possessed hæmostatic properties, employed inhalations of a solution (fifteen grains to an ounce of water) in six cases of hæmoptysis, ordering five or six inspirations to be taken through the inhaler every half-hour or hour. The hæmoptysis diminished at once, and was rapidly arrested.

A Remedy for Hoarseness and Catarrhal Coughs, said to be rapid in its action, is prepared according to the following formula ("L'osservatore"; "Dtsch. Med.-Ztg."):

Ammonium acetate.....	3 parts;
Potassium bromide.....	3 "
Tincture of belladonna.....	11 "
Tincture of aconite.....	2 "
Infusion of balsam of Tolu.....	150 "
Syrup of balsam of Tolu.....	50 "

A tablespoonful is to be taken every three or four hours.

Iodoform in the Treatment of Gonorrhœa.—Thiéry ("Prog. méd."; "Ctrbl. f. klin. Med.") recommends injections of oil of sweet almonds holding finely powdered iodoform in solution. Six patients so treated were cured in the average space of thirteen days, about seventeen injections being used. The anodyne action of the iodoform is considered important as well as its germicidal properties. Before each injection, the urethra should be washed out with lukewarm water.

Salicylic Acid as an Application to Warts.—The "Union médicale" credits E. Vidal with the following formula:

Salicylic acid, $\frac{1}{2}$ each.....	1 part;
Alcohol.....	
Sulphuric ether.....	2½ parts;
Colloïdion.....	5 "

The warts are to be painted with the solution daily.

ANSWERS TO CORRESPONDENTS.

No. 98.—Our information is that it is exceedingly difficult for an American practitioner to get an appointment as surgeon in the service of a steamship company. Most of the passenger lines are in foreign hands, and it is natural that the owners should favor their own countrymen. If an appointment is to be obtained at all, it is only by bring-

ing a great amount of professional and social influence to bear upon the directors, and especially upon the executive officers.

No. 99.—1. We have looked through our files of the two journals you mention, but have not found such an article. Possibly you have in mind Dr. Parsons's article "On the Classification of Mental Diseases," which appeared in our issue for June 25th. 2. Our understanding of the matter is, that it was voted at the last meeting of the American Medical Association to hold the next meeting in Cincinnati, beginning on the second Tuesday in May, 1888. 3. The American edition of Ganot's "Elements of Physics" is published by Messrs. William Wood & Co. It is to be presumed that their next issue of the book will contain the revisions of the last London edition.

No. 100.—It is the foramen of *Monro*, not *Monroe* or *Munro*.

No. 101.—We believe that the cases are very exceptional in which axis traction can not be made well enough with any good obstetrical forceps.

No. 102.—We think the most suitable height for the pulley of a traction exercising apparatus is about six feet above the floor.

No. 103.—Dr. Taylor's original article on "Dactylitis Syphilitica" was published in 1870, in the "American Journal of Syphilography and Dermatology."

To Contributors and Correspondents.—The attention of all who purpose favoring us with communications is respectfully called to the following:

Authors of articles intended for publication under the head of "original contributions" are respectfully informed that, in accepting such articles, we always do so with the understanding that the following conditions are to be observed: (1) when a manuscript is sent to this journal, a similar manuscript or any abstract thereof must not be or have been sent to any other periodical, unless we are specially notified of the fact at the time the article is sent to us; (2) accepted articles are subject to the customary rules of editorial revision, and will be published as promptly as our other engagements will admit of—we can not engage to publish an article in any specified issue; (3) any conditions which an author wishes complied with must be distinctly stated in a communication accompanying the manuscript, and no new conditions can be considered after the manuscript has been put into the type-setters' hands. We are often constrained to decline articles which, although they may be creditable to their authors, are not suitable for publication in this journal, either because they are too long, or are loaded with tabular matter or prolix histories of cases, or deal with subjects of little interest to the medical profession at large. We can not enter into any correspondence concerning our reasons for declining an article.

All letters, whether intended for publication or not, must contain the writer's name and address, not necessarily for publication. No attention will be paid to anonymous communications. Hereafter, correspondents asking for information that we are capable of giving, and that can properly be given in this journal, will be answered by number, a private communication being previously sent to each correspondent informing him under what number the answer to his note is to be looked for. All communications not intended for publication under the author's name are treated as strictly confidential. We can not give advice to laymen as to particular cases or recommend individual practitioners.

Secretaries of medical societies will confer a favor by keeping us informed of the dates of their societies' regular meetings. Brief notifications of matters that are expected to come up at particular meetings will be inserted when they are received in time.

Newspapers and other publications containing matter which the person sending them desires to bring to our notice should be marked. Members of the profession who send us information of matters of interest to our readers will be considered as doing them and us a favor, and, if the space at our command admits of it, we shall take pleasure in inserting the substance of such communications.

All communications intended for the editor should be addressed to him in care of the publishers.

All communications relating to the business of the journal should be addressed to the publishers.

Lectures and Addresses.

ADDRESS ON THE OPENING OF THE NEW YORK CANCER HOSPITAL,

CORNER OF EIGHTH AVENUE AND 106TH STREET.

By FORDYCE BARKER, M. D., LL. D.

THE opening of a new hospital in this city, the first in this country and the second only in the world, devoted exclusively to the treatment of cancer, is an event of such importance that I greatly regret that the selection of a person to give the address had not fallen upon one more competent to do justice to the occasion. But some considerations have been forced upon me which seem to make it an imperative duty to accept the position, and throw myself on your kind indulgence.

One inducement which had its weight on my mind is the fact that I do not profess to be a surgeon, and as the wonderful progress made within the past decade, in the successful cure of many cases of cancer which before would have been left to die a miserable death, have been in the domain of surgery and the result of surgical proceedings, I can speak of these without any imputation of self-laudation.

My purpose is simply to show the necessity for and the usefulness of such a hospital—to impart some knowledge of the nature of this terrible disease, cases of which will seek relief and cure within these walls, and to correct some popular errors in regard to it which seem to be almost universal, and which the profession well know have caused an incalculable amount of unnecessary misery and unhappiness in the world. It is to be confidently hoped that the good which this hospital will eventually accomplish in the relief of unhappiness and suffering will be represented only in a minor degree by its future inmates, but will extend to many thousands who will never be within its walls.

As preliminary to what I am about to say, I may be permitted to define some words which are in general use by the public in a sense quite different from their professional use. The word tumor, when applied to any abnormal enlargement in any part of the system, is one which carries terror to the minds of most patients, who often consult their physician because of an avowed apprehension that they have a tumor.

The word tumor is nearly but not exactly identical with the word swelling, and carries to the professional mind no significance as necessarily implying danger to life. We speak of glandular tumors, fatty, cellular, or fibrous tumors as innocent or benign, meaning thereby that they are purely local growths having no tendency to extension by formation of other growths, and that if removed they are gone for ever. But we also have what are called malignant tumors, which involve a destructive degeneration and gradual invasion of adjacent tissue, and which may finally infect the general system and destroy life.

Cancer, using the term in a generic sense, is a typical form of malignant tumor. It is probable that this was first

observed and studied as an external disease. The name is said to have been given to this affection by Galen, who lived in Rome in the latter part of the second century and was a physician of great eminence, and one of the most accomplished and learned men of his age. From a fancied resemblance of the appearance of the disease as it extends itself into adjacent healthy tissue to the claws of a crab, he gave it the Latin name of crab—namely, cancer. Since his day the name has been universally adopted both by the medical profession and the public, and is popularly applied to all forms of the so-called malignant growths, such as scirrhus or hard cancer, encephaloid or brain-like cancer, epithelioma, the rapidly growing infecting and recurrent forms of sarcoma, and other varieties, which may differ much in structure and in their clinical features.

The malignancy which is the common characteristic of all, justifies the long-continued popular usage of the term cancer to cover all these diseases, and all come within the province of this hospital to treat. I will briefly refer to some of the peculiarities of this group of diseases which distinguish them from all others. They have for some years been gradually increasing in frequency and causing a larger proportion of deaths in those nations which are the most advanced in civilization.

In the "Forty-first Annual Report of the Registrar-General of England," published in 1880, it is asserted that the number of deaths from cancer was 5,218 in 1851, and 12,664 in 1878; but, as the population had largely increased in this period, the increase in frequency will be more distinctly appreciated by the following quotation from this report: "The average annual mortality (from cancer) during the five years 1850-'54 was 304 in one million living. In the five years 1870-'74 it was 443, while in the year 1878 it was 512."

In New York city the proportion of deaths from cancer in 1875 was 400 to the million. In 1885 it was 530 to the million. According to the "Reports on Vital Statistics of the Census of the United States of 1880," the proportion of deaths from cancer to the total number of deaths reported from known causes was 36.68 to the thousand.

Cancer is a disease of advanced age. It is found in all ages, but in very unequal proportions. In 8,193 cases the proportion of deaths under five years of age was 15.95 in a thousand, while from five to ten it is only 2.82 in a thousand, and from ten to fifteen 1.60 in a thousand. From the age of fifteen the proportion gradually rises in each quinquennium, until, between the ages of fifty and fifty-five, it reaches 130.18 in a thousand. After this period the proportion gradually diminishes as the population who are living after this period of life diminishes. Mr. Jonathan Hutchinson, of London, whose opinion on all questions of pathology is considered authority by the profession in all parts of the learned world, in the most able discussion which has ever been held on this subject, that before the Pathological and Clinical Society of Glasgow in 1886, said: "Of the causes which underlie the proclivity to cancer, and which render some races and some families more prone than others, we as yet know but little. What little we do

know would lead us to believe that it has nothing to do with diet or with climate. The herbivorous animals are liable to it as well as the carnivorous, and, so far as I know, it prevails in all parts of the world where the conditions are favorable to longevity. Wherever, from whatever cause, they are not so, there cancer becomes relatively infrequent. It is almost unknown in those of our domestic animals which are used for food, for the simple reason that we never let them grow old, while in dogs, cats, horses, and asses it is common."

Dr. Billings says: "The increase of mortality from cancer with advancing age may be explained either on the theory that the cause of cancer becomes more potential in advanced age at the period of physiological decay, or on the theory that the predisposition to cancer belongs to the strongest and longest lived." The fact is settled beyond question that in those populations where but few reach old age cancer is proportionally rare.

There are some curious and interesting facts in regard to the geographical distribution of cancer which science as yet does not satisfactorily explain. The last census of the United States demonstrates that this disease is especially prevalent in the New England States and on the southern Pacific coast; that it is prevalent in New York, Pennsylvania, Ohio, and in the interior of Michigan and the southern part of Wisconsin; that it is least prevalent upon the Mississippi and in the South, and that the proportions are generally lower in the coast regions than in the interior. An examination of the reports of death from cancer in England and Wales made by Dr. Havilland led him to conclusions quite in accord with those derived from our own census. Both banks of the Tweed near Berwick, and of the Tyne at Newcastle, some parts of Yorkshire, and the whole of the beautiful Lake District, are fertile beds of cancer. The Isle of Wight is all but free from this disease, while it is common in Brighton, Folkestone, Dover, Ramsgate, and Margate. Statistics also demonstrate, as other facts have seemed to prove, that density of population, poor living, and laborious toil have very little to do with the development and appearance of cancer. Thus in London, in which, as a whole, cancer is very prevalent, the parish of St. Luke's, the neighborhood of Bishopsgate Street, crowded Bethnal Green, the Isle of Dog, Rotherhithe, and Bermondsey are almost exempt from this disease, but in the respectable parts of the metropolis, about the Marylebone Road, Regents Park, and Primrose Hill it is exceptionally frequent. Liverpool, which has a large mortality from other causes of death, as shown by the fact that, with a population of 552,000 in 1878, the number of deaths exceeded those of the total number of its births by 1,000, the percentage of deaths from cancer was exceptionally small. In the future it may be discovered that the localities where the prevalence of this is most frequent have certain characteristics in common which science may overcome, and thus notably diminish this tendency in such localities.

In the "Report on the Vital Statistics of the United States of the Tenth Census in 1886" it is remarked that the peculiarities of the differences in the mortality from cancer in different localities may be in part explained by differences

in the population of these localities as regards race and age. It is a disease which is much less frequent in the colored than in the white race, hence the mortality from it is greater in the North than in the South. It causes the greatest proportion of deaths where there are the greatest proportion of people of advanced age—that is to say, in the New England States. Hence in any given locality, a large proportion of deaths from cancer indicates to a certain extent that the locality is a healthful and a long-settled one, and has a large proportion of inhabitants of an advanced age.

Cancer is not a disease due to misery, to poverty, to bad sanitary surroundings, to ignorance, or to bad habits. On the contrary, it is a disease of the most highly civilized, the most cultured, the wealthy, and of localities which are the most salubrious. One of the characteristics of cancer is that, unless the brain is involved, it leaves intellectual power and force unimpaired. Nay, it seems that in some cases it almost increases these qualities.

No pathetic incident is more indelibly stamped on my memory than a visit made to a victim of this disease whom I found, as I often had before, seated at his writing table, his drawn, pallid face expressing fatigue and suffering, but still more expressive of will force and a remarkable power of endurance.

"Excuse me," he said, as I entered the room, "until I finish a paragraph that I have just begun." After a few moments he laid down his pen, saying, with a sad gleam of satisfaction, "There, since your visit yesterday I have written eight pages."

After the commencement of his painful illness, stimulated by the hope of overcoming reverses and leaving his family in circumstances to which their former position entitled them, he succeeded in accomplishing a larger amount of work, and receiving a greater pecuniary reward for it, than in the history of the world was ever before attained for literary work in so short a period of time.

Census reports are to most persons uninteresting, and the value of the two large volumes of the last census which relate to the vital statistics of this country can be appreciated by but few persons; nevertheless, I wish to call your attention especially to the importance of these books, and to the remarks in which Dr. J. S. Billings, of the United States Army, under whose direction they were compiled, sums up the conclusions which may be drawn from them, and points out the way in which such statistics should be extended, improved, and made reliable as a means of increasing our knowledge of the causes of pain and death, and of the means of destroying or of diminishing these causes.

The belief has been almost universal, both with the profession and the public, until within a comparatively recent period, that cancer has generally a hereditary origin. It is probable that no doctrine in regard to the cause of disease has given rise to so much and so causeless misery and unhappiness in the world as this. In those who have some symptoms which they suspect to indicate the beginning of this disease, suspicion becomes a conviction if any relative of a former generation has died of cancer. They may almost be said to begin the pangs of a moral death long

before it is demonstrable that physical death is inevitable from this cause. If the patient has any family history of this disease, and is suffering from any acute or chronic affection, attended with symptoms which he has heard exist in cancer, the effect of this conviction is not only most depressing, but dangerously complicates conditions which otherwise might result in recovery. I have personally known many illustrations of the truth of both of my two last assertions. Again, I have more than once been asked, in those pathetic tones which tell of heart-breaking anxiety, "Are my children or is my daughter doomed to suffer as I now do?" The answer, given in no equivocal words, is, The probability of such a doom for any descendant of yours is extremely small. In all the statistics which I have been able to collect, where the antecedent family history seemed to be trustworthy, I have found the proportion of those who have had cancer, in whom some relative of a former generation is reported to have had some form of malignant disease, to be only 13.65 per cent. On the other hand, in regard to one family which has in the present generation the largest number of victims that I have ever personally known, I have authoritative proof for asserting that no development of any form of malignant disease has ever existed in three previous generations, including collateral branches.

Before a professional audience I could give a list of names, which would be regarded as conclusive as to present belief of the profession on this point. More than a quarter of a century ago, Mr. Jonathan Hutchinson, whose opinions carry the greatest weight, expressed his disbelief in hereditary origin as an effective cause. Recently—that is, during the past year—in a notable and most able discussion of this subject he said, "It is utterly useless to employ such a term as hereditary transmission of cancer in such a sense as we speak of the transmission of some other diseases."

A proclivity to the disease may result from the conjunction of certain parentage, but it can not be said to be inherited from ancestors in whom it did not exist. We may speak of cancer being hereditary as we speak of delirium tremens as hereditary, but in neither case is this transmission of the disease. Parents can not transmit to children disease which has no existence in their own system previous to the birth of the children, and then it is absurd to say that a daughter has inherited the disease which her mother first developed twenty-five years after the birth of the daughter.

A cancer bacillus is as yet unknown in science, and the most recent investigations have failed to find any. But I observe that Sir James Paget, in a lecture delivered on the 11th of November, expresses the belief that micro-parasites, or substances produced by them, will some day be found in essential relation with cancer and cancerous diseases. But as yet there are no ascertained facts which support this belief.

In a paper read before the Academy of Medicine in 1870 I then avowed the opinion that cancer could not be regarded as a hereditary disease, but that a hereditary tendency to it often exists in those whose ancestry has been wholly exempt from it. In such it is probably developed by some local existing causes.

Cancer was regarded by Abernethy, a great authority in pathology and surgery during the early part of the present century, as being simply the local manifestation of a constitutional disease. Within the past few years a large number of the most eminent pathologists have become adherents to the doctrine that it is primarily a local disease, and that the constitutional affection is a secondary result. This is not the time or place to review the various able arguments which have been urged in favor of one or the other view, but it is a point of great importance, as affecting the question of the curability of the disease. In the first place, no medicine has yet been discovered which acts specifically in retarding or curing the disease as quinine and mercury and other medicines do certain specific diseases. No man has the moral right to administer any drug without some well-defined view of the end which he wishes to accomplish, and a well-grounded belief that the drug he selects will probably effect this result. But in cancer we do not know what primary changes are necessary, in either tissue or function, to prolong life or cure the disease. Even if we did know this, no drug has yet been found which experience has proved will effect these changes. So it may be positively asserted that no case of cancer has ever been proved to have been cured by medical treatment. But many cases have been arrested for months and years by surgical treatment, and, as after three years it is generally believed that the probability of recurrence is very slight, we have the right to say that many cases have been absolutely cured by total removal of the diseased tissues.

I think sufficient facts have been accumulated, especially within the past ten years, to justify the following assertions. Total removal of the whole diseased growth when it is found as a distinctly limited affection, the lymphatic glands not being involved, it is highly probable will be followed by a cure.

If the disease has involved the lymphatic vessels and glands, the chances of cure are materially diminished, but in many such cases an operation has proved to be of great service in relieving suffering and prolonging life for months, and in some cases from one to two or three years.

After the local disease has existed a sufficient length of time to contaminate the blood and infect the general system, a cure by an operation or by any other method is absolutely hopeless. Great progress has been made in successful surgery within the past few years by a resort to the operation at the earliest possible period—that is, so soon as the existence of the disease can be determined.

The most recent and probably the most authoritative writer on this subject, Mr. Butlin, of London, asserts that every week of delay increases the danger of the contraction of various adhesions, of affection of the secondary glands, and of the formation of secondary growths. But duration alone is not a conclusive argument against the success of an operation, for, as the same author adds, "when long duration of a malignant tumor is associated with a very slow progress, small size, absence of serious adhesions, absence of affection of the neighboring lymphatic glands and of secondary growths, so much the more favorable is the prospect of permanent relief from operation for its removal."

The question of the locality of the growth is one of great importance in forming a decision as to the necessity and probable success of removal, and will always be carefully and conscientiously weighed before a decision is made. These malignant growths may appear in any tissue of the body, external or internal, and eminent surgeons of this city, as elsewhere, have removed them, with all the success anticipated, from muscles, bones, lymphatic glands, the eye, the face, the lower lip, the tongue, the breast, and other external organs.

If this were a fitting opportunity and time would permit, I am sure all present would be interested in hearing an account of such as I have personal knowledge of, either from my own observation or from a knowledge derived directly from the operations. But such details would be inappropriate on the present occasion, and I am compelled to deny myself the pleasure of paying a just tribute to the skill and sound judgment of surgeons that we have in our city.

Dr. S. W. Gross, of Philadelphia, asserts: "The convictions are steadily gaining ground that this disease in the breast is primarily a local affection and not a constitutional one, and that these views are supported by many of the most eminent men living; pathologists such as Virchow of Berlin, Billroth of Vienna, Fersche of Breslau, Esmarch of Kiel, Nussbaum of Munich, Volkmann of Halle, Erichsen, Hutchinson, Gull, Simon, Bryant, Green, and others of London, and the late Dr. Gross and Dr. Parker, Dr. Peters, Dr. Moore, Dr. Richardson, and others in the United States, have shown by the statistics of their own practice and that of others the usefulness and success of the surgical removal of the disease.

But, as I have before said, removal of the disease by operation is not restricted to external organs, but many operations for removal of internal organs have been performed with all the success that could be anticipated, although, it must be added, there have been many failures. On November 14th, three weeks ago, I was present when one of the medical board of this hospital performed one of the most difficult operations ever attempted in surgery—viz., the entire removal of a most important internal organ. I had previously seen the patient, and concurred in the opinion that the operation was imperatively necessary, and that it offered a fair promise of success; I may add that the opinion of the operator and myself was given independently, each without the knowledge of the other. This patient, as I have learned within a few days, has had no unfavorable symptoms which have retarded her convalescence. It is possible that she may hereafter escape any return of the disease. It is certain that her life has been prolonged, and that she has been saved from months or perhaps years of suffering, which would have soon ended her days. A fair number of cases have been reported in which such results have been attained. And yet so late as fifteen years ago any proposal to attempt such an operation would have been condemned by the universal sentiment of the profession; and if it had been attempted and resulted in failure, the public would have denounced the operator as a reckless, unscrupulous butcher, who had no conscience as regards the

result to his patient, but simply sought personal glory in the *éclat* of having performed a wonderful operation. All of us have before heard such language applied to surgeons.

The case which now commands the most universal sympathy and interest in all nations of the world is that of the Crown Prince of Prussia. It is an unparalleled event in history that three men, two of whom had been at the head of the government of their respective nations, and the third whose probable inheritance was an empire, should each have been victims to malignant disease, in contiguous localities differing only in some minor details, at the same period in the world's history. In the case of President Grant, the locality of the malignant growth was such that it was decided by most competent authority that from the beginning a successful removal by surgery was not practicable, as the danger from such an attempt would be much greater than the probability of any benefit. During the illness of General Grant I received a letter from the brother-in-law of Dom Ferdinand, ex-King of Portugal, and his attending surgeon, detailing the history and description of the case of the ex-King, in whom malignant disease had also appeared in the mouth, very near to but not exactly in the same site. From the description given, the conviction was irresistible to my mind that it would be impossible by any surgical procedure to remove the whole of the diseased tissue, and that any attempt of the kind would be attended with such danger as might be followed by immediate death and would undoubtedly shorten the duration of his life. His death followed within a few months that of our honored ex-president. As regards the probable future of the case of the Crown Prince, none but those able men who are in attendance upon him, and who must have a knowledge of many details which are essential elements, but which it is impossible to explain to the world, are competent to form or express any opinion of value. In general terms, I may say that his general health is reported to be very good—that the progress of the disease appears to be slow as compared with some cases, and I may add, if it be decided by his medical advisers that partial or entire excision of the larynx should be performed, we have abundant evidence that in a certain number of cases both of these operations have prolonged life to a period when the probability of recurrence is very small. In some cases entire excision has saved life for a length of time; that gives great encouragement for hoping that the ravages of this terrible disease have been arrested. Two such happy results have been reported in this country and several abroad. Dr. Roswell Park, of Buffalo, in June, 1885, removed the entire larynx on account of the existence of this disease in a patient who was himself a medical man. In a letter, dated November 22d, he writes to me: "The doctor has a number of relatives in Buffalo, and, as I frequently see one or more of them, I am kept pretty well informed as to his condition. My latest news is so recent as last week, and to the effect that he is as well as ever."

It must be obvious that all new and important operations are followed by a progressive success in their results as the methods of operating are improved in their details and as the after-treatment necessary becomes better known.

The percentage of successful results increases in a ratio in proportion to the experience acquired by the increasing number of the operations. Indeed, I may add that it is my conviction that the progressive number of cures of this terrible curse to humanity is in a more rapid ratio than the progressive increase of the frequency of the disease.

Need I say more in the light of the past to point out what may be hoped for in the future from such a hospital as this, under the devoted zeal of the active staff, whose ability, competency, and faithfulness to their duty have already been demonstrated in other positions? Can any one have a doubt as to the probable service to humanity which will result from the careful observation and study by such competent men of details that can never be acquired except in a large hospital?

I question whether any, even the most sanguine, has more than a feeble conception of the benefit to the victims of the disease to be here treated, and to thousands of others, that will result from the opening of this hospital.

Original Communications.

THE PRESENT STATUS OF LAPARO-ELYTROTOMY,

WITH REPORT OF A SUCCESSFUL CASE.*

By W. DUNCAN McKIM, M.D.

It has often happened in the history of surgery that the merit of an operation of great value has been but slowly perceived by the profession. It has been markedly so with ovariectomy, and it is my conviction that we have another instance in the case of laparo-elytrotomy.

This operation was more or less definitely suggested by Joerg in 1800. It was first attempted by Ritgen, of Germany, in 1821, who, cutting a long incision in the vaginal wall with a sharp bistoury, occasioned such profuse hæmorrhage that he abandoned the operation and completed the delivery by the Cæsarean section with fatal effect. In 1823 Baudelocque, the "nephew," of France, read an enthusiastic paper upon laparo-elytrotomy, and, at some uncertain time later, attempted the operation, but, like his predecessor, was compelled to abandon it by reason of the vaginal hæmorrhage, which proved fatal. In 1843 he tried the operation again, and this time completed it, but the patient died from peritonitis. In 1857 Gianflome,† of Italy, performed the operation, but the child alone was saved.

When, in 1870, the long-forgotten operation was revived by Dr. T. G. Thomas, of New York, there seemed good reason for believing, despite the fatal first case, that in it would be found an effective check to the appalling mortality of the Cæsarean section. The second case, by Dr. A. J. C. Skene, of Brooklyn, in 1874, although also fatal, argued nothing against the operation's innate merit. Then came a series of triumphs: in 1875, a successful case for mother and child by Dr. Skene; in 1877, another such

case by Dr. Skene, and one by Dr. Thomas. Following upon these, inclusive of the one presently to be reported, there have been up to the present time nine other cases of the operation, making in all fourteen cases within the past seventeen years, in which, of fourteen mothers, seven have been saved and seven lost, a mortality of 50 per cent.; while of the children, nine were extracted living, the others being dead, apparently, before the operation—but in this connection the mortality of the children has no value, since, as generally recognized by those who have operated, there is nothing in the operation to endanger the life of the child. This high maternal death-rate is much lower, as it stands, than that offered by the old Cæsarean section, which for the United States has been 60 per cent.,* for Great Britain 81 per cent., and 84 per cent.† for the civilized world at large; but when the individual cases of laparo-elytrotomy are brought under view, there is seen in them a far richer promise than the mere statistics show. Still, in spite of the excellent results given since its revival by Dr. Thomas, it is plain that the operation has not been widely accepted by the profession. It has been performed but eleven times in this country, twice in England, and once in France; while in Germany, where delivery by abdominal section would seem most frequent, the operation is ignored. Charpentier,‡ in speaking of laparo-elytrotomy, says: "Notwithstanding the favorable results obtained in America, the operation has not been accepted in France, where the classic Cæsarean section is in high favor." Schroeder § wrote, in 1886: "Whether laparo-elytrotomy will continue to be a justifiable operation does not yet quite appear. However, the operation merits consideration." Zweifel,|| in his recent text-book of obstetrics, makes no mention of the operation at all.

Now, the question naturally presents itself as to why, if the operation is good, it should stand in such small favor. An answer is found, I think, in the following considerations: In our own country the opportunity for such an operation is very infrequent, there being on an average scarcely more than three cases per annum suitable for the more widely applicable Cæsarean section, and, further, we can not but be influenced to some degree by foreign indifference. Yet, be it remarked in passing, laparo-elytrotomy has been performed eleven times in the United States in seventeen years, with but four deaths, a mortality of 36.4 per cent. In England, the two fatal cases in quick succession, in spite of their seeming hopeless when undertaken, would naturally have awakened a strong doubt as to the advisability of repeating the operation. The fatal ending of the one case in France, although not to be attributed to any inherent danger of the operation, must have had a like effect. The indifference of Germany is explicable when we remember that in 1876, when as yet there had been but three laparo-elytrotomies within the new era, two of which were fatal, a

* Harris in Ashhurst's "Internat. Encycl. of Surg.," vi, 1886, p. 702.

† Zweifel, "Lehrbuch d. Geburtshilfe," 1887, S. 746.

‡ Wood's "Cyclop. of Obst. and Gynecol.," 1887, p. 245.

§ "Lehrbuch d. Geburtshilfe," 1886.

|| "Lehrbuch d. Geburtshilfe," 1887.

△ Harris, "Amer. Jour. of the Med. Sci.," lxxix, 1880, p. 56.

* Read before the New York Clinical Society, November 25, 1887.

† Parvin, "Sci. and Art of Obst.," Philadelphia, 1886, p. 669.

near neighbor—Porro, of Italy—performed successfully his modification of the Cæsarean section in a lying-in hospital where puerperal septicæmia was rampant, which success was followed in twelve days by another at the hand of Spaeth, in the Vienna General Hospital, where every Cæsarean section for the previous hundred years had terminated fatally. It was natural that the attention of German obstetricians should be centered upon the brilliant prospects offered by Porro, and that their work should then be expended along the line of improving the Cæsarean technique, rather than upon a doubtful operation heralded from across the seas. Then when, in 1878, laparo-elytrology was brought nearer home by its performance twice in England and, in 1885, once in France, the fatal termination of these three cases must have further alienated the operation from German esteem. But it must be remembered that in Germany, the operation not having been attempted, there can be no condemnation of it from personal experience.

Now, a few words as to the operations which have stood as obstacles to the acceptance of laparo-elytrology. The operation of Porro consisted essentially in the usual abdominal section, the incision of the uterus *in situ*, and the amputation of the organ above the cervix, after removal of its contents, the uterine stump then being fixed in the lower angle of the abdominal wound. The most recent statistics* which I have been able to find, for this operation and its modifications, give one hundred and sixty-four cases. Of these, in three the patients were moribund, and fourteen were cases of Veit's very fatal modification—the dropping back of the stump into the pelvis; deducting these, we have one hundred and forty-seven cases, with a maternal mortality of 56 per cent., 6 per cent. higher than that presented by laparo-elytrology. In 1878 Müller, of Berne, modified the Porro operation by turning out the uterus from the abdominal cavity before incision, thereby lessening the risk of infecting the peritonæum through entrance of uterine discharge and blood. Thirty-six cases of the Porro-Müller operation give a mortality of 47½ per cent.—nearly 3 per cent. better than that of laparo-elytrology, as shown by bare figures. In 1880 Veit, of Bonn, modified the operation still further by ligating and dropping back the uterine stump; this method gave a very high death-rate—77 per cent. Since 1882, through the efforts of Säger and Leopold principally, the technique of the Cæsarean operation has been so wonderfully improved and the mortality reduced to so marvelous a degree that there seems scarcely space for a rival; thus, seven operations in Leipsic saved seven mothers and seven children, and fifteen operations in Dresden saved fourteen mothers and fifteen children. The essential modifications which characterize the so-called Säger operation are: (1) The turning out of the uterus from the abdominal cavity before incision of the organ, a pad of antiseptic material being placed behind it to prevent entrance of fluids into the peritoneal cavity and the escape of intestine; (2) the temporary ligation of the uterus by a rubber cord, just above its vaginal junction, to control hæmorrhage; (3) the closing of the uterine wound by a large number of sutures pass-

ing only through the muscular layer, and another set of sutures bringing the marginal surfaces of peritonæum together; (4) the strictest application of antiseptic principles.

The question, now, whether laparo-elytrology is to stand in high favor or to be relegated to the oblivion from which, at least for a time, Dr. Thomas has rescued it, will mainly depend, in these times, upon its comparison with the so-called Säger operation alone, for that the Porro procedure, with its modifications, has greatly fallen from honor is shown by the consensus of opinion at a recent congress of the Deutsche Gesellschaft für Gynäkologie,* to the effect that the modified Cæsarean section, with suture of the uterus, should again hold first rank, and the Porro be reserved for exceptional cases, such as those complicated with uterine tumors, obstructed cervix, decomposing uterine contents, and the like. Let us, then, proceed to a comparison of the two operations—Säger's, or the improved Cæsarean section, and the one known as Thomas's, or laparo-elytrology.

First, with respect to statistics. The Säger operation for its first fifty cases has a mortality of 30 per cent.† while the mortality of laparo-elytrology for its fourteen cases is 50 per cent. But if we compare the fourteen laparo-elytrotomies with the first fourteen cases of Säger's operation, we find that the Säger death-rate is much larger than appears later—viz., 50 per cent.‡—precisely that of laparo-elytrology. It is fair now to allow that, as has occurred with the Säger operation, a larger range of opportunity might lower the death-rate in the case of laparo-elytrology.

A comparison of the condition of the patients in the fatal cases at the time of operation, and the cause of death, will be instructive. Considering laparo-elytrology, we find that in the first fatal case the patient was *in articulo mortis* from a pneumonia of ten days' standing; the operation was done in the interest of the child; death took place in an hour. The second patient had been in labor for forty-eight hours; version had been attempted, and the head perforated; the pulse was over 130; death occurred in seven hours from shock and exhaustion. The third patient had been twenty-four hours in labor; she had extensive cancer of the recto-vaginal septum, fatty heart, and fatty liver; she had been confined to bed by debility for the previous eleven days, and for about forty-eight hours had vomited incessantly; death occurred in two hours from shock and exhaustion. The fourth patient was a flabby, unhealthy woman, with œdematous extremities; the forceps had been tried, when suddenly a large thrombus appeared in the right labium; death took place in forty hours from exhaustion. The fifth patient had been four days in labor; the forceps, version, and craniotomy had been tried; death followed in forty-four hours from exhaustion. The sixth patient had been in labor a week, although the pains not severe until the end; the operation was done in a crowded tenement-house; the patient was intoxicated with whisky by friends

* Zweifel, *loc. cit.*, p. 753.

† "Med. News," Philadelphia, March 26, 1887, p. 345.

‡ See Harris's table, "Med. News," Philadelphia, July 17, 1886, p. 64.

* Harris, quoted in Wood's "Cyclop. of Obst. and Gyn.," 1887.

a few hours after the operation; death occurred from septicæmia in seventy hours. The seventh patient died on the fifth day from peritonitis, which was plainly shown by the autopsy to have had its origin in a tear of the peritonæum. This rent (of about one inch) was made through the peritonæum being accidentally caught by one blade of the forceps during extraction of the child. A loop of intestine prolapsed, which being replaced, the tear was closed by three catgut sutures. The dressing was antiseptic, but there was no attempt at drainage; the lochia, accordingly, must have had quite free access, by way of the vaginal incision, to the peritoneal wound. As there has been no other operation in which difficulty in dealing with the peritonæum has arisen, I think that we may regard a wound of this membrane as being hardly one of the inherent dangers of the operation, and the occurrence in this case should be regarded as an accident. Reviewing these cases again, it would seem that of the seven there was a chance of success in but two, which in the case fatal by septicæmia was very small by reason of the foul surroundings, in spite of a partial antiseptis, while in the case terminating by peritonitis the very fair chance was upset by an accident. Are we not justified, then, in erasing from the debit side of our record *all* of these deaths, or, if this is thought extreme, in allowing the septicæmic case alone to count against our operation? In commenting upon the first twelve cases of laparo-elytrotomy, Dr. Lusk * says: "In no one of the fatal cases were the conditions such as to render success a possibility." If we impute one death to the operation (one in eight cases), we have a mortality of $12\frac{1}{2}$ per cent., otherwise 0 per cent. The former percentage even is very much better than that of the first eight Säger operations, as their statistics stand, presenting a death-rate of 50 per cent., and precisely as good as the mortality in Leopold's first eight Säger cases, which likewise was $12\frac{1}{2}$ per cent. The causes of death in these laparo-elytrotomy cases were shock and exhaustion in five cases, septicæmia in one, and in one peritonitis.

If we seek the cause of death in the first seven fatal cases by the Säger method we find † septic peritonitis in 4 cases, septicæmia in 1, double pyelo-nephritis in 1, and 1 from shock and previous loss of blood. But to be equally fair in our consideration of the death-rate of the first fourteen Säger cases, we must analyze the causes of death as we have done for laparo-elytrotomy. We then find that in the first fatal case ‡ (Beumer's) the patient had a double pyelo-nephritis at the time of operation, and died in forty hours; the second patient § (Garrigues's) suffered from heart disease, had lost much blood before the operation, and died in fifty hours from shock and exhaustion; the third ¶ (Munster's) had been more than three days in labor, endometritis had already set in, and death occurred in four days from septic peritonitis, caused, apparently, by the spread of a diphtheritic endometritis, the

autopsy showing, however, a satisfactory union in the uterine and abdominal wounds; the fourth * (Jewett's) had cancer of the cervix already invading the vagina, had suffered from frequent hæmorrhages, and died in forty-five hours from septic peritonitis, thought to be due to infection by erysipelas, at that time present in the hospital; the fifth (Drysdale's) had been rendered very anæmic by frequent hæmorrhage from a uterine myoma. The uterine wound in each of these cases was found satisfactorily healed, and the fact seems clear that the deaths were not directly due to the operation. But the next two deaths seem properly attributable to it: that of Ehrendorfer's patient, † and that of Leopold's, ‡ both brought about by septic peritonitis, the former on the sixth, the latter on the fifth day. Excluding, then, from the first fourteen Säger cases the five in which death was not directly due to the operation, we have nine cases with two deaths, a mortality of $22\frac{2}{3}$ per cent., while, as already shown, the mortality of laparo-elytrotomy for the eight cases which should be considered is only $12\frac{1}{2}$ per cent. at the worst.

It is in place at this point to give a very brief description of the operation of laparo-elytrotomy, the details appearing more fully in the account of my own case. An incision is made from a point about an inch above the anterior superior spine of the right ilium to a point about an inch above and an inch and a half to the outer side of the spine of the pubes. The left side is preferred by some, in spite of the theoretical objection offered by the presence of the rectum. The tissues are severed until the peritonæum is reached, which membrane is then lifted until free access to the vagina is obtained. A slit-like opening is then made in the vaginal wall close below the cervix, and the child is extracted through the dilated external os, vaginal rent, and inguinal wound.

Now let us compare the dangers of laparo-elytrotomy and those of the Säger operation, and here the former would seem to have decidedly the advantage. A very little slip in the observance of antiseptic precautions may increase the risk in laparo-elytrotomy, but in the Cæsarean section it is almost sure to cause a fatal peritonitis. In laparo-elytrotomy the incision through the abdominal wall is unattended by danger, the raising of the peritonæum is readily accomplished, the membrane being thickened and more loosely attached than in the non-pregnant condition. The opening into the vagina has never caused but slight hæmorrhage, the incision being small and afterward enlarged by tearing. The extraction of the child has never been difficult, except in Dr. Gillette's case, where the fetus was putrid. Much has been said about the danger of wounding the ureter; but the accident has never occurred, the ureter lying well below the vaginal incision. The bladder has been slightly torn in five cases, during enlargement of the vaginal incision, and once accidentally cut by scissors; but these rents have quickly closed spontaneously, requiring but once to be sutured subsequently. Peritonitis has occurred once, but this was not a legitimate result of the operation. Septicæmia has occurred twice: in

* "Science and Art of Midwifery," 1885, p. 445.

† Harris's table, "Med. News," Philadelphia, July 17, 1886, p. 64.

‡ Archiv f. Gynäkol., 1882, xx, 409.

* Am. Jour. Obstet., 1883, xvi, 344.

¶ "Ctbl. f. Gynäkol.," 1886, vi, 82.

* N. Y. Med. Jour., 1885, xlii, 231.

† Archiv f. Gynäkol., 1885, xxxv, 128.

‡ "Ctbl. f. Gynäkol.," 1885, vi, 129.

both cases it would seem to have been due to the particularly foul surroundings at the time of the operation; but in one case only was it fatal. Shock and exhaustion should occur to but slight degree if the operation were done early. The subsequent prolonged suppuration of which some objectors speak has seldom occurred, and has certainly had no share in the causing of death, the fatal cases having all terminated within five days. Of the seven cases of recovery, in two the wound was entirely healed in about two weeks, in one case in about five weeks, in two cases in about six weeks; in my own case the discharge had become very small in about eight weeks, the patient gaining very satisfactorily in every way, despite this drain upon her vitality; with respect to one case, the time of recovery has not been noted. The fact that the peritonæum and uterus are not incised, and the absence of danger to the child, are the strong points of this operation. Considering the Säger operation, we find danger at once upon opening the peritonæum; the uterine incision presents danger from hæmorrhage and infection; the life of the child is endangered by the cutting off of its blood-supply through the temporary constriction of the cervix; the subsequent danger of peritonitis through leakage at the uterine wound is great; the danger of septicæmia is certainly as imminent as in laparo-elytrotomy, and there is a chance of secondary hæmorrhage. From these facts it would seem that laparo-elytrotomy presents fewer risks than its more highly esteemed rival.

As to the time required for the operation, laparo-elytrotomy appears more expeditious. In the cases in which the time was noted the extraction of child and placenta was accomplished, respectively, in ten, fifteen, twenty-five, and thirty-five minutes; the subsequent steps in the operation—the irrigation, introduction of the drainage-tube, and abdominal sutures—should usually be readily accomplished within half an hour. Of the Säger operation Dr. R. P. Harris says*: "It requires, on an average, one hour and a quarter to perform the operation, most of this time being expended in securing the wound against the possibility of leakage."

Other points to be considered in a proper comparison of the two operations are such as these: Through the opportunity for frequent repetition, some of the Säger operators have acquired a degree of experience in the operation denied to those who have performed laparo-elytrotomy; most of the Säger operations have been done in well-appointed hospitals, with a sufficiency of trained assistants, as, unless I am much mistaken, has not been the case with many of the laparo-elytrotomies. Then there seems to be, to some degree, a selection of the Säger cases; thus, according to Dr. Garrigues,† Leopold substitutes the Porro operation when he thinks that infection has already occurred, or when the patient is a victim of carcinoma.

We must now come to the indications for laparo-elytrotomy. The operation is much less generally applicable in its very nature than the Cæsarean section. According to Dr. R. P. Harris,‡ it would have been impracticable in fifty-

seven of the one hundred and thirty-four Cæsarean cases in the United States. It is proper in any case where the parturient canal is so narrowed or obstructed, from any cause, as to prevent delivery by the natural forces, the forceps, or version, provided that the obstruction is below the os uteri externum, it being obviously unsuited to those cases where the cervix is neither dilated nor dilatable. To this general statement there may be some exceptions. The exact relation of the operation to craniotomy is still hard to define, but when we look at the statistics of laparo-elytrotomy and the improved Cæsarean section, with a mortality from 0 to 12½ per cent., and then consider the fearful death-rate of craniotomy, from 12 to 40 * per cent. in expert hands, we can hardly escape the conclusion that, in these days, craniotomy must be but seldom justifiable. It is probable, however, that with a more careful regard for antisepsis, the death-rate of craniotomy will improve.

Let me now present the following report of a recent case of laparo-elytrotomy:

At Newport, R. I., September 18, 1887, at 3 A. M., I was called in consultation by Dr. T. A. Kenefick. The patient was a young girl of sixteen years, in labor at full term, of Irish parentage, and unmarried. She was of slight and small build. From the age of eighteen months to about her eighth year she had suffered from disease of the left hip joint, for three years wearing some form of apparatus, and having had for the greater part of this latter period discharging abscesses, the scars of which are still apparent. From the eighth year her health began to improve, but she has always seemed delicate. During gestation she suffered no special discomfort, and seemed cheerful while her pregnancy was undiscovered. At about the fifth month she was taken by her mother to Dr. Kenefick, who pronounced her pregnant, from which time she sank into a condition of gloom, occasioned by the discovery, and kept herself in close seclusion at home.

At about 2 A. M., September 17th, labor-pains began, and Dr. Kenefick now saw the patient for the second time. The membranes ruptured early in the forenoon, and the pains became strong, but the cervix dilated slowly. At 10 P. M., the head being still above the brim, puerperal convulsions set in. These were controllable only by profound etherization. Several times, the ether being discontinued, the convulsions recurred with full force, there being in all eight distinct attacks. During the first administration of ether Dr. Kenefick endeavored to apply the forceps, but for some time, through the spastic rigidity of the uterus, by which the head was firmly pressed against the pelvic brim, the application was impossible; but at about 1 A. M. the forceps was duly in position, the head being still above the brim, and traction was begun, and, with slight intermissions, continued for two hours, when I was called in consultation. Coming at 3 A. M., I also tried traction with the forceps, but, finding it impossible to bring the head within the brim, considering the small caliber of the pelvis, and version being out of the question, through the long previous escape of the waters and the tonic spasm of the uterus, I counseled craniotomy. The conjugate of the brim, as nearly as could be determined at the time and later, was somewhat less than three inches; the distance between the anterior superior spines of the ilia was eight inches, and that between the middle points of the crests of the ilia was eight inches and a half. This smallness of the pelvis was due, doubtless, to non-development by reason of the early hip disease. The child was perhaps still living, the

* "Med. News," Philadelphia, July 17, 1886, p. 63.

† "Am. Jour. of Obstet.," 1886, xix, p. 1009.

‡ In Playfair's "Sci. and Pract. of Midwif.," Amer. edit., 1885, p. 534.

* Parry, "Am. Jour. of Obstet.," v, 1872, p. 644.

fœtal heart having been heard an hour previously, and, the family being Roman Catholics, craniotomy was not to be permitted. To settle the matter to the satisfaction of the relatives, the family priest was sent for, who, in the name of the Church, refused to allow the craniotomy. On being told that the child was probably already dead, he replied that unless we could be absolutely sure of its death, the Church would still refuse to allow the operation, as otherwise sanctioning a possible murder. I then proposed laparo-elytrology, and, this meeting with the approval of Dr. Kenefick, the priest, and the family, I set about making my preparations, and at 7.15 A.M. was ready to begin the operation. At this time the patient had been in labor twenty-nine hours, had had eight distinct attacks of convulsions, had been profoundly under the influence of ether almost constantly for nine hours, and had been subjected to the forceps traction for more than two hours. She had had also, by the rectum, forty grains of chloral and about a drachm of bromide of potassium. For about nine hours the uterus had been in rigid contraction; vomiting was frequent; the axillary temperature was slightly above 100° F., the pulse 150, and scarcely perceptible. The cervix was fully dilated. An examination of the urine the previous day had shown a moderate quantity of albumin. The habitation of the patient was very foul, and the attic-room in which the operation had to be performed was very small, with a sloping ceiling, containing two dirty double beds, which so filled the room that there was scarcely space for a table to operate upon. The light was obtained from one small window. The water provided for the purposes of the operation was of very doubtful appearance, and served in a dirty pitcher.

Operation.—The patient was placed upon her back, the body and extremities were well wrapped in blankets, hot bottles were applied, several hypodermics of whisky were given, and the etherization was continued by an old Irish woman. Dr. T. A. Kenefick and Dr. William C. Rives, Jr., both of Newport, kindly acted as assistants. The instruments were placed in a 1-to-20 carbolic acid solution, and aseptic sponges in a 1-to-40 solution; the patient's skin about the seat of operation was well scrubbed with soap and water, then with a 1-to-1,000 corrosive-sublimate solution; and the pubes was shaved. The hands of the operator and assistants were likewise well washed and brushed with soap and water, and then with the 1-to-1,000 solution. Towels wet with the same solution were placed over the parts adjacent to the site of operation. The same solution was then used for irrigation of the vagina. The usual incision, parallel to Poupart's ligament on the right side, was now made. The skin, fasciæ, aponeurosis of external oblique, and the internal oblique and transversalis muscles were divided; then the transversalis fasciæ. On cutting through the skin, the underlying fascia was found very œdematous. This part of the operation caused extremely little hæmorrhage. The peritoneum was very easily separated from the transversalis and iliac fasciæ. To recognize the position of the bladder a metallic catheter was now passed into the urethra, but it was quite impossible to feel it through the inguinal wound, the head being pressed so firmly down upon the pelvic brim. For the same reason, for a few minutes, a vaginal electrode, introduced into the vagina for the purpose of causing the lateral fornix to bulge into the wound, could not be recognized. Soon, however, through strong traction upon the uterus upward and to the left by Dr. Rives, and direct upward pressure upon the child's head by myself, through the wound, the electrode became easily felt. A Paquelin's cautery was now brought into requisition, to make an opening in the vaginal wall, but, through the continual pressure of the head, the vaginal fornix lay so low in the pelvis and the light was so poor, that I deemed it more prudent to abandon the cautery. I then, with pointed scissors,

scratched a hole in the vaginal wall, the electrode supplying counter-pressure. Passing a metallic catheter, by way of the vagina, through this hole and oscillating it, I enlarged the opening sufficiently to thrust the electrode through, and then, by means of the two index fingers, the orifice was enlarged, tearing as nearly horizontally as possible and as far backward as the wound would allow. In this way a rent of about three inches was obtained, the further enlargement of which I thought it safer to leave to the emerging fœtal head. This tear in the vagina was made as high in the fornix as possible, to avoid possible injury to the ureter. The hæmorrhage caused was very slight. Through the vaginal rent the fingers were now introduced and the child's head was grasped, but a satisfactory hold could not be obtained, and it became necessary to deliver by the forceps, which was very readily accomplished, the uterus meanwhile being compressed upon the escaping child, which was born dead. The cord was pulseless and flaccid, death having occurred, it would seem, some considerable time before. The fœtal heart had been last heard about eight hours previously. Fruitless efforts at resuscitation were made. The child was not weighed, but, as nearly as we could estimate, seemed of about eight pounds. In about ten minutes the placenta was expressed by the method of Credé, following upon which there was but the usual amount of hæmorrhage. A solution of the official extract of ergot was then injected hypodermically. Meanwhile the pulse had been growing feebler and several hypodermics of whisky had been given, but almost immediately upon extraction of the child a marked improvement in the rate and force of the pulse became noticeable, and our fear that the patient would die upon the table was dissipated.

During the operation the wound was frequently irrigated with a 1-to-4,000 sublimate solution, which was now employed to wash out thoroughly the cavity of the uterus and vagina. Three rubber drainage-tubes, of about a half-inch caliber, about six inches long, and provided with the usual lateral holes, were now passed, by way of the vagina, into the inguinal wound, where they lay side by side, the upper ends projecting from the inguinal wound, the lower resting in the vagina. The external wound was closed with five deep and several superficial sutures about the drainage tubes. After final irrigation, a dressing of iodoform gauze was applied, also a pad of the same to the vulva.

The after-progress of the patient toward recovery has been extremely interesting, but time demands that merely the salient features be here given. The patient was removed to her bed, where she remained about six hours, when she was taken to the Newport Hospital. Two hours after the operation she became very restless, requiring two hypodermics of Magendie's solution, of $\text{m} \times \text{c}$ each. Slight vomiting occurred once or twice.

P. M.—Temperature 102.4° F., pulse 150. Small quantities of urine were voluntarily passed from time to time during the afternoon; but, to combat the renal congestion presumably present after so prolonged an etherization, a large linseed meal poultice was applied every three hours to the loins. In the evening the dressing was found saturated with the lochial discharge, the vulvar pad being dry. The wound was irrigated with the 1-to-4,000 sublimate solution, which passed freely through the drainage-tubes, and escaped by the vagina.

September 19th.—A. M., temperature 99.5° F., pulse 120; P. M., temperature 102.5°, pulse 138. Urine to the amount of twenty six ounces was drawn in the morning, showing that the bladder had not been torn. The lochial discharge was still entirely through the inguinal wound; a large rubber tube, with lateral holes, in the vagina did not materially relieve this condition, which has continued throughout the greater part of the subsequent convalescence. Patient feeling quite comfortable.

A dose of antipyrine, gr. x, was given in the evening, instead of acetanilide, by mistake of the druggist, causing great depression and profuse sweating.

20th.—Left parotid gland beginning to swell.

21st.—Swelling of parotid has increased; pus sought in two places by hypodermic needle without success. Abdominal wound has become offensive; stitches removed, and the outermost of the three drain-tubes, as it could not be cleared. Wound very sloughy and foul. Irrigation with three gallons of 1-to-2,000 sublimate solution, until the fluid became perfectly clear, twice daily; discharge abundant. Iodoform freely dusted into the wound. The general improvement, not only in temperature and pulse, but in the patient's feelings, is such after each irrigation that she has come to cry for it often during the day. Catheterization is now found necessary, and, the urine being foul, the bladder is washed twice daily.

22d.—Breath sweetish; eight diarrhoeal dejections and very offensive; profuse perspiration constant; occasional vomiting. Wound now most foul and gangrenous, large black shreds coming away from the wound and the vagina by irrigation, until about five gallons of sublimate water had been used.

23d.—Eleven watery dejections; still profuse perspiration; no pus yet in the parotid; restless delirium; pulse has been running at 160 for several days; temperature oscillating between 99.5° and 102° from time to time during the day; the case apparently hopeless; but the stomach still in fair condition.

24th.—A faint pink blush is appearing at the inner angle of the wound, where a black slough has been thrown off. Parotid swelling has entirely disappeared during the night; diarrhoea less. In the evening, during delirium, the patient leaped out of bed and stood for several minutes. Sweating has ceased.

25th.—The healthy blush in the wound is extending rapidly and the sloughs are disappearing. In spite of local improvement, the general condition is growing worse, as shown by increasing feebleness of pulse, greater restlessness, and more constant delirium.

26th.—The constantly increasing restlessness not being controlled by morphine, bromides, camphor, chloral, etc., which seemed decidedly to increase the depression, a cylinder of Walton's oxygen mixture was obtained (oxygen 2 parts, nitrogen 1 part), and the gas constantly inhaled, the end of the tube being gladly held in the mouth by the patient herself when conscious and by an attendant at other times. The relief from the oxygen seemed very marked; the delirium abated, the pulse grew less frequent and stronger, and the rate of respiration fell. The gas was now used as constantly as possible for about ten days, sixteen or seventeen cylinders (nominally of two hundred gallons each) having been used.

In view of the frequent discussions as to the therapeutic value of oxygen, this point in the history is of considerable interest. But time will permit my saying merely that, of the many remedies used to relieve the restlessness and strengthen the heart, none seemed at all effective except the oxygen. Repeatedly during the ten days the supply gave out for a few hours, and on every such occasion the patient grew rapidly worse, and when once deprived of the gas for about eighteen hours, she sank so low that I despaired of her recovery. The expensive character of the gas made it a matter of importance that its use should cease as soon as it became ineffective, but the beneficial effect was so apparent, not only to myself, but to Dr. Kenetick and the nurses in attendance, that the trustees of the hospital, after considerable deliberation, resolved to have it employed as long as seemed needful. Two cylinders of Gladstone's pure oxygen were used also, and apparently with equally good effect.

September 27th.—There is general improvement in every way, except now a strong tendency to bed-sores, in spite of all precautions. The nurse having left the room, the patient was found sitting up in a chair at the other side of the room; there was great temporary exhaustion as the result.

STATISTICS OF LAPARO-ELYTROTOMY.

No.	Operator.	Place.	Date.	Age	Conj. diam.	Cause.	In labor	Condition.	Result to mother.	Result to child.	Cause of maternal death.	Time of recovery.	Side.	Injury to bladder.	References.
1	T. G. Thomas.	New York.	March, 1870.	40	Norm'l	Pneumonia.	Not.	Moribund.	Died in 1 hr.	Lived 1 hr.	Pneumonia.	.....	Right	No.	"Am. Jour. Obst.," '70, iii, 131.
2	A. J. C. Skene.	Brooklyn.	Mar. 22, 1874.	24	in.	Rhachitic pelvis.	48 hrs.	Unfavorable	Died in 7 hrs.	Deaf.	Shock & exhaustion.	.....	"	"	"N. Y. Med. Jour.," '74, xx, 401.
3	A. J. C. Skene.	"	Oct. 29, 1875.	31	2 3/4 in.	"	11 hrs.	Favorable.	Recovered.	Saved.	.....	2 wks.	"	Torn.	"Am. Jour. Obst.," '76, viii, 636.
4	A. J. C. Skene.	"	June 23, 1877.	37	1 1/2 in.	Lordosis.	4 days.	Unfavorable	"	Lived 18 days.	.....	6 wks.	"	"	"Am. Jour. Obst.," '77, x, 623.
5	T. G. Thomas.	New York.	Dec. 3, 1877.	20	2 1/2 in.	Deformed pelvis.	16 hrs.	Favorable.	"	Saved.	.....	5 wks.	"	"	"Am. Jour. Obst.," '78, xi, 240.
6	T. W. Hine.	Sheffield, Eng.	July 14, 1878.	37	Norm'l	Cancer of recto-vag. sept'm.	24 hrs.	Unfavorable	Died in 2 hrs.	"	Exhaustion.	.....	Left.	No.	"Lancet," '78, ii, 656.
7	A. W. Edis.	London, Eng.	Nov. 23, 1878.	20	2 1/2 in.	Small pelvis.	17 hrs.	"	Died in 10 hrs.	"	"	.....	Right	Torn.	"Brit. Med. Jour.," '78, ii, 798.
8	W. R. Gillette.	New York.	Nov. 9, 1879.	23	1 in.	Deformed pelvis.	1 week.	"	Recovered.	Putrid.	.....	.....	"	No.	"Am. Jour. Obst.," '80, xiii, 98.
9	N. P. Dandridge.	Cincinnati.	May 17, 1883.	32	2 3/4 in.	"	4 days.	"	Died in 40 hrs.	Dead.	Exhaustion.	.....	Left.	"	"Jr. Am. Med. Assoc.," '83, i, 167.
10	C. Jewett.	Brooklyn.	Sept. 1, 1883.	40	2 1/2 in.	"	1 week.	"	Died in 70 hrs.	"	Septicæmia.	.....	Right	"	"Trans. Am. Gyn. Soc.," '85, x, 344.
11	A. J. C. Skene.	"	Oct. 4, 1884.	21	2 in.	Rhachitic pelvis.	8 hrs.	Favorable.	Recovered.	Saved.	.....	2 wks.	"	Cut by scissors.	"Annals of Surgery," '85, i, 25.
12	C. Jewett.	"	Jan. 26, 1885.	24	4 1/2 in.	Lordosis.	22 hrs.	"	"	"	.....	6 wks.	"	Torn.	"Trans. Am. Gyn. Soc.," '85, x, 344.
13	J. Pouillet.	Lyons, France.	Feb. 6, 1885.	26	2 1/2 in.	Rhachitic pelvis.	12 hrs.	"	Died on 5th day.	"	Peritonitis.	.....	Left.	No.	"Contribut. à l'étude de la laparo-elyt.," A. S. Clarke.
14	W. D. McKim.	Newport, R. I.	Sept. 18, 1887.	16	3 in.	Small pelvis.	29 hrs.	Unfavorable	Recovered.	Dead.	.....	.....	Right	"	.....

29th.—The left parotid is swelling again in the posterior inferior portion. There is a bed-sore on the left shoulder.

30th.—The parotid abscess was opened and treated antiseptically; likewise an abscess over the internal condyle of the right humerus. The early appearance of bed-sores being thought due, possibly, to iodoform—as well as the continuance of the rather peculiar delirium—the use of it was discontinued. (As bearing upon this point, see an interesting paper by Dr. R. W. Taylor.*)

October 2d.—Opened a second abscess in the parotid, in the anterior superior portion, unconnected with the earlier one, which has been freely discharging. No more tendency to bed-sores. General improvement.

4th.—A second drainage-tube removed.

12th.—Leaving Newport, I consigned the patient to the care of Dr. Kenefick, under whose prudent management she has since almost completed a very satisfactory recovery.

By way of summary, I should say that the temperature never rose higher than 102.5° F., for the first two weeks ranging between 99° and 102°, then gradually becoming normal by the fourth week; a few days later the evening temperature became 100°, and so remained for about two weeks. The pulse-rate for the first three days was about 130, for the next four about 160, during the second week 130 to 150, in the third week quite steadily at 140, then sinking to the normal, to rise afterward with the temperature rise spoken of. The discharge through the inguinal wound was very profuse for several weeks, but the greater part was doubtless lochial, which scarcely escaped at all by the vagina. The patient several times incurred serious risk of fatal syncope and prolapse of abdominal viscera, through getting out of bed and walking across the room, although tied by her arms and ankles and by a sheet passing over her abdomen and thighs. Once she was found with her head and shoulders on the floor, the feet being still securely fastened in the bed. Apart from these little episodes, which it seemed almost impossible to prevent, the nurses being overworked at the time, the nursing was most excellent.

The treatment consisted essentially in the thorough irrigation of the wound and vagina with antiseptic solutions, the uterine cavity also being washed for several days; the use of milk and lime-water, and Reed and Carrick's liquid peptonoids, large quantities of alcoholics, and tincture of chloride of iron, the almost constant inhalation of oxygen for about ten days, and, during the diarrhoea and sweating, lead acetate and aromatic sulphuric acid.

There was no sign of peritonitis at any time, and the one danger was that from septicæmia, which from the first was what I had most feared, from the filthy condition of the surroundings during the hours when vaginal examinations were being made and the forceps applied, and again during the operation. This constitutes the eighth case of the operation in which the bladder has not been injured. The patient was the youngest subject of laparo-elytrotomy by four years.

Believing that, by reason of the exhaustion, the difficulty of preserving asepsis amid such surroundings, and the scarcity of assistants, nothing could have saved the life of this girl but laparo-elytrotomy, if a case with similar con-

ditions were presented to me again, waiving craniotomy and the Cæsarean section, I should, unhesitatingly, again do a laparo-elytrotomy.

In conclusion, I would add that the object of my paper is not to decry the new Cæsarean section, but to show that laparo-elytrotomy has an equal claim to the confidence of the profession, and that where the obstruction to delivery lies below the cervix uteri it should be preferred to the former operation, for it is simpler, requiring usually less time and skill for its performance; it can be done with hope of success in a later stage of exhaustion; it would seem, on *a priori* grounds, less dangerous for mother and child, and, when the statistics are fairly weighed, it has as small, if not a smaller, mortality.

THE USES OF THE AMNION.*

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AMONG the first stages in the process of embryonic development is an arrangement by which the nutrient material contained in the ovum is inclosed in a membrane, the yolk-sac, and maintained in relation with the digestive cavity, to be absorbed by it as the growth of the embryo requires.

While the pabulum of the embryo is thus carefully guarded, on the one hand, by being inclosed in its own membrane, it is further fortified against contamination by the contrivance of a second sac, so situated that certain deleterious excretions of the embryo may be passed into it and then separated by a double wall from the store of nutriment. This second membrane is the amnion, and the inclosed fluid, consisting in part of the exhalations of the embryo, that otherwise would vitiate the nutritive materials provided for its sustenance, is known as the liquor amnii.

In the very limited references to this subject to be found in the current standard works on physiology we are told that the office of the liquor amnii is to secure for the young animal *in utero* an equable temperature, to protect it from shocks of sudden violence, and to aid in dilating the mouth of the uterus at the time of birth. All these offices undoubtedly it fulfills in the higher animals, but in the lower animals, that is, in the incipency of its development, none of these functions could have operated in bringing about its structural evolution; for, not to mention the mucoid mass surrounding the germ in the seed of the plant, that is so analogous to the amnion of animals at the period of its earliest tracings that the same name has been given to both, the typical amnion is developed in the eggs of birds, fishes, and reptiles, where it neither protects the embryo from violence, regulates its warmth, nor opens for it the mouth of the parturient uterus. One office, however, it does perform, and this one only—namely, the collection of such deleterious substances as are exhaled from the body of the embryo, and the prevention of their injurious influence on its proper

* "N. Y. Med. Jour.," Oct. 1, 1887, p. 367.

* Read before the Louisville Medico-chirurgical Society, October 7, 1887.

pabulum. It is but reasonable, then, to conclude that originally this was its only function.

In the progress of the development of animal life there sprang up from time to time many other offices to which Nature could adapt and devote it, among them those already mentioned; and to the performance of these offices Nature did adapt it, for she seems to delight in economizing her resources. In the development of life she has modified the cell to the accomplishment of a thousand purposes. In plant life the leaf has been metamorphosed into the flower, and then into the fruit. It is ever her custom, when once she has devised a useful implement, not to throw it away and create another when a new work of a slightly different kind is to be performed, but she alters it, and fits it for the new purpose. So with the waste-bag, the amnion, and its contents, the liquor amnii; numerous important tasks were to be done before animal life should reach its summit to the accomplishment of which she could adapt this structure and this material. In addition to the offices already named to which they could be devoted was most likely also the prevention of deformities by supplying a water-bed in which the young might be freely developed.

But it so happened that if during parturition the young of mammalian quadrupeds came into the world presenting their hinder parts, the stimulus of the air would incite breathing before the head could have time to escape, and a greater number would perish during birth than when the head preceded. But how was this difficulty to be obviated? Mainly by regulating the amount of liquor amnii. If thrown into water, a calf or pig, even immediately after birth, will, by using its feet just as it does in walking, lift itself to the surface and proceed to swim.

Now, the outlet of the uterus in quadruped mammalia, whether the mother is lying down in the customary way or standing up, is higher than its body. The young quadruped, therefore, by its instinctive walking movements swims head foremost upward to the outlet, and is usually born in this position. But when the highest mammal, the human being, was reached, the conditions became changed. Here the outlet of the uterus when the mother is standing is lower than the body, and to a less extent lower even when she is lying on her back. Yet it is a matter of much greater importance that the human young should be born head first than that the young quadruped should be so born. Will not Nature still find some means by which the structures that have served so long shall still serve and accomplish her purposes? Very easily she does so. A sufficiently early development of the legs, the folding of the arms of the fœtus *in utero* in such a way as to prevent them from being efficient in swimming movements, and at the same time the acquirement by the uterus of a progressively increasing conicalness of the lower segment as gestation advances, furnish the modifications required for the altered conditions. While, as we have seen, the instinctive and natural walking movements of the young quadruped carry it upward to the maternal outlet, it is equally well known by all those who have made a practice of diving in deep water that, if the arms are not used while the individual kicks out with his feet, he moves direct and head foremost to the bottom. So

the child *in utero*, not using the poorly developed arms to any practical extent, but often making much use of the legs, while swimming in the water of the amnion, with great uniformity dives downward to the outlet and is born head foremost.

During the first five or six months of pregnancy it is not material which extremity of the fœtal ovoid should first present, for, even if born alive, at this early period the child would seldom be viable. So it is not important that up to this time provision should have been made for its coming head first into the world. The womb is therefore still left spherical in shape, and the movements of the child are limited. During these months, then, as might be expected, children are born as often, or nearly as often, with one extremity presenting as the other. But thenceforth provision is more carefully made. The uterus now becomes more and more conical in its lower segment. If the fœtus, by reason of its diving movements, gets the head into this conical space, it is easily kept there; for the force which put it there still operates, and any slight movements of the arms that may be possible are not likely to displace it.

If, however, the breech should get into this segment, the extension of the legs, which is the most constant and natural movement of the fœtus, will increase the diameter of that extremity of the fœtal ovoid and lift it out. If the head is excessively large, a considerable proportion of such children as possess this peculiarity will present by the breech at birth. It is probable, furthermore, that hydrocephalous fœtuses do not exert such active swimming movements during uterine life as those that are healthy and vigorous. Likewise, if there is a great excess of the amniotic fluid, as in hydramnion, even after the child has dived and placed itself head downward, it will fall over to one side or the other as soon as it ceases to use its legs; and, labor coming on at such times, it will be liable to present by the breech.

Dead fœtuses also, having no power of motion, will have only the advantage of the conical shape of the lower segment of the uterus to enable them to retain the position assumed during life, and are almost as likely to present by one extremity as the other.

All these supposed results are not only borne out by reason, but the most carefully kept statistics go to prove that what we have shown ought to be expected does in fact take place, even if not in the way and from the causes herein indicated.

But the destiny of the amnion with its contained fluid is not yet fulfilled. The fœtus is to be expelled from the uterus. It is well known, and has been for a long time proclaimed, that the liquor amnii aids in dilating the os during parturition. But it aids also in the expulsion of the fœtus in a way that hitherto, perhaps, has not been described. If a toy balloon be fully expanded with air, its form becomes almost exactly spherical, and this is also the shape of a well-blown soap-bubble. And why? Because the sphere incloses the largest space possible for a given amount of investing membrane. Cause the balloon or the soap-bubble to take any other shape, and it will contain less; a part of its contents must escape. Now, upon this principle is based in a great measure the mechanism of ex-

pulsion. If we constrict the middle of our balloon with a strong cord, we both cause it to depart from the spherical toward the cylindrical shape, thus reducing its capacity, and also act upon the contents on either side of the constricting band with that form of mechanical power known as the wedge. In this case only the lower wedge can overcome the resistance offered, and it alone will be expelled. If, however, the contents of the balloon were solid, and especially if its walls were free from unctuous covering on the inner surface, such constriction as has been described, and such as the uterus, by reason of its circular contracting band, experiences, would not exert an expulsive force, but would only cause the contents to be retained with greater tenacity. Now, encircling the body of the uterus, Nature has placed a band of strong muscular fibers whose contraction, by constricting the cavity of the uterus and removing it from the spherical toward the cylindrical shape, acts upon its practically fluid contents at either extremity as upon a wedge. This opens the os rapidly, and, as soon as the child's head enters it sufficiently, it is forced out like the stopper from the mouth of a leather bottle upon which pressure is made. For the accomplishment of this end the muscular substance has been thinned at the fundus of the uterus as well as at the cervical position. If the muscle at the fundus were as thick as that at the middle of the uterus, very little departure from the form of the sphere could be made by contraction, and the wedge action would be lost.

Another curious and very refined principle is here brought into play. Every one who has practiced gymnastics is aware that in performing what is called chinning the bar he may, on becoming somewhat exhausted, rise part of the way to it, and then find himself unable to rise higher. Yet he may be able to hold himself suspended with bent arms, even after several pounds' weight have been attached to his body. Likewise, teamsters know that in driving a heavy load up a steep ascent, the team, exerting itself to the utmost, may come to a dead halt without the power to move an inch farther, while yet it would take much force to start the wagon backward in opposition to the power of the team. So the thin muscles at the fundus of the uterus, in ordinary contraction, are made to hold, even after they can no longer contract against the force of the circular fibers.

During ordinary pains, therefore, the uterus is diminished in its short diameter without being increased in its long diameter, but under the action of a strong pain, when there is much resistance, the thin fibers of the fundus give way before the power of the circular band and the fundus of the uterus rises in a marked degree.

Herein lies the philosophy of the existence of the circular contracting band. If the power of the muscles were equally distributed, if the muscle were everywhere of equal thickness, the holding capacity referred to could not be utilized. This may be illustrated by, say, four men attempting to slide a heavy timber upward upon skids placed under either end of it. If the men are placed two at either extremity of the beam, they might not be able to move it; but if a single man is placed at one end he might prevent it from slipping back while the three others easily advance the opposite end. This thinning of the muscular fibers at

the fundus of the uterus, with their collection into a thick band about the body, is a provision for economizing the power represented by the difference between the measure of force against which a muscle can contract and that of the additional force before which it must give way.

The fœtus having once fully opened the way, dilatation having been fully accomplished, the abdominal muscles take up the cue, and, by continuing to remove the form of the uterus still further from that of the sphere, on the same principle of the mechanical power of the wedge, complete the expulsion. The lumbar muscles also, by their contraction, curve the abdomen forward and increase the tension of its walls, thus making large contributions to the expulsive forces, receiving, doubtless for this purpose, the reflexes excited by the irritation of the cervix and lower part of the passages.

But not even yet has Nature done with and dismissed this by-product of gestation, the liquor amnii. If the fœtal ovoid be divided longitudinally into two halves, an anterior and a posterior, the posterior will, in all likelihood, be found the heavier. Since the abdomen of the mother is more or less pendulous while she is in the erect position, this heavier posterior part would naturally gravitate, and become the lower and anterior part. This would result in a great preponderance of anterior vertex presentations. It is true the mother during gestation, as at other times, must spend a considerable part of her time lying down, and while on her back the tendency referred to would not exist, but rather the contrary. But as long as the mother lay on her side the position of the fœtus would not be affected.

It may be that the position of the fœtus, with the occiput to the front, is caused in some measure by accommodative movements, which result in adapting the anterior curve of the body of the fœtus to the sacral convexity of the spine of the mother; but in lower animals, where the relative shape of the parts is the same, the *spine* of the fœtus is in relation to that of the mother.

This occipito-anterior position of the child at the time of birth is much the most favorable one for both mother and child, and the way in which it is secured is a matter worthy of careful investigation. We have already considered how the child comes to present by the head, and how the presentation with the occiput placed anteriorly is usually brought about. Now, it seldom happens that the occiput of the child is directed exactly to the front while situated high up in the uterus; for the spinal column of the mother, projecting into the cavity of the pelvis, pushes the face either to the right or to the left, and the occiput is thereby turned correspondingly to the opposite side. Since the rectum, which may be much of the time distended, lies to the left of the mesial line of the vertebral column, the face is pushed oftenest to the right side, and thus is brought about the large preponderance of left anterior positions. And here it may be noted in passing that the anterior concave caused by the forward curve of the child rarely embraces the convexity of the spine of the mother, but is directed to one or the other side.

Now, seeing that the head of the child is elongated

from before backward, and the inferior strait of the pelvis is largest in the antero-posterior diameter, it would be no matter of surprise if, in passing through the pelvis, the occiput in right and left occipito-anterior positions should turn directly to the front, for, by such a movement, the longest diameters of the fetal head and of the pelvic outlet would be put in correspondence.

But in a certain proportion of cases, at the beginning of labor the occiput lies to the back of the pelvis, and yet, as a rule, it rotates nevertheless, and, describing nearly half a circle, passes out to the front. The forces which operate to effect this rotation have long been a matter of attentive study and curious interest among obstetricians, and the question seems to me to have reached as yet no satisfactory conclusion. No apology is needed, therefore, for adding one more to the numerous attempts at explanation already made. In this attempted explanation, it is true, the amnion plays only a minor part, yet a sufficient part, it is hoped, to justify its introduction as one of the factors in rotation.

Any one who will examine a fetus at birth will find that the back part of the head presents a more even outline and a less resisting surface than the fore part. The back part has no marked prominences, but, as a rule, easy inclines. In addition to this, the occiput is apt to be covered with hair, which enables it to retain the unctuous vernix caseosa, constituting altogether an easily gliding surface. On the other hand, the face presents the angularities of the two sides of the forehead, the cheeks, nose, and chin. The surface is also free from hair, a condition which renders it easy for the vernix to be stripped off, thus greatly increasing the amount of resistance.

To render these conditions effective as an explanation of rotation, we have to assume that the posterior part of the maternal passages is the line of least resistance, and offers less obstruction to the passage of the fetal head than the anterior part. I repeat, we have to assume this, for, in so far as I am advised, it has not yet been proved nor generally admitted. However, we all know that the pubes and the short pubic curve do offer a marked resistance to the passage of the fetus. The short turn makes it difficult for the fetal head to glide over obstructions, just as the small wheel of a wagon passes over obstructions with greater difficulty than the larger one. The pubic curve here represents the smaller wheel, the sacral curve the larger one. This assumption being allowed, we come easily to our explanation. It is an established principle in physics that a force moves along the line of least resistance. Both the sinciput and the occiput of the child will seek to move along this line: both the face and occiput attempt to turn to the sacrum of the mother. But, as the face is the roughest and most resisting part, it will seek that easier path with the greater degree of force, and will thus compel the occiput to turn to the front and to travel the more difficult path beneath the pubes. Or, to put it more correctly, the most resisting part, the face, is forced away from the most resisting part of the passage, which is the pubic curve, and so it turns to and passes down the sacral portion of the canal.

In many labors this opportunity of election lasts through a considerable period of time. The head of the child during labor is pushed forward by a pain, and while it is advancing the rotating force continues in operation. In the interval after a pain the head may recede nearly as much as it had advanced during its continuance, but, as the recession takes place through a part of the canal that has not only been dilated but is maintained in dilatation by the head of the child, no corresponding counter-rotation takes place during such recession. The part of the passages from which the head recedes will contract during the withdrawal, and when the head again advances the rotating force will come again into play, and in this way the head may travel a great distance under the influence of the rotating force, while yet making comparatively little advance in the passages.

It is obvious on reflection that, if the pelvic outlet is large in proportion to the head of the child, sufficient resistance will not be offered to compel rotation; on the other hand, if the head of the child is relatively very large, or the maternal parts to be displaced in rotation are extremely rigid, less force will be required to push the face under the pubes than to rotate it, and the child will consequently be born in the occipito-posterior position.

The amnion, having already performed nearly all the duties of its office, having subserved nearly all of its uses, does no more in the movements of rotation than to enable the part of the fetus that may remain in the uterus to rotate more freely than would be possible if the water were absent and the uterus grasped the body of the fetus closely. In reference, then, both to rotation and expulsion, it is plain to be seen how important it is that the amnion should not be ruptured too early in labor—not until the head has become engaged in the cervix and imprisoned the waters in the uterus as completely as possible.

It is hardly necessary to add that the quantity of the liquor amnii is regulated by the requirements of the functions it habitually performs, and, if so regulated, any excess must be removed by absorption. It is not likely that this takes place through the skin of the fetus, but either through the cord or the tissue of the parietal amnion.

It is clear also that where there is too much or too little amniotic fluid the offspring is apt to perish at the time of birth; and thus it appears that the evolution of the amnion, with its fluid regulated as found in the history of intra-uterine animal life, presents a new and striking instance of the survival of the fittest.

A Diphtheria "Cure."—The "British and Colonial Druggist" says that "an individual residing at Munich, who styled himself the 'Diphtheria King' and who professed to cure diphtheria in children by the administration of magnetized water, was recently tried for fraud, a child having died after taking six bottles of the water. He was acquitted on the ground that, though medical men did not believe in the magnetic treatment, other persons did."

Is Cancer Contagious?—"M. Duploux, of Rochefort," says the "Lancet," "reports a case where a man, who had for a long time carefully nursed his wife, who was suffering from uterine cancer, became affected with epithelioma of the glans penis, necessitating amputation. The question arises, Is this a mere coincidence, or does it point to the possibility of cancer being transmitted by contagion?"

Correspondence.

LETTER FROM VIENNA.

The Sixth International Congress of Hygiene and Demography.
—Professor Pettenkofer on the Teaching of Hygiene in Universities and Technical Schools.—The Work of the Sections.
—Professor Virchow on the Connection of the Water-supply with the Origin and Spread of Infectious Diseases.

VIENNA, October 23, 1887.

PROFESSOR PETTENKOFER, of Munich, in an address to the general meeting, insisted on the necessity of instruction in hygiene being made compulsory in all the universities and technical schools. There were chiefly, he said, three classes of men that needed to give particular attention to hygiene: first of all, the physicians, then the architects and engineers, and finally public officials. Historical facts were cited going to show the importance of the study. In the Crimean War the proportion of French soldiers who died of wounds received at the hands of the enemy to those who died of disease was 100 to 375, but in the Franco-Prussian War, fifteen years later, the corresponding proportion in the German army was 100 to 43—a gain of 332 per cent. in immunity from death by disease. More than 70,000 German soldiers suffering with typhoid fever, and more than 30,000 with dysentery, were transported from the French frontier into Germany without any increase of the prevalence of those diseases among the civil population of the country. In the seventeenth century, when the population of London amounted only to about a million, the average mortality was 42 per mille, while now, with a population of more than four millions, the mortality was only 21 per mille. This was due to the fact that the English, who were characterized by a practical disposition in every respect, devoted a great part of their wealth to comfortable living, which was of hygienic importance and well worth imitating. "Cleanliness is next to godliness" was a well-known English proverb, and London's low rate of mortality was a proof of how the good Lord rewarded hygienic godliness. Many persons were averse to the expenditure necessary for hygienic improvements, but they were not aware of the fact that the damage caused by a high death rate and an increased prevalence of disease could be expressed in figures representing the loss of a vast amount of money. According to the speaker's calculations, the expense entailed by a single day's sickness amounted to at least 2 marks, and in a city of the size of Vienna, with a population of a million, it would amount to 42,000,000 marks annually. It might be inferred, therefore, what a saving would result from a reduction of the mortality or the morbidity of a large town even to the extent of only 1 per mille; in the case of Vienna it would amount to 1,400,000 marks annually. In Munich more than 25,000,000 marks were spent annually for beer; yet, when a few millions were asked for for purposes of drainage, water-supply, cleaning and paving the streets, etc., people sighed at the thought of such a burden. If the beer-drinking in Munich were reduced to a certain extent, even by only one fifth, a great sum of money would be saved, and no harm at all would be done; on the contrary, it would be very beneficial to the inhabitants, for, according to Bollinger's investigations, there were more deaths from diseases of the heart in Munich than in other towns in which less beer was consumed. If four glasses of beer were to be taken daily by those who now took five, the annual saving would amount to 5,000,000 marks—truly an *embarras de richesses*.

In regard to attempts to limit the spread of cholera by means of quarantine, the speaker remarked that many physicians and

public functionaries still believed that the English were responsible for the introduction of the disease from India into Europe by way of the Suez Canal, owing to their aversion to restrictions on commerce. But this did not accord with the facts that cholera visited Europe no more frequently now than before the canal was opened, and that, although many European countries had suffered from the disease since the opening of the canal, Great Britain had herself remained free from it, whereas she had suffered severely in former times. The causes of England's present immunity must be sought for in something else than quarantines and other expensive hindrances to commerce, and the measures that had been adopted in England ought to be made use of in other countries of Europe. We had once been very sure that the cause of a high mortality was largely to be found in the tombs of the dead, in the church-yards. Now, however, that the water, the air, and the soil of church-yards had been examined more closely, as well as the relative mortality in districts adjoining them, our views had quite changed. The water of wells that had been sunk in church-yards was usually found to be clearer than that of the wells in the surrounding regions where the living dwelt; and Miquel, who had examined the air of the different church-yards of Paris, had always found it free not only from pathogenetic micro-organisms, but also from other schizomycetes.

Four sections were formed for the discussion of matters pertaining to hygiene, together with one for the consideration of demography. The chief interest was taken in the session of the third section, presided over by Professor Virchow, who made some remarks introductory to the discussion of the connection of the water-supply with the origin and spread of infectious diseases. He spoke of the importance of continued investigation of the subject, and said, among other things, that, although the practitioner suggested in all cases of infectious disease the presence of a living infecting germ, and took the necessary measures of precaution, it remained, nevertheless, for us to inquire into the nature of this germ. For his part, he could imagine the progress of our knowledge of bacteriology as taking much the same course that it had taken in pharmacology. Whereas we formerly knew such an alkaloid as quinine, for example, only by the effects of the bark of the plant in which it was contained, it was now produced on a large scale in manufactories. When we succeeded in the artificial production of bacteria, we should have attained the climax of investigation in this field.

Docent Dr. Ferdinandus Hueppe, of Wiesbaden, called attention to the report that he had presented on this subject, and remarked that, while statistics gave no conclusive evidence of a connection between the water-supply and the epidemic prevalence of infectious diseases—such as typhoid fever, for instance—our present experience and general considerations indicated that such a connection was possible, and in certain cases even probable; hence it was our duty to remove the danger of infection which threatened in this shape.

The second section, under the presidency of Professor Nothnagel, first discussed the question of the medical supervision of schools, with special reference to the prevention of the spread of infectious diseases and myopia. The first reporter, Dr. Wasserfuhr, of Berlin, read his report, and summarized his remarks in the following concluding sentences: The interests of states and families require the continual participation of competent physicians in the administration of schools. This participation should be for the purpose of removing the obnoxious influences which spring from the attendance of improper persons and from faulty methods of instruction. The means to be employed are partly individual certificates, and partly periodical inspections of the schools in the presence of their managers.

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PROFESSOR VIRCHOW AND SIR MORELL MACKENZIE.

It seems to be generally admitted that the German Crown Prince is now the subject of a malignant growth in the larynx, but the important fact has been brought out that the cancerous neoplasm occupies a different situation from that of the warty outgrowth on which Sir Morell Mackenzie operated. The new affection, interesting as it is as an almost unique example of cancer of the larynx occurring in conjunction with a benign papilloma of the same organ, has, therefore, no bearing whatever upon the question of the propriety of the course of treatment followed by the English surgeon. Of course, Professor Virchow is perfectly warranted in protesting that he should be held responsible for the diagnosis only in so far as it legitimately rested on his examination of the specimens actually submitted to him. This protest is the kernel of a statement that he recently felt called upon to make at a meeting of the Berlin Medical Society, of which he is the president. But on that occasion he added, according to the "British Medical Journal's" Berlin correspondent: "Now came the beginning of the period when English papers, under Dr. Mackenzie's influence, repeatedly told us that he made me entirely responsible for the judgment. In spite of my impatience, I kept silent, since I was not aware that I had given Dr. Mackenzie any pretext for extending my diagnosis beyond its legitimate sphere. I had never spoken to him, nor corresponded with him; neither had he, in the least degree, asked for my opinion." In regard to this point, the "British Medical Journal" says editorially: "As to the attempts which, according to Professor Virchow, have been made to thrust the entire responsibility for the present unhappy state of things on him, we can only say that no such insinuation has to our knowledge found expression in the English medical press." According to the same journal's Vienna correspondent, Professor Schnitzler, the well-known Vienna laryngologist, lately concluded a clinical lecture with remarks which the correspondent thus summarizes: "But, when the neoplasm was definitely proved to be malignant in character, what course must be adopted? Total extirpation of the larynx had so far not proved a very successful operation, and, even in cases where the disease was undoubtedly malignant, it should only be recommended with the greatest hesitation. Sir Morell Mackenzie had therefore, as it seemed to him, been fully justified in the course he had pursued throughout the case. After the growth had been declared by Virchow to be of a benign character, what physician would have been justified in recommending such an operation as extirpation of the larynx?"

That such a declaration had been made by Professor Vir-

chow every reader of his article on "Pachydermia Laryngis" is fully aware. The fact that there had been no conference, personally or by correspondence, between him and Sir Morell Mackenzie seems to us of little consequence. There can be no doubt that Virchow perfectly understood why the specimens were submitted to him, or that he recognized that any report he might make on them, whether to Mackenzie or to the profession at large, could legitimately be used by the English surgeon as a guide in the prognosis and treatment of the case. Neither the value of histological examinations in the diagnosis of the nature of neoplasms nor Virchow's inferences from such examinations made by himself in this instance have been at all discredited. The subsequent occurrence of a malignant growth in a part of the larynx different from that in which the innocent growth operated upon was situated proves nothing—does not even raise a suspicion—against either the judiciousness of Sir Morell Mackenzie's course or the correctness of Professor Virchow's diagnosis; it simply shows that pachydermia laryngis confers no immunity from laryngeal cancer.

DISORDERS OF GASTRIC SECRETION.

It is a common delusion that an excess of gastric juice is often the cause of dyspeptic symptoms. A consideration of the physiology of digestion, and of the measures usually employed for the relief of disorders of that function, points rather to the conclusion that the secretion of gastric juice is far oftener too scanty than too profuse. That the latter condition may, however, occasionally occur has, during the past few years, been definitely established by several reliable observers. In the "Gazette médicale de Paris" may be found a *résumé* of papers by Reichmann and Riegel relating to this subject. Five years ago the former writer published an example of excessive secretion of gastric juice. Since that time other similar cases have been reported.

During the present year Reichmann has undertaken to give a systematic description of the affection, so that cases of this kind may be distinguished from other less clearly defined varieties of dyspepsia. In some of the cases which he has seen the disorder of secretion was periodical or intermittent; in others it was continuous. The former class included the cases of two hysterical girls, an hysterical young man, a tabetic with gastric crises, and two men who, in the intervals between the paroxysms, were in good health. It therefore appears that this disorder should sometimes be regarded as a symptom of an affection of the nervous centers, and sometimes as an idiopathic functional trouble of the stomach. The attacks usually come on in the morning before breakfast. The symptoms are vomiting, which is never wanting, which may come on before food has been taken or after eating, and which is repeated during the day; pyrosis and excessive thirst, which are always present; and a burning sensation in the stomach with headache, which are usual but not constant manifestations. The matter vomited presents the chemical and physiological characters of the gastric juice. The cessation of vomiting marks the end of

the attack, which usually lasts twenty-four hours, but may persist for several days.

The cases in which the excessive secretion was continuous were sixteen in number, although in six of them the continuity of the secretion was not clearly established. Reichmann maintains that this form of the disorder depends upon an increased excitability of the stomach. When this exists, in some cases the secretion is excited by the presence in the empty stomach of bile, which has flowed back from the intestine in consequence of insufficient closure of the pylorus; in other cases by the too prolonged presence of the food in the stomach. The latter condition may depend upon two different causes. On account of a persistent acidity of the contents of the stomach, the amylolytic action of the saliva is prevented, and the unchanged starch accumulates in the stomach. At the same time the albuminoid elements of the food are digested in the stomach and accumulate there. This is shown by an examination of the contents of the stomach after their removal by a stomach-pump. Chemical analysis of the liquid thus obtained discloses the presence of hydrochloric acid and an abundance of peptones. If the liquid is allowed to stand for a time, it separates into two layers, one composed of starch, the other of peptones. At other times the too prolonged stay of the food in the stomach may depend either upon an exhaustion of the contractility of the muscular coat, or upon a reflex contraction of the pylorus maintained by the irritation of the mucous membrane by the acid contents of the stomach. In either case dilatation of the stomach follows sooner or later. Simple ulcer of the stomach is of frequent occurrence in persons affected with excessive secretion and undue acidity of the gastric juice. After the trouble has persisted for a long time it causes anæmia and marked emaciation. The diagnosis is easy when the characteristic symptoms—exaggeration of thirst and appetite, pyrosis, pain in the region of the stomach, regurgitation, and vomiting—are present. When these are absent an analysis of the contents of the stomach must be made in order to establish the diagnosis.

The treatment recommended by Reichmann consists in washing out the stomach with alkaline or chlor-alkaline solutions, and with solutions of nitrate of silver (from one to two per cent.); the drinking of alkaline and chlor-alkaline mineral waters; the administration internally of nitrate of silver (half a grain to a grain and a half dissolved in ten drops of water and inclosed in a capsule of gelatin); the use of nitrogenized food, milk, eggs, white meats, and porridges of oatmeal and milk; and a small allowance of liquids.

Riegel agrees with Reichmann in most particulars. He, however, believes that excessive secretion is not the cause, but a consequence, of dilatation of the stomach. Reichmann, on the other hand, has been able to convince himself of the existence of simple atony at the beginning of the affection. Riegel insists that the continuous secretion is frequently associated with cachectic conditions, such as anæmia, emaciation, or exhaustion. This circumstance might lead one to suspect the existence of cancer of the stomach. A careful examination of

the patient and of the contents of his stomach would lead to the correction of this error. Riegel also maintains that gastrorrhagia frequently precedes the affection or occurs during its course, and is a proof that ulceration of the stomach also exists. He has previously pointed out the frequency of excessive acidity of the contents of the stomach in cases of simple ulcer. This fact suggests the interesting conclusion that between undue acidity of the stomach and continuous secretion of gastric juice there is only a difference of degree, and that both predispose to the occurrence of gastric ulcer.

OUR LADY OF SORROWS.

WITH so many vocations already open to her, and the fair prospect that others may be had for the asking in the future, lovely woman ought to wear a countenance as smiling as a May morning. And yet the faculty of leaving the family circle and doing the world's work away from the chimney-corner is too frequently accompanied by the fatal gift of gloom, and a tendency toward general dejection. Life is a serious business for many earnest, intelligent women, who seem freighted with a sad experience and overcome with the burden of existence. To change "Patience" to suit the occasion: "Oh, but they're doleful, doleful, doleful, doleful!" Each is in a sense Our Lady of Sorrows. George Eliot's heroines are all of this type—Dorothea, Dinah Morris, Maggie, and Romola, the grand and statuesque. There is not a ray of jollity in one of them. They miss the sunny side of everything.

Sometimes medical women fail in the same way. Some are sad of visage, melancholy in manner, and dejected in the matter of garments. All their lines are angles, of the kind that droop. To them "life is real, life is earnest," and the grave evidently its goal. This is an unfortunate state of affairs, especially for women belonging to a profession that is the "flower of our civilization," and one that requires cheerfulness and courage unlimited. In any other career a disregard of appearances and indifference to grace in speech and manner may perhaps be forgiven, but not in medicine. The physician is at once high priest, law-giver, guide, philosopher, and friend; and, when truly excellent, represents the highest type of man or woman. Any neglect of the fitness of things is a disgrace. Every man is a debtor to his profession, according to Bacon; and this is equally true of every woman. If the king's daughter is all glorious within, why should she look like a fright on the outside? The cultivation of boorishness is not an evidence of intellect, rather the reverse. Genius is full of hope and cheerful courage.

The feminine sex is lacking in the sense of humor to a great extent. Women are not so jolly as men. Like Constance Plantagenet, they are capable of fears, full of fears, subject to fears, and naturally born to fears. This tinges life with sadness. Another reason why women as a class fail to do as well as they might is that they understand so vaguely their proper place in nature. To speak in terms of rough generalization, men are beasts of burden whose fate and pleasure it is to struggle and

conquer difficulties. Women are the artists of this world, who preside over grace and beauty and the pleasures of life. Each must win in his or her own way, according to the lines of nature, men as men and women as women. Real success is not possible otherwise.

Good advice to aspiring medical women might read thus: "Seek ye first to excel in all feminine grace and virtue; and then (provided your vocation is well chosen) medical excellence shall be added unto you." A woman who is large-hearted, intelligent, and refined, of good presence and manner, who is earnest, cheerful, and courageous, as well as pleasant to look upon, is the *chef-d'œuvre* of nature. Her influence for good is beyond calculation. She stands at the point of power, and has only to choose whether her audience shall consist of one or a hundred. How are we beholden to each bright, unquenchable, indomitable spirit of this kind! Women should consider it a duty to cultivate wit and humor, and to look persistently on the sunny, jolly side of life. It would lighten the world up wonderfully. Then will Our Lady of Sorrows gradually disappear, and become a shade of the past instead of the anachronism she now is. Between her and Notre Dame de Bon Secours there exists the same difference as between the sisters of legendary fame; when the first spoke, snakes and toads dropped from her mouth, while from the lips of the other fell pearls and diamonds. Farewell, dark lady of dejected draperies! You have outlived your usefulness, so pray go and be a shade. And as for other women, why, they will lend their minds to mirth and merriment, which bar a thousand harms and lighten life. At least, this is what one of them—who furnished the thoughts here expressed—has declared to us.

MINOR PARAGRAPHS.

PARTIAL AMPUTATIONS OF THE FOOT.

MR. C. W. CATHCART lately called the attention of the Medico-chirurgical Society of Edinburgh to a comparison of the utility of the stump after Chopart's or Lisfranc's amputation with that of the stump left after Syme's amputation. According to the "British Medical Journal's" account, he had found that no satisfactory conclusions could be founded on the opinions of makers of artificial limbs, and he had therefore studied the subject from a physiological point of view, bearing the Webers' and Marcy's researches especially in mind. He had concluded that the preservation of the tibio-tarsal joint, as in Chopart's operation, and that of the medio-tarsal, as in Lisfranc's, more than outweighed any disadvantages on the score of neatness; and that it was necessary to fall back on the dictum of the older surgeons, that in amputations for injuries as much tissue should be saved as was consistent with the vitality of the stump.

CEDEMA NEONATORUM AND PHLEGMASIA DOLENS.

At a recent meeting of the French *Académie de médecine*, according to the "Union médicale," Professor Léon Dumas, of Montpellier, maintained that these affections were identical in their pathology. The treatment for phlegmasia dolens should, he said, be employed in cases of œdema of the new-born, and he insisted upon the use of warmth by means of Tarnier's *couveruse* and measures looking to the due establishment of respi-

ration. The manipulations advised by authors should be absolutely avoided, for fear of dislodging a clot and giving rise to embolism.

PUERPERAL NEURITIS.

In the "Centralblatt für klinische Medizin," Dr. G. Sticker, of Cologne, summarizes an article on this subject, by P. J. Möbius, published in the "Münchener medicinische Wochenschrift." Having previously advanced the proposition that, in toxic paralyzes, different poisons show an affinity for different parts of the nervous system, the author speaks of certain local paralyzes following puerperal diseases, especially one involving both the sensory and the motor fibers of the median or the ulnar nerve, or both, occasionally bilateral, but more commonly affecting the right side alone. The disease begins during the lying-in period or shortly thereafter; it either develops suddenly or is preceded by premonitory symptoms, especially tearing pains, and it is of variable duration. Recovery almost always takes place sooner or later, but in the worst cases some marks of the affection remain. The preceding puerperal disease may be slight or severe. In one case the paralysis was observed in several of the scapular muscles, and in another case, of trifling severity, in the brachial plexus. The author thinks that post-puerperal paralyzes limited to the lower limbs are always the direct results of inflammation of the pelvic cellular tissue, and that puerperal myelitis bears about the same relation to the affection here described that encephalopathia saturnina bears to ordinary lead paralysis.

A RARE FORM OF ENLARGEMENT OF THE TESTICLE.

At a recent meeting of the Paris *Société de chirurgie*, a report of which we find in the "Union médicale," M. Le Dentu spoke of cases of elephantiasis of the scrotum preceded by enlargement of the testicles, and of other cases of testicular affections of an allied nature without implication of the scrotum. In view of the frequency of malarial orchitis in hot countries—which he regarded as a lymphangitis—it had occurred to him that these cases of enlargement of the testicles might be of malarial origin, the process being the result of repeated attacks of lymphangitis. A practical point which he emphasized was the great efficiency of scarifications in the treatment, but he added the caution that they should not be numerous enough or often enough repeated to weaken the patient.

THE MEDICAL CORPS OF THE NAVY.

We are glad to observe that the attention of Congress is likely to be called before long to the necessity of increasing the attractiveness of the naval service for medical men. As matters are now, either the vacancies must go on increasing in number or the standard of requirements must be lowered to let in an inferior class of men. Whichever of these results ensues, the navy must suffer in consequence.

AGAIN THE CIGARETTE.

The latest yarn concerning "the deadly cigarette" that has come to our notice is that which attributes the death of a boy who jumped out of a window to shock "accelerated by excessive cigarette-smoking." This is almost as convincing a case as that of the cigarette-smoker who was assured by an aurist that his deafness was due to the use of cigarettes, but calmly retorted that he had been deaf for ten years before he ever smoked a cigarette.

ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending December 6, 1887:

DISEASES.	Week ending Nov. 29.		Week ending Dec. 6.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever.....	18	7	14	5
Scarlet fever.....	100	12	127	17
Cerebro-spinal meningitis....	4	3	1	1
Measles.....	46	8	33	2
Diphtheria.....	184	58	193	50
Small-pox.....	0	1	1	0

An Honor to an American Physician.—The Sultan of Turkey has conferred on Dr. Morris H. Henry, of New York, the decoration of Commander of the Order of the Medigie. It is stated that it was conferred for distinguished services to medical and surgical science, especially for improvements in the methods of treating varicocele, phimosis, and kindred affections.

New Forms of Board of Health Certificates.—At a recent meeting of the city Board of Health it was resolved that, "on and after January 1, 1888, no certificates of births, deaths, or marriages will be accepted and filed in this office unless they are made out upon the new blanks, which have been prepared with special reference to binding, and have a margin reserved for that purpose." These blanks can be procured at No. 301 Mott Street, room 38, or will be sent to any address on application.

The Medical School of Paris.—The "Union médicale" states that the *École pratique* was lately damaged to the extent of about \$20,000 by a fire which broke out in one of the laboratories.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from November 27 to December 3, 1887:*

So much of S. O. 235, A. G. O., October 8, 1887, as relieves CHARLES T. ALEXANDER, Lieutenant-Colonel and Surgeon, from duty at St. Louis, Missouri, and directs him to report for duty at Fort Meade, Dakota, is amended so as to take effect January 1, 1888. S. O. 274, A. G. O., November 25, 1887.

BIRMINGHAM, H. P., Captain and Assistant Surgeon. The leave of absence granted by orders No. 52, Fort Myer, Virginia, November 24th, is extended twenty-three days. S. O. 255, Division of the Atlantic, November 28, 1887.

Marine-Hospital Service.—*Official List of Changes of Stations and Duties of Medical Officers of the United States Marine-Hospital Service for the three weeks ending December 5, 1887:*

WYMAN, WALTER, Surgeon. Granted leave of absence for thirty days. November 29, 1887.

WILLIAMS, L. L., Assistant Surgeon. Granted leave of absence for twenty-one days. November 18, 1887.

KINYOUN, J. J., Assistant Surgeon. Leave of absence extended seven days. November 29, 1887.

WOODWARD, R. M., Assistant Surgeon. Granted leave of absence for seventeen days. December 5, 1887.

Society Meetings for the Coming Week:

MONDAY, December 12th: New York Academy of Medicine (Section in Surgery); New York Ophthalmological Society (private); New York Medico-historical Society (private); Lenox Medical and Surgical Society (private); New York Academy of Sciences (Section in Chemistry and Technology);

Boston Society for Medical Improvement; Gynecological Society of Boston; Burlington, Vt., Medical and Surgical Club; Norwalk, Conn., Medical Society (private).

TUESDAY, December 13th: New York Medical Union (private); Medical Societies of the Counties of Chemung (quarterly—Elmira), Oswego (semi-annual—Oswego), Rensselaer, and Ulster (quarterly), N. Y.; Newark, N. J., and Trenton (private), N. J., Medical Associations; Morris, N. J., County Medical Society (semi-annual).

WEDNESDAY, December 14th: New York Surgical Society; New York Pathological Society; American Microscopical Society of the City of New York; Medico-legal Society; Medical Societies of the Counties of Albany, Cayuga (semi-annual), Cortland (semi-annual), and Montgomery (quarterly), N. Y.; Pittsfield, Mass., Medical Association (private); Philadelphia County Medical Society (conversational); Strafford, N. H., District Medical Society (annual—Dover).

THURSDAY, December 15th: New York Academy of Medicine; New Bedford, Mass., Society for Medical Improvement (private); Addison, Vt., County Medical Society (annual).

FRIDAY, December 16th: Chicago Gynecological Society.

SATURDAY, December 17th: Clinical Society of the New York Post-graduate Medical School and Hospital.

Letters to the Editor.

SALOL IN TYPHOID FEVER.

DAYTON, KY., December 1, 1887.

To the Editor of the New York Medical Journal:

SIR: In all the cases of typhoid fever I attended this fall, in addition to the usual treatment, I prescribed the new synthetical compound, salol (salicylate of phenol), from the very commencement, and continued it to convalescence, in doses of three grains every three hours, with the happiest results so far. It seems to have a powerful action upon the leucomaines formed during the progress of the disease, evidently destroying to a certain extent their toxic action on the nervous centers (if I am to judge by results). It is eliminated by the kidneys, and increases the flow of urine. I may also state that in none of my patients was the stomach disturbed by the small doses given.

JAMES BARNSFATHER.

THE LOCAL TREATMENT OF DIPHTHERIA.

LIVONIA, N. Y., November 24, 1887.

To the Editor of the New York Medical Journal:

SIR: The paper by Dr. Porter, on "The Importance of Local Treatment in Diphtheria," published in the Journal for November 19th, leads me to make a suggestion in the line of the thought expressed. The late Dr. Rochester suggested to me the employment of sulphate of quinine by insullation in diphtheria, a powder of about two grains being blown into the throat every two hours. This I have found to disintegrate the local poison, hasten the removal of the membrane, and sustain the strength of the patient. The only objection to the employment of the quinine is the disagreeable bitterness. In addition to the quinine, I would suggest the insullation of pepsin every half-hour. I have recently treated a case of membranous croup with half hourly insullations of Janssen's pepsin rubbed up with about one fourth part of sugar of milk. I also gave a tablet containing one twentieth of a grain of eucal once in two hours. In less than forty-eight hours all the membrane in

the pharynx was gone, and the dyspnoea gradually lessened from that time until the patient was fully recovered. The treatment was pursued during five or six days, although a little hoarseness continued for some time longer. I mention this not only on account of the remarkable result, it being the only case of membranous croup in which I have ever seen the patient recover with any treatment, but also on account of the possible bearing on the treatment of diphtheria, and especially when there is a tendency to involvement of the larynx.

I would say that the diagnosis in the case of membranous croup was concurred in by Dr. Sheldon, then of this place, and Dr. Bennett, of Lima, N. Y.

CHARLES H. RICHMOND.

Proceedings of Societies.

NEW YORK CLINICAL SOCIETY.

Meeting of November 25, 1887.

The President, Dr. ROBERT ABBE, in the Chair.

Persistent Consolidation after Pneumonia.—Dr. G. M. TUTTLE made a further communication regarding a case that he had reported at a former meeting. After complete solidification of the entire lung had lasted for four months, the tissue began to break down. There was no single abscess cavity, but general destruction and suppuration had taken place. The patient's general condition was now very low, but thus far the process was confined to the lung at first affected.

Laparo-elytrotomy was the subject of a paper read by Dr. W. D. McKIM (see page 651).

Dr. L. EMMETT HOLT had been gratified to learn of the favorable operation of oxygen in the case reported by the author. He thought it was superior to all other stimulants in low conditions of the system, and he felt sure that he had, during the summer, saved several children's lives with it, using pure oxygen, and keeping the inhalations up for fifteen minutes in every hour.

Dr. R. J. HALL spoke of the great interest of the case, and of the many points it offered for discussion. He did not agree with the author that laparo-elytrotomy was the operation of the future. Some of the objections to it were that it had to be done after labor had begun, as dilatation of the os was essential, which added greatly to its inherent dangers, and that it was very difficult of performance. He objected to the manner in which the statistics given in the paper had been compiled, for he believed that the results obtained by operators known to be equally skillful were alone worthy of comparison, and that statistics from which bad results had been weeded out for any reason were unreliable. He would prefer the Porro-Müller operation or Säger's, the statistics of which were encouraging.

Dr. TUTTLE agreed with the last speaker as to the objections to laparo-elytrotomy, and advanced the additional one that it endangered the child's life, as it was an *accouchement forcé*. Personally he was in favor of Säger's operation. It was simple and easily performed, and the mortality was only twelve per cent.

Dr. McKIM replied that the Porro-Müller operation had been practically abandoned by the Germans, being now done only in exceptional cases, such as those in which there was gangrene of the uterus or a tumor.

The PRESIDENT called attention to the feature of parotid sup-

uration in Dr. McKIM's case. The frequency of this occurrence after abdominal operations had recently been spoken of by Mr. Stephen Paget. If it was due to infection, it was singular that only the tissue of the parotid gland was attacked.

PHILADELPHIA COUNTY MEDICAL SOCIETY.

Meeting of November 9, 1887.

The President, Dr. J. SOLIS-COHEN, in the Chair.

Foreign Bodies in the Urethra and Bladder.—Dr. DE FOREST WILLARD read the following paper:

My object in bringing before you the subject of urethral and vesical foreign bodies is simply to emphasize the value of the evacuator (ordinarily used in rapid lithotripsy to extract the calculous fragments) for removing other more or less solid substances that have found their way into the urinary tract, either by accident or by design. Foreign bodies enter by various routes. Projectiles may reach the viscus and remain in its cavity; bones may be driven in by crushing forces; foetal remains may ulcerate through from extra-uterine cavities; intestinal contents may occasionally make their way into the bladder, but all these are either rare or are accompanied by such traumatism that death frequently ensues. The bodies that we will especially consider are those introduced through the meatus urinarius, urinary calculi being only incidentally considered. The strong tendency to manipulation of this part of the body that exists from early childhood to decrepit old age leads to many instances of misadventure. Think of a lad actually sliding a watch-chain down his urethra! Examples of inserted beads, pebbles, sticks, etc., are numerous in childhood. After puberty the tendency becomes more marked as the sexual desire increases. A few years later we find the morbid recluse, especially among the shepherds and monks of former centuries, resorting to intra-urethral stimulation with sticks or other hard substances to arouse the over-exhausted functions, waning from excessive masturbation or venery. As he yielded to his vile erotic feelings, the instrument often slipped from his fingers and was lost in the canal. Sexually insane must have been the shepherd who used his pocket-knife for this purpose, after manual friction and urethral stimulation had proved unsatisfactory, until little by little, through hundreds of these indecent acts, he had laid open the entire penis along its dorsal aspect until the pubes was reached, and the penis hung in two halves, united only by the lower wall of the urethra. Then with a short stick he was able to tickle the very orifices of the ejaculatory ducts. This stick, having slipped into his bladder, became incrustated, and it was not until the pain became torturing that he confessed the cause. Pipe-stems, pencils, thermometer-tubes, glass rods, straws, needles, wires, twigs, hair-pins, fruit-stones, and even forks and lockets, have all been found in the urethra, after introduction for stimulative purposes, or to relieve dysuria from stricture or other causes. In one instance* a man introduced the sewing needle of the girl whom "he desired to fall in love with him." At the present time we have fewer of these lecherous accidents, save in drunken debauchees, but the majority of instances occur from the use of old or improper catheters or bougies. Of course, these accidents are more frequently found in men than in women, as the former are more subject to urethral disease, and are also more erotic, but there are instances in both sexes. In children, small round bodies, such as beads, etc., are found in the anterior part of the canal, while the longer instruments at all ages slip back to the membranous portion of the tube, or into the bladder.

* Poulet, "Foreign Bodies in Surgery."

Usually a long foreign body will find its way into the bladder in a few hours; rarely two or more days may be required. In exceptional rare cases, rounded bodies remain a long time in the urethra, the urine following a tortuous course around them, and, as they become incrustated, a pocket ultimately forms, or suppuration ensues. It is not strange that catheters and similar instruments are broken off in the canal when we learn of the recklessness of a man who used one gum catheter for twenty years, or of another who attached two portions of a silver tube simply with sealing-wax. Too short an instrument has often eluded the grasp of the surgeon and slipped bladderward. As to this recedence of instruments, which is strong and actual, there have been many theories. It does not seem strange to me that the compressor muscular fibers of the urethra, when stimulated to action by a body applied in front, should reverse their usual action as easily as the muscles of the pharynx, cesophagus, intestines, etc. This act of swallowing a hard substance is aided by the erection of the penis, which in its subsidence (should the anterior end of the object become engaged), drives it farther and farther back with each successive engorgement. Tending to this same unfortunate end are all the manipulations of the part in the patient's endeavor to extract the offending body. Unfortunately for the safe extraction of these bodies, the surgeon has to meet with a large amount of deception upon the part of the patient, when the object has been self-introduced, and it is often impossible to obtain any reliable information either as to the presence of the foreign mass or as to its conformation. In broken bougies the surgeon should, if possible, have the other remaining fragment in his hand for measurement, or else secure one of similar size. Any object of peculiar shape should be accurately described, or duplicated. It must be remembered that, while a patient may confess to the introduction of but one body, there may be several. The position in the canal must be thoroughly fixed. In the ante-scrotal region this is easily accomplished, and with the aid of a sound and a finger introduced into the rectum even the posterior urethra can be well examined, provided inflammation is not too severe. When possible, no manipulations should be attempted for extraction without the body being firmly secured from further recedence. Ether is of the greatest value, but cocaine injections may answer for urethral work.

TREATMENT.—About one tenth of inserted foreign bodies will be spontaneously expelled, but when the *vis a tergo* of the urine fails to wash out either a calculus or an object inserted through the meatus, the safest and surest plan is to attach to an ordinary litholapaxy evacuator (Bigelow's or other improved pattern) a large, straight tube, which is open at both ends. It contains a movable stylet for ease of introduction. The size should be the largest that the urethra will possibly admit (after nicking the meatus, if necessary), say French, No. 29 or 30; American, No. 19; English, No. 16, for adults; children in proportion. The possibility of the passage of the body through the tube should be determined, if possible, by actual trial, provided a similar piece can be obtained. Rarely will any bougie larger than the above-named size be found in the bladder or urethra. The method has been so satisfactory in my hands, as is proved by the collection of objects before you, that I always resort to it with confidence, to the exclusion of all other primary devices. If lodgment has occurred in the urethra, the canal must be firmly closed by finger pressure behind the object, while the metallic tube is slid down and carefully caused to engage the catheter or other mass within its caliber, when the bulb of the instrument is slowly compressed until the water has distended the urethra to its fullest limit, thus liberating the body, when suction is suddenly applied while the penis is stretched forward. Unless the mass is firmly caught and im-

bedded in a pocket, this manœuvre rarely fails after a few trials. The quantity of water that can be contained in the urethra is so small that the body may require two or three efforts to withdraw it the whole length of the instrument. The water should be injected very slowly, but the suction current must be made forcibly. Inspection of the rubber tube can be made through the upper opening without detachment of the catheter. Avoid employing forceps until unsuccessful with the above-described method, but, when necessary to be used, the superiority of the cannula again asserts itself. The forceps can be manipulated through its caliber, and, if the object is compressible enough to pass the bore, withdrawal can be accomplished without the slightest injury to the mucous membrane. Objects of larger size than this tube can seldom be withdrawn with safety by any method save cutting. Hair-pins can be compressed through the walls of the urethra, and their points passed into the caliber, when they can be completely pushed within the bore and easily withdrawn. Beads, peas, pebbles, etc., will easily enter the cannula by suction. Catheters, wires, etc., will usually require the assistance of forceps. Barbed heads of grain can also be ensheathed and withdrawn by this device.

If the object has passed into the bladder, the evacuator becomes an even more essential aid. A straight instrument is not always easy of introduction, but the security gained against subsequent urethral injury abundantly repays for the trouble. If a flexible or spirally cut obturator is used, the introduction is rendered much easier. The tube is used first as a sound to discover the offending body, when the bulb of the evacuator is first slowly compressed, so as not to disturb the fragment. Suction should always be made quickly, so as to draw the body with force. Failing, the water is next ejected with more energy, so as to move the fragment into better line with the caliber, suction being again rapidly applied. The hard substances will not be driven against the sides of the bladder with any more power than calculous fragments are, and, unless consisting of broken glass, will not be so angular. If the body is rounded, and of a size that can pass the bore, it will in a few moments be found in the bulb. If very long, like a catheter, or pencil, or wire, the chances are not so good that it can be brought into line with the caliber of the tube. As a bougie ordinarily breaks at or near the eye, however, its passage is more than probable. Failing, after ten minutes of gentle trial, a lithotrite should be introduced if the body is a bougie or pencil, and is capable of being cut or pinched in two, and the division made. A cutting lithotrite, like Caudemont's, is manufactured, but I presume is seldom found among the paraphernalia of surgeons, and the fenestrated instrument of Thompson is far safer. If the bougie is old and brittle, as is presumptively the case, such division with a lithotrite is easily accomplished. The segments can then be sucked out, and their total length carefully compared with the remaining portion or lost body. Every particle must be secured, lest it form the nucleus of a future calculus. Even the broken jaw of a lithotrite might be drawn into the bore. If the surgeon has not the straight tube with open end, which I advise, he may use the ordinary straight evacuating tube. Rounded bodies, and pieces of bougie small enough and flexible enough to enter the side opening, can often be secured with ease, but long or rigid pieces can only be drawn through the open-ended tube. This tube has the disadvantage that the point must be kept just inside the neck of the bladder. If pushed too far, the posterior bladder-wall flaps against it; if withdrawn too much, it is concealed in the prostatic portion, and makes no suction upon the vesical contents. Its safety from impaction of fragments in the eye, however, more than counterbalances this slight trouble: since, in the ordinary

evacuating tube, a large fragment often can not be dislodged from the eye, and lacerates the urethra during withdrawal.

Should these manipulations fail (and if they have been carefully conducted no injury need have been done to the bladder), I show you now two forms of forceps which I have had made of just sufficient length to be slightly protruded from the end of the tube. In the one the jaws open by a spring, as in the old Halles's forceps, and in the other the jaws are worked by handles, as in the Mathieu and Gross and "alligator" patterns. Careful attempts can now be made to seize the body and extract it through the catheter. If it is small enough to be brought through, it is a great satisfaction to know that no possible injury can be done to either the neck of the bladder or the urethra, as is so likely to occur when a body is extracted in the jaws of a lithotrite. Necessarily only a small proportion of introduced objects can be removed *per urethram*, and I should lay it down as a rule that any foreign body too large to pass the caliber of this No. 29 tube, unless it was very soft and pliable, should be removed by lithotomy, either perineal or suprapubic. Lithotomy has its dangers, but laceration is worse. The suprapubic is at present the fashionable operation, and it certainly presents many inducements in its favor. The median perineal operation, however, is a safe one, and gives excellent results. No important structures are severed, and there is seldom troublesome hæmorrhage if the rhapshe is closely followed. By either of the routes great care must be exercised in the search, if the object is sharp-pointed, lest a perforation be made. The inflation of the rectum in order to lift the bladder must be dispensed with if the object is sharp pointed. The upper route gives more room, and, while there is a slight risk of wounding the peritonæum, yet we must remember also, in the extraction of large objects, as well as calculi, by the perineal route, that the recto-vesical fold of the peritonæum is in close proximity to the neck of the bladder, and may not escape involvement in the subsequent inflammatory action. If the walls of the bladder were only of sufficient strength to warrant their immediate sewing with catgut or silk, and permit primary union under strictly antiseptic dressings, while the urine was drained off below, the suprapubic route would certainly be decidedly the better one; but, as this is not the case, there is still room for honest differences of opinion in the selection of an operation. For the present we must be content to drain the suprapubic wound.

In the absence of an evacuator, the expulsive force of the urine is often sufficient to dislodge a urethral impaction, especially if the meatus is closed for a moment, so as to obtain the full dilating power of the water. Failing in this effort, if the foreign body can be located and the urethra closed, a large injection of sweet-oil may be thrown in, after a hot bath, and the largest possible bougie carried down to the body to stretch the membrane, while pressure from behind is made either by the surgeon's finger or by the expulsive efforts of the patient's bladder. Should lodgment be made in the fossa navicularis, the spoon of the ordinary pocket-case can often be hooked behind the object and assist in coaxing it forward. A hair-pin, a wire doubled upon itself and slightly bent, or a blunt curette, makes also a valuable extractor. An excellent instrument also is the articulated scoop of Leroy d'Étiolles, which, being introduced past the foreign body, has a mechanism by which its tip is then bent at right angles to the shaft, and is capable of making strong but dangerous traction. The abruptly short-beaked sound which I always use for sounding the *bas fond* of the bladder can sometimes also be "wormed" past the obstruction, and effect its dislodgment. I show you here seven prostatic stones that I have thus extracted, aided by the force of the urine. A long urethral forceps is of great service, as it serves

partially to protect the canal during extraction, but it does so far less effectually than the straight tube before described, which should be placed in every evacuating set. Hunter's or Civiale's three-bladed forceps is occasionally used, but I always look with abhorrence upon dragging any object forcibly through the canal. A dangerous instrument is the urethral lithotrite of Reliquet, as incision is infinitely safer for all rough and large bodies.

When the substance lies posterior to the triangular ligament, gentle attempts should be made to push it into the bladder, only after the evacuator has failed to dislodge it. If it is necessary to operate, the rhapshe should be closely followed, while a large staff is held in position to indicate the location of the obstruction and of the tube. An incision in front of the scrotum is easily made, and should be closed after the removal of the body by catgut or quilled sutures. Treated antiseptically, and with either a retained catheter or frequent catheterizations, immediate union may be confidently expected. The quilled suture gives more perfect rest by its splint action. If a stricture exists, and the foreign body is lodged behind it, dilatation or free external incision of the stricture should be practiced.

In former days the instruments for search and removal of these objects greatly exceeded those of the present day, when operative procedures are more common. The "duplicators" of Mercier and of Charnière were intended to fold up any soft substance, such as a very flexible bougie. Long stiff bodies were seized by "redressors" or "*basculeurs*," forceps with beveled blades, constructed so as to rotate the body so that its long axis would correspond with that of the instrument. Occasionally a small lithotrite will answer for either of these purposes, but the great danger of laceration during withdrawal through an unprotected canal must never be lost sight of. The curved forceps of Cusco or Voillemier is, perhaps, as useful in the bladder as in the membranous urethra; but I am afraid to use it for the reasons already named, especially since I have found suction so much safer and also more effectual. For the removal of pins, bonnet-pins, or needles from the urethra, the point can sometimes be imbedded in a wax or gum bougie, but it is easier washed out with the evacuator. If immovable, the point can be pushed through the walls of the urethra, and, by sharply bending the penis, the head after reversal drawn through the tube by suction or by forceps. It is seldom necessary to cut the pin when this method is used. If a piece of nitrate of silver is lost from a *porte-caustique*, the evacuator, charged with salt water, should be used at once if the force of urination does not expel the mass.

Many ingenious devices have been practiced, in the absence of instruments, to rid the urethra of impacted bodies, but the knife is far safer than rough instrumentation. In the absence of the straight evacuating tube, an extra-sized catheter, with open end, and a large syringe might prove useful. Blood-clots in the bladder are practically foreign bodies, and are best removed by gentle suction through the curved evacuator, or through the blood catheter, which I here show, the large eye of which is closed down during introduction by a spirally cut obturator. Catheter accidents are so frequent that instruments should be often examined. Only recently I found that the distal extremity of my much-used pocket-case instrument could be slipped from its screw-thread by a very small amount of traction. Old gum bougies should be thrown away as soon as they begin to lose their elasticity.

To summarize: 1. The litholapaxy evacuating tube, large, straight, and with open end, is the surest and safest instrument for the removal of foreign bodies from either urethra or bladder. 2. The fenestrated lithotrite should be employed to break up all bodies capable of division. 3. Incision of the urethra or bladder

is safer than a tear of the neck of the viscus or of the canal. 4. The suprapubic and median perineal are the safest routes of entrance to the bladder when suction fails. 5. Forceps should be used with the greatest care, and always through a straight tube, which insures protection both to the urethra and neck of the bladder during both exploration and extraction.

Lavage in the Treatment of Gastric Affections.—Dr. SOLOMON SOLIS-COHEN read the following paper:

Any agent or any method which promises to enlarge our therapeutic resources against those obnoxious conditions of "gastric catarrh," "functional dyspepsia," etc., which are a source of distress to the patient, of annoyance to the physician, and of profit to the pepsin and patent-medicine manufacturers, deserves at least a respectful consideration. The method which I desire briefly to present to the society this evening—lavage, or irrigation of the stomach—has been employed for many years in Europe, so that it can no longer be considered to be merely on trial. In America, however, it has not won general introduction, nor am I aware that any discussion of it has been had before this body. This, then, is my excuse for calling attention to a subject in connection with which I have nothing new to communicate.

It needed not the discovery of omnipresent bacilli, those evil spirits named "legion" of our modern superstition, floating about, "seeking whom they might devour," to enforce the value of cleanliness. The surgeon long ago discovered that clean surfaces would unite more promptly, that a wound kept free from foreign substances and irritating secretions would undergo a more rapid and more satisfactory course toward repair, than if the conditions were otherwise. In the treatment of the more readily accessible mucous surfaces, whether of the eye, the nose, the throat, the vagina, or the urethra, the importance of keeping the parts free from morbid secretions, from the products of desquamation, and from other sources of irritation is not a matter for debate. The extension of the same principle to the treatment of affections of the gastric mucous membrane is but a question of mechanical detail, not of therapeutic justification.

Kussmaul, in 1867, employed a doubly acting stomach-pump to irrigate the stomach with alkaline solutions (Carlsbad water), and it is to this observer that we are principally indebted for a study of the method, mechanically and therapeutically. It is said, however, by Dujardin-Beaumetz that a French physician, Blatin, had proposed the practice in 1832. It is to another French observer, Fauché, of Paris, who communicated his procedure to the Academy of Medicine in 1879, that we chiefly owe the simplification of the technique by the use of siphonage, a process employed independently by Oser, of Vienna, at about the same time. Others have variously modified the details of instrumentation and practice. Among those who have contributed most to the popularization of the method is Dujardin-Beaumetz, who applied to it the name *lavage*, by which it is now described.

The manner of performing lavage recommended by the latter observer is that which I have followed in the few cases in which I could induce private patients to submit to it. The results obtained in these cases have been sufficiently encouraging to induce me to continue at least to propose it wherever it seems applicable. The apparatus and its employment are sufficiently simple. An œsophageal tube with a blunt, double-eyed extremity, of flexible rubber, about twenty-eight inches long, and from a quarter of an inch to a little less than half an inch in diameter—practically an enlarged catheter, and made of similar material (the one exhibited having been made by Tiemann & Co., of New York)—is attached by a small section of glass tubing to a soft-rubber tube about a yard in length, into the free

extremity of which a glass or rubber funnel, of from six ounces to eight ounces capacity, is inserted. Sometimes the free extremity of the œsophageal tube is slightly stiffened. The patient sits, or stands, facing the physician. The œsophageal tube, having been dipped into warm water or warm milk, is placed within the entrance of the œsophagus, and is then propelled by successive pushes into the stomach, the process being facilitated by efforts at deglutition on the part of the patient. Many patients quickly learn to introduce and swallow the tube without assistance. A mark on the tube shows when a sufficient length has been introduced (say eighteen or nineteen inches). The funnel is then elevated to the level of the patient's forehead, and from a pint to a quart or more of the lavage solution is slowly poured in, the glass junction-tube permitting its passage to be watched, and obstruction or attempted regurgitation to be detected. The patient's sensations will usually inform us when a sufficient quantity of the solution has entered the stomach. As the last portion of liquid disappears from the funnel, the soft-rubber tube is pinched near the extremity, the funnel is rapidly inverted over a receptacle placed upon the floor, and the contents of the stomach are thus removed by siphonage. These manœuvres are repeated until the returned fluid is clear.

The first introduction of the tube, and possibly the second and third, will occasion more or less dyspnœa, often nausea and retching, rarely vomiting. These effects, though partly physical, are largely psychical, and will disappear with tolerance. The dyspnœa may be immediately checked by insisting on full inspirations. Nausea is overcome as soon as the water enters the stomach, floating the tube away from immediate contact with the mucous membrane. In highly neurotic subjects it may be well to prepare for the operation, at first, by administering full doses of bromides. I have tried anointing the end of the tube with a solution of cocaine in glycerin, but can not allege any striking benefit from the procedure. Firm but skillful handling of the tube is the best sedative. Sometimes during the withdrawal of the solution solid particles of food (grains of corn in one of my cases) may become impacted in the eyes of the tube, and the flow of liquid will cease. A little more of the solution must then be introduced, both to wash away the obstruction and to re-establish the siphon current. If the tube should be pushed too far into the cavity of the stomach, it may curve upon itself and the siphon will not work. Withdrawal of the tube for a few inches will remedy this; if the flow is not readily established, it is said that it may be favored by manipulation of the stomach, and efforts at coughing may be made by the patient. I have not had occasion to resort to these devices.

When *lavage* alone (washing) is the object of the procedure, a weak alkaline solution is employed; a drachm or two of sodium sulphate, sodium chloride, sodium borate, or sodium bicarbonate, in a quart of warm water, at about 100° F. Should it be considered necessary, however, various sedative or antiseptic medicaments may be added to the lavage solution. Those most highly recommended are resorcin (1 per cent.), boric acid (1 per cent.), creasote (1 per cent.), carbon-disulphide water (one part of a solution containing fifteen grains to the quart to two parts of water), charcoal powder (two to four tablespoonfuls), chloroform water (saturated), bismuth subnitrate (two tablespoonfuls to the pint). In the use of agents like resorcin, carbolic acid, etc., the liability to absorption if the solution is not all removed must not be forgotten. In using what he terms "milk of bismuth," Dujardin-Beaumetz advises that the solution be allowed to remain a few minutes in the stomach, so as to allow the bismuth to be deposited, after which the supernatant liquid may be withdrawn.

Lavage should be performed when the stomach is empty; therefore some authors recommend the hour of rising in the morning. I have found noon—say four or five hours after a light breakfast—or the same interval after lunch or dinner, to be more convenient for myself, and to answer as well in most instances. One lavation daily is usually enough. After a while the intervals may gradually be lengthened, until the process is discontinued.

The therapy is sufficiently obvious. The effects are said to be most marked in cases of dilatation of the stomach, in which delayed digestion and retention and putrid fermentation of the contents of the stomach give rise to distressing symptoms. In all cases where the gastric mucous membrane is in a catarrhal condition, coated with the glairy mucus which is seen amid vomited matters or bathed in the sour liquid ejected as "water-brash"; where the production of gastric juice is impeded, or the secretion altered in quality by an abnormal condition of the membrane, extending perhaps into the tubules, or by the presence of irritative matters; where fermentation of ingested and retained matters takes place; in short, in the typical case of chronic gastric catarrh or acid dyspepsia, lavage will be found highly useful. It removes any undigested matters remaining in the viscus, cleanses it from products of desquamation and morbid secretion, and gently stimulates the glands and absorbents to healthy action. In gastralgia dependent upon the presence of irritating matters, and sometimes in cases apparently idiopathic, lavage with the employment of chloroform or bismuth as a sedative is said to be productive of cure. I have had no opportunity to test the statement personally. In the chronic gastritis of drunkards the measure is said to be an excellent palliative, nor is hæmatemesis considered a counter-indication, unless actual ulceration exists. In cancer of the stomach it is useful as a palliative measure, and my first practical acquaintance with this method of treatment was made during my student days in two cases of gastric carcinoma treated after the method of Kussmaul, with a doubly acting stomach-pump, at the hospital of the Jefferson Medical College, in the clinic of Professor DaCosta.

Within the last few years two new applications of the lavage method have been found. In 1885, at Kussmaul's clinic, and subsequently by Senator, Rosenthal, and other observers, it has been successfully employed in the treatment of ileus. Kussmaul explains this result by the theory of relief to the tension above the point of constriction, caused by gases and accumulated feces, with concomitant restoration of normal peristaltic action. Since 1884 Leube and other observers have made chemical and microscopical examinations of the gastric secretions and other matters removed from the stomach at various periods of digestion, and profess to have thus obtained valuable diagnostic indications. This subject, however, is beyond the scope of the present communication. While the practice is usually confined to chronic cases, I have had occasion to resort to it in one case of acute indigestion with obstinate vomiting, in a phthisical, slightly hysterical female, with a gratifying result—in that the vomiting, rebellious to diet and medication, yielded to two applications of the stomach-tube. In this case, before withdrawing the tube, warm milk was introduced into the stomach, a measure advocated by French writers. Indeed, there can be little doubt that, in connection with *gavage*, or forced feeding, irrigation of the stomach assists in maintaining nutrition in phthisis and other wasting diseases.

Dr. J. Tyson had had some experience with lavage, although he had not employed it within the last ten years. In one case of dilatation of the stomach it was used with a great deal of comfort to the patient. He learned to introduce the tube, and would wash out his stomach and enjoy a good meal after-

ward. He subsequently passed from under Dr. Tyson's observation, and died, probably of the disease which had caused the dilatation—cancer of the pylorus. In a second case the result was not so satisfactory, and the procedure caused great discomfort.

Dr. W. OSLER said that irrigation was a measure in which he had been interested for several years. In the first place, there was serious objection made to the procedure by at least half the patients, on account of the discomfort experienced in the introduction of the tube. The soft tube was sometimes very difficult to pass, and sometimes it was necessary to resort to the stiffer tube. Where the patient himself performed the operation, it was, of course, better that he should have the soft tube. The speaker was of the opinion that this measure had a much narrower field than the statements of the French and German writers would lead one to infer. He would not hesitate to predict that within a few years, when the fashion had subsided, it would be confined entirely to cases of obstinate gastric catarrh, in which it was of inestimable service, and to cases of dilatation of the stomach, in which it was not only of service but absolutely indispensable. We had no satisfactory treatment for dilatation of the stomach other than by irrigation.

Dr. E. MARTIN said that during his term of service at the University Hospital this method of treatment was introduced by Dr. William Pepper, but it was found, as Dr. Osler had stated, that the patients would not remain. The measure was tried in six or seven cases, and all but one patient left. The patient who remained experienced marked benefit; he gained in weight, and when he left the hospital, six months later, was able to pass the tube himself. A difficulty which the speaker had recently experienced in one case was that the patient would vomit the tube. This he had overcome by using a stiffer tube.

Dr. J. P. C. GRIFFITH said, speaking chiefly of the procedure for diagnostic purposes, that we in America were unable to study the matter to any great extent, owing to the rebelliousness of patients to this method of examination. German patients appeared to be more tractable, and Riegel had reported that during the year 1885 he made over 1,300 examinations of the gastric juice in 122 cases; and in 1886 tested 134 cases in a similar way. Every patient presenting evidences of disease of the stomach was submitted to lavage, and the gastric contents thus obtained were subjected to a chemical examination. Riegel's method was to administer to the patient an ordinary mixed meal, and, after about six hours—the stomach should be emptied at the end of seven hours—to remove the gastric contents, if possible, undiluted by the employment of water, and to filter them. He then tested the filtrate in order to determine especially the presence or absence of hydrochloric acid and the peptic strength. The tests were at once simple and very delicate. He employed a variety of these, but the ones which had proved most satisfactory in the speaker's hands, and with which he felt most familiar, were the reactions with methyl-violet and Congo-red for hydrochloric acid, and Uffelmann's carbolated iron test for lactic acid. In the presence of a small amount of free hydrochloric acid a dilute solution of methyl-violet would turn to a blue color, and Congo-red would also be changed by the acid to a blue. The results of Riegel's experiments were very interesting, and had been fully confirmed by Korczynski and Jaworski, and by Sansoni. It had been found that in carcinoma of the stomach hydrochloric acid was almost invariably absent, and that the peptic strength of the gastric juice was wanting; so that the attempt to digest albumin artificially with the filtrate failed. In dilatation of the stomach there was always a large amount of lactic and butyric acids, though hydrochloric acid and pepsin were also present. In dilatation, therefore, the trouble was not due to lack of digestive power, but to stenosis or to want of muscular

power. Gastric ulcer was almost always preceded and accompanied by a supersecretion of hydrochloric acid. In cases of ordinary dyspepsia there was not a diminution of the gastric juice, but usually a supersecretion. Riegel maintained, therefore, that it was bad therapy to put every case of dyspepsia on a routine treatment of hydrochloric acid and pepsin; and that the chemical examination of the gastric contents was a *sine qua non*. A case recently in the University Hospital illustrated the value of this aid to diagnosis. A man was admitted in an extremely anæmic and emaciated condition, and with subjective and objective symptoms of gastrectasis. The signs of this disappeared, however, when the diet was carefully regulated; but, in spite of the apparent digestion and absorption of food, he became more anæmic and weaker. The diagnosis of carcinoma of the stomach was entertained, and it was thought that some induration could be detected in the pyloric region; but the contents of the stomach were removed with the tube, and the filtrate found to contain an abundant supply of free hydrochloric acid, and to digest albumin perfectly. On this ground carcinoma of the stomach was excluded. The man subsequently died, and cancer was found to be absent; the source of the induration being a thickened and somewhat stenosed pylorus, due to a duodenal ulcer. There was at the present time another patient in the hospital, in whom gastric ulcer had been suspected, but the examination of the contents of his stomach had shown that digestion was retarded, and that there was no reaction for hydrochloric acid with the methyl-violet test. Assuming that the German observers were correct, the presence of ulcer is excluded in this case.

The PRESIDENT could personally speak of the value of lavage in the treatment of dilatation of the stomach and in carcinoma. For the past twelve years, at least, he had been in the habit of using this measure, from time to time, during his terms of service at the German Hospital. Following the example of Kussmaul, he had usually used a solution of the Carlsbad salt, of the strength of the natural water. In cases of dyspepsia, he had more recently preferred to use copious draughts of hot water to wash the contents of the stomach into the bowel. In the introduction of the tube into the stomach a great deal depended upon the skill and experience of the manipulator. There had been for several years a male nurse at the hospital who could introduce the tube much more readily and with less repugnance on the part of the patient than the speaker or any of the residents could. One patient with carcinoma of the stomach used this treatment continuously during a period which covered at least two of the speaker's annual terms of service, and his example was a great encouragement to others to submit to the treatment. The tube could probably be swallowed with greater ease, if its lower end were weighted with a ring of lead.

Dr. SOLIS-COHEN said that his object in presenting the paper had been to elicit discussion, rather than to present something new. His experience, as implied in the paper, had been that of Dr. Osler, that it was difficult to get patients to submit to this measure. If, however, the first three or four times could be bridged over, the relief afforded was so great that the patient would allow it to be continued as long as necessary. Although he had passed the tube in some dozens of cases, the number of patients that he had systematically treated in this way had not been great—only eight in a period of two years. Still, the results obtained in these cases of obstinate gastric catarrh, after the failure of all medication and regulation of diet, had been so satisfactory in the relief of symptoms, and almost in the re-establishment of the normal condition, that he was encouraged to continue the use of the procedure. It would seem that in cases of vomiting due to the presence of sarcine, washing out of the stomach, with the subsequent introduction of a sufficient

quantity of some safe antiseptic solution, would be one of the best plans of treatment. The tube had also been used in cases of poisoning, where the stomach-pump was not at hand.

Reports on the Progress of Medicine.

NEUROLOGY.

By J. LEONARD CORNING, M.D.

Experimental Dietetics in Lunacy Practice.—Clark ("Edinburgh Med. Jour.") observes that the result on gastric secretion of using the oral or nasal tubes for forced alimentation is to evade the operation of a physiological process which is aptly described by Lauder Brunton as follows: "The effects of mastication are not limited to the changes produced by it in the food within the buccal cavity; the taste of savory meat, the rolling of a sweet morsel under the tongue, and the movements of mastication exert an influence upon the stomach and upon the brain. In a case of gastric fistula, where the œsophagus was occluded, Richet noticed that the mastication of food induced secretion of gastric juice, although nothing could pass from the mouth into the stomach on account of the obstruction of the gullet." The same phenomenon is known to occur when food enters the stomach, for the bile and pancreatic secretions are called forth in anticipation of the exercise of their respective functions. There can be no question, therefore, that the loss of natural stimuli constitutes a serious objection to artificial feeding, and the depressed condition of the reflex functions may operate in the same way. Clark adduces three cases in illustration of this which came under his observation two years since. These patients had their food injected four times each day for seven weeks, and yet they steadily lost weight, although they offered little or no resistance to the artificial mode of alimentation. Various dietetic, therapeutic, stimulant, and digestive combinations were tried, the cases being of the most asthenic, unpromising kind. The secretions were altered or arrested, the mucous lining of the throat relaxed and irresponsive, or red, irritable, glutinous. Trial was made of egg custard with milk, brandy or whisky, beef-tea thickened with potato, Benger's liquor pepticus and liquor pancreaticus, Carnrick's cod-liver-oil emulsion, calomel, acid, and nux vomica, bismuth, and washing out the stomach with Condy or carbolic acid. Finally the pump and tube were discarded, and the attendants were instructed to use their utmost endeavors to encourage self-feeding with appetizing and dainty morsels frequently repeated. The total amount of food consumed became thus a mere fraction of that daily injected for seven weeks; but, on the other hand, the improvement in nutrition was gratifying in the extreme after the lapse of a few weeks. Clark explains this by the aid of the statement of Lauder Brunton and the observations of Richet above cited.

The Perception of Space.—James ("Mind") summarizes the factors involved in space perception as follows: The sensations contributing to space-perception seem exclusively to be the surface of the skin, retina, and joints. "Muscular" feelings play no appreciable part in our feelings of form, length, direction, etc. Movements assist discrimination by reason of the peculiarly exciting quality of the sensations which stimuli moving over surfaces arouse. The education of space-perception consists largely of two processes—reducing the various sense-feelings to a common *measure*, and *adding them together* into the single all-including space of the real world. Both the measuring and the adding are performed by the aid of things. The imagined aggregate of position occupied by all the actual or possible, moving or stationary, things which we know, is our notion of "real" space—a very incomplete and vague notion in most minds. The *measuring* of our space-feelings against each other mainly comes about through the successive arousal of different ones by the same *thing*, by our selection of certain ones as feelings of its real size and shape, and by the degradation of others to the status of being merely *signs* of these. For the successive application of the same thing to different space-giving surfaces motion is indispensable, and hence plays a great part in our space-education, especially in that of the eye. Abstractively considered, the motion of the object over

the sensitive surface would educate us quite as well as that of the surface over the object. But the self-mobility of the organ carrying the surface immensely *accelerates* the result.

Recent Experiments on the Cerebral Circulation.—Gärtner and Wagner ("Wiener med. Wochenschrift") have obtained interesting results by applying to the problems of the cerebral circulation a method the essential feature of which consists in measuring the amount of blood which flows through the organ in a given period of time—in other words, which passes away by the venous system. The experiments were performed on dogs, the blood-flow being registered on a kymograph by the aid of a cannula placed in one of the external jugular veins, which in dogs convey the greater part of the cerebral blood. It is impossible to enlarge here further upon the technique adopted, but a note or two of the results obtained may prove of interest. Thus, in strychnine poisoning the increase of the stream-velocity was striking. On the other hand, contrary to current physiological opinion, irritation of the peripheral nerves failed to cause narrowing of the cerebral blood-vessels. Again, on testing with narcotics, it was found that at the commencement of chloroform inhalation the cerebral circulation was considerably accelerated, and at the same time the arterial blood-pressure rose. In about a minute, or even less, however, the blood-pressure began to decline, but, nevertheless, the outflow quantity remained increased. This phenomenon can clearly be due to nothing else than an expansion of the blood-vessels. When the chloroform inhalation is continued for some time, the blood-pressure may become so slight that little or no blood flows through the expanded blood-vessels. After the administration of morphine no similar phenomena were observed. The results obtained by direct electrical stimulation of the cortex were interesting. According to Kussmaul and Tenner's investigations, this procedure should result in the production of anaemia. Gärtner and Wagner, on the contrary, ascertained that a considerable acceleration was produced. Observations with amyl nitrite showed that this drug produced expansion of the cerebral blood-vessels.

The Use of Galvanism in the Treatment of Insanity.—Wiglesworth (the "Journal of Mental Science") has employed galvanism to a considerable extent in certain phases of insanity. Flexible plate electrodes were employed, the cathode being placed on the forehead, and the anode on the nape of the neck. From his own observations he concludes that, while the use of galvanism to the head is a procedure which is certainly not going to revolutionize the treatment of insanity, this agent is nevertheless one that is capable of doing much good in certain selected cases, and that by its judicious employment we may every now and then cure cases which would otherwise drift into hopeless chronicity. The class of cases which offers the best field for the employment of this agent is that which includes examples of mental stupor and torpor—cases which are grouped under the specific designations of *melancholia attonita* and so-called acute dementia.

The Therapeutic Value of Currents of Great Intensity ("Franklinization").—Eulenburg ("Neurologisches Centralblatt") has employed the static current in seventy-four selected cases, including different neuroses. Six of these were permanently cured, thirty-three much improved, while in thirty-five cases other varieties of treatment were called into requisition. The most favorable effects were observed in neurasthenic conditions, complicated with cerebral symptoms (insomnia), as well as in various forms of headache. Neuralgias of the trigeminal and occipital nerves were also benefited. In sciatica and intercostal neuralgia the application of the static current was found not only of a certain amount of benefit, but specially convenient for the operator, as the removal of the patient's clothes is unnecessary. Eulenburg is inclined to doubt the statements regarding the effectiveness of the static current in hysterical and hystero-epileptic cases, feeling confident that the favorable phenomena observed are largely due to psychical causes. Finally, Eulenburg expresses the opinion that static electricity as a factor in neurotherapeutics is destined to maintain itself. To be sure, its field is somewhat narrow, but, when employed by those experienced in its manipulation, results may be obtained with reasonable precision.

Hereditary Tremor.—Dana ("American Journal of the Med. Sciences") contributes a paper on this well-known affection. The author is mistaken, however, in supposing that the disorder has heretofore

never been systematically described, for McLane Hamilton ("Nervous Diseases, their Description and Treatment," p. 502) thus described it several years since: "A functional tremor of a very light grade, which is simply a personal peculiarity, is met with sometimes, and should not be magnified to the dignity of a disease. This may affect several members of the same family, as is the case in one example of which I know. The head of the family is a vestryman of a church, and in passing the plate he sometimes is obliged to exercise the utmost self-control to prevent the contents from being thrown out, and more than once this infirmity has given rise to insinuations concerning his habits. His two children, both very young and healthy people, are affected by the same tremor. In such a case the trouble does not increase with time, and there are none of the other progressive signs of the true affection." For all practical clinical purposes this is an excellent description. The neurotic family histories of individuals affected by hereditary tremor contained in Dana's article are interesting.

A Case of Coniine Poisoning.—Schulz ("Deutsche med. Wochenschrift") gives an interesting account of a case of coniine poisoning occurring in a medical student as the result of smelling of a preparation of coniine which was being passed about in the class-room during a lecture on materia medica. Headache, great muscular weakness, difficulty in fixing the attention, soporific tendency of increasing intensity, sensations of unusual warmth, and, finally, profuse diaphoresis and delirium took place. Recovery followed in a few days.

Alopecia Neurotica.—Schütz ("Monatsh. für prakt. Dermatol.") describes the case of a boy, eight years old, who, having been wounded by the scissors while having his hair cut, experienced thereafter a progressive loss of hair. The wound which was assumed to have given rise to the phenomenon was located on the left side of the occiput in the neighborhood of the articulation. The denuded portion of the scalp had the appearance of a triangle, the apex of which was situated directly above the cicatrix. There was neither atrophy of the skin nor any appreciable modification of cutaneous sensibility. In order to find a rational explanation for the loss of hair, the author assumes that the injury involved the division of trophic nerve-stems, and that the expansion of the denuded portion of the scalp is to be ascribed to the corresponding ramifications of the divided nerve-stems. As to the preservation of cutaneous sensibility throughout the denuded region, the author calls to mind the experiments of Joseph ("Centralblatt für Phys."), which showed entire absence of abnormal sensibility at the points where the hair had fallen out.

Monoplegia Anæsthetica.—Adamkiewicz ("Wiener med. Blätter") describes under this designation the case of a girl of nineteen years who, in the absence of all evidence of cerebral or spinal-cord complications, suffered from total anæsthesia of the right arm. Vaso-motor and trophic disturbances in the form of abnormal perspiration, a livid appearance of the skin, and a tendency to the formation of sores on slight provocation, were also present. When the patient's eyes were closed she was quite unable to make any use whatever of the arm; but while her eyes were open, motility remained unimpaired. According to the author, there were absolutely no evidences of hysteria, and he therefore arrives at the conclusion that the case was one of an affection of the plexus cervicalis et brachialis dexter. As to the nature of the lesion itself, the author is inclined to ascribe the same either to rheumatic causes, or to the effects of a pachymeningitis cervico-brachialis.

Disturbances of Cutaneous Sensibility in Alcoholics.—Grasset ("Neurologisches Centralblatt") has made twelve careful analyses of cases bearing on this point, and arrives at the conclusion that disturbances of sensibility, both of an objective and subjective character, are common to alcoholics. The objective disturbances are loss of tactile sensibility, alpaghesia (painful sensations on contact), thermo-analgesia, electro-analgesia, and particularly analgesia and hyperæsthesia. The distribution of these abnormal sensations is irregular, and follows no particular distribution of nerves. The subjective sensations consist of lancinating pains and of formication. Disturbances of sensation referable to the intestines or deep muscular tissues may also be present. The causation of these phenomena is to be sought for either in a peripheral neuritis, in a lesion of the internal capsule, or frequently in a lesion of the basal ganglia (the pons or the crura cerebri).

Miscellany.

A Section in Diseases of Children was organized in the New York Academy of Medicine on the 29th of November. Dr. J. Lewis Smith was chosen chairman, and Dr. J. H. Fruitnight secretary. The meetings of the section will be held on the fourth Wednesday of each month.

The Medical Society of the County of New York.—At the meeting of November 28th, being an adjourned annual meeting, it was announced by the chairman of the committee on prize essays that no essay had been submitted. The president, Dr. Lawrence Johnson, said that he would spare the meeting the infliction of an annual address, and, after a few remarks on the death of Dr. Woolsey Johnson, Dr. James Knight, and Dr. W. M. Chamberlain, appointed the following committees: On hygiene, Dr. C. E. Billington, chairman, Dr. W. A. Ewing, Dr. L. E. Holt, Dr. J. E. Winters, and Dr. G. T. Elliot; on ethics, Dr. W. H. Katzenbach, chairman, Dr. E. A. Maxwell, Dr. Robert Campbell, Dr. C. E. Bruce, and Dr. C. Milne; on prize essays, Dr. J. D. Bryant, chairman, Dr. A. B. Judson, and Dr. F. A. Castle.

The New York Academy of Medicine.—At the meeting of December 1st, a conference committee was appointed to act with the Board of Health, consisting of Dr. C. R. Agnew, Dr. R. H. Derby, Dr. Stephen Smith, Dr. E. G. Janeway, and the president. Memorialists were appointed as follows: Dr. J. L. Corning, on the late Dr. T. R. Varick; Dr. Francis Delafield, on the late Dr. Alonzo Clark; and Dr. John C. Peters, on the late Dr. Middleton Goldsmith. It was announced that Dr. Goldsmith's library had been given to the Academy. The following nominations were made: For third vice-president, Dr. A. H. Smith and Dr. E. L. Keyes; for trustee, Dr. D. B. St. John Roosa and Dr. Gouverneur M. Smith; for members of the committee on admissions, Dr. E. L. Partridge, Dr. R. C. M. Page, Dr. J. S. Warren, Dr. O. B. Douglas, and Dr. A. J. C. Skene; for members of the library committee, Dr. D. B. Delavan and Dr. Henry Griswold for the short term, and Dr. T. M. Cheesman, Jr., Dr. Daniel Lewis, Dr. G. H. Fox, Dr. P. A. Morrow, Dr. Walter Mendelson, and Dr. M. A. Starr for the full term.

The American Exhibition in London.—We learn that a gold medal was awarded to Messrs. Fairchild Brothers & Foster, of New York, for their digestive ferments, extractum pancreatis, peptonizing powders, pepsin in scales, etc.

The Medical Department of Dartmouth College.—The commencement exercises were held on the 22d of November. The graduating class consisted of twenty-six gentlemen.

Courses in the Microscopical Anatomy and Pathology of the Nervous System are to be given at the Post-graduate Medical School, under the direction of Dr. C. L. Dana.

Common-School Physiology.—The "Troy Daily Times" quotes the following from a Philadelphia newspaper: "A pupil in one of the public schools of this city complied recently in the following manner with a request to write a composition on the subject of a physiological lecture to which the school had just listened: 'The human body is made up of the head, the thorax, and the abdomen. The head contains the brains, when there is any. The thorax contains the heart and the lungs. The abdomen contains the bowels, of which there are five: A, E, I, O, and U, and sometimes W and Y.'"

The Health of the State of New York.—According to the State Board of Health's "Monthly Bulletin" for October, there were 7,370 deaths reported during the month, including 38 from cerebro-spinal fever, 182 from typhoid fever, 104 from malarial diseases, 4 from small-pox, 113 from scarlet fever, 15 from measles, 13 from erysipelas, 14 from whooping-cough, 707 from croup and diphtheria, and 53 from puerperal diseases.

The Health of Boston.—During the week ending Saturday, December 3d, the following numbers of cases and deaths from infectious

diseases were reported to the Board of Health: Diphtheria, 38 cases and 6 deaths; scarlet fever, 72 cases and 15 deaths; typhoid fever, 18 cases and 2 deaths; measles, 3 cases. There were also 27 deaths from consumption, 20 from pneumonia, 2 from whooping-cough, 20 from heart disease, 14 from bronchitis, and 9 from marasmus. The total number of deaths was 197, against 157 for the corresponding week last year.

Government Health Reports.—By direction of the Secretary of the Treasury, Dr. John B. Hamilton, Surgeon-General of the Marine-Hospital Service, has issued the following abstract of sanitary reports received during the week ending December 2d:

(Published in accordance with Section 4, act approved April 29, 1878.)

England and Wales.—The deaths registered in twenty-eight great towns of England and Wales during the week ending November 12th corresponded to an annual rate of 20 in a thousand of the aggregate population, which is estimated at 9,244,099. The lowest rate was recorded in Brighton, viz., 9.3, and the highest in Oldham, viz., 29.6 in a thousand. Small-pox caused 17 deaths in Sheffield and 1 in London.

London.—One thousand five hundred and sixty-four deaths were registered during the week ending November 12th, including 38 from measles, 62 from scarlet fever, 30 from diphtheria, 33 from whooping-cough, 1 from typhus, 17 from enteric fever, 12 from diarrhoea and dysentery, and 1 from small-pox. There were 438 deaths from diseases of the respiratory organs. Different forms of violence caused 44 deaths, and 9 suicides were registered. The deaths from all causes corresponded to an annual rate of 19.4 in a thousand. In greater London 1,960 deaths were registered, corresponding to an annual rate of 18.9 in a thousand of the population. In the "outer ring" 15 deaths from diphtheria, 13 from measles, 12 from scarlet fever, and 8 from whooping-cough were registered.

Ireland.—The average annual death rate represented by the deaths registered during the week ending November 12th in the sixteen principal town districts of Ireland was 25.3 in a thousand of the population. The lowest rate was recorded in Drogheda and Kilkenny, viz., 8.5, and the highest in Lurgan, viz., 46.2 in a thousand.

Dublin.—Two hundred and seventeen deaths were registered during the week ending November 12th, including 1 from small-pox, 10 from measles, 5 from whooping-cough, 20 from scarlet fever, 3 from enteric fever, 3 from diarrhoea, and 3 from dysentery. Diseases of the respiratory organs caused 47 deaths. Four accidental deaths were registered, and in 43 instances the causes of death were uncertified. The deaths from all causes corresponded to an annual rate of 32 in a thousand.

Scotland.—The deaths registered in eight principal towns during the week ending November 12th corresponded to an annual rate of 19.9 in a thousand of the population, which is estimated at 1,299,000. The lowest mortality was recorded in Aberdeen, viz., 15.1, and the highest in Paisley, viz., 29.1 in a thousand. The aggregate number of deaths registered from all causes was 498, including 7 from measles, 17 from scarlet fever, 10 from diphtheria, 26 from whooping-cough, 6 from fever, and 8 from diarrhoea.

Germany.—The deaths registered in fifty-two cities of Germany, having an aggregate population of 6,821,222, during the week ending October 29th corresponded to an annual rate of 19.7 in a thousand. The lowest rate was recorded in Munchen-Gladbach, viz., 9, and the highest in Breslau and Potsdam, viz., 28.2.

Netherlands.—The deaths registered in the twelve principal cities of the Netherlands during the month of September, 1887, having an aggregate population of 1,102,200, corresponded to an annual rate of 12.8. The lowest mortality was recorded in Dordrecht, viz., 14.8, and the highest in Maastricht, viz., 22.8.

Maryland.—Three hundred and seventy-four deaths were registered during the quarter ending September 30, 1887, of which 186 were of children under five years of age and 33 adults over seventy years old. The causes of death were chiefly affections of the digestive organs, due to hot weather. Scarlet fever and whooping-cough prevailed. Abdominal typhus occurred to some extent, but not in a degree higher than usual in the time of year under consideration.

Athens.—The United States consul, in his dispatch dated November 12, 1887, states that "the quarantine of observation of five days imposed on all arrivals from Italian and Sardinian ports has been reduced to a simple medical inspection, except on arrivals from ports comprised between Gaeta and Cobrone in the southern part of the peninsula."

Santiago de Cuba.—The sanitary inspector reports for the week ending November 12, 1887, that "yellow fever has made its appearance in the port, the captain and two sailors of a Spanish brig having succumbed to it four days after being attacked. There are no other ships in the harbor just now, excepting three Spanish men-of-war. At the military hospital there are at present 12 cases of yellow fever under treatment, all the cases being of newly arrived recruits from Spain. Eight deaths have been recorded this week. No other contagious diseases prevail at present, small-pox and scarlatina having totally disappeared. Malaria, as usual, very common, but seldom with fatal results."

For the week ending November 19th, the inspector reports that no other cases of yellow fever have appeared in the harbor. At the military hospital a few cases (6) are under treatment, and there have been 5 deaths from yellow fever recorded this week, all among newly arrived soldiers.

Havana.—The sanitary inspector reports for the week ending November 19th, 9 deaths from yellow fever and 47 from small-pox.

MORTALITY TABLE, FOREIGN CITIES.

CITIES.	Week ending	Entered from ports.	Total deaths from all causes.	DEATHS FROM—							
				Cholera.	Yellow fever.	Small-pox.	Typhus fever.	Etiola fever.	Scarlat fever.	Diphtheria.	Rub.
Paris	November 12	2,260,945	879			10		15	9	34	
Glasgow	November 12	511,678	223						5	7	
Warsaw	November 5	439,174	263			13			12	6	
Rome	September 24	872,779	206			15		7		2	
Calcutta	October 25	432,219	212	20						1	
Amsterdam	November 12	358,686	157						4	2	
Copenhagen	November 1	269,000	170					2	4	2	
Munich	November 5	269,000	107						1	3	
Palermo	November 13	250,000	125					1	1	2	
Belfast	November 12	224,122	96				1		3	2	
Genoa	November 5	179,556	95			13	1				
Genoa	November 12	179,556	115			14	1				
Leipzig	November 12	170,000	51								
Trieste	October 29	150,157	71			10			2		
Trieste	November 5	150,157	89			10			3		
Toronto	November 19	130,000	26								
Toronto	November 26	130,000	32								2
Laghorn	November 13	101,357	38								
Santiago	November 21	35,164	19		3	5					
Guayaquil	November 5	30,000	72			12					
Guayaquil	November 10	30,000	46			14					
Gibraltar	November 6	23,631	7								1

UNITED STATES.

Tampa, Fla.—*Yellow Fever.*—The following telegraphic communications have been received from Dr. J. Y. Porter, quarantine inspector:

"November 29th.—One new case to-day; no deaths. City authorities have established a quarantine against refugees, imposing a fine and ejection. The commercial quarantine against this place is raised by railroad authorities and the Florida Protective Association, bedding, clothes, and fish excepted. All other shipments can be received. Through-tickets can be sold from here to all points outside of Florida without a health certificate, and without detention at quarantine or fumigation camp, to points within the State. A medical certificate stating the party has had yellow fever, a detention at fumigation camp over one train. Thermometer to-night, 60°."

"November 30th.—To-day 3 cases, no deaths; for week ending 30th, 12 cases, 1 death—making total cases approximately 390, and 72 deaths. Three cases in hospital. Thermometer to-night, 58°."

ANSWERS TO CORRESPONDENTS.

No. 104.—We understand that the preparations you mention are to be had of Messrs. Hazard, Hazard, & Co., Twenty-fourth Street and Broadway.

No. 105.—We have had no personal experience with the avitrous

thermometer, but we infer from what we have heard said of it that its only advantage is that it is not fragile. For the present, we should prefer the ordinary glass thermometer.

No. 106.—A candidate for admission into the medical corps of the navy should write to the Secretary of the Navy, asking for permission to appear before the examining board, and should inclose a certificate of good moral character and a letter from his preceptor. When he appears before the board, he is required to write a "preliminary letter," answering certain questions as to his birth, education, etc., and to undergo a rigid physical examination. The second day, he writes a thesis. The third day, he writes answers to from ten to fifteen written questions, usually covering points in anatomy, physiology, practice of medicine, materia medica, chemistry, and therapeutics. Then about two days are devoted to an oral examination, and one day is given to operations on the cadaver, the recognition of drugs by their appearance, the use of the microscope and other instruments of precision, diagnosis in hospital wards, and the writing and compounding of prescriptions. Much importance is attached to general literary and scientific attainments, and especially to the candidate's excellence in spelling, grammar, and precision in writing.

To Contributors and Correspondents.—The attention of all who purpose favoring us with communications is respectfully called to the following:

Authors of articles intended for publication under the head of "original contributions" are respectfully informed that, in accepting such articles, we always do so with the understanding that the following conditions are to be observed: (1) when a manuscript is sent to this journal, a similar manuscript or any abstract thereof must not be or have been sent to any other periodical, unless we are specially notified of the fact at the time the article is sent to us; (2) accepted articles are subject to the customary rules of editorial revision, and will be published as promptly as our other engagements will admit of—we can not engage to publish an article in any specified issue; (3) any conditions which an author wishes complied with must be distinctly stated in a communication accompanying the manuscript, and no new conditions can be considered after the manuscript has been put into the type-setters' hands. We are often constrained to decline articles which, although they may be creditable to their authors, are not suitable for publication in this journal, either because they are too long, or are loaded with tabular matter or prolix histories of cases, or deal with subjects of little interest to the medical profession at large. We can not enter into any correspondence concerning our reasons for declining an article.

All letters, whether intended for publication or not, must contain the writer's name and address, not necessarily for publication. No attention will be paid to anonymous communications. Hereafter, correspondents asking for information that we are capable of giving, and that can properly be given in this journal, will be answered by number, a private communication being previously sent to each correspondent informing him under what number the answer to his note is to be looked for. All communications not intended for publication under the author's name are treated as strictly confidential. We can not give advice to laymen as to particular cases or recommend individual practitioners.

Secretaries of medical societies will confer a favor by keeping us informed of the dates of their societies' regular meetings. Brief notifications of matters that are expected to come up at particular meetings will be inserted when they are received in time.

Newspapers and other publications containing matter which the person sending them desires to bring to our notice should be marked. Members of the profession who send us information of matters of interest to our readers will be considered as doing them and us a favor, and, if the space at our command admits of it, we shall take pleasure in inserting the substance of such communications.

All communications intended for the editor should be addressed to him in care of the publishers.

All communications relating to the business of the journal should be addressed to the publishers.

Original Communications.

TUBERCULAR LARYNGITIS.*

By HENRY L. SWAIN, M.D., NEW HAVEN, CONN.,
LECTURER ON DISEASES OF THE THROAT AND EAR IN THE MEDICAL
DEPARTMENT OF YALE UNIVERSITY; FORMER ASSISTANT OF
PROFESSOR HAGEN IN LEIPSIK.

IN these days of inquiry and of great activity on the part of the profession as a whole to make advances in the knowledge and therapeutics of disease, together with the demand for the latest views in every sphere and branch of medicine, one can hardly attempt the consideration of any subject preparatory to giving his fellows the results of such investigations but that he finds some one else has just prepared and published an exhaustive paper on the same subject. Of late there have appeared a number of articles the themes of which have been the same as the one before us at present, and doubtless the very views I am about to present are already old to many of you. I shall therefore beg for a double portion of indulgence as you bear with me while I give you some of the salient points in a not unimportant or uninteresting subject.

Under the conditions of our life as a people at the present day, and in this climate of ours, catarrhal and pulmonary complaints form a very large proportion of the cases which we as active practitioners of medicine are called upon to treat, and of all pulmonary diseases phthisis pulmonum is the most frequent and most deadly. With all of these complaints a laryngitis is frequently associated, and with many almost a constant accompaniment. This latter holds especially true of tuberculosis pulmonum, and the laryngitis in a large majority of instances assumes, sooner or later, a specific tuberculous form. It is, then, a laryngitis characterized by a distinctly tuberculous process that I fancy to be understood by the term tubercular laryngitis, and not the simple laryngitis which I have mentioned as so frequently occurring in tuberculous patients, to which I invite your generous attention.

We have spoken of the intimate relationship between phthisis pulmonum and tuberculous laryngitis. What is this relation? Does the specific laryngitis precede the lung affection, bearing a sort of etiological relation, or is it not a result of the same? In answering these questions it will be of profit to look into the opinions of the profession at large as given to us in literature.

Ulcerative or tuberculous laryngitis was first described by Morgagni in the eighteenth century, but was never fully considered until the beginning of the present century. We find the earlier authors of the opinion that ulcerative laryngitis not only might occur previous to a detected lung difficulty, but even assist in the production of the same. These same men entertained an idea that there might be a difference in etiology or nature between ulcerative tracheitis and laryngitis. Cayol, who wrote in 1810, was the strong upholder of this opinion.

Louis (1),* writing in 1825, and Andral, about the same time, together with Trousseau and Belloc (2) (1837), were decided opponents of this view. The latter speak very strongly against the dual origin of laryngitis and tracheitis ulcerosa, while they are equally positive of the fact that an ulcerative laryngitis can exist without previous disease of the lungs, an opinion which Louis was the first to contradict and flatly negate. The latter thought that a real tuberculous affection of the larynx did not exist after the fifteenth year, and that the ulcerations, where they existed in undoubted cases of tuberculous disease of the lungs, were of a simple catarrhal nature, with no deposit of real tubercle.

Trousseau and Belloc make no definite statement as to this last fact, yet were probably in its favor, as they say that ulcerations in the intestines of tuberculous patients contain small, hard bodies, which were taken for tubercle, whereas in the trachea and larynx no real deposits were found.

Ryland (3) (1841) thinks that most cases of ulceration occur in phthisical patients, believing, however, that ulcerations may be extensive and not be connected with any lung trouble, as also that ulcerations occurring in a phthisical patient are not necessarily caused by the lung disease—*i. e.*, are not tubercular. Those ulcerations which occur in connection with phthisis choose different localities from those in a simple or idiopathic laryngitis.

Horace Green (4) (1858) discusses the subject at some length, and comes to the conclusion that the ulcers in the larynx in certain cases are really tuberculous in their nature. He quotes at length from a then lately published article by Professor Ewald Hasse, of Zurich, who stated that real tuberculous ulcers of the larynx did exist, and that these might not necessarily be caused by the matter expectorated, but begin as a distinct, sub-epithelial deposit of tubercle cells, which subsequently ulcerated through the surface. Green cites a large number of cases of ulcerous laryngitis which were accompanied by marked tuberculous pulmonary lesions, and which were entirely cured by the topical treatment with nitrate of silver, the pulmonary disease vanishing as well. He does not consider these ulcers as being all simple or non-tubercular.

The later authors, especially those writing since improved methods of diagnosis of lung affections and the use of the laryngoscope have been introduced, are in the main agreed upon the following ideas: While not denying the possibility of a tuberculous affection of the larynx existing previous to and being perhaps causal of a like tuberculous affection of the lungs, still they affirm that clinical facts present a strong weight of evidence against such an occurrence. Or, if such a state of things really occurs, it is extremely rare. Friedrich (5), Mackenzie (10), v. Ziemssen (8), Strumpell (11), Niemeyer (7), Solis-Cohen (13), Ziegler (12), Lennox Browne (14), all have expressed opinions similar to that just stated, Ziegler and Lennox Browne being, however, very strongly in favor of a primary tubercular laryngitis, whereas Tobold (6), Flint (9), and Heinze (21)

* Read before the New Haven, Conn., County Medical Association at its autumn meeting, October 20, 1887.

* The numbers in parentheses refer to the bibliography at the end of the article.

do not believe in the existence of this kind of laryngitis, at least as found clinically. Heinze, who made the most of his observations on the post-mortem table and with the microscope, says that he never saw a case which he proved microscopically to be a tuberculous laryngitis, without also finding tuberculous processes in other parts of the body, usually, of course, in the lungs, and these same processes were apparently of an older date. Other observers, Tobold and Flint for example, who view the matter entirely from a clinical standpoint, find that they hardly ever see a tuberculous laryngitis without being able to diagnosticate a lung difficulty. Mackenzie, speaking of this matter, remarks, if a tuberculous deposit once exists in the lungs, we know how prone other weak and diseased organs are to become infiltrated with like matter. The larynx, either by heredity, existing catarrh, or over-use, being diseased or weakened, becomes a second place for the manifestations of the tubercles. Strümpell and Ziegler, considering the *Bacillus tuberculosis* as the cause of all tuberculous manifestations, find it very easy to conceive of a primary specific laryngitis. The bacilli need only to have a proper condition of the parts on which they are placed to be able to flourish there, and such a condition would be furnished by a chronic laryngitis, especially if this had already led to erosions or abrasions of the membrana mucosa. A colony of the tubercle bacilli once started, how easy it would be for them to find their way into the deeper layers of the mucosa, and thence into the general circulation! What might be true of the larynx will be eminently so of other portions of the upper air-passages, where, owing to the secretions being longer delayed, a better pabulum would be furnished to the bacilli. It is a fact that the epithelium of the mucous membrane in any of these situations is perforated by openings sufficiently large for leucocytes to pass out into the cavity of the mouth and throat, and, these openings remaining patent, how easily the bacilli could enter!*

Mr. Lennox Browne, whose interesting observations have been so recently brought to our notice, sums up the matter very briefly, and his conclusions are such as to voice the conviction of every honest observer. Bacilli may be conveyed to the larynx by means of the general circulation, the organisms having entered the same by the lymphatics, or, in the case of cavities, may be carried in the sputa. The former, as it does not involve a breach of surface, is the most probable route in the commoner forms of laryngeal tuberculosis.

Erosions, non-tuberculous in character, may appear in the larynx of a tuberculous patient; doubtless some of those that heal are of this nature.†

Clinical evidence has long warranted the supposition that laryngeal may precede a pulmonary tuberculosis. Recent facts have proved the truth of this hypothesis.

In the fauces and pharynx a nidus may be formed by the absorption of the contaminated secretion and the bacilli get into the general circulation.

Clinical evidence would show that there is a possibility of a primary faucial tuberculosis, but the fact has not yet been verified by post-mortem evidence.

This primary infection would mean a previous breach of continuity. Wounds and the places left after extraction of teeth have been starting-places of an infection, the writer instancing several cases to prove this statement.

To speak of personal experience, I have never seen a case of primary laryngeal tuberculosis, but do not doubt the fact of its occurrence, although it must either be very rare or very rarely get into the physician's hands before the lung symptoms are evident. It would seem thus rare, as I neither saw nor found records of such cases in the clinics at Leipsic, where I had abundant opportunity to make observations in a very large number of cases, nor have I since seen any such cases. Von Ziemssen makes a similar statement.

Granting the possibility of a primary tuberculosis, are there any predisposing causes of this and the usual tuberculous affection of the larynx? Undoubtedly a pre-existing laryngeal catarrh of a subacute or chronic type may dispose toward the localization of tuberculosis. Then all causes of laryngeal catarrh are remote predisposing causes. Prolonged strain or over-use of the larynx, catarrhal affections of the nose and pharynx, and heredity, are all more or less remote but powerful influences.

Sex seems to be of influence in this way, that the males are more frequently affected than the females.

The greatest number of cases of this form of laryngitis occurs between the ages of twenty-one and thirty, the time when phthisis pulmonum is most frequent.

Let us for a few moments describe some of the chief peculiarities of tubercular laryngitis. First, are there any pretubercular manifestations? A marked anæmia of the parts must lead us to strongly suspect a beginning tuberculosis; indeed, a marked anæmia of any considerable portion of the throat, especially the fauces, should lead us at once, where there are any catarrhal symptoms, to suspect and search for a beginning tuberculosis. So, also, the reverse, a decided and persistent hyperæmia of the parts, although possessing no especial peculiarities to distinguish it from other redness and congestion, will often immediately precede the manifestations of tubercle. The hyperæmic state may follow immediately after the previously mentioned anæmia, and the transition may be brought about by a so-called cold.

Tuberculous changes in the larynx take place in either one of two ways, which eventually become alike, as the end of both is ulceration.

There occurs at first a simple erosion, non-tubercular in its nature, which becomes infected with a specific bacillus, and eventually is a real tuberculous ulceration, having broadened, deepened, and become eroded, also containing in its rough walls small deposits of tubercle. A second and more usual way is that the lower layers of the mucosa become infiltrated with the deposit of tubercle cells and a real tubercle results. According as this is large or small, it protrudes the membrane in that locality, and, if it progresses, eventually ulcerates through, an open ulcer resulting. The deposits of tubercles may be extremely small, the cheesy deposit being

* See an article by the author in the "Deutsches Archiv für klinische Medizin," Bd. xxxix.

† C. C. Rice, of New York, says in only about 65 per cent. of the cases is there real tubercular deposit.

a mere layer immediately under the epithelium, which it eventually involves. These deposits are frequently seen ante mortem as spots yellow in color, appearing under the more or less transparent epithelium. They may remain for long periods without any apparent change, usually, however, breaking through the outer layers of the mucosa.

On the other hand, a large amount of general infiltration may take place without any or with only a small amount of real cheesy tuberculous matter being present; indeed, even when not accompanied by œdema, it may assume such proportions as to threaten to obstruct respiration entirely.

A very characteristic—indeed, by Mackenzie considered as almost pathognomonic—form of infiltration and enlargement is the swelling of the ary-epiglottic fold into a peculiar pyriform shape which is described by Mackenzie as follows: "The ary-epiglottic folds are like two large, solid, pale, pyriform tumors, the larger ends being against each other in the median line, and the smaller ones directed upward and outward. . . . When this characteristic, semi-solid, pyriform swelling of these folds is present, it is almost impossible to mistake the disease." Frequently only one side is enlarged, and also the swellings do not always present this simple shape, but may vary considerably according as the bulk of the swelling is located. Thickening in this situation is of very frequent occurrence, being noticed 397 times out of 500 in Mackenzie's cases.

The ulcerations, once established, are usually at first small and numerous, but as they extend become coalesced, forming large, irregular depressions, and may, as in the epiglottis, cause extensive losses of tissue. The smaller ulcers are at first superficial, but, as the tubercles in their walls break down and new ones are formed, they gradually deepen as well as broaden, but frequently, even when quite large, have not reached the cartilages. When the latter is the case, perichondritis is usually set up, and necrosis of the cartilages may take place. The infiltration usually involves all the layers of the mucosa, and frequently the submucosa, still the initial deposit in any single locality is usually near the surface, seldom being as deep as the racemose mucous glands.

The parts of the larynx most frequently affected by thickening or deposits are, according to Mackenzie, the following, giving them in the order of their relative frequency: The ary-epiglottic fold, the epiglottis, the vocal cords, the interarytenoid fold, and the false vocal cords, while the ulcerations are found on the vocal cords, epiglottis, interarytenoid fold, false vocal cords, and ary-epiglottic folds.

The tuberculous process differs somewhat in its character as it occurs in one part or the other in the larynx. Occurring on the arytenoid cartilages, the ulceration may pass down into and around them, sometimes causing a perichondritis of such severity that the whole cartilage becomes necrosed, and has been in some cases detached and expectorated. Detachment of the vocal cord is, of course, a result in this case, and frequently follows ulceration in this situation when near the processus vocalis.

On the vocal cords proper, owing to the resisting nature of the fibrous portions, the ulceration will proceed in the direction of the least resistance—viz., along the vocal cord.

So it is not infrequent that, on examination, the thickened vocal cords are found grooved out on their free edges by a longitudinally placed ulcer. This peculiar appearance may remain in very much the same condition for a long time, but may, as before stated, when the ulcer is near the posterior end, cause a breaking down and loss of one or both cords with resulting aphonia. This complete loss of the cords is sometimes more apparent than real, for a swelling of the false vocal bands may so conceal the true ones from our vision that the latter appear wanting. The false bands may conceal ulcers on their under surface.

When the inter-arytenoid fold is involved, its thickening is of course a direct impediment to the movements and approximation of the arytenoids, and consequently the posterior segments of the vocal cords fail to reach the median line, causing the whispering voice or aphonia. Erosions and ulcerations in this locality, even when not tubercular, are exceedingly difficult to heal on account of the almost incessant motion to which the parts are subjected.

The specific ulcers progress in spite of everything, and are painful as well as very irritating, for the mucus and remains of lung sputa are apt to remain clinging in this position, being, of course, a constant source of irritation to the eroded surfaces.

When the process is situated in the folds of the ary-epiglottic ligament and also in the epiglottis, there is frequently a very considerable enlargement of the parts, and in these cases œdema often makes its appearance. Under these conditions the epiglottis rises up, thickened to many times its normal size, the ulcerations, if present, being upon its posterior surface, and the whole may be frequently seen by merely depressing the tongue of the patient. Viewed laryngoscopically, such an epiglottis looms up in immense proportions and seems an almost insurmountable obstacle to the passage of the food into the pharynx, especially if, as some will have it, the matter swallowed passes over the epiglottis into the grasp of the constrictors. As a matter of fact, in these conditions the epiglottis can not assume a prone condition, the glottis is not accurately closed, and fluids especially, as well as small particles of the solid ingesta, are very apt to pass into the larynx, causing spasmodic cough. The ulcerations, however, may have produced quite an opposite state of affairs, and on examination nothing but the eroded stump is to be seen, but seldom is such wholesale destruction the case except in syphilis.

In rare cases, where there has been no particular press of symptom other than perhaps a little huskiness of voice and difficulty in deglutition, on examination the gray vocal cords will be found to be very deeply situated, seemingly stretched across the bottom of a tube formed by the infiltrated and thickened ary-epiglottic folds and epiglottis. The patient may indeed be in danger of suffocation and have no idea of the matter whatever.

œdema as present in tuberculous cases usually comes in connection with or on tissues already affected by infiltration, and is consequently very different in its character from the œdema in a simple laryngitis, being much less translucent and more difficult to reduce than the latter.

Immediately below the vocal cords the mucous mem-

brane in non-tuberculous cases is sometimes thickened and infiltrated, forming the so-called chondritis hypertrophica inferior. This is capable of assuming such proportions as to seriously narrow the lumen of the larynx. In some tuberculous cases I have seen this fold enlarged and ulcerated, causing a considerable hoarseness even if the vocal cords remained intact, which, however, they seldom do for any considerable length of time.

Exceptionally the ulcerations involve every part of the larynx, and these form some of the saddest cases which we have occasion to treat. There is scarcely any semblance to a larynx, all form and comeliness having been destroyed; neither cords nor epiglottis; no voice, scarcely any audible sounds except the constant cough and stridor in breathing; to swallow either food or medicine with any comfort is an impossibility, and yet these same patients have often more faith in their ultimate recovery than a person with a common cold, the same thing that we so often see in phthisis uncomplicated with laryngeal disease.

The subjective symptoms of laryngeal phthisis, excepting, perhaps, dyspnoea and dysphagia, are only the exaggeration of those felt in an ordinary laryngeal catarrh, and need not detain us long.

As we have to do in most cases—in all sooner or later if a complete cure is not reached—with a local affection, occurring in the course of a constitutional disease and perhaps the result of the same, the symptoms of the two affections are often not to be separated. Cough and expectoration are common to both, and, while the latter symptom is not greatly influenced by a laryngitis, the former is increased to a very distressing and grave degree. In the early stages, before ulceration of the parts has begun, a dry, hacking, tickling cough is not to be considered as coming from the lungs. Otherwise it is very difficult to estimate what part of the cough is due to the larynx and what not.

Hoarseness is an almost invariable accompaniment of the laryngitis, and in tuberculous cases may present every degree, from a mere lack of clearness and resonance in the voice to complete aphonia, depending on the extent and localization of the destructive processes.

Hoarseness is a very frequent accompaniment of phthisis, even when no real laryngitis exists, so it is by no means a diagnostic symptom.

Sore throat or pain independent of deglutition or coughing does occur in this form of laryngitis, and has usually a burning or pricking character, especially in the pre-ulcerous stage of marked hyperæmia.

Dysphagia occurs, according to Mackenzie, in almost a third of the cases, and it is due to two or three causes. Sometimes it is the mere pain of the act of swallowing, due to the contact of the matters swallowed with the ulcerated parts, or to mechanical interference on the side of the greatly enlarged epiglottis and thickened ary-epiglottic folds, or the inaccurate closure of the parts allows the ingesta to get into the chink of the glottis. In advanced cases all three of these causes may be in operation.

Dyspnoea is occasionally purely laryngeal in its origin; oftener, however, the advanced pulmonary degenerations are the cause of shortness of breath. Inability to close the

glottis, according to von Ziemssen, is frequently an operative cause of this symptom.

To give any precise method or points whereby a given laryngitis may be diagnosticated as tuberculous or not would be very difficult if not well-nigh impossible. If the characteristic semi-solid, pyriform swellings of the ary-epiglottic folds are present, it is almost impossible to make a mistake in diagnosis, but, where these are not present or are not characteristic, the way is not so clear. An exact and careful examination of the lungs will usually decide matters, but if nothing is found which can decide us, then we must not neglect the examination of the sputa.

Catarrhal ulcerations are nearly always very superficial, having the characters of a mere erosion, and are most frequent on the vocal cords. The hypertrophies which result from simple catarrh would seldom be taken to be tuberculous, being less in thickness and less general in their extent. Catarrhal ulcerations are seldom anæmic on their borders, in that respect resembling the syphilitic. The œdema which comes in simple laryngitis may be mistaken for the thickening and infiltration of a tuberculous affection, but usually its greater transparency and semi-fluid condition will readily distinguish it, although œdema will be found added to a tuberculous enlargement.

To distinguish tubercular from syphilitic lesions is also not always easy. The absence of marked lung symptoms or disease, the extensiveness of the ulcerations, and the finding of plaques or their cicatrices in the pharynx or mouth, will usually decide the matter for syphilis. An accurate physical examination of other parts, together with the history carefully elucidated, will often reveal to us what we are seeking. Syphilitic ulcers are of more rapid growth, are larger, deeper, and broader than is usual in phthisis, also frequently single or unilateral, while tuberculous ulcers are numerous, smaller, and bilateral. When the epiglottis is affected, it is oftener the edges on one side and the anterior surface which are involved in syphilis, the reverse being true of tuberculosis. More of the organ is often destroyed in syphilis. The marked anæmia so often seen surrounding a tuberculous ulcer is reversed in the syphilitic. Syphilitic thickenings and infiltrations are usually irregular. Ulceration over the arytenoid cartilages is rare in syphilis, very common in tuberculosis, the same being true of the ventricular bands and the anterior commissure of the vocal cords. The vocal cords themselves are frequently attacked in both, but oftener in syphilis only one is affected.

The prognosis of laryngeal is as unfavorable as that of pulmonary phthisis—indeed, is very dependent upon the latter. The reports of cases of laryngeal phthisis being cured, and permanently so, are, as is natural, always taken with a grain of salt, and yet I have no doubt that some cases really come to a stand-still and cicatrices occur.

Mackenzie says: "Of all the cases I have ever seen, I have only known of four cases where I have reason to believe that the disease was entirely arrested. There were distinct tuberculous lesions in the lungs; in one, a cavity." I have seen tuberculous ulcers heal, but never a case permanently arrested, for the lung symptoms continued.

If the course of the pulmonary phthisis has been acute

and rapid, we can of a surety prognosticate the same of the laryngeal affection, and the reverse is usually the case; that, in old chronic cases, the ulcers will assume no large dimensions for long periods of time.

If the process remains located in the interior of the larynx, the prognosis is far more favorable than when the outer portions are affected, as these, when ulcerated, interfere so greatly with nutrition, favoring, of course, marasmus.

We may now glance for a few moments at the therapeutics of this disease, and try to glean a few kernels of wheat from the useless chaff.

First and foremost in the treatment of the local affection must be the care of the constitutional or tuberculous lung trouble. The usual rules laid down in the admirable existing treatises on phthisis, its care and hygiene, are to be carried out just as rigidly in cases of laryngeal trouble. Change of climate and hygiene in general, due attention to the kind of food and the manner of its preparation, together with proper medicinal control of the more urgent symptoms, are the first and prime necessities, without which our local treatment will be of little avail. Just here it is perhaps not out of place to speak as briefly and advisedly as possible of some of the various methods which have of late years been much practiced and the results of which have filled our medical periodicals, being each in its time almost a cure-all for the much-dreaded phthisis pulmonum. We have all hoped they were such, but vain has our hope as yet been.

Pneumatic differentiation made its *début* on the stage of therapeutics, was received, welcomed, and applauded by many good men, soon had a great *renommée*, and now seems to have gone into a decline, everything that could be said in its praise having already been said. The mass of the profession, except those who have cabinets, cease to wonder any more, and are looking for something better. While, theoretically, a very nicely and skillfully arranged plan, practically it has of itself been of lasting good in only a comparatively small number of cases of real pulmonary phthisis. A benefit was received by a great many, perhaps a prolongation of life; some have apparently been cured, but by no means a large per cent., while the mass hurry along to their premature graves, unhindered and unchecked.

Intra-pulmonary injections, if possible into the abscesses themselves, of iodoform were tried and are still being practiced. Quite a number of patients seem to be in a measure permanently relieved, notwithstanding that the injections are followed by much pain, and cases of acute pleurisy have resulted. The recommendation of Professor Semmola in 1878 that iodoform internally was of undoubted benefit, even if it did not effect a cure, was the exciting cause of the injections being tried. That the solvents of iodoform are so irritating is the chief objection to their use.

R. Singleton Smith (15) discusses the subject before the International Congress. He says: "If it is true that iodoform internally is of value, then it would be practically of far greater value if introduced into the foci of the disease than when given in much larger doses affecting the entire system." Nevertheless, from his experience, he would not advocate the use of injections in hopeless cases, and not

even in those where other and less active measures were accomplishing the desired result. He thought the matter ought to have further trial.

Perhaps no one method has excited more attention and universal comment than Dr. Bergeon's method of gaseous enemata. Many and varied have been the reports both *pro* and *con*, but I think almost all of you will agree with me in the conclusion that it is not what it has been thought to be. Also, the period over which the observations have extended has not been long enough to prove whether the cases were really cured or not. Dr. Bergeon himself can look back over three or four years, and he professes to have permanently cured a great many cases, and in these same the laryngeal and pharyngeal complications which existed were also removed with the lung trouble. Reports of a later date are not all favorable, and the latest is perhaps that of the author before quoted, Lennox Browne. While not condemning the method, he says of it that it is a method of treatment which is still on trial, and, so far as can be judged, it is more favorable in cases of chronic bronchitis than in tuberculosis. Temporary improvement is frequently shown in that there is diminution in the amount expectorated, less pain, and less distress from persistent cough. Still, the permanent effect is doubtful. This is considerable to accomplish in many cases; but I think it would be better, if possible, to follow H. C. Wood's suggestion—that of giving the solution of the gas by the stomach, as he reports almost as good results as by the other much more inconvenient and disagreeable way of introducing the gas into the economy.

Of local interest is the compound oxygen gas, as stored in cylinders under high pressure, and given by inhalation. It is advertised by the physicians who have used it as being excellent in incipient phthisis. Physicians in New Haven have used it with benefit. Having at one time in my care three cases of phthisis in its earliest incipency that were pursuing a rapid course, I used the gas in them and in two additional cases. Only one of these was much benefited, and he has gone away to the mountains, having continued to improve. One, who had phthisis florida, has died; the others were not at all benefited. Several patients with bronchitis were much improved. I do not wish to express any decided opinion, as my experience is too small, but am willing to have you know what has been the result as far as I have gone.

Following the method of Dr. Kolischer, who, by injecting and applying salts of calcium in the foci of local tuberculous affections, more especially joints, endeavors to bring about the healing of these same lesions, some observers try by internal medication to produce the same or like effects upon the lung tubercles. Lennox Browne refers to this when he recommends calcium hypophosphite as the best of these much-lauded remedies, it being more favorable to the calcification of the tubercles. He does not state that he has seen or hopes to see any marked benefit from the procedure. Kolischer, however, certainly appears to have had very excellent results in the local application. Browne speaks of atropine as being much used by himself as a probable alkaloidal antidote to the symptoms of blood-poisoning which tuberculosis is looked upon as being—a sort of sep-

ticæmia. He uses it for its sedative effect as well. Arsenic, as a possible specific, acting in the same way but not in the measure that mercury does in syphilis, has also been recommended.

In reference to atropine I can only speak in commendation, having used it more or less in every case of phthisis which I have under my care, and, barring the effect which it has upon the eyes and throat when an overdose is taken, I have seen nothing but good from it. In the night-sweats it is of great value.

Arsenic, as a tonic to mucous membranes, when given in small doses continued for a long period of time, I have been accustomed to use with apparent benefit, and for much the same reason I have employed it in phthisis in connection with iron and strychnine.

To speak of strictly local applications, they are made in one of two ways—immediately in powders or solutions, intermediately in vapors by inhalation.

For inhalations volatile substances are necessary, and of these the volatile essential oils are the most used and justly the most valued. *Oleum pini silvestris*, *oleum eucalypti globuli*, *oleum juniperi anglici*, *balsam peruvianum*, and *tinctura benzoini composita* are examples. Alteratives containing ammonia, iodine, chlorine, thymol, or menthol, are also much used. Most frequently these inhalations are made by means of a more or less complicated apparatus by the aid of steam, sometimes atomized, but better just as it rises from the heated water. Oro-nasal inhalers are used by some physicians, but I have had no experience with them. When a special apparatus is at hand, the inhalation may well be done by its help, and at a temperature of about 140° F. up to 160°, but not higher. The chosen balsam or oil had better be made up in a solution, of which one teaspoonful in a pint of water is used at an inhalation. The carbonate of magnesium may be combined to give support to the particles of the oil. When other apparatus is wanting, a simple and very convenient, as well as inexpensive, method is as follows: First, a flat dish or vessel that will hold a pint or more; secondly, a cone made of stiff brown paper, glazed if possible, about a foot or eighteen inches long, and large enough at the base to cover over the dish. Boiling water is now put into the vessel, a spoonful of the mixture thrown upon it, and the cone placed over the whole, when the steam will come away through the apex of the cone, which has been cut off a short distance from the end. The usual directions about inhaling are to be observed—namely, a full, long, deep, slow inspiration, the mouth being over the opening in the cone; then a slow expiration, the mouth being closed. About six of these inspirations should be done in the minute, and there will be sufficient vapor for about five minutes. If for the first few seconds the steam should be uncomfortably warm, the patient may wait. The advantages of this method are its ease of performance, the erect posture which may be assumed as the funnel slants toward the individual, and its simplicity. It fulfills also every purpose of a more expensive and cumbersome apparatus. I usually rely upon *oleum pini silvestris*, or *oleum eucalypti globuli*, or *balsam of Peru*, the latter being rendered fluid by the addition of a little absolute alcohol before being added to the mixture. Inhalations are

usually ordered three or four times a day, and usually relieve the patient, for a few moments at least, of his persistent cough.

Another method of influencing indirectly the state of the larynx, and one constantly prescribed by myself with great relief and benefit, is gargling rightly executed. The method is that of Hagen (23), which is the von Tröltsch (22) method much improved, the latter being well known. The fluids gargled are brought down to the larynx, and, of course, enter the pharynx, even indeed, if the patient properly controls his throat, may pass through the naso-pharynx and come out through the nose at the end of the act. A weak saline or alkaline solution, used in this manner three or four times a day, contributes much to the comfort and well-being of the patients, who invariably are troubled, some to a marked extent, by oversecretion on the part of the nose and pharynx, and the collection of the secretion in large quantities. The effect of the gargle is to remove this constant irritation, which manifests itself even in the larynx, for the secretions pass down the pharynx into it, irritating its ulcerated surfaces, in the disease in question. It is true that atomizers of the single bulb description are used for the same purpose; but, in the long run, the gargle, rightly managed, does better service.

Having referred to the influence which catarrh of the nose and naso-pharynx may have upon the larynx, I must mention a theory of heredity which has to do with the cause, as well as treatment, of phthisis. Of late years most catarrhs of the naso-pharynx and throat have been referred to the stoppage of the nares either through hypertrophies of mucous membranes pure and simple, or, more frequently, by deviation of the septum or irregularities of the same, and the hypertrophy resulting from them. Jarvis (17) propounded the idea that heredity in various families caused deviations of the septum nasi, and he brought forward a number of illustrations in which they were the cause of nasal and naso-pharyngeal catarrh. These, in their turn, caused pharyngeal catarrh and laryngitis. This latter may, as we have already proved, be the starting-point of a local and general tuberculosis. He then instances a number of cases where, by correcting the abnormalities in the nose, he has greatly benefited the pulmonary and laryngeal troubles, if any existed, doubting not but that he has cured a number of cases even where grave lesions had already begun. We can, therefore, not pay too much attention to the condition of the upper air-passages.

By bringing medicaments into the larynx, we usually desire to relieve the press of symptoms and, if possible, cure the local trouble. These ends are in view in our treatment topically of phthisis laryngea. Are pain, distressing cough, and constant tickling present, nothing relieves so quickly or for so long a time as morphine, either as an insufflation or in a pigment. An insufflation of a quarter to half a grain of morphine in powdered lactose, or a pigment in which morphine is the principal factor—say half a grain to the drachm, combined with carbolic acid and tannin, two grains each to the drachm of water—will often benumb the parts for from twelve to fourteen hours. This form of pigment is recommended more especially by Dr.

Ingals (16), of Chicago. With the morphine in the powder I usually combine nitrate of silver in the powdered crystals. If the patient can be taught to blow the powders well down into the larynx himself, he could repeat them two or three times a day if necessary.

Iodoform insufflations are also astringent and sedative, especially when there are ulcerations. Prosser James (24) was one who early recommended their use, and attributes much beneficial influence to them. I have found it to be apparently seldom better than some other applications which have at least the advantage of being less disgusting to the patient and his surroundings. I speak this advisedly, having used it as a routine treatment in a large number of cases. In some it has done excellently, and perhaps part of the effect may have been due to the passage of the powder more frequently into the stomach, and the consequent general effect of the medicament. Its congener, iodol, seems to present every good quality and none of the bad ones of its fellow, and, so far as my own experience and that of others is concerned, is fully its equal therapeutically.

Lactic acid has been a very much lauded remedy, and is not without merit. It has been used in two ways—one as a surface application to the parts, and a second by submucous injections. Of this latter, Dr. Major (18) reports—following the method of Dr. Krause, of Berlin, who acted on a previous suggestion by Dr. Herring, of Warsaw—that the early swelling and œdemata disappeared in periods varying from twenty to thirty days, and ulcerative changes were avoided. Very little pain and irritation were experienced; fifteen to twenty minims of a solution ranging from 20 to 30 per cent. were injected at one sitting. Major was very enthusiastic, remarking that the acid was probably the most speedy and efficacious plan of treatment yet introduced for healing tuberculous ulcerations.

Jelinek, speaking of the same matter from his experience at Schrötter's clinic in Vienna, seems to think he has obtained the best results where the solutions were applied to deposits already ulcerated. He, using solutions of from 25 to 50 per cent., and even the pure acid, found the pain the chief objection. Cocaine mitigated this to some extent. Of course the solutions were brought on to the parts directly.

With submucous injections I have had no experience, but of lactic acid as an application or pigment I have a very good opinion, for by it, in at least one case, I have healed and kept in abeyance a tuberculous ulceration of the vocal cords until the end of a phthisis pulmonum, which had meantime progressed unchecked, when the epiglottis was attacked and nothing could stop ulceration and dysphagia with resulting marasmus. I rely upon lactic acid as much as upon any one application.

In cases of dysphagia due to ulceration my plan is to apply cocaine accurately to the abraded surface, and, when the pain has vanished, lactic acid nearly pure, or a saturated solution of nitrate of silver, is applied to the ulcers thoroughly, and perhaps afterward a sedative powder or pigment. The cauterizing of the parts by the strong solutions benumbs the nerve-endings completely, an effect which is increased by the after-powder or pigment, and the patient can often indulge in a full meal with some degree of comfort. This is,

of course, an indication when to make these applications, and they should be repeated every third day if necessary. This is essentially the method of Dr. Gouguenheim, of the Lariboisière, excepting that he uses iodoform or iodol after the lactic acid, preferring a wet sponge as a more accurate method of applying the powder. In this or a similar manner very distressing cases of dysphagia are relieved, and the patients can partake of food regularly when they would go for days without it rather than endure the discomfort which comes with eating.

Mackenzie recommends, in apparently hopeless cases of dysphagia, the use of the œsophageal tube, which can be easily passed in most cases. It is only in rare instances that the swelling is sufficient to be a mechanical impediment to the act of deglutition, so the œsophagus is not rendered inaccessible. By this means of feeding, of course, the general nutrition can be markedly benefited, and it allows of stimulation and medication *ad libitum*.

D. Bryson Delavan and Beverley Robinson (20) have both considered this subject at length. Robinson remarks that there are cases where the passage of the stomach-tube causes intense pain, even when the best instruments and great care have been used. For this reason and on account of intolerance of the stomach, we have frequently to desist and fall back on nutrient enemata. When the stomach has recovered much of its tone, then it may be slowly used again. By thus alternately using the stomach and the rectum, we can often accomplish much in the direction of alimentation. Robinson thinks it a great mistake to wait too long before beginning the use of the tube, and would even advocate starting before dysphagia had become marked, hoping by superalimentation to hold the constitutional disease in check. Cocaine, by insufflation or spray, does not seem to mitigate the pain on passing the tube.

In the cases of those who are troubled by the matters swallowed getting into the larynx, the best way is to have everything semi-fluid, and encourage its being taken at a draught so as to make the act of swallowing continuous. A difficulty in these very cases is that extreme shortness of breath will not allow of any very prolonged act of swallowing.

In the "Lancet" for July 2, 1887, R. Norris Wolfenden (19) speaks of a simple method of swallowing in cases of ulcerated epiglottis, which was suggested to him by a patient of his who was troubled in this manner. He lay flat on his abdomen with his feet and body higher than his head, and by means of a tube sucked the fluid up and swallowed it, thereby being able to drink a whole glass of any fluid, whereas in the erect posture he could not take a swallow without being painfully choked and set into spasms. If the method should prove even of passing benefit in such cases, it will indeed be a blessing.

Edema, threatening suffocation, must be treated by incision and astringents, with counter-irritant outward applications. Lennox Browne speaks of the procedure of scraping out tuberculous deposits in the larynx and then making an application of lactic acid. Unless respiration is seriously interfered with, he does not approve of making fresh wounds in the larynx, as they may afford new foci of infection or

disease. Tracheotomy to rest the larynx is worse than useless, as is also intubation, the tubes being too great an irritation. Even from amputating a uvula he would abstain, as giving rise to a possible nidus for a new infected sore.

Tracheotomy in cases where the state of the larynx causes an urgency of symptoms of suffocation is called for only in a few exceptional cases. If suffocation threatens early in the course of a phthisis, tracheotomy may be performed to save life, but in the last stages, when such symptoms are most frequent, the tracheotomy only unnecessarily prolongs a life which has seen enough of suffering without being afflicted with a new one.

As a brief summing up of what has been said, I will quote from Professor Massie (25), of Naples, who thus closed his remarks on this subject:

1. We are still in want of some remedy or remedies to effect a cure of laryngeal phthisis.

2. Notwithstanding this want, the local treatment of the disease is incumbent on every physician.

3. Many cases quoted by various writers are of extremely hypothetical nature, inasmuch as they have not been a sufficient time under observation.

4. Cocaine, iodoform, iodol, and sublimate are perhaps the best of the local remedies [to which I would add lactic acid, differing with the writer, who doubts its great efficacy].

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MULTIPLE NEUROMATA WITH NEURO-SARCOMA.*

By FRANK HARTLEY, M. D.

MAGGIE S., a native of Ireland, thirty-three years of age, single, who had lived five years in the United States, was seen November 13, 1886. The parents of the patient were both healthy. There is no history of tumors in the family, nor has the patient suffered from any but slight ailments. Up to the age of eighteen she was free from any tumors. At this time she first noticed a small tumor of the size of a pea in the palm of the right hand over the os metacarpi indicis. She does not remember to have injured her hand in any way that one could consider a cause for its development. The tumor grew slowly, giving her no trouble for five years, at which time it became painful and interfered with grasping objects firmly. At twenty years of age another tumor was noticed in the forearm just above the wrist on the flexor surface. It was of about the size of a walnut and perfectly movable beneath the skin. At no time has the tumor been painful to pressure, nor has she experienced at any time numbness in the hand or fingers, nor any weakness in the muscles moving the fingers. At twenty-five years of age she noticed a tumor upon the calf of the left leg of about the size of a walnut, but which at no time gave her any inconvenience. At twenty-nine years of age (four years later) she observed another tumor on the flexor surface of the forearm just above the former one. At thirty she noticed a tumor upon the ulnar nerve above the internal condyle. These were perfectly movable, not painful, and grew slowly in size, giving no symptoms. At thirty-two she noticed that her wrist was increasing in size, especially upon the flexor surface, and that other tumors grew upon the forearm and hand, and one very rapidly just above the elbow upon the internal surface of the arm. The presence of these tumors and the enlargement of the wrist did not at first interfere with her work. There neither has been nor is there at present any actual paralysis, anæsthesia, or paræsthesia in the hand or fingers. Seven months ago the enlargement at the wrist began to grow very rapidly, giving her great pain and rendering her unable to use the hand for any form of work.

Status Præsens.—The patient is a strong Irish girl with no pulmonary or renal disease. The heart is normal. The right arm, forearm, and hand are the seat of a number of tumors. Commencing at the hand and tracing these tumors toward the trunk, one finds upon the flexor surface of the proximal phalanx of the third finger a small movable tumor. It is soft, pseudo-fluctuating, and can be moved laterally but not longitudinally. It is not attached to the skin, and is apparently inclosed within a distinct capsule. In the palm of the hand over the os metacarpi indicis is another pseudo-fluctuating and distinctly encap-

* Read before the New York Surgical Society, November 23, 1887.

sulated tumor. It is not movable longitudinally, but can be moved from side to side, and is not adherent to the skin. At the wrist one notices a somewhat oval swelling easily distinguished as lying beneath the flexor tendons. It is seen to involve the bones of the forearm and to completely envelop the lower end of the radius. It embraces both the radius and ulna, but is more pronounced upon the radial side. As compared with the opposite side, its circumference is longer by five inches. The longitudinal diameter is four inches. On the flexor surface, just above and over its upper border, is a separate oval and lobulated tumor which, though loosely attached, is adherent to the general enlargement at the wrist. It is more adherent than those tumors previously mentioned, and is situated deeper beneath the integument. On the ulnar side of the forearm there can be seen a tumor of about the size of a hen's egg, movable, and not apparently attached to the surrounding tissues except at its lower portion. At the elbow, lying over the internal condyle of the humerus, is a large, oval-shaped tumor, three inches long, one inch and three quarters broad, movable laterally, and not attached to the surrounding tissues. On the outer surface of the forearm is a tumor situated about midway between the elbow and wrist, about an inch to the outer side of the tumor in the median line on the flexor surface. On the shoulder a small tumor can be seen situated just beneath the skin and over the posterior half of the deltoid muscle, and upon the calf of the left leg a tumor about the size of a small lemon.

Operation.—The usual antiseptic precautions being observed, an exploratory incision was made into the enlargement involving the wrist, and, the tendons and median nerve being pushed aside, the mass was incised. It consisted of a soft, pul-taceous, grayish-red mass, which bled very freely and broke down very readily upon the slightest manipulation. The lower end of the radius and the first row of carpal bones were found to be involved. A spindle-shaped swelling continued up the forearm, surrounding principally the radius.

On account of the other tumors on the forearm and the tumor over the internal condyle of the humerus, which at present was growing rapidly, and the fact that the tumor at the wrist had already involved the radius and the wrist joint and was in all probability a malignant neuro-sarcoma, an amputation of the arm above the tumor over the internal condyle of the humerus was thought the most advisable procedure, provided the nerves at the point of election were not enlarged nor presented any observable vascular change.

An amputation was performed in the middle third of the arm, and the small tumor over the deltoid was extirpated. The nerves at the site of the amputation were not enlarged, showed no vascular change, nor was there any enlargement in the cords of the brachial plexus. The tumor upon the short saphenous nerve was also extirpated, with resection of the nerve and suture. The hand, forearm, and arm were dissected and the nerves and bones were saved and prepared as in the specimen.

Here we see that a small tumor situated upon the ring-finger is connected with the digital nerve, the fifth branch of the median nerve. It does not entirely surround the nerve, but is situated upon one side. The digital nerve is not larger above the tumor than in the rest of its course. The next tumor is situated between the heads of the metacarpal bones belonging to the index and middle fingers upon the fourth branch of the median nerve. It does not entirely surround the nerve, but is situated to one side of it. The nerve above the tumor is larger than normal, varicose in appearance, and at a point an inch and a half below the division of the median nerve enlarges, gradually passing into the median nerve, which is for a space of an inch and three quarters very irregular, thickened, and varicose, but having no distinct tumor upon it.

At the level of the wrist we come to the tumor which had involved the lower end of the radius and the wrist joint, destroying the cuneiform bone and the lower end of the radius and extending upward in the soft parts to the tumor upon the anterior interosseous nerve. The median, ulnar, and radial nerves pass over the tumor on the anterior or flexor surface, as well as the palmaris longus, flexor sublimis and profundus digitorum, flexor carpi radialis, and ulnaris muscles. The extensor tendons were closely adherent to the dorsal surface, as well as the pronator quadratus to the flexor surface of the tumor. The nerves and tendons passing over the tumor are not involved in the mass, except the pronator quadratus.

Of the nerves, the median alone shows any change. It is irregularly enlarged, varicose in appearance, and continues so up the forearm to the bend of the elbow. On the ulnar nerve, just above the tumor at the wrist, is another small tumor of about the size of a walnut. On the internal cutaneous nerve is also a tumor of the same size and shape. At the upper margin of the tumor at the wrist is still another connected with the anterior interosseous nerve, and which is distant from the tumor about half an inch, but connected with it by a well-marked nerve-branch. It is upon and surrounds the anterior interosseous branch of the median and measures 2 inches by 1 inch.

At the same level can be seen a small tumor of about the size of a lemon-seed upon the radial nerve at the point of division. Just half an inch above this small tumor is another, $\frac{7}{8}$ by $\frac{1}{2}$ inch, upon the musculo-cutaneous nerve, and one inch and a half above this another tumor about the size of a lemon-seed can be seen upon the same nerve. There is no change in the size of the nerve between these tumors. On the anterior interosseous nerve, above the tumor already described, exist two other tumors, both of which are ovoid in shape and are separated by a small interval ($\frac{1}{4}$ to $\frac{1}{2}$ an inch) from one another and from the first tumor.

The median nerve along the forearm is very irregular, varicose, but presenting no great enlargement until it arrives at the bend of the elbow, where at its point of division is a spindle-shaped swelling about one inch in length and half an inch in diameter, surrounding the whole nerve, from the lower point of which is given off the anterior interosseous nerve. The nerve from this point to its place of division by the amputation is slightly enlarged, but not markedly so. Just above the elbow, over the internal condyle of the humerus, is a larger tumor, 2 by $1\frac{1}{2}$ inches, situated upon the ulnar nerve. It is ovoid in shape, smooth, and not lobulated. It surrounds the whole nerve, which passes through the tumor at its inferior portion. The ulnar, internal-cutaneous, musculo-spiral, and musculo-cutaneous nerves above the elbow are not enlarged nor varicose. The median nerve alone seems altered above the elbow.

Microscopical Examination.—The methods of staining used in the examination of these tumors were osmic acid, alum-carmin, borax-carmin, safranin, picrocarmin, and Weigert's hæmatoxylin, and the methods of hardening the preparations were with alcohol, osmic acid (Fleming's solution), and Muller's fluid.

From the tumor of the wrist, involving the lower end of the radius, sections were taken from the proximal border, close to the tumor connected with the anterior interosseous nerve, from its radial border, and from its posterior surface. It was composed of small and large round cells, with spindle cells, and a few multinuclear cells. These were not evenly distributed throughout the sections, since many sections showed only an aggregation of round cells, with but little protoplasm inclosing a rounded or slightly oval vesicular nucleus. In some of these sections a few bundles of spindle cells were found within the masses of round cells, and for the most part these bundles were

composed of three or four cells, lying parallel to one another. In other sections the spindle cells formed the greater portion of the field, and were arranged in large bundles, passing in all directions, as shown by their difference in shape when cut crosswise, lengthwise, or slantwise. The protoplasm of these spindle cells is small in amount, and so much so that it is not seen about the nucleus; the cell processes seem to grow out of the nucleus. The intercellular substance is very scanty; finely fibrillary in all sections examined. The blood-vessels were thin-walled, but quite distinguishable, or they were merely channels between the cells composing the tumor. Sections involving the lower end of the radius showed that it was in greater part replaced by round cells, having the same characteristics as in other sections. The medullary and Haversian canals were filled with the same. In certain sections large areas within the bone were filled with round cells. These irregular spaces could be traced from the medullary cavity to the periosteum covering the radius, beneath which the same round cells were formed. The periosteum itself was filled with round and spindle cells, and in parts completely replaced by them. The muscle beyond, the pronator quadratus, a part of which was still present, showed the same infiltration of round cells between the fibers. In sections from the proximal portion of the tumor were seen well-stained primitive nerve-fibers, surrounded by spindle cells, which so closely inclosed the sheath of Schwann as to render any distinction impossible. The axis-cylinder stained deeply, and the myeline substance, though wanting in places and irregular in contour, stained well. These primitive nerve-fibers were cut transversely, obliquely, or lengthwise, and were either single or in groups of two, three, or four, separated from one another, and surrounded by spindle cells. Other bundles of spindle cells, passing through the sections, showed no nerve-fibers within them. It is possible that such represented a degenerated nerve-fiber, or an obliterated artery. The edge of the tumor showed many spindle cells, arranged in irregular bundles, and often intersected by advancing areas composed of round cells, in which were found, here and there, large multinuclear cells, such as one frequently seen in rapidly growing sarcomata.

The distal tumor upon the anterior interosseous branch of the median nerve was so cut as to have in the sections not only a portion of the nerve, but the tumor itself.

The sections made were both longitudinal and transverse. The tumor itself was made up of large spindle cells with very little protoplasm, large oval nuclei, and a very scanty intercellular substance. The medullated nerve-fibers occupy only a small portion of the transverse diameter of the tumor, the greater portion being entirely without nerve-fibers, and composed of spindle cells in bundles running in all directions.

In those sections made near the entering nerve the bundles are already separated from one another by the spindle cells situated for the most part outside the perineurium of most of the nerve-bundles, but involving it in some of them. The nerve-fibers in the last-named bundles are in part separated from one another by a tumor growth within the perineurium. In sections nearer the center of the tumor many of the bundles are separated into their primitive fibers, which are each surrounded by an infiltration of spindle cells having the position of the endoneurium. In sections still nearer the distal end of the tumor the nerve-bundles remain divided into their primitive fibers, which form a very intricate plexus within the tumor. The spindle cells surrounding the primitive fibers are so closely arranged that it is almost impossible to make any distinction between them and the nuclei of the sheath of Schwann. In all sections the primitive nerve-fibers are cut in all directions, and the plexus thus formed is so intricate that it is impossible to fol-

low them with any certainty from section to section. Although sections made longitudinally embraced nearly the whole tumor, no aggregation of the nerve-fibers into bundles could be found passing out of the distal end of the tumor. No changes were found in the nerve-fibers themselves. There was no hyaline degeneration, as described by Schuster in his case of multiple myxofibromata of the nerves of the forearm, and by Krause (Case II) on the sciatic nerve. In none of these sections could any very fine axis-cylinders without myeline substance, or with a narrow and interrupted myeline substance, as characteristic of nerve atrophy, be found (Kriege). The axis-cylinders in all sections stained deeply, and the myeline substance seemed to be normal, both in reaction and in appearance. The second tumor upon the anterior interosseous branch of the median nerve was in every particular similar to the first, except that the tumor tissue was situated more to the side of the nerve than inclosing it. A large portion of the nerve passes through the tumor without being divided into its primitive bundles and fibers. In this tumor one sees a few nerve-fibers, which on cross-section are larger than normal and irregular in outline, in which the nuclei of the axis-cylinder stains as well as the axis-cylinder itself. This staining is somewhat lighter than usual with carmine. There is no evidence of a normal myeline substance about the nerves; no proper reaction to osmic acid and Weigert's hæmatoxylin. Such a condition is explained by Krause and others in this way: that the myeline substance has disappeared, and the axis-cylinder is irregularly swollen and occupies the whole transverse section of the primitive nerve-fibers.

The sections of the anterior interosseous nerve were taken between the proximal tumor and the median nerve itself. This, which appeared as a nodular enlargement of the nerve, showed upon cross-sections that the cellular growth for the most part lay within the epineurium separating the secondary bundles. Although the nerve-fibers in many places are thus invaded by the spindle cells, still the greater part of the nerve remains uninjured by them, so that a large portion of the nodular growths does not contain nerve-fibers. In those sections in which the cells are situated between the primitive bundles and fibers they are spindle and irregular shaped cells, with, in most sections, an abundant, finely fibrillary intercellular substance. These cells so closely surround the primitive fibers that it is often impossible to distinguish them from the nuclei of the sheath of Schwann. In no section does one find the axis-cylinder swollen or atrophied, nor any change in reaction to the Weigert's hæmatoxylin and carmine.

The tumors on the fourth and fifth branches of the median nerve are grayish-red in color and show to the naked eye several small, irregular red points (hæmorrhages) and a few small cavities filled with a serous fluid.

The tumor is composed of spindle cells with a scanty and homogeneous intercellular substance. The small cavities have no distinct lining, and seem to be due to cell-degeneration rather than to be lymph spaces or the result of hæmorrhages. There exists about some of these cavities hæmorrhages into the tumor, but they are by no means common. The digital nerves enter these tumors, but only in small part. They pass within the tumor for the most part without dividing into their primitive fibers, and do not form any marked plexus of primitive fibers within it, so that at the distal portion of the tumors the nerve, though separated in part into its primitive fibers, is readily recognized for the most part as entire. The growths upon the musculo-cutaneous, internal cutaneous, short saphenous, and circumflex nerves consist of spindle cells with an abundant and finely fibrillary intercellular substance in which the nerve is only slightly separated into its primitive fibers, the major portion passing through without involvement. There was no evidence

of any changes in the nerve—neither an atrophy nor hyaline degeneration.

The ulnar tumor, together with a portion of the nerve, was examined. The nerve was found normal at its proximal end, there being no cellular growth within the perineurium and the nerve-fibers were not altered. At its entrance into the tumor the nerve-bundles and fibers were pressed aside by the intervening cells and separated suddenly from one another.

The bundles in greater part are separated into their primitive fibers, which are surrounded by the tumor mass and form so intricate a plexus that it is difficult to isolate them from one another or to follow any one primitive fiber for any distance with certainty. On cross-section, the same picture is seen. The greater portion of the nerve passes into the plexus, and the tumor mass, though lying mostly to one side of the nerve, still incloses it completely. No portions of the nerve pass into the tumor without dividing into its primitive bundles.

The tumor tissue passes between the nerve-fibers, separating them from one another, which in part presents the appearance of a fibro-sarcoma. This is especially seen where the nerve-fibers are not yet completely separated, and the perineurium is still preserved. In other sections the spindle cells are much more abundant, with a very scanty intercellular substance, and this is most marked in those sections where the nerve-fibers are small in amount and already divided into their primitive fibers. In portions of this tumor the perineurium is well preserved, and within it the spindle cells are abundant, following the course of the endoneurium and separating the primitive nerve-fibers and surrounding them in sheaths composed of spindle cells. In the nerve-fibers within such sheaths no changes were found. There was no increase in size of the axis-cylinder, no destruction of the myeline substance, nor change in its reaction to osmic acid or Weigert's hæmatoxylin. Masses of spindle cells can be seen, however, in the center of which no nerve-fibers can be found. Such bands of cells, passing through the tumor and having no nerve-fiber within them, have been considered by Krause, Krieger, and Takács as being atrophied nerve-fibers in which the myeline substance first disappears and then is followed by the destruction of the axis-cylinder. The structure of the tumor is that of a spindle-celled sarcoma with little intercellular substance, though in portions the intercellular substance is abundant. This is, however, not the case in the majority of the sections examined. Blood-vessels are abundant.

The conclusions drawn from the examination of these specimens are:

1. That we have a sarcoma composed of spindle and round cells involving the lower end of the radius, pronator quadratus, a part of the first row of carpal bones, and the capsule of the joints. In this tumor well-stained nerve-fibers were found.

2. That the first tumor upon the anterior interosseous nerve was composed of spindle cells, with scanty intercellular substance, and that the nerve-fibers are separated by the cells which have involved both the perineurium and the endoneurium. No changes in the nerve-fibers could be found in this tumor.

3. Hyaline degeneration of nerve-fibers was present in the second tumor upon the interosseous nerve.

4. Examination of the nodular enlargement of the nerve itself showed that the new growth was situated in the perineurium and endoneurium of the nerve (according to Axel Key and Retzius's nomenclature), and was composed entirely

of spindle cells with abundant intercellular substance. No changes existed within the nerves.

5. The tumors on the digital branches showed a few hæmorrhages and cysts filled with a clear fluid, surrounded by the spindle cells composing the new growth.

6. The tumors upon the musculo-cutaneous, internal cutaneous, circumflex, and short saphenous were spindle-celled, with abundant intercellular substance.

7. In the ulnar tumor, however, the intercellular substance varies in amount, in places being almost wanting. Some of the nerve-fibers were atrophied completely in this tumor.

8. From the history and microscopic examination of this case, we have here a case of multiple neuromata existing over a period of fourteen years, during which time no severe symptoms nor marked change occurred within them, except that they increased slowly in size. One year ago they began to increase in size more rapidly and to be painful to pressure. Six months ago the tumor at the wrist grew rapidly.

9. That the structure of the tumors varies between that of a spindle and round-celled sarcoma at the wrist and the fibroma and fibro-sarcoma found in the other tumors.

The occurrence of multiple neuromata of the larger nerve-trunks with other varieties of new formation, such as cutaneous neuromata, angiomas and lymphangiomas, elephantiasis Arabum and lymphangiectasis, has been observed and described frequently by writers. The occurrence, however, of such multiple neuromata with tumors of a malignant type, occurring either as a cellular transformation of a previously existing benign tumor of a nerve, or as a malignant tumor primarily of a nerve, with secondary multiple neuromata, with or without metastases in the internal organs, has been of late the study principally of Courvoisier, Krause, and Westphalen, in whose articles we find a collection of thirty cases of malignant tumors. Of these, four cases were characterized by the presence of multiple neuromata existing before the malignant growth was noticed.

1. Westphalen's multiple neuromata, involving the larger nerve-trunks, the nerves to the skin and muscles with sarcomatous transformation in one neuroma, and metastases in the lungs and dura mater. 2. Hitchcock's multiple neuromata, with sarcoma of the ulnar nerve. 3. De Morgan's multiple and plexiform neuromata of the musculo-spiral of the forearm, with sarcoma of the musculo-spiral. 4. Modzejewski's multiple congenital fibromata mollusca, with malignant sarcoma of a nerve in the clavicular region (?). Of the remaining cases, we have eight which are characterized by local recurrences after operation and fifteen in which no such recurrence took place, of which the history informs us. Three cases were characterized by metastasis in the internal organs. 1. Moutard Martin's, in which, after the extirpation of a malignant tumor of the median nerve, a similar tumor in the brain was found. 2. O. Weber's, in which, after repeated extirpation of a malignant tumor of the peroneal nerve which had involved the muscles, bones, and skin. Similar tumors were found in the lungs and upon the intercostal nerves. 3. Westphalen's multiple fibromata,

cutaneous and peripheral nerves, phrenic, vagus, and sympathetic, with sarcoma of the sciatic nerve and metastases in the lungs and dura mater.

The author has taken the liberty of presenting this case to the society, not only on account of its rarity, but also because it explains a mode of recurrence in sarcoma to which it appears to him surgeons are more or less inattentive, as well as giving an explanation for the want of motor and sensory symptoms in that so little evidence of degeneration or dissolution of the myeline or axis-cylinder of the nerves was present.

There is at present no return in the stump nor enlargement in the brachial plexus. No new tumors in other portions of the body have been discovered.

I wish to express to the society my thanks to Dr. W. G. Hoyt, of this city, to whom I am indebted for this specimen.

ON THE USE OF LIGATURES ON THE LIMBS DURING SURGICAL OPERATIONS.

BY L. M. SWEETNAM, M. D.,
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In a recent issue of your valued Journal there appeared a very interesting and instructive paper upon "The Effective, Rapid, and Safe Induction of General Anæsthesia," by Dr. J. Leonard Corning—especially interesting to me because I had used the method referred to in my own practice for several years; but first and most extensively I had seen it employed by Dr. W. T. Aikins, a surgeon of Toronto, Canada, who for some eight years has made it a rule, before commencing upon any formidable operation, to have placed upon the patient's limbs—arms as well as legs—close to the trunk, rubber tourniquets—usually large rubber tubing—just tight enough to obstruct the venous circulation, without interfering with the circulation in the artery, and, as far as I know, the idea originated with him.*

Dr. Corning resorts to the use of these tourniquets for the purpose of securing rapid anæsthesia. Dr. Aikins's object was to control hæmorrhage—to save blood—but he very soon discovered that patients came under the influence of the anæsthetic with remarkable rapidity, that the quantity of ether or chloroform used was unusually small, that consciousness returned with surprising quickness, and that the after-effects were less distressing and much less persistent than is usual under ordinary circumstances.

Dr. Corning says: "To thoroughly appreciate the principle involved, it is necessary to bear in mind that, when we place the ligature about the thighs, so as to control the circulation in both veins and arteries, we enormously cut down the amount of blood actively circulating." We think it better not to make the ligatures so tight as Dr. Corning does, and for this reason, if the constriction is sufficient to obstruct the circulation in the veins only, we, besides cutting off

from the active circulation the amount of blood normally found in the limbs, draw off a large quantity from the head and trunk, lowering very distinctly the pressure in these parts. This is secured by the dilatation of the veins under the continued pressure of the arterial stream.

During the past few years, even in the United States, men of high professional standing have ventured to suggest that if reliable statistics were procurable, enabling us to place beside the list of deaths honestly attributable to the use of chloroform—and this, from the suddenness with which death takes place, is prepared with comparative ease and accuracy—that of the deaths as honestly ascribed to the use of ether, including those of persons who linger on for say, from four to fourteen days and die eventually of kidney or lung complications, the popularity of chloroform as an anæsthetic would be very much increased; but, be that as it may, it is admitted on all sides that the use of ether as an anæsthetic in the presence of extensive nephritis or bronchitis is attended with considerable risk to the patient. Now, if in these cases the medical attendant, in spite of these complications, decides to use ether, the application of these ligatures, by lessening the quantity of ether used and hastening its excretion, directly decreases the risk incurred.

A few days ago I was invited by Dr. T. A. Emmet to witness the removal of a large ovarian cyst containing upward of forty pounds of fluid from a woman of sixty-three or sixty-four; she was considerably reduced in strength and weight, and suffered from a ventral hernia with a history of peritonitis, so that the case was not a very promising one. At the suggestion of Dr. Bache McE. Emmet, and with the consent of the operator, Dr. T. A. Emmet, I applied the ligatures; she took the ether nicely, and came under its influence promptly. The cyst was found to be firmly adherent from the umbilicus to the region of the spleen; separation was effected by the use of the sponge, after the method of Dr. Skene Keith. The entire operation occupied rather more than an hour, and the total amount of hæmorrhage would, I am sure, be more than covered by two fluid-ounces. Dr. Emmet took me to see the patient a week later. Her temperature and pulse were practically normal; in Dr. Emmet's opinion, the use of the ligatures had contributed very largely to her recovery.

The advantages offered are:

1. But little time is lost in securing complete anæsthesia, and but little in waiting for returning consciousness before leaving the patient, the operation being completed.
2. If the bands are applied ten or twelve minutes before the first incision is made, the operation will be a comparatively bloodless one, and the surgeon works more rapidly and more comfortably than he would if the hæmorrhage were more severe.
3. Saving of blood to the patient.
4. If collapse appears to threaten the life of the patient, the removal of one or more of the ligatures can be relied upon to bring about a prompt reaction.
5. There is less vomiting and distress after the use of the anæsthetic.
6. The small amount of ether or chloroform used, from an economical standpoint.

* I have recently learned that the method was made use of, many years ago, by the late Dr. A. C. Post, of New York, and perhaps by others.

7. Fewer ligatures and compression forceps are required to control bleeding.

8. Less embarrassment of lungs and kidneys, and lessened risk of serious injury to these organs if diseased.

Precautions to be observed:

1. In cases where there is a history of purpura it is well to exercise care both as to the amount and as to the duration of the constriction.

2. Where there are marked varicosities of the limbs, these should be supported by rubber or flannel bandages.

3. Where there is no contra-indication, inasmuch as the amount of blood supplied to the heart and cerebro-spinal system is materially lessened, the effect may be somewhat depressing, and for that reason ether would appear to be the better anæsthetic.

I have frequently used chloroform with the ligatures, and so far without noting any unpleasant results; but, whichever anæsthetic is used, the head should lie low, and, if alarming symptoms should develop, I should draw the patient up so that the head would hang over the end of the table, and at the same time loosen several of the ligatures.

4. If the wound, still open, is watched for five or ten minutes after the removal of the ligatures, its color will be seen to deepen very distinctly from the increased quantity of blood flowing to the part. Now clots, which were sufficient to seal effectually the small vessels while the ligatures were in position, may give way under the increased pressure; in one case, thirty minutes after the removal of a breast, violent hæmorrhage set in, necessitating the re-opening of the entire wound to secure the bleeding points. If, however, the bands are removed as soon as the last incision is made, there will be but little risk of any mishap of this kind after the sutures have been introduced and the wound has been securely closed.

5. The constriction may with perfect safety be kept up for two hours, but it is well to keep the limbs wrapped in blankets and thus prevent any serious loss of heat.

A CASE OF SUPRAPUBIC CYSTOTOMY.*

By JAMES BUCKER LUCKIE, M. D.,
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SOME time in May last my friend Dr. E. H. Sholl sent a man to my office to be examined for a supposed stone in the bladder. Upon introducing a sound, I easily detected the presence of a large calculus.

In examining into the previous history of the man I learned that, a few years before, he had contracted a gonorrhœa, which had left him badly strictured. He informed me that he had been treated for the stricture, but that the operation had proved unsuccessful. There was a false passage, which rendered it extremely difficult to introduce a sound or catheter. The man himself, however, had but little difficulty in passing one, as long practice had taught him how to avoid the false passage. There had also been at one time an infiltration of urine into the scrotum, which had produced considerable sloughing. There was also left a small fistulous opening in the perinæum.

The man insisted that an operation for his relief should be performed at as early a day as possible, as his sufferings were beginning to be unbearable.

I at once put him on treatment to build up his general health.

On the 2d day of July, assisted by Dr. Sholl, Dr. Copeland, and my son, I performed suprapubic cystotomy, taking from his bladder a calculus weighing four hundred and eighty-one grains. Every precaution in our power was taken to make the operation aseptic, and we were equally as particular in the subsequent dressings. The bladder was carefully washed out with boric acid and warm water morning and evening, and the dressings changed at the same time, until the opening in the bladder was healed.

On the tenth day there was a sudden rise of temperature, and we found that a considerable amount of pus had burrowed beneath the tissues. This was pressed out and the track carefully washed out with a bichloride solution, and the trouble ceased. At no time after the operation did the temperature reach higher than 102° F. In three weeks after the operation the man was able to be out, and in about four more weeks was able to go to his work. He could have done so one week sooner, but was seized with "chills and fever."

At this writing he is stout and strong, and able to do the hard labor in which he is engaged at the rolling-mill. The fistulous opening in the perinæum has healed; he has no trouble in voiding his urine, and, in fact, considers himself sound and well.

My object in reporting this case is to urge the suprapubic operation on the profession wherever an operation has to be done. No important blood-vessels are endangered, and no harm done the prostate gland, as is sometimes the case in the other operations. The favorable results of many trials made within the past few years have proved that, where proper antiseptic precautions have been taken, cystotomies terminate favorably, even where the peritonæum is divided. In suprapubic cystotomy nothing but awkwardness could cause the peritonæum to be wounded, as it only covers the bladder at its upper portion, and is easily shoved out of the way of the operator by the index-finger of the left hand.

Nephritis in Scarlatina.—According to the "Lancet," "Dr. Haze states, in a report on the scarlet-fever cases treated in the Elizabeth Children's Hospital in St. Petersburg during last year, that, out of 145 such patients, 19, or 13.1 per cent., suffered from nephritis. This is a rather smaller proportion than the average of several years, tending to show some diminution in the number of kidney affections consequent on scarlatina, for during the years 1871 to 1886, out of 875 scarlet-fever patients, 135, or 15.7 per cent., were found to be affected with nephritis."

Antifebrin as a Disinfectant.—According to the "Lancet," "Dr. S. A. van Leer has been prosecuting a number of researches in the Hygienic Laboratory at Groningen on the antiseptic properties of antifebrin (acetanilide). When added to milk, so as to saturate it, acetanilide prevents it from turning sour; similarly, albumin can be kept from becoming putrid. It does not, however, seem a suitable substance for dressing wounds, as it does not easily dissolve or become moist, and irritates the surface of wounds. Dr. van Leer examined the effects of solutions of antifebrin of various strengths on several kinds of bacilli, and found that the development of many of them was not by this means prevented; consequently, he does not think that the suggestion of Leube to employ antifebrin for surgical dressings is likely to prove of any advantage."

* Read before the Alabama Surgical and Gynecological Association, October 13, 1887. Communicated by Dr. W. E. B. Davis, of Birmingham, Ala.

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REDRESSEMENT FORCE IN GYNÆCOLOGY.

A FEW years ago Dr. Ebrich, of Baltimore, gave the American profession an account of the results that he had met with in the employment of forcible reduction of displacements of the uterus with fixation. That author advocated the practice in certain cases with admirable frankness and directness of statement, but we are not aware that it has found any considerable number of followers in this country. It seems, however, that a well-known and highly esteemed German gynæcologist, Dr. B. S. Schultze, of Jena, has followed substantially the same method for a long time. In a recent number of the "*Zeitschrift für Geburtshülfe und Gynäkologie*," Dr. Schultze gives the details of the procedures employed by him, and expounds the considerations which lead him to advocate them.

In that article we note, to begin with, two propositions to which, we are certain, there is not such general agreement as the author seems to imagine. One of them is that he has settled the question of the normal posture of the uterus, having established the fact that its body is parallel or nearly parallel with the anterior vaginal wall. The other is that most gynæcologists have adopted his method of replacing the retroflexed uterus. We feel sure that there are many gynæcologists of distinction who have never heard of his method, and who would consider it generally inappropriate. More reasonable is his supposition that the bands of adhesion and the accumulations of exudate which attach the uterus to the parietal peritonæum, or form a medium in which it is imbedded, are secondary to a retroflexion which may have existed for some length of time. What the exciting cause of the retroflexion may have been is immaterial; the author believes that in most cases the obstruction is the result of an intercurrent peritonitis. The same line of reasoning applies in the case of the ovary. We are also prepared to accept his statement that chronic pelvic peritonitis seldom occurs without involving the subperitoneal cellular tissue. When, however, he announces that his method of dealing with the adventitious tissue is the ideal one—at least, that he has been practicing it with satisfactory results since 1879—the question suggests itself, whether it is not ideal in the sense of being impracticable.

He places the anæsthetized patient in the lithotomy posture, and empties the rectum with an enema of warm water, leaving water enough in the rectum to distend it. The index and middle fingers of one hand (presumably the left) are then introduced into the rectum, and the anterior abdominal wall is depressed with the fingers of the other hand until the fingers of one hand can be felt with those of the other. The surface and

the surroundings of the retroflexed organ are then carefully explored, the situation of adhesions is definitely ascertained, and by the exercise of sufficient pressure they are divided, usually at the uterine end. If the uterus is retroverted and attached to the rectum, the middle finger of the external hand is used to strip away the adhesions and press the organ forward, while it is steadied by the fingers within the rectum. The same process is employed for adhesions of the ovaries, care being taken to avoid using too much force, and also to direct the pressure against the new tissue and not upon the ovaries. In cases in which the uterus is retroflexed and too firmly fixed to be replaced in the manner described, the author would straighten it by means of an intra-uterine stem and a vaginal pessary, or he would first dilate the organ, then introduce the forefinger (presumably of the left hand) to the fundus, and, with the assistance of the other hand, which again depresses the anterior abdominal wall, straighten and replace the organ.

Admitting that sensibility is abolished by means of the anæsthetic, and that the accompanying relaxation is all that could be desired, how few cases there are, comparatively speaking, in which the mechanical obstacle interposed by the muscles and fat of the anterior abdominal wall can be sufficiently overcome to admit of that delicacy of manipulation which is necessary to define the bands and cords of tissue that hold the uterus in its abnormal posture! Still more difficult is it to conceive of such an application of force as would tear these bands away, when we realize the great mechanical disadvantage under which it must be exerted. If the force is sufficient to divide the adhesions, it seems as if it must, in some cases at least, lacerate the peritoneal covering of the uterus or ovaries, if not the organs themselves, and thus lead to a renewal of the inflammation that originally resulted in the formation of the adhesions. The author tells us that no such occurrence has ever attended an operation of his, also that there has been no considerable hæmorrhage or shock. Nevertheless, we are constrained to face such possibilities. The author's unique success may be due to his special skill and great experience in the procedures by which, as he tells us, he has replaced the uterus hundreds of times, or to some unusually favorable conditions on the part of the patients. He candidly admits that most gynæcologists have not been favorable to his method, by reason, he thinks, of their having misunderstood it, and he cites Hegar, Winckel, and Schroeder as its opponents—certainly, no mean antagonists. For all this, it is possible that the plan is desirable and practicable in certain cases of tubal or ovarian disease in which there may be reasons for abstaining from laparotomy.

SIMPLE DUODENAL ULCER.

This condition has not received in medical books the attention it deserves; but M. Buequoy, an eminent clinician of the Hôtel Dieu, has lately written a very full article on the subject, a concise review of which appears in the "*Progrès médical*." Simple ulcer of the duodenum has many points of resemblance to simple ulcer of the stomach, and, like the latter, may remain

latent for a long time and then suddenly manifest itself by an alarming hæmorrhage or by perforation with a consequent violent peritonitis. There may be, and there usually is, hæmatemesis as well as intestinal hæmorrhage. The hæmorrhage from the bowel is sudden and profuse, usually coming on shortly after a meal and being attended with colicky pains. In some instances death has been known to follow a single hæmorrhage, but in the majority of cases there are several losses of blood, by which the patient is rendered anæmic in the extreme. Pain has not the same symptomatic value in duodenal as in gastric ulcer; it is far from being constant, and, when present, is very variable in its seat, duration, and intensity. It is most frequently felt some time after a meal, usually at the end of gastric digestion, and has its seat in the right hypochondrium, frequently radiating to the epigastrium and over the whole abdomen. M. Bucquoy has never observed the dorsal and xiphoid points of pain that characterize gastric ulcer. He has taken particular note of the time when the pain appeared, and has found it to be usually from two to three hours after the ingestion of food. No other disturbances of digestion, either gastric or intestinal, were present. The course of the affection is slow and irregular as a rule, and is characterized by exacerbations and remissions of variable duration. It usually terminates by perforation and by the acute peritonitis which ensues. The author does not, like most other observers, take a pessimistic view of the prognosis. He believes in the curability of duodenal ulcer; of five cases under his personal care, only one ended fatally.

The points of differential diagnosis between duodenal and gastric ulcer are the predominance of intestinal hæmorrhage, the absence of disturbances of digestion, and the variability of the pain in the former. Moreover, duodenal ulcer is most frequently met with in men, while gastric ulcer, as is well known, occurs chiefly in women, notably in chlorotic young girls. The author concludes his article with the following proposition: When a man is suddenly seized with hæmorrhage from the bowels, when there are no other disturbances than extreme anæmia, when these hæmorrhages recur after intervals of apparent good health of shorter or longer duration, and, finally, when the functions of the stomach are rapidly regained after a severe hæmorrhage, there is a strong presumption, amounting almost to a certainty, of simple ulcer of the duodenum. The treatment is not unlike that of gastric ulcer, only there need not be the same stringency with regard to the diet as in that affection, owing to the circumstance that the mucous membrane of the stomach is intact.

MINOR PARAGRAPHS.

THE MARINE-HOSPITAL SERVICE.

THE "Annual Report of the Supervising Surgeon-General," for the year ending June 30, 1887, has just been issued. It is a brochure of rather more than three hundred pages, giving, besides the usual statistical matter, a considerable number of scientific contributions by members of the corps. These are largely of a clinical character, and they reflect great credit upon

their authors. It appears that the bureau has hospitals of its own in Baltimore, Boston, Cairo, Chicago, Cincinnati, Detroit, Key West, Louisville, Memphis, Mobile, New Orleans, Portland, Port Townsend, St. Louis, San Francisco, Vineyard Haven, and Wilmington, but none that can be called its own in or near New York. This is probably because, in the estimation of Congress, New York is a place of too little maritime importance. The Secretary of the Treasury, however, seems not to be of that opinion, for he has lately sent a letter to the speaker of the House of Representatives, urging certain reasons why the Government should own a marine hospital at this port. To be consistent, Congress ought either to establish one here or else discontinue the custom-house.

LEPROSY AND BOARDS OF HEALTH.

A FITTING rebuke has been given to the Philadelphia Board of Health for having fined Dr. Arthur Van Harlingen for failure to report two cases of leprosy. The fine imposed was \$100, and several of the best-known physicians of Philadelphia have sent him that sum, subscribed among themselves, with a letter in which they say that, although they do not wish to commit themselves as a body on the question of the contagiousness of leprosy, they regard the board's action in the matter as unjust both to Dr. Van Harlingen and to the patients. They state that during the past twenty years lepers in various numbers have been treated in different European and American cities without a known instance in which the disease was thus communicated. Perhaps the board would like to fine somebody for not reporting a case of consumption.

THE DEFECTS OF STATISTICS.

ONE of the more prominent shortcomings of statistics founded on returns made to sanitary bodies is, as we have often stated, the strikingly erroneous disparity often shown between the numbers of births and those of deaths reported. In an address lately given by Dr. Barker, which we printed in our last issue, an instance was cited in which, for a certain period, the deaths in Liverpool actually exceeded the reported births. This, of course, does not express the true state of the case, as an esteemed correspondent has pointed out, but Dr. Barker was probably correct in his citation, and, in our opinion, he performed incidentally a public service by laying before the profession this self-evident example of the fallaciousness of such statistics.

THE PROPOSED NEW PARKS.

WE are glad to observe tangible signs of something being done to establish the series of small parks proposed for the more overcrowded parts of the town. The Board of Aldermen has unanimously passed a resolution appropriating the block bounded by Baxter, Mulberry, Park, and Bayard Streets for purposes of a public park to be known as "Mulberry Park." There are few quarters in which a gap among the tenement-houses is more urgently needed. We trust that the other proposed parks will speedily be established.

THE HOSPITAL SATURDAY AND SUNDAY ASSOCIATION.

THE association's executive committee calls attention to the approaching collection in the churches and synagogues and among the trades and professions. Before the recent withdrawal of the Presbyterian Hospital, the association embraced twenty-eight hospitals, among which each year's general collection has been divided on the basis of the free work done by

them during the preceding year. As these hospitals cover every department of medical and surgical practice, it will be seen that the association is working in behalf of no one class, but the whole people, every individual of whom has a direct interest in maintaining the most efficient service attainable in the work of the hospitals. Last year the total amount collected was \$53,051.98, of which \$32,784.66 came from the churches and synagogues, and \$20,267.32 from the trades and professions, exchanges, various benevolent orders, and miscellaneous sources. During the past year the associated hospitals did their work at an expense of \$740,722.27, of which \$542,218.91 had to be raised by contribution. Since the first collection was made, in 1879, the amounts raised annually by the association have grown to double the first one, affording a convincing and gratifying proof of the public favor with which the movement has been met. We trust that the forthcoming collection will show a further increase. The withdrawal of the Presbyterian Hospital ought not to interfere with such an increase by giving the impression of discord among the constituent bodies; as we understand the matter, that institution has reasons of its own (which we will not now discuss) for preferring to try its facilities for independent collection, rather than forego the full participation in the collection as an offset to its receipts from designated contributions, in accordance with a new by-law adopted by the association for the purpose of emphasizing its preference for undesignated gifts. In our opinion, the association's position on this point is altogether commendable, and we doubt not that it will commend itself to the great majority of the public.

THE UNIVERSITY OF NEBRASKA.

THE director of the patho-biological laboratory of the university, Dr. Frank S. Billings, announces that, although established entirely for investigation, the laboratory is to be made as useful as possible to the country. Hence he offers its advantages for purposes of instruction to boards of health, live-stock commissions, and educational institutions—advantages which, he thinks, are better than any others of the sort in the country. Only two pupils can be accommodated at a time, and they must be medical or veterinary graduates who have the indorsement of some such body as those mentioned. The laboratory is situated in Lincoln.

ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending December 13, 1887:

DISEASES.	Week ending Dec. 6.		Week ending Dec. 13.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever.....	14	5	16	6
Scarlet fever.....	127	17	127	23
Cerebro-spinal meningitis...	1	1	5	5
Measles.....	33	2	45	2
Diphtheria.....	193	50	185	45
Small-pox.....	1	0	0	0

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from December 6 to December 10, 1887:*

STERNBERG, G. M., Major and Surgeon. Assigned to duty as attending surgeon and examiner of recruits at Baltimore, Md. S. O. 285, A. G. O., December 8, 1887.

CLEARY, P. J. A., Major and Surgeon. Assigned to duty at Fort Wingate, New Mexico. S. O. 285, A. G. O., December 8, 1887.

ANDERSON, C. L. G., First Lieutenant and Assistant Surgeon. Assigned to duty at Fort McDowell, Arizona. S. O. 285, A. G. O., December 8, 1887.

TAYLOR, A. W., Captain and Assistant Surgeon. Assigned to duty at Fort Robinson, Nebraska. S. O. 285, A. G. O., December 8, 1887.

APPEL, A. H., Captain and Assistant Surgeon. Assigned to duty at camp at Highwood, Ill., relieving Assistant Surgeon H. O. Perley. S. O. 285, A. G. O., December 8, 1887.

PERLEY, H. O., Captain and Assistant Surgeon, will rejoin his proper station (Fort Wayne, Michigan). S. O. 285, A. G. O., December 8, 1887.

HOFF, JOHN VAN R., Captain and Assistant Surgeon. Granted leave of absence for one month, to take effect on or about the 12th proximo. S. O. 128, Department of the Missouri, November 30, 1887.

MUNDAY, BENJAMIN, Captain and Assistant Surgeon. Granted leave of absence for one month, to take effect about December 15, 1887. S. O. 280, A. G. O., December 2, 1887.

Marine-Hospital Service.—*Official List of Changes of Stations and Duties of Medical Officers of the United States Marine-Hospital Service for the week ending December 12, 1887:*

GASSAWAY, J. M., Surgeon. When relieved, to proceed to Cairo, Ill., and assume charge of the service. December 9, 1887.

IRWIN, FAIRFAX, Surgeon. Promoted and appointed surgeon from date of oath, December 10, 1887. December 8, 1887.

* To proceed to Pittsburgh, Pa.; Wheeling, W. Va.; Gallipolis, Ohio; Evansville, Ind.; Cairo, Ill.; Little Rock, Ark.; Shreveport, La.; New Orleans, La.; Rome, Ga.; Chattanooga and Nashville, Tenn., as inspector. November 12, 1887.

GUIERAS, JOHN, Passed Assistant Surgeon. When relieved, to proceed to Charleston, S. C., and assume charge of the service. December 12, 1887.

BANKS, C. E., Passed Assistant Surgeon. To proceed to Portland, Maine, and assume charge of the service. December 9, 1887.

CARMICHAEL, D. A., Passed Assistant Surgeon. When relieved, to proceed to Washington, D. C., for temporary duty in the office of the Supervising Surgeon-General. December 9, 1887.

BEVAN, A. D., Passed Assistant Surgeon. Granted leave of absence for twenty days. December 7, 1887.

GLENNAN, A. H., Passed Assistant Surgeon. To proceed to Key West, Fla., and assume charge of the service. December 12, 1887.

Society Meetings for the Coming Week:

MONDAY, *December 19th*: New York Academy of Medicine (Section in Ophthalmology and Otology); New York County Medical Association; Hartford, Conn., City Medical Association; Chicago Medical Society.

TUESDAY, *December 20th*: New York Academy of Medicine (Section in Theory and Practice of Medicine); New York Obstetrical Society (private); Medical Society of the County of Kings; Ogdensburg, N. Y., Medical Association.

WEDNESDAY, *December 21st*: Harlem Medical Association of the City of New York; Northwestern Medical and Surgical Society of New York (private); Medical Societies of the Coun-

ties of Alleghany (quarterly), and Tompkins (semi-annual — Ithaca), N. Y.; New Jersey Academy of Medicine (Newark); Philadelphia County Medical Society (clinico-pathological).

THURSDAY, *December 22d*: New York Academy of Medicine (Section in Obstetrics and Diseases of Women and Children); New York Orthopædic Society; Brooklyn Pathological Society; Roxbury, Mass., Society for Medical Improvement (private).

FRIDAY, *December 23d*: Yorkville Medical Association (private); New York Society of German Physicians; New York Clinical Society (private); Philadelphia Clinical Society; Philadelphia Laryngological Society.

SATURDAY, *December 24th*: New York Medical and Surgical Society (private).

OBITUARY NOTES.

David Dana, M. D., of Lawrence, Mass., died on Saturday, the 10th inst. He was born in Dedham, Mass., in 1825, and was graduated from Harvard Medical School in 1847. During the civil war he was surgeon of the First Massachusetts Heavy Artillery. He was a member of the Massachusetts Medical Society and of the Essex, Mass., North District Medical Society, of which he had been one of the censors. At the time of his death he was president of the medical staff of the Lawrence City Hospital.

Letters to the Editor.

PREGNANCY IN CASES OF PYOSALPINX.

70 EAST FOURTH STREET, CINCINNATI, *November 29, 1887.*

To the Editor of the New York Medical Journal:

SIR: In the very suggestive article of Dr. Buckmaster's, in your issue for November 25th, occurs the following: "If pyosalpinx is as frequent as we are led to believe, one would expect to hear of many cases of death following rupture of the tubes before term, unless it is that only a small number of these subjects become pregnant."

This would lead to the inference that victims of pyosalpinx can with safety perform the functions of maternity. This inference contains a twofold error, viz., first, that women with pus in both tubes can conceive at all; and, second, that women with pus in only one tube can conceive with safety.

The idea that women with double pyosalpinx can conceive at all is based upon the same pathological misconception which gives rise to the cheap talk about "unsexing" a woman by extirpating the appendages in this class of cases. As a matter of fact, a woman in this fix is already "unsexed" by her disease, so far at least as the ability to bear children is concerned. This fact is and must be the result of pathological conditions, one or more or all of which obtain in pyosalpinx. These conditions are: (1) Occlusion of the distal ends of the tubes in consequence of adhesions of the fimbriae; (2) obstruction of the uterine orifice of the tube from desquamative changes in the lining epithelium—conditions which prevent the migration of either sperm or germ; and (3) the presence in the tubes of the products of suppuration—a condition incompatible with the vitality of either sperm or germ.

In the case of unilateral pyosalpinx impregnation becomes dangerous because the distension of the tube incident to uterine evolution may result, indeed has resulted, in rupture internally and death. But, in the absence of this extreme catastrophe, an alternative one almost as serious is sure to occur. I allude to

the distension of the uterine orifice of the tube as a result of uterine enlargement, the discharge of the purulent contents into the gravid womb, and abortion with serious complications. I am now reminded of the case of a woman with unilateral pyosalpinx who conceived twice, aborted both times in the fifth month, and was saved only by rigid antiseptic irrigations of the uterus. A year after the last abortion I extirpated the appendages of the right side, the tube being greatly distended with pus. She now has the same trouble in the remaining tube, for which I purpose operating in the near future. Of course I should have extirpated both tubes while I was at it, but I have to plead in extenuation that the case was among my earlier ones, and that it occurred before the extirpation of the remaining healthy appendages in cases of unilateral pyosalpinx became a recognized canon of practice.

In conclusion, I have to beg that Dr. Buckmaster revise his teachings in the foregoing particulars, that he cease to advise the dangerous expedient of impregnation in cases of single pyosalpinx, and that where both tubes are involved he utterly abandon hope of fecundation, even with the ingenious device of the spermatic squirt-gun.

CHARLES A. L. REED.

ACETANILIDE IN MALARIAL FEVER.

Mt. Summit, Ind., *November 22, 1887.*

To the Editor of the New York Medical Journal:

SIR: So much has been published recently in regard to the use of acetanilide that any communication touching its use as an antipyretic may seem superfluous; but it was of so much importance in a case recently under my observation that I report it. A boy, twelve years old, of slight build and good history, had malarial fever. The first day the temperature reached 105° F., and during the remission it was 103.5°. All means of controlling the fever failed. Four times in twenty-four hours the temperature rose to 106° or 106.75° for twenty-eight days. On the fourth day I stopped *all* medication, and directed from four to six grains of acetanilide to be given at the height of the exacerbation. The points of interest are: 1. The administration in twenty-four hours of from sixteen to twenty-four grains of acetanilide for twenty-four consecutive days. 2. The fact that the course of the fever was not shortened by the drug.

F. G. JACKSON.

SALOL IN TYPHOID FEVER.

Howell, Mich., *December 14, 1887.*

To the Editor of the New York Medical Journal:

SIR: I notice in the columns of your Journal, under date of December 1, 1887, a short letter from Dr. Barnstather, of Dayton, Ky., in which he speaks very highly of salol (salicylate of phenol) in the treatment of fever. I am glad to see this, because I think in this agent we have a remedy of great value in the treatment of fevers. I am about to offer "A Clinical Study of Salol as an Antipyretic," and am therefore pleased to know that there are other investigators along this same line.

JOHN A. WESSINGER.

The Time of Commencement of Menstruation. According to the "Lancet," Dr. Sallies finds, from inquiries made from three thousand pregnant women from the neighborhood of Königsberg, that menstruation commenced at the mean age of sixteen. The taller and the weaker girls menstruated earlier than the shorter and the stronger girls, and the brunettes earlier than the blondes. The earliest of all were the tall, weakly blondes; the latest, the short brunettes of medium strength. In eighty-three per cent. the function was performed regularly at the first.

Proceedings of Societies.

NEW YORK SURGICAL SOCIETY.

Meeting of November 23, 1887.

The President, Dr. LEWIS A. STIMSON, in the Chair.

Fibro-sarcoma of the Median Nerve; Excision.—Dr. McBURNEY presented a patient with the following history: J. F., aged twenty-seven, a clerk, was admitted into St. Luke's Hospital on February 8, 1886. His father had died of phthisis, his sister of an abdominal tumor. There was no cardiac, renal, or syphilitic history. Six years before he had noted a lump on the inner side of the right arm, which had given rise to no pain until a month before his admission. A fusiform tumor was found, situated on the inner aspect of the right arm, at about its middle third, between the biceps and triceps muscles; it was not attached to the latter, but seemed to have some deeper attachment, the vessels apparently lying behind it. Pressure upon the tumor caused pain in the hand and forearm, but not in the tumor itself. The diagnosis of probable fibrous or fibro-cellular growth was made.

On February 16th the speaker removed the tumor, with the assistance of Dr. Peters. The growth, of a fusiform shape and as large as a pear, was reached by a longitudinal incision. It lay immediately beneath the deep fascia, after incising which it was at once appreciated that the tumor was one of the median nerve. The fibers of this nerve were spread in the form of a sheath over and around the growth on all sides, very much like the network over a balloon. The nerve-sheath was incised longitudinally without dividing any nerve-bundles, and the tumor was carefully enucleated. A few bundles of considerable size ran through the substance of the tumor. These were necessarily divided; two of them were afterward united by catgut suture. Three smaller tumors of an appearance similar to that of the large one were imbedded in the median nerve just above the principal mass. These also were enucleated. Two drainage-tubes were introduced, and the wound was closed with catgut sutures, a dressing of iodoform and bichloride gauze being applied.

The patient had some neuralgic pains in the hand and arm, corresponding to the distribution of the median nerve, and a few trophic disturbances, but sensation was not impaired. Nearly two years had elapsed since the operation, and the patient had complete use of the arm, the only remaining symptom being a slight tingling sensation in the right index-finger. Under the cicatrix in the upper arm the median nerve could be felt to be somewhat thickened, but not more so than it had been a month after the operation. The tumor had been examined by the pathologist, Dr. Ferguson, whose report had been as follows: "The mass is oval in shape, measuring two and a half by one and a half inches, and is surrounded by a very delicate fibrous capsule. It is composed of fibrous tissue and spindle cells, the latter being very abundant. Numerous vascular channels are seen in every section, being limited to the tissue of the tumor; there is no special arrangement of the tissue suggesting a vessel-wall. Diagnosis, fibro-sarcoma."

Dr. C. K. BRIDGES said that in 1859, by invitation of the late Professor Willard Parker, he had operated at his clinic, at the College of Physicians and Surgeons, for the removal of a tumor involving the brachial portion of the right ulnar nerve, measuring three inches in its longitudinal and an inch and a half in its transverse diameter. It had been seated within the neurilemma, nerve-filaments passing through and over it. It was examined microscopically by Dr. W. H. Draper, who pro-

nounced it to be a fibro-sarcoma. A year later the cicatrix was occupied by a large fungous mass, which bled freely when handled; this was treated by amputation at the shoulder joint, the disease returning in the stump of the nerves. The patient was admitted into the New York Hospital, where Dr. Parker operated, removing only the diseased part, which was seated in the ends of the divided nerves. Recurrence again took place, when the late Dr. Gurdon Buck resected the scapula and a portion of the clavicle. Another recurrence terminated the case.

In 1875 the speaker saw a woman who had suffered severely for twenty-five years from neuralgia involving the right musculospiral nerve. It had commenced in the gangliform enlargement of the posterior interosseous branch, over the back of the wrist joint, and had then radiated over all the territory supplied by the nerve. In the axilla there was a tumor of about the size of a billiard-ball, situated at about the center of the space, bulging the anterior wall slightly, but the floor scarcely at all. It was removed by operation, and was examined microscopically by Professor Arnold, of the University of the City of New York, who pronounced it to be a myxoma. No recurrence had been heard of.

In reply to a question by Dr. R. Abbe, Dr. McBURNEY said that the tumor had been easily shelled out. It was too large to excise without dissecting it out, as it would have been necessary to remove fully three inches of the nerve.

Dr. R. J. HALL asked regarding the exact location of the smaller tumors.

Dr. McBURNEY replied that they were situated about half an inch higher up on the nerve, and were not connected with the larger growth. They also were removed by splitting the nerve bundles which covered them.

Ununited Fracture of the Tibia and Fibula treated by Exsection of Bone.—Dr. McBURNEY presented a patient, forty-five years of age, who in August, 1886, had sustained a severe compound fracture of the left tibia and fibula. He had been taken to one of the best hospitals, and had there been treated for some time, and dismissed with a splint still in position. The latter was finally removed, but there was only slight union between the bones. In July, 1887, the patient came under the speaker's care. He found a fracture of the left tibia and fibula about two inches and a half above the malleoli; a great range of motion existed at the seat of fracture. On July 6th he excised from both the tibia and the fibula a mass of bone, including the point of fracture, measuring over an inch in length; the line of section was directly transverse. The only union between the fragments was by a very long, tough mass of fibrous tissue. The bones were then brought close together, and the portions of tibia were firmly nailed with one steel nail, the fibula being wired with silver wire. A bone drainage-tube was inserted, and the limb was put up in plaster of Paris. The dressing was first changed at the end of two weeks, and the nail was removed; the subsequent dressings were very infrequent.

On examination, two weeks ago, firm bony union was found to exist. The patient was shown because of the good position in which the bones had united, and to illustrate the restoration of muscular power after the excision of so much bone.

Dr. HALL said that in several cases which he had had one of the greatest obstacles to union had been offered by the large amount of almost non-vascular cicatricial tissue that had formed in the soft parts around the ends of the broken bones. In one case of resection of the radius and ulna for non-union, he had been obliged to dissect out the fibrous tissue and periosteum so as to obtain a fresh vascular tissue, when union had occurred rapidly. When the ends of the bones were simply wired together, union might doubtless be prevented by cicatricial tissue

around the ends of the bones preventing a sufficient blood-supply.

The PRESIDENT cited the case of a man who had sustained a compound fracture of the lower third of the leg several months before he came under his care. It had been wired and union had failed to take place. He squared the ends of the tibia and removed an inch and a half of the fibula to allow of coaptation. The unbroken loop of wire was found loose in the soft tissues. He believed that the fibrous band found in these cases was not entirely composed of cicatricial tissue, formed between the separated fragments, but, in part at least, was the original bone transformed by rarefaction, and he was disposed to believe that the presence of a wire suture favored this exaggeration of the rarefactive process. Whenever he had had occasion to cut down upon such a suture he had found its track notably enlarged by absorption. He therefore abstained from wiring the fragments in recent fractures, unless special indications were present, and such special indications, in his experience, were very rare.

Multiple Neuromata with Neuro-sarcoma.—Dr. FRANK HARTLEY read the history of a case (see page 682).

In reply to a question by Dr. Briddon, the reader said that a year had elapsed since the operation and there were no evidences of recurrence.

Dr. BRIDDON called attention to the fact that in the first case which he had reported the first recurrence took place within a year, the others within six months, after the operation.

CHICAGO PATHOLOGICAL SOCIETY.

Meeting of November 14, 1887.

The President, Dr. I. N. DANFORTH, in the chair;
Dr. W. L. COPELAND, Secretary.

The Pathology of Leukæmia was the title of a paper read by Dr. M. J. MERGLER. After alluding to the respective parts played by Bennett and Virchow in establishing the nature of the disease, the author said that the lesions which took place in the blood were a persistent progressive increase of the white cells, and a corresponding change in the color of the blood, the ratio of the white to the red corpuscles in some of Virchow's cases being two to three. The red corpuscles were also diminished, absolutely as well as relatively. After death colorless clots were often found in the large vessels. The spleen was increased in size and weight from increased vascularity, multiplication of cell elements, and the formation of new connective tissue. The lymphatic glands also underwent similar changes to those in the spleen. The liver was usually enlarged and occasionally nodulated. The kidneys were generally normal, but there might be an accumulation of lymph-cells along the tubules and glomeruli. E. Neumann had described certain changes which he had observed in the bone marrow. In the central cavities of long bones and the cancellated structure of others the marrow assumed a purplish, yellowish, or grayish discoloration, and the bones might be enlarged. The same cellular elements were found by the microscope as existed in the leukæmic blood. There was also an absence of the fine vascular network of normal marrow; only the larger arterial branches remained, and their walls were infiltrated with lymph-cells. He held that the changes in the marrow were the only constant lesions of leukæmia.

Dr. H. M. LYMAN said the great difficulty lay in the fact that we did not as yet fully understand how blood was formed. So far as recent researches threw any light upon the subject, the white corpuscles appeared to be formed in the lymph-glands, and the red corpuscles, not from the white corpuscles nor from

the lymph corpuscles, but principally from the red marrow, certain cells of which, by a process of budding, threw out protuberances, which, becoming detached, constituted the red corpuscles. But we did not know positively how these got into the general circulation. There were several different varieties of anæmia described, the exact relation between which we did not know. There were, however, two principal classes: first, when the white corpuscles were increased relatively and absolutely; and, second, where there was no increase, relatively or absolutely, of white corpuscles, but a general diminution of all the blood elements. In some cases there was great enlargement of the organs which formed the white corpuscles, such as the lymph-glands, the spleen, etc., while in others there was no enlargement of these organs, and the condition could be determined only by an examination of the blood. The appearance of striæ (which were found to be white corpuscles) along the retinal vessels was a valuable diagnostic sign of an increase of white corpuscles in the blood. Some of the symptoms of leukæmia were produced by the diminished power of the blood to carry oxygen through the system, and hence the patient suffered from exhaustion and shortness of breath; for the same reason there was a tendency to the deposition of fat in different parts of the body, the organs underwent fatty degeneration, and the walls of the vessels, suffering the same change, permitted of frequent hæmorrhages. The primary cause of these changes in the blood was not known. They might follow malarial disease, hæmorrhages, or other depressing influences, but what peculiar conditions produced them no one could say.

Dr. J. J. M. ANGEAR agreed in Dr. Lyman's statement that the origin of the blood was not well known, but we did know that, a person having eaten a meal, a portion of it was taken up by the lacteals, and a portion by the blood-vessels, and that if we now examined the lacteals we found nothing in the form of cells; but after the fluid had passed through the glands we began to find cells, and they increased in number as we approached the heart. Flint had said that the white corpuscles were multiplied greatly a few hours after a large meal, and diminished greatly on fasting, and this went to show that the white corpuscles must bear some relation to the red ones. We might compare a red corpuscle to a human being—it was born, had a period of infancy, youth, manhood, and old age, and finally died. Now, suppose some influence was brought to bear on these corpuscles while in their infancy, so that, instead of growing strong and reaching maturity, they became sickly; the result was white corpuscles, pus, or whatever one might choose to call them, and resulting from this sickly degeneration leukæmia, pyæmia, or kindred diseases. In reference to the formation of red corpuscles in bone-marrow, there was this in its favor: whenever there was a great drain on the system the marrow was diminished—but was it drawn on to a greater degree than the fat? and was it taken to make the red corpuscles? The first change we saw in an egg in the process of development was the appearance of blood-vessels, before the skeleton or red marrow was formed.

Dr. C. W. EARLE referred to a paper by Dr. Cameron, of Montreal, bearing on the influence of leukæmia on pregnancy, in which it was said that four cases had been reported in which this disease had occurred in pregnant women, but none in which a leukæmic woman had become pregnant. In none of the cases reported had the relative proportion of the white and red corpuscles been mentioned. He then reported a case in which a woman suffering from leukæmia became pregnant, giving the relative proportion of white and red corpuscles; but, while the relative proportion of the red corpuscles was greatly diminished in the mother, that of the child was normal.

Dr. Hoadley said that 95 per cent. of the marrow was yel-

low fatty matter, and that in emaciation this was absorbed, but that the red marrow was unchanged. There were red corpuscles in the embryo long before there was red marrow, and it would seem that there must be some other process for their formation. He believed that the blood was the formative agent of the red corpuscles, and inclined to Dr. Augear's view of their development from the white corpuscles.

Dr. LYMAN said there was a difference between the mode of formation of the red cells in the fetus and in the mature animal. At first they were formed from the embryonic cells, like the blood-vessels, and were nucleated, but afterward from the red marrow, etc., and were non-nucleated.

The PRESIDENT said that the blood-vessels were formed, as Dr. Lyman had explained, from the coalescence of the walls of the embryonic cells, but the corpuscles were formed from the nuclei of these cells, and they might perhaps multiply by subdividing or budding.

Dr. PATTON said that the Germans made two varieties of this disease, the splenic and the lymphatic. In the first the spleen was greatly enlarged and the lymphatic glands were slightly enlarged. In the second the lymphatic glands were greatly enlarged. He thought that where the lymphatic glands showed the greatest enlargement there did not seem to be so great a disproportion between the red and white cells as where the spleen was enlarged and the glands were but slightly enlarged. He considered the granular appearance presented by the white corpuscles under the microscope a post-mortem change.

Double Hydronephrosis.—Dr. L. C. BORLAND reported a case the diagnosis of which had been made at the autopsy, and showed the kidneys. The patient, a woman, was admitted into St. Luke's Hospital for prolapse of the uterus. No connected history could be obtained, and the urine, through some misunderstanding, was not examined. A friend said that the first trouble had been felt about two months before, and had consisted of a falling of the womb. There was a vile discharge from the womb and rectum, and the nates and perineum were excoriated. She died within a few days in a convulsion. Dr. Danforth, who made the autopsy, said that there was complete procidentia, also an abdominal tumor apparently more in the right than in the left side. The kidneys appeared like two great watery cysts. The right kidney was of about the size of a man's head, lobulated like a multiple ovarian tumor, with thin and translucent walls, and contained about a quart of amber-colored fluid with a urinous but not offensive odor. It contained albumin, epithelial cells, and Drysdale's corpuscles, which resembled very closely those of an ovarian tumor. These corpuscles from the kidney were, however, he thought, larger, and the yellow point of fat was a little more highly colored than in the corpuscles from the ovary. The left kidney presented some of the original renal structure. It contained less fluid than was found in the right. The fluid was bloody, and contained about 75 per cent. by volume of albumin. The ureters and bladder were enlarged, but there were no ulceration, no twisting of the ureters, and no change in the bladder or elsewhere, which he could assign as a cause for the trouble, unless it was the pressure of the prolapsed uterus on the ureters.

Dr. SKEER referred to a similar case in which the diagnosis had been made after death. The right ureter was found plugged by a calculus; the left kidney was normal.

Dr. HOADLEY said that the remarkable point about the case was its being a *double* cystic degeneration. If but one kidney had been affected the treatment would have been removal.

The PRESIDENT showed a specimen of diabetic urine, of a sp. gr. of 1.045, a pint of which, on evaporation, left a residue of an ounce of solid saccharine matter. About 190 ounces were passed daily.

MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

Meeting of September 26, 1887.

The Vice-President, Dr. F. R. S. DRAKE, in the Chair.

Nasal Difficulties in Ear Diseases.—Dr. J. O. TANSLEY read a paper with this title. Nasal difficulties had a most profound influence on all the acute and chronic ear diseases, and demanded close attention if we wished to cure the aural affection. Time would permit of his alluding only to the ear diseases caused by nasal difficulties, and the recital of cases would have to be omitted for the same reason. Among the nasal difficulties influencing ear disease was everything which occluded one or both nasal passages. This was one great cause of ear affections. When the nasal passages were partially or wholly occluded there was constant effort to clear them by hawking, which kept up congestion of the ear, and we found evidence of congestion and a chronic catarrhal process in the tympanum and changes in the ear. Deviation of the septum was another cause of aural affections. Every aurist should be able to treat such cases. The peculiarity of such cases and the mode of operating adopted by him were briefly considered.

Edematous tissue, especially of the inferior turbinated bone, sometimes so interfered with the passage of the air as to give rise to ear troubles and require an operation for its removal by the snare, knife, or cautery. Hypertrophied tissue was often accompanied by thickening of the bone. Nasal polypi, in his practice, had had seemingly little effect upon the ear, except where they attained to such a size and density as to occlude the nostril. The reason seemed to be that they were located high up, leaving free exit for the secretions below. Hypertrophied tissue peculiarly placed, but not necessarily occluding, was another cause. A very large percentage of the patients seen by him, and treated for chronic catarrhal otitis, had had more or less hypertrophied tissue upon the posterior aspect of the inferior turbinated bone, and he deemed this one of the most prolific causes of ear diseases. It looked not unlike a mucous wart. This hypertrophied tissue, because of its position, stopped free passage along the floor of the nostril; the air had to go up over it, leaving the secretions on a level with it undisturbed. The Eustachian tube was just posterior to and on a level with this hypertrophy, and in a position to catch the mucus which was dislodged with every forcible inhalation and when the patient lay upon the back or side. It should be removed even if present only in small quantity. He always operated through the nose, using Jarvis's snare. The operation was somewhat difficult, and often severe hemorrhage followed. Another cause of aural affections was hypertrophied tissue exciting the Eustachian tube, as well as mechanically pressing upon it. This hypertrophied tissue lay just posteriorly to the tube, on the wall of the pharynx; when large in amount it lay in folds, usually ranged up and down. He removed the hypertrophy through the nose by the snare, never by the galvano-cautery, for fear of exciting suppurative otitis. Another cause was bands of tissue stretching from the posterior wall of the pharynx to the Eustachian tube. They were more or less numerous in different subjects, and seemingly cicatricial, the result of previous inflammations. They seemed to act chiefly, if not solely, in a mechanical manner by retaining mucus and rendering it difficult to clear the pharynx. They should be divided with the scissors or torn with the blunt hook. He had never yet met with a Eustachian tube occluded by stricture. He had seen a number which he could not inflate, but the cause had been a growth or pressure.

Then came the different forms of nasal catarrh as influencing ear diseases. Looking back, we saw that nasal difficulties caused ear troubles in four principal ways: 1. The blood dys-

crasia, or catarrhal diathesis, which caused the one would also cause the other, but in these conditions there was no natural sequence from the one to the other. 2. The gradual invasion of one cavity by disease of the adjoining cavity. 3. The congestions, sudden or often repeated, brought about by difficulty of clearing the nasal cavity. 4. The influence which peripheral nerve irritations of the nose had upon the ear. This latter was certainly a factor in many ear diseases, but he was not now prepared to state his views upon the subject. The indications were simple and definite: to combat the blood dyscrasia, to cure the inflamed nasal mucous membrane, to restore its normal functions, and, most important of all, to free the nasal cavities of obstructions and encourage nasal breathing.

Dr. O. D. POMEROY commended the paper. A frequent condition was a patulous state of the Eustachian tube, opening and allowing the air to be spilled out of the ear. A too open tube was a condition almost worse than obstruction. Stricture of the tube was very rare. He objected to the nasal douche, fearing that water might enter the tube.

Dr. O. B. DOUGLAS, Dr. A. S. HUNTER, and Dr. DAVID WEBSTER continued the discussion.

Terebene in Diseases of the Lungs.—Dr. D. M. CAMMANN read a paper in which he said that during the past year he had used terebene frequently in cases of emphysema, phthisis, and bronchitis, and the histories of some of the cases he read in full. In concluding he said that, taking these cases in connection with others already reported, it could be affirmed that in terebene we had a valuable drug in affections of the air-passages. In acute and chronic cases of emphysema it seemed especially beneficial in lessening the dyspnoea. It was less irritating than oil of turpentine.

Book Notices.

On the Animal Alkaloids. The Ptomaines, Leucomaines, and Extractives in their Pathological Relations. Being a short Summary of Recent Researches as to the Origin of some Diseases by or through the Physiological Processes going on during Life. By Sir WILLIAM AITKEN, Knt., M. D., F. R. S., Professor of Pathology in the Army Medical School. Philadelphia: P. Blakiston, Son, & Co., 1887. Pp. vi-61. [Price, \$1.]

This little work treats of a very interesting and comparatively new subject. Little has been known in regard to the animal alkaloids until recently, but the few investigations that have thus far been made have abundantly proved their importance as essential factors in the production of many pathological conditions, and any contribution upon this subject by such a well-known writer will receive wide recognition.

There will be many readers of this work, however, who will widely dissent from the author's views, and who will not credit him with an unbiased treatment of his subject.

There has been a tendency during the last few years, among certain medical writers, to ascribe to the action of micro-organisms a predominating influence in the causation of disease. There is in this work a similar tendency to ascribe to the influence of the animal alkaloids an almost exclusive agency in the production of pathological conditions, and to thrust far into the background all other influences, and especially those exerted by the action of low forms of vegetable life. There can be no question that both of these views are incorrect. There are many certainly who will not agree with the author in the statement that such

fevers as "typhus may be at once spontaneous in origin and contagious as to propagation," or that there is a "typhoid series of ailments in which ordinary typhoid fever stands between the simple fever of overtaxation and orthodox typhus," and that "auto-infection, or the inhalation of morbid organic emanations, may start an epidemic" of either of these diseases. This is a retrogression to the pathology of fifty years ago. The tirade against the "hunters for microbes" is certainly inopportune in view of the immense advances that have been made in medicine during the last ten years through their contributions to our knowledge of the relations of micro-organisms to disease. The author would apparently "emancipate us from the tyranny of a belief in any microbial creed as the sole cause of any disease," only to substitute a still more tyrannical one—a belief in the sole agency of the animal alkaloids in the production of disease.

Unfortunately, the value of the good matter that the book contains is largely counteracted by the manifest bias of the writer.

The Urine. Memoranda, Chemical and Microscopical, for Laboratory Use. By J. W. HOLLAND, M. D., Professor of Medical Chemistry and Toxicology, Jefferson Medical College of Philadelphia. Illustrated. Philadelphia: P. Blakiston, Son, & Co., 1887. Pp. 43. [Price, 50 cents.]

This is a small manual intended for the guidance of laboratory workers in the chemical and microscopical examination of the urine. The pages are printed on only one side, and, besides the printed matter, the book contains in the back part a number of blank leaves designed apparently for notes. The work commences with a table giving the chemical composition of normal urine with the average percentage and daily excretion of its constituents. Following this is a description of the physical characteristics and the usual chemical tests for the ordinary normal and abnormal constituents of the urine, and the work concludes with a description of the microscopical characters of the urinary sediments. There are several illustrations of different forms of apparatus and the appearance of the urinary sediments.

The book contains no original observations, and, like many similar small works, although the subject-matter is good of its kind, yet it is not full enough to be of much value. The directions for the tests and the statements as to the significance to be attached to the results are not given in sufficient detail to be of great value to the student or inexperienced worker, while the experienced laboratory student would rarely have occasion to refer to such a work.

It would serve well as a synopsis of the author's lectures on this subject, for which perhaps it was intended.

The Medical News Visiting-List, 1888. Philadelphia: Lea Brothers & Co., 1887. Pp. 224.

This is one of a class of annual publications that are so very useful in facilitating the routine of a physician's daily work that they are getting to be depended upon more and more every year. This particular book is a creditable representative of the class—compact, neat, and durable in its mechanical get-up, and convenient in the arrangement of the printed matter contained in it, as well as in that of the blank pages for various memoranda.

GENERAL LITERARY NOTES.

AMONG recent foreign publications we note the following:

F. ALCAN, Paris.—Bouclé, "Étude sur les kystes hydatiques du rein au point de vue chirurgical." (27c.)

J. B. BAILLIÈRE, Paris.—J. Honorat, "Processus histologique de l'œdème pulmonaire d'origine cardiaque." (27c.) — J. Lays, "Les

émotions chez les sujets en état d'hypnotisme." (5fr.) — M. Vallas, "Sur les ulcérations tuberculeuses de la peau." (2fr.)

A. DELAHAYE & E. LECROSNIER, Paris.—Veroudart, "Des limites de la conservation après les traumatismes de la main." (4fr.) — Panel, "D'un moyen pratique de photographier le fond de l'œil." (2fr.) — P. Muller, "De la toux utérine." (2fr. 50.) — E. Bourgoïn, "Traité de pharmacie galénique." New ed. (15fr.) — C. Durey, "Contribution à l'étude du rétrécissement de l'artère pulmonaire." (3fr. 50.) — Hamon de Fresnay, "Considérations pratiques sur les présentations de la face." (2fr.) — L. Baumel, "Maladies de l'appareil digestif." (9fr.) — Bataille, "Traumatisme et névropathie." (4fr.)

K. NILSSON & C^{ie}, Paris.—G. Smirnoff, "Développement de la méthode de Scarenzio."

G. STEINHEIL, Paris.—P. Renault, "Manuel de trachéotomie." (1fr. 50.) — C. Caravias, "Recherches expérimentales et cliniques sur l'antipyrine." (4fr.)

H. BARSDOFF, Leipsic.—J. Kuhn, "Die Prostitution im 19. Jahr. hundert und die Verhütung der Syphilis." 3d ed. (4M.)

J. F. BERGMANN, Wiesbaden.—P. Fürbringer, "Ueber die Desinfection der Hände des Arztes." (1M. 20.) — H. Steinbrügge, "Ueber secundäre Sinnesempfindungen." (0M. 80.)

H. DOMINICUS, Prague.—J. Rychna, "Ueber Schülerepidemien." (1M. 20.)

F. ENKE, Stuttgart.—B. Bardenheuer, "Der extraperitonäale Explorativschnitt." — A. Benckiser and M. Hofmeier, "Beiträge zur Anatomie des schwangeren u. kreisenden Uterus." — H. Fischer, "Lehrbuch der allgemeinen Chirurgie." — E. Fleischl v. Marxow, "Die Bedeutung des Herzschlages für die Athmung." (6M.) T. Herzyng, "Die Heilbarkeit der Larynxphthise und ihre chirurgische Behandlung." (6M.) — R. Kobert, "Kompendium der praktischen Toxikologie." (4M.)

G. FISCHER, Jena.—L. Goetze, "Die Chylurie, ihre Ursachen und ihr Zustandekommen." (1M. 50.)

A. HIRSCHWALD, Berlin.—O. Liebreich, "Die historische Entwicklung der Heilmittellehre." (0M. 80.) — J. Munk, "Physiologie des Menschen und der Säugethiere." 2d ed. (14M.)

K. KRABBE, Stuttgart.—E. Engelhorn, "Schulgesundheitspflege." (3M. 60.)

R. KUHN, JR., Elbing.—Fleischer, "Die Tollwuthkrankheit." (0M. 80.)

SCHMID, FRANCKE, & Co., Berne.—A. Schreiber, "Neuerungen und Verbesserungen in den Applikationen der Frakturenbehandlung." (3M.)

F. C. W. VOGEL, Leipsic.—G. Bunge, "Lehrbuch der physiologischen und pathologischen Chemie." (8M.) — F. v. Birch-Hirschfeld, "Lehrbuch der pathologischen Anatomie." 3d ed., vol. ii, part 2. (12M.)

F. VALLARDI, Rome.—E. Perroncito, "I parassiti dell' uomo e degli animali utili." (20c.) — G. Chiarleoni, "Malaria e funzioni della riproduzione nella donna." (1L. 25.)

BOOKS AND PAMPHLETS RECEIVED.

Un Optofocómetro. Por el Dr. José Palacios. [Edición de "Boletín de Medicina."]

Annual Address. Modes of Infection. By William H. Welch, M. D., Professor of Pathology, Johns Hopkins University, Baltimore. [Reprinted from "Transactions of the Medical and Chirurgical Faculty of Maryland," for 1887.]

Six Hundred Medical Don'ts; or, the Physician's Utility enhanced. By Ferd. C. Valentine, M. D., ex-Surgeon-General, Army of Honduras; Member of the Medical Society of the County of New York, etc. New York: G. W. Dillingham, 1887. Pp. 9 to 144.

Transactions of the American Surgical Association. Volume the Fifth. Edited by J. Ewing Mears, M. D., Recorder of the Association. Philadelphia: P. Blakiston, Son, & Co., 1887. Pp. xx-383.

Miner's New Index Rerum for Students and Professional Men for Saving Knowledge. Pocket Size. Also arranged for an Account-book for Petty Accounts for Physicians and others. Joel A. Miner, Publisher, Ann Arbor, Mich.

The True Nature and Definition of Insanity. By C. H. Hughes, M. D., of St. Louis, Mo. [Reprinted from the "Alienist and Neurologist."]

Some Phases of Evolution. An Address delivered at the Opening of the Memphis Hospital Medical College, October 4, 1887. By T. J. Crofford, M. D., Professor of Physiology. [Supplement to the "Mississippi Valley Medical Monthly."]

Salt in Dermal Hygiene and Therapeutics. By Henry G. Piffard, M. D., New York. Abstract of a Paper read at the Eleventh Annual Meeting of the American Dermatological Association, September 1, 1887. [Reprinted from the "Journal of Cutaneous and Genito-urinary Diseases."]

The Treatment of Neuralgia in General Practice. By Gustavus Eliot, A. M., M. D., New Haven, Conn. Read before the Section of Psychological Medicine and Diseases of the Nervous System of the Ninth International Medical Congress, September 8, 1887.

Reports on the Progress of Medicine.

OTOLOGY.

By CHARLES STEDMAN BULL, M. D.

Necrosis of the Cochlea.—Hartmann ("Arch. of Otolology," xvi, 3) reports a case of this kind in a young student who acquired an acute inflammation of the left ear, followed by a purulent discharge, in November, 1885. Five months later a polypus was removed with the loop, followed by intense pain and paralysis of the facial nerve. At the end of April the mastoid process was opened with the chisel, and a communication with the external auditory canal was said to have existed. Early in June a sequestrum as large as a pea was removed from the meatus, and the facial paralysis then slowly disappeared. In the external meatus, stenosis and granulations developed. Repeated efforts were made to enlarge the canal with the knife and galvano-cautery. Early in October headache, vomiting, and fever occurred, but disappeared in a few days. In March, 1886, Hartmann first saw the patient. There was then no facial paralysis, and there was a moderate purulent discharge. The external meatus was extremely narrow at the bottom, and the probe detected rough bone, which was slightly movable. The following day this bone was removed with a sharp hook, and proved to consist of a portion of the cochlea, including the two upper turns. The patient heard the tones of seven octaves, C-C⁶, from the vertex on the healthy side. From the left mastoid process nearly all the tuning-forks were heard. On the right side it could not be determined whether the small C fork was heard on the right or left side. The C¹ and C² forks were both heard markedly stronger on the left than on the right side. Gruber's experiment showed the same result. Hence it follows that the perception of the tones of the low tuning-forks was transferred from the mastoid process to the side devoid of the cochlea. On the other hand, the high tuning-forks were heard by the patient on the healthy side. The examination of the hearing by other auxiliaries gave a negative result. The discharge continued for some months, but finally ceased completely.

Polypus of the Tympanic Cavity with Imperforate Membrana Tympani.—Eitelberg (*ibid.*) reports a case of this kind in a young girl, aged fifteen, who complained of a continuous intense pain in the right ear for three days. Three years previously the patient had had a stinging sensation in the same ear for a week, and had been troubled with tinnitus for two weeks previous to the beginning of the pain. The posterior part of the drum-head was bulged out, swollen, of a reddish-gray color, and partially devoid of epidermis. Masses of epidermis lying in the auditory canal were removed. By Politzer's inflation method no perforation noise could be heard, but the pain was greatly relieved, and soon ceased entirely. There was no fluctuation in the drum membrane, but a doughy resistance. The membrane was perforated, and a roundish red tumor immediately appeared

in the opening. In a few days the perforation became larger, and the secretion from the tympanic mucous membrane became profuse. The polypus was the size of a pea, and sprang by a broad pedicle from the mucous membrane of the promontory. Lukewarm baths with a four-per-cent. solution of boric acid, containing 10 grammes of alcohol and 15 grammes of distilled water, were prescribed, and in four weeks the polypus had entirely disappeared. The opening then rapidly closed. The hearing had improved from 0 to 10 centimetres for the watch, and medium loud conversation was heard at six metres with the left ear closed.

The Question of testing the Hearing by Means of Tuning-forks.

—Barth (*ibid.*) considers that in examinations by tuning-forks, bells, etc., repeated on the same healthy or diseased person, concordant results are always obtained. We have an undoubted available measure in the duration of vibration. Whether the vibrations decrease in arithmetical or geometrical progression is immaterial. The main sources of error consist in the irregularity of striking the tuning-fork and in the uncertainty of determining the moment when the sound has died away. Another error might occur through the (possibly varying) logarithmical decrement. These errors are, however, not very important; it is sufficient that the tuning-forks vibrate equally and during the same time. He suggests that every kind of vibration decreasing in any progression may be imagined as an isosceles triangle, in which the initial amplitude is indicated by the base, the duration of vibration by the altitude. Whether a tuning-fork sound quickly or slowly, the amplitude will always be equal in the same fractions of the duration of vibration if the initial amplitude remains the same. If the amplitude decreases in any progression, and if the intensity is in a certain known relation to the amplitude, the intensity also must decrease in the same proportion. With equal initial intensity it is quite indifferent whether the intensity decreases rapidly or slowly; with equal fractions of the duration of vibration the intensity will always be the same.

The Graphic Representation of the Results obtained by testing the Hearing with Tuning-forks.

—Hartmann (*ibid.*) describes his method of testing the hearing as follows: In order to obtain, by aid of various tuning-forks, a complete picture of a certain form of deafness, he employs the vibratory duration for the patient's ear as the numerator of a fraction whose denominator represents the duration for the normal ear, and the latter he makes equal to 100. If, for example, a tuning-fork that is heard by the normal ear for 40 seconds remains audible to the deaf ear for 10 seconds, then the fraction would be $\frac{1}{4} = \frac{25}{100}$. He formerly employed six forks, but now he employs five: $C = 128$, $C^1 = 256$, $C^2 = 512$, $C^3 = 1,024$, and $C^4 = 2,048$ vibrations. The low-pitched forks are made to vibrate by squeezing with the fingers and suddenly letting go; the high-pitched forks by striking them sharply and forcibly on a block of wood. When examining a patient by air-conduction he places the fork before the ear if such a way that the ends of the tines are held as near the opening on the external auditory canal as possible. When examining the bone-conduction, the fork is set perpendicularly on the mastoid process. The best-adapted forks are those which have a vibratory duration of about 30 to 60 seconds to the normal ear. The charts employed in recording the results of the examinations of cases of impaired hearing are so arranged that the upper half is used for registering the results obtained in the examination for air-conduction, the lower half for the results obtained in the examination for bone-conduction. The proportion, calculated in percentages, of the time that the tuning-fork is heard by the deaf ear to the time determined as the average for the normal ear is then registered in red colors in the spaces allotted for the several tuning-forks. The results obtained for bone-conduction are not registered in their proportion to the normal standard found for bone-conduction, but are recorded in their relation to the average normal hearing by air-conduction. It must be remarked that the vibratory duration is much shorter when the tuning fork is rested on a solid body than when allowed free vibration in the air.

The Diagnostic Value of Rinne's Experiment, with Remarks on the Physiological Function of the Sound-conducting Apparatus.

—Bezold (*ibid.*) discusses the diagnostic value of Rinne's experiment as follows: The experiment depends exclusively upon the amount of time by which the tuning-fork is heard longer by the tested

ear by aerial conduction, or, under pathological conditions, longer by bone-conduction, than by the opposite form of conduction. The reason why bone-conduction so often exceeds aerial conduction in affections of the sound-conducting apparatus lies, probably, in an increased tension of the sound-conducting apparatus, such as we assume exists in a great majority of diseases of the middle ear. Rinne's experiment is quickest to perform, and the least wearisome. It does not tell directly how much the hearing by aerial or bone-conduction is diminished in comparison with the healthy ear, but it gives us that proportion which is subject to the greatest variations in the disease with which we are here concerned, and hence offers the most striking figures. Rinne's assertion that the experiment always results positively in the healthy ear has been unanimously confirmed by all authors. The experiment should always be amplified by testing the bone-conduction by the second method. The uniform, positive result of Rinne's experiment in the natural ear justifies us in assuming that the remarkable variations from the normal observed in deaf persons are also due to the same purely physical causes within the ear as account for its uniform result in the normal ear. If we compare the results of tuning-fork tests in persistent perforations and cicatrices of the membrana tympani with those giving the negative results of the experiment, we shall find as perfect an agreement between the two as could be expected from a method in which we must rely upon the subjective observation of the patient. The result of this comparison is that we gain powerful support for the theory that in every case in which Rinne's experiment results negatively (except in cases of excessive difference between the hearing of the two ears) there must exist some mechanical affection of the sound-conducting apparatus which in some way disturbs its unstable equilibrium. The negative result of Rinne's experiment in all bilateral diseases of the ear, and in which there is not too great a difference between the hearing of the two ears, proves that some alteration is present in the conducting apparatus. But we have no right to expect a negative result of the experiment in all cases in which the middle ear is affected. The experiment is, on the contrary, much more frequently shortened, but positive, viz.: 1. In the chronic cases with negative mirror and catheter examination and relatively good hearing. 2. In acute and subacute diseases of the middle ear, with exudation in the tympanum, and despite great diminution of hearing. 3. In high degrees of unilateral affections, inversely, the experiment may result negatively, despite the fact that the sound-conducting apparatus is intact. A normally long and but little abbreviated positive result of Rinne's experiment, with great diminution of hearing, and with otherwise negative mirror or air-douche symptoms, permits us to exclude any extensive disease of the sound-conducting apparatus, no matter whether the attack is unilateral or bilateral. Bezold has made the discovery that we can voluntarily and suddenly annihilate the tone of the large A-fork, whilst vibrating loudly and close to the ear, by rarefying the air in the middle-ear space. If we next force the drum-head out by using Valsalva's experiment, the tone is heard once more in its former intensity. We can produce this alternate disappearance and reappearance six or seven times while the A-fork is gradually dying away in front of the ear. The opposite condition of high and low tones in partial or total interference with the function of the conducting apparatus compels us to acknowledge that the sound-conducting apparatus serves to transmit only those waves of sound for the lower portion of the scale which strike the ear by aerial conduction, for the upper part of the scale it is superfluous. Whenever the function of the conducting apparatus is disturbed, the ear loses its capacity for the perception of aerial tones of the lower part of the scale, at least from A downward, which strike it by aerial conduction.

The Vertigo of Meniere's Disease.

—Gelle ("Ann. des mal. de l'oreille," Sept., 1887) gives in detail the histories of the autopsy in three cases of Meniere's disease, and draws the following conclusions: 1. The vertigo attack of the acute type may exist for several years without lesion of the labyrinthine nerve or of the auditory nerve. 2. The vertigo is met with in the most diverse lesions of the middle ear. 3. These lesions of the drum cavity all present the following common characteristic: they all tend directly or indirectly to close in completely the labyrinth, either by ankylosis of the stapes to the oval window, or by obliteration of the round window. 4. The mechanism of the shock

or commotion of the labyrinth is explained by the loss of all safety-valves; every movement, even vibratory, to which it is subjected causes an injurious shock, and provokes the reactions known since the time of Flourens, under the influence of traumatism of the semicircular canals. 5. The mobility of one part of the labyrinthine wall is indispensable to the production of abnormal irritation of the labyrinthine nerve, and explains the intensity of the effects consequent on any concussion. 6. An important element necessary to the comprehension of the genesis of the auricular vertigo and its varieties is the state of reflex hyperæsthesia and hyperexcitability of the acoustic nerve, due to the repetition of local and functional irritations. 7. The vertigo may exist with or without tabes.

Obstruction of the Eustachian Tubes in Diabetic Patients.—Miot ("Rev. mens. de laryngologie et d'otologie," June 1, 1887) draws the following conclusions from his observations: 1. Tumefaction, with œdema of the mucous membrane lining the Eustachian tubes, is a complication of diabetes. 2. Ordinary treatment proves of no avail in this affection. 3. The continuous current of electricity diminishes the congestive state of the mucous membrane, and permits the introduction of bougies as well as the employment of the chemical galvano-caustic. 4. The chemical galvano-caustic increases the lumen of the canal, and seems to be the most efficacious and most rapid means of restoring its functions.

Centripetal and Centrifugal Pressure on the Tympanic Membrane employed as a means of Diagnosis and Treatment.—Miot ("Rev. mens. de laryngologie et d'otologie," July 1, 1887) draws the following conclusions from his investigations on the above subject: 1. Feeble pressure exerted upon the drum-cavities of persons endowed with a normal sense of hearing produces a feeble action upon the articulation between the stapes and the vestibule. Moderate and strong pressure cause evident subjective symptoms of compression—such as tinnitus, vertigo, etc. These symptoms vary in appearance according to the sensibility of the subjects. 2. Weak pressure has no effect on the articulation between stapes and vestibule in patients affected with a sclerosing otitis media. In order to produce an effect such pressure should be the stronger the less perfectly this articulation performs its functions. Moderate and strong pressure, applied to the diagnosis of pathological modifications of this articulation, only admit of recognizing the presence of ankylosis. Its employment, at proper intervals, may advantageously modify in some cases these pathological conditions, which, if left to themselves, would of necessity become aggravated.

Cerebral Abscess; Trephining; Recovery.—Barr ("Arch. of Otol.," xvi, 2) reports a case of this kind in a boy, aged nine, who had had an offensive discharge from the right ear for a year. Three weeks before admission into the hospital he was seized with severe pain in the affected ear and side of the head, accompanied by a hot and dry skin, and followed by vomiting and drowsiness. These symptoms continued for four days: the vomiting then ceased, but the pain and drowsiness remained. Eight days from the commencement of the symptoms he had a severe rigor, which lasted fifteen minutes. He had six rigors before admission to the hospital, and the pain and drowsiness persisted. There was a perforation in the upper part of the tympanic membrane, from which pus escaped. Firm pressure over the mastoid produced pain. Barr opened the mastoid cells by chiseling through the cortex behind the auditory canal, and injected a weak solution of carbolic acid through the antrum and tympanic cavity out by the external meatus, and also in the reverse direction. A small quantity of pus and caseous debris was washed out. A drainage-tube was introduced into the orifice in the bone, and iodoform used as a dressing. Twice a day afterward an antiseptic solution was forced through the opening and drum in both directions. Two days later he had a rigor, and the symptoms returned. Five days later there was a sudden and copious discharge of pus from the ear. All the symptoms subsequently became worse, and ptosis of the right upper lid appeared, and it was decided to trephine the skull. The middle ear was washed out with an antiseptic solution, and the scalp and neighboring parts carefully cleansed with turpentine and methylated spirit. A half-inch disc of bone was removed from the squamous portion of the temporal, at a point an inch and a half above and half an inch behind the center of the external auditory meatus. When the dura was opened and turned aside, the brain tissue immediately bulged

into the osseous cavity, and rose above its external level. A hollow needle was inserted into the brain, and, after it had penetrated about three quarters of an inch, there was a sudden escape of foul gas, accompanied by a bubbling sound and the escape of some fluid. The needle was inserted a little farther, when pus of an offensive odor flowed out. The aperture in the brain tissue was enlarged with a forceps, and portions of necrosed brain tissue were removed. The cavity was then washed out with a saturated solution of boracic acid. Pus continued to ooze from the wound, and an aperture was then drilled into the base of the skull, just above the osseous boundary of the external auditory meatus, involving the squamo-petrous suture. The dura mater was here intact. It was opened and the abscess reached. A stream of boric-acid solution was passed through this aperture so as to wash out the cavity of the abscess, and it made its exit freely by the upper opening. The current was then reversed. Chicken-bone drainage-tubes were introduced into both apertures, and the parts were thickly covered with boric-acid powder and dressed with sublimated wood-wool pads. The wounds were dressed about once a week. The softened brain tissue at the seat of the upper opening in the skull soon presented a mass of granulations, which increased in size and rose into the aperture in the bone, uniting with the layer which formed on the exterior of the skull. The two soon became blended, and cicatrization rapidly progressed. The child increased in flesh rapidly, and was at the end of six weeks quite well. Three months after his admission all secretion had stopped in the ear, leaving a dry perforation behind. A vulcanite shield was fitted over the upper aperture in the skull, the lower one having completely closed.

The Mechanism of Chronic Purulent Myringitis in Tuberculous Individuals.—Moos ("Arch. of Otol.," xvi, 1) gives the results of his investigations of tuberculous myringitis so called. In the Malpighian layer he found irregular hyperplasia in the direction of the cuticular layer, and the proliferation also formed true papillae with loops of blood-vessels between them. These hyperplasias sometimes reach as far as the manubrial artery. In the cuticular layer the normal blood-vessels are dilated and gorged with blood-corpuscles. There are also numerous newly formed blood-vessels, especially in the membrana flaccida. The neighborhood of the external wall of the blood-vessels are more or less infiltrated with round cells, and the interstices of the cuticular connective tissue are studded with round, multinuclear, and pus cells. The newly formed connective tissue is the product partly of round cells which have been transformed into spindle cells, and partly of the proliferation of the mural elements of the blood-vessels. The inflammatory changes of the cuticular layer extend into the wall of the external auditory canal for several millimetres. Near the handle of the hammer the purulent infiltration is most pronounced, causing destruction not only of the cuticular layer itself, but also of the adjacent periosteal layer of the handle. In consequence of this, all the layers of the drum membrane covering the lateral aspect of the handle disappear, leaving the carious bone bare. The inflammatory changes of the mucous membrane and the consequent tissue hyperplasia differ but little from those found in the cuticular layer. As a rule, the hyperplasia is most pronounced in the region of the handle, and at the inner surface of the ventricular ligament. As regards the changes in the substantia propria, Moos has never been able to find true vascular inflammation of the substantia propria in the myringitis occurring in tuberculous individuals. As a rule, the substantia propria suffers angular and arched displacements in consequence of the pressure of the enormous mass of exudation. If this pressure increases still more, the substantia propria will be ruptured by the forcible displacement of its fibers. Whenever the substantia propria is ruptured, hæmorrhage takes place. But true hæmorrhagic infiltration must be distinguished from the hæmorrhagic effusion into the interstices of the cuticular tissue, as described above. It may be either circumscribed or diffuse.

The Cupula-formations in the Human Labyrinth.—Steinbrügge (*ibid.*) has been making some investigations into the significance of the cupula-formations in the labyrinth of the human ear, and draws the following conclusions: If we regard a mechanical commotion of the auditory hairs through the motion of the endolymph an adequate irritation for the terminations of the auditory nerve in the ampullæ and sacculi, and if, furthermore, it should be established that the audi-

tory hairs in the ampullæ as well as in the sacculi during life are enveloped by a tenacious fluid of greater consistence than the endolymph, then there can be no doubt that this substance restricts the vibrations of the auditory hairs, and thus acts as a protecting apparatus and damper. Under the presumption of a gelatinous mass in the region of the cristæ and the maculæ, we may conclude that the peripheric excitability of the vestibular nerve must rise or fall the instant the slightest fluctuation occurs in the consistence of the substance enveloping the hairs. With reference to this point we can only entertain conjectures so long as the function of the nerve-epithelium of the sacculi is unknown, and the exact chemical composition of the endolymphatic fluids and the cupula-substances is not understood.

Deafness due to Quinine.—Perron ("Rev. mens. de laryngologie et d'otologie," Nov. 1, 1887) reports a case of this kind occurring in a man aged thirty-seven. In 1863, while in Algeria, he had severe miasmatic fever, for which he took very large doses of quinine, which resulted in temporary deafness and tinnitus. This condition of alternate miasmatic poisoning and administration of large doses of quinine were frequently repeated until 1870. The patient then left Algeria, and since then he has had no miasmatic attack, but the deafness and tinnitus remained, and he has had occasional attacks of vertigo and nausea. Afterward he had an acute attack of deafness lasting several days. When examined in September, 1887, the drum membranes were found sclerosed and hyperæmic, and an examination showed that the internal ear or labyrinth was more affected on the side corresponding to the most marked signs of otitis media. The otitis media was probably of the proliferous type, and there was no sign of any catarrhal trouble having existed in the naso-pharynx. The Eustachian tubes were both open.

Miscellany.

The Doctor's Wife.—"It is useless," says the "Boston Medical and Surgical Journal," "to suppose for an instant that any description of the doctor's wife can do justice to her, for doctors' wives differ as stars from each other in magnitude, or, a comparison more to the point, quite as widely as their husbands. It is even doubtful if a composite photograph could so blend their many virtues and individualities as to produce a face in which each community could find their own doctor's wife. But yet, as a class, the wives of physicians possess certain common traits, as well as common graces, which are known and appreciated not only by their husbands, but by all those who possess an extended acquaintance with doctors and their families, though these characteristics are modified by the peculiarities of the woman, and the character of the practice to which she is wedded. The wife of a doctor in general practice differs very decidedly from the wife of a specialist. The business of the latter is commonly confined to certain hours; his office-door is tended by a trained servant, who does not need appeal to the wife for information as to the doctor's whereabouts; but, in general practice, when the domestic answers the bell, and holds a parley with the anxious individual who wishes to find the doctor, the doctor's wife is very apt to be somewhere within hearing, at the head of the stairs, or behind the office-door, and is very likely to take the conversation into her own hands. She, perhaps, knows the caller, and is able to dispose of him according to his merits. If it is near the time of the doctor's return, she may exercise various transparent devices for keeping him, allowing him, if he is garrulous, to tell her what has driven him to consult the doctor.

"In the early days of her married life she may have gone forth herself to pursue her husband in his route through the village, to hasten his footsteps in some new direction; but it would take something very unusual to start her off in a chase after the doctor in her maturer years. It seems to be a superstition among the more helpless class of patients that the doctor's wife must have some share of the wisdom which they attribute to her husband, and it is by no means rare for her advice to be asked as to the course to be followed when the doctor himself is not available, and she learns, in the course of years, a series of stock recom-

mendations—that a baby in a fit may be safely put into hot water, that a broken leg can be left an hour or two until the doctor comes.

"But there are patients who resent her interference and disregard her suggestions. They will neither tell their errand nor promise to call again. They arouse, sometimes, her pity, sometimes her curiosity, a quality of which the model doctor's wife should possess but a minimum. She finds it difficult, sometimes, to manifest a proper interest in her husband's business without appearing too curious. She is seldom a gossip, or, if she is a little talkative with her neighbors, one of the staple topics of conversation will be the dreadful uncommunicativeness of her husband, whom, under such circumstances, she will possibly characterize as 'close-mouthed.'

"The doctor's wife is almost sure to hold strong opinions on hygienic subjects, and she talks with an air of learning about sewers and traps and ventilation. If she is the wife of a doctor who practices in the city, she holds strong ideas about medical charities. Perhaps she appreciates too highly the doctor's unpaid efforts. She has been known to express very radical ideas about hospitals, and night-calls she abominates. She does not like the doctor to imperil his life by attendance on diphtheria. In fact, her constant tendency is to overvalue his services. She feels that he does not receive all he ought for the exhausting labor he performs. And yet, with the sweet inconsistency which belongs to the sex, she hurries the good man off on certain occasions. She has been known to drop to sleep after the night-bell had summoned him, and, awakened again by the noise he makes on his return, oblivious of the time that has passed, to chide him that he has not yet started.

"She takes it to heart when the doctor is discharged from a case and a rival practitioner installed over it, and if the family who have thought it for their interest to make the change are numbered among her friends, a little coolness is an almost inevitable result. Her life-long friends do not always fully appreciate her husband's peculiar virtues, and it is a constant surprise to her that any of them should continue to employ their old practitioner.

"The doctor's wife is usually emphatically the domestic manager. The domestic machinery is of necessity left to her control, for the irregular and absorbing nature of the doctor's vocation renders him somewhat unreliable as a purveyor. He is occasionally absent-minded, even when present in the body. If he undertakes to do the marketing, he will forget to order the dinner. On the other hand, the care of the children is apt to pass into the doctor's hands rather more than in other families. He gets up at night to see why John coughs, and what it is that makes Benjamin so restless.

"There is one fond delusion which the doctor's wife hides in her own breast, and never reveals, except to her mother, her sisters, and her few intimate friends, and occasionally to her husband, when he is particularly exasperating: she is sure that her husband's success in his profession is, in reality, due to her. His professional attainments are all very well, but, without her directing hand, who can tell where his lack of worldly wisdom would have led him?"

Whereupon an unfortunate, who signs himself "Celebs, M. D.," writes to our contemporary as follows: "Your remarks in the last issue of your valuable journal upon the Doctor's Wife call forth from my heart certain personal reminiscences not unmix'd with pain. 'Tis, says the infant prodigy, 'save a great many people's lives because they don't swallow them.' So doctors' wives ruin the prospects of hundreds of us young fellows because we don't have them. Shall I tell you my sad fate? Two years ago, on the death of old Dr. Gamboze, two of us, as is the custom, moved into town to take his place. My friend and classmate, Dr. Benedick (alas, no longer my friend!), and I each arrived on the ground about half an hour after the old doctor had breathed his last. We were pretty well matched in what is popularly but erroneously supposed to be the preparation for practice, and we entered the race neck and neck. We were, as Vergil says, or might have said, *Et scæpe pares, et æquæ parati*. Well, we took lodgings on opposite sides of the main street, and the fight began. As fast as I scored a point Benedick scored another, and somehow his points always seemed to count for a little more than mine. I went to the brick church, which was larger, and he went to the wooden meeting house, which had the most old families. My chimney blew down and I got it in for a five liner in the local paper, but the next week one corner of his house took fire and

he got it in for ten lines. I put on my door an old-fashioned knocker and he put in an electric bell. The country people knew all about knockers, but the electric bell was something they couldn't quite grasp (figuratively I mean; they grasped it often enough literally). Finally I fell into the common pit, and bought a horse long before I needed it or could afford it. The first time I passed Benedick on the street he smiled in an unpleasant way and said: 'Oho, I've got on to a racket worth two of that,' and the next thing I knew he was married. His wife distanced my horse in no time. She went to the sewing-circle and every good patient he ever had was brought into the conversation in some way. Even if he was only called into a house to see the cook, the women all learned that he had been there, though they didn't know (for 'I mustn't talk about my husband's affairs') who the patient was. Then, when the wedding-calls were returned, into every house went some mysterious hint, not too definite, of Benedick's wonderful success. Were there children in the family, 'The doctor is so fond of children, and they all take to him so quickly!' Had any of the household met with an accident, 'The doctor is very fond of surgery.' Were any little dresses in making, 'My husband is such a good baby-doctor. Whatever should I do if it weren't for him!' She always found out who the family physician was, and this information, of course, was the first and most important step toward ousting him. If a new-comer moved into town, the grocer and butcher were hardly more prompt in leaving their cards at the back door than Madam in presenting her business-card at the front door. If little Susy Simmons swallowed a pin, and the horrified mother was running amuck for the nearest doctor she could find, she was beguiled in by Mrs. Benedick to wait for her doctor, whom she 'expected in every minute.' No emergency cases ever would wait for me to come home, and whenever a patient eager for immediate healing turned away from my door, he was invariably gathered in by the siren across the way, who either entertained him till her partner's return, or else got his name booked for a visit. They were two, or more than two, to my one. It takes two men to run the Punch and Judy show—one to work the figures, the other to do the talking, get in the crowd, and take up the collection. I had to run my show alone, and didn't take up much money. I wonder if King Lemuel's mother did not have such a doctor's wife in mind when she told him the memorable story of the virtuous woman. There are certain internal evidences that she did. 'She perceiveth that her merchandise is good. Her candle goeth not out by night. . . . Her husband is known in the gates, where he sitteth among the elders of the land.' By the way, Mrs. Benedick has already got her husband on to the School Committee, and, I hear, is thinking of sending him to the Legislature next year. There is nothing left for me but to move on and try it somewhere else. *Væ victis*. I fondly thought when I spent my money for a horse and carriage that I held the 'right bower'; but I have found that Benedick has the 'joker.' And now, before trying my fortune in a new field, I must have, cost what it may, a wife. Bitter experience, as well as the tenor of your editorial, convince me of it."

California Brandy.—The impression is very general that brandy is the most wholesome of all distilled liquors. This feeling is settled and of long standing, not only among physicians, but with the laity. It has almost the force of an instinct; when, in the course of an illness, it is thought best to resort to the use of alcohol, the idea of brandy is the first to suggest itself to most minds. It is usually the case that there is some substantial foundation for a wide-spread belief, and our conviction is that the general preference for brandy as a stimulant and nutrient rests on solid grounds. In the Journal for June 28 and July 5, 1884, we gave an account of some very careful and elaborate observations upon the point by M. Dujardin-Beaumetz. Like previous experimenters, M. Dujardin-Beaumetz found that brandy was far less deleterious than other distilled liquors, by reason of its alcohol being chiefly that of the ethyl series. While it is not to be denied that certain fine brands of other liquors approach brandy in their freedom from injurious constituents, the general fact remains that, as compared with whisky, rum, and gin, brandy is to be preferred. Nevertheless, whisky and other liquors have come into use to a great extent of late years for medicinal purposes, but there can be little doubt that this is largely owing to the recognized difficulty—amounting practically to

an impossibility—of obtaining pure French brandy. In our issue for December 8, 1883, we published a forcible article on "French Brandy," by Dr. Adolph W. Miller, of Philadelphia, read before the Alumni Association of the Auxiliary Department of Medicine of the University of Pennsylvania. In that article Dr. Miller said: "The term 'brandy' seems to be no longer applied to a spirit produced by the fermentation of grapes, but to a complex mixture the alcohol of which is derived from grain, potatoes, or, worst of all, the refuse of the beet-sugar refineries. It would seem to be fairly impossible at present to purchase a pure cognac, as each individual proprietor of a vineyard has become a distiller and compounder. He has acquired the art of imitating any special flavor or vintage of brandy that may be called for. Potato spirits and beet alcohols, the most deleterious and obnoxious of all the varieties of spirits, are sent from Germany into France in vast quantities. They are flavored, colored, and branded or labeled to meet the wishes of American connoisseurs. The mere fact of coming out of bond or 'straight through the custom-house' is generally accepted here as sufficient evidence that they are pure and genuine. It is rather unfortunate that physicians themselves frequently strengthen this hallucination in favor of imported spirits by giving the most stringent orders to their patients to procure genuine French cognac, even though it may command tenfold the price of an absolutely pure spirit of domestic production. This imperative command becomes a cruel injustice in the case of poor patients, whom it is perhaps necessary to support for months on alcohol. Under the best of circumstances, what is there to be gained by the use of French brandy in preference to pure domestic spirit?"

Such being the case, it was natural to turn to California brandy. There was every *a priori* reason to assume that good brandy was produced in California, and residents of that State persistently asserted that it was to be had there. As a matter of fact, however, any attempt to get good California brandy in the eastern markets generally resulted in the purchaser's being saddled with a lot of villainous stuff—fiery, utterly destitute of bouquet, and extremely productive of "Katzenjammer." To what was this owing? Undoubtedly to our absurd yearning after imported articles—a state of the public mind that would have made it ruinous for California producers of good brandy to put it on the market under its own name. It is unquestionable that for many years past the best brandy obtainable in this market has been the product of California, but the small consumer could obtain it only by asking for "French brandy" and paying an excessive price. Of course, there has been poor brandy made in California, as well as much that, while essentially good, was immature. Such products have been sold under the name of California brandy, and unfortunately it is from them that the brandy of the Pacific coast has largely been judged of. But happily this unnatural state of things is passing away; we are gradually learning that various articles of American production are far superior to any that can be imported, and that California brandy is one of them. In particular, the "royal grape brandy" furnished by the California Vintage Company we believe to be unsurpassed by any brandy made in France, whether we consider its flavor or its purity; and rarely equaled. It is smooth to the tongue and delicate and fruity in both taste and aroma, and a considerable trial of it has satisfied us of its absolute freedom from extraneous substances. Considering the very moderate price asked for it—really not greater than one has to pay for good whisky—it seems to us a duty on the part of physicians to employ it with their patients.

Operations for Laceration of the Perinæum.—At a recent meeting of the Gynecological and Obstetrical Society of Baltimore, Dr. H. M. Wilson gave an interesting account of a case of tetanoid constriction of the uterus. In the discussion, which turned upon perinæorrhaphy, Dr. H. P. C. Wilson said that, in his opinion, the tear should be closed immediately after delivery, and, if it was not done within twelve hours thereafter, it was better to defer the operation for two or three months, preferably the latter. Several times lately he had been solicited to operate a few weeks after confinement, but he made it a rule to decline invariably. He had long since discarded the use of the catheter after perinæorrhaphy, unless the woman was unable to pass urine naturally, and he never gave the patient an opiate. Whether the laceration was

down to the sphincter or through it, and up the recto-vaginal septum, he always repaired the injury at one operation, and his failures in the first attempt had been very exceptional. He had as yet failed to comprehend the technique of Emmet's new operation. Dr. W. E. Moseley differed with Dr. Wilson as to Dr. Emmet's new perinæum operation being such a very complicated and difficult one to perform. It was more difficult to understand than the trefoil operation, but, if one saw Dr. Emmet or any one else familiar with the details of the operation perform it, and then did it for himself, many of the apparent difficulties would disappear. It required rather more skillful manipulation and more sutures than the older operations, but the results justified the additional care and time used. He had performed the operation a large number of times since Dr. Emmet described it at the meeting of the American Gynecological Association, in Philadelphia, in 1883, and had found that it accomplished just what its author alleged for it. Among its advantages were greater comfort to the patient after the operation, rendering the use of anodynes practically unnecessary, the discontinuance of the use of the catheter, and the formation of a firm but very much more elastic perinæum than resulted from the trefoil operation, a condition of the greatest importance to the patient in any subsequent confinement.

The New York Academy of Medicine.—The Section in Theory and Practice of Medicine will meet on Tuesday evening, the 20th inst. Dr. F. A. Burrall will read a paper on "Some Uses of Oleum Hyperici," and Dr. George A. Richards will read one on "Seventeen Cases of Sun-stroke treated in the New York Hospital in 1887."

The Section in Obstetrics and Diseases of Women and Children will meet on Thursday evening, the 22d inst. Dr. M. Putnam Jacobi will read a paper on "The Nature and Dangers of Intra-uterine Medication."

The Section in Materia Medica and Therapeutics will meet on Friday evening, the 23d inst. Dr. S. Baruch will read a paper entitled "Therapeutic Memoranda on Diphtheria, with special reference to the Value of Large Doses of Oleum Terebinthine," and Dr. H. N. Vineberg will read one on "The Internal Administration of Bichloride of Mercury as an Adjunct to the Local Treatment of Circumferential Inflammations."

The Section in Laryngology and Rhinology will meet on Tuesday evening, the 27th inst. Dr. Henry Schweig will read a paper on "Some of the Causes of Vocal Disturbance," and Dr. D. H. Goodwillie will read one on "Nasal Intubation," with demonstrations.

The Unwarrantable Use of Physicians' Names.—"Dr. Hammond will satisfy a long-felt want," says the Philadelphia "Public Ledger," "if he succeeds with his motion that the New York Medical Jurisprudence Society appoint a committee on 'personal rights.' This is designed to protect people from having their names signed against their will to documents they do not agree to or approve of. The thing which gives immediate impulse to the movement is the unauthorized use of names of physicians appended to trashy nostrums, soaps, beverages, etc. The unwary scientist, or actress, public speaker or singer, artist, surgeon, professional man or woman, beautiful or otherwise distinguished, is in constant peril of reading that he or she writes with the pen or the ink, or washes hands with the soap afterward, that is to be made famous by this connection. If not in peril of seeing their facsimile signatures signed in praise of some Greek-named 'pick-you-up,' or plaster, or pain cure, they avoid this Scylla by running into a Charybdis of assumed approval. A medical man can hardly mention, in a lecture or in casual remarks, the chance use of any formula except at risk of finding the fences placarded with it at an early day. Dr. Hammond has kicked, and has called for aid upon a society that should be as well informed on legal as on surgical operations, and remedies other than medical. By prescribing for a brother practitioner in this respect the society will incidentally benefit the rest of mankind."

A Servant's Unfortunate Mistake is thus recorded in the "American Practitioner and News," of Louisville: "A careful and skillful physician of this city, recently, being about to make a vaginal examination of a patient, ordered a servant of the lady to bring him some lard. The servant understood him to say 'lye' instead of lard, and

brought a teaspoonful of concentrated lye, which was at that time in use in the kitchen for scrubbing purposes. The physician, not dreaming of such a mistake, and finding the lye about of the consistence and color of lard, anointed his finger and introduced it. The patient complained of atrocious pain, which the doctor thought due to some nervous trouble until his finger began to smart, when he made a closer examination and discovered the unfortunate mistake. The caustic produced extensive sloughing of the vagina and vulva, which will necessarily be very refractory to treatment. The chagrin of the physician may be imagined, though he had acted only as any of us might have done under the circumstances."

"Sanitas" Disinfecting Oil.—Mr. James Startin, writing to the editor of the "Lancet," says: "Sanitas' oil completely covers the disagreeable smell of iodoform in ointments, etc., besides being a valuable application in all ulcers, specific or otherwise, in deodorizing and in helping the process of healing." The oil is said also to be a good solvent of iodoform.

The Health of Michigan.—According to the secretary of the State Board of Health's summary of returns made to the board during the five weeks ending December 3d, diphtheria was reported from 63 places, scarlet fever from 36, typhoid fever from 39, and measles from 18.

Government Health Reports.—By direction of the Secretary of the Treasury, Dr. John B. Hamilton, Surgeon-General of the Marine-Hospital Service, has issued the following abstract of sanitary reports received during the week ending December 9th:

(Published in accordance with Section 4, act approved April 29, 1878.)

England and Wales.—The deaths registered in twenty-eight great towns of England and Wales during the week ending November 19th corresponded to an annual rate of 21.1 in a thousand of the aggregate population, which is estimated at 9,244,099. The lowest rate was recorded in Hull, viz., 13.5, and the highest in Blackburn, viz., 30.4 in a thousand. Small-pox caused 25 deaths in Sheffield.

London.—One thousand six hundred and thirty-eight deaths were registered during the week ending November 19th, including 25 from measles, 41 from scarlet fever, 25 from diphtheria, 54 from whooping-cough, 1 from typhus, 23 from enteric fever, and 11 from diarrhoea and dysentery. There were 164 deaths from diseases of the respiratory organs. Different forms of violence caused 60 deaths, and 7 suicides were registered. The deaths from all causes corresponded to an annual rate of 20.3 in a thousand. In greater London 2,919 deaths were registered, corresponding to an annual rate of 19.5 in a thousand of the population. In the "outer ring" 5 deaths from diphtheria, 10 from measles, 8 from scarlet fever, and 11 from whooping-cough were registered.

Ireland.—The average annual death rate represented by the deaths registered during the week ending November 19th in the sixteen principal town districts of Ireland was 27 in a thousand of the population. The lowest rate was recorded in Sligo, viz., 18, and the highest in Dublin, viz., 34 in a thousand.

Dublin.—Two hundred and thirty-four deaths were registered during the week ending November 19th, including 5 from measles, 5 from whooping-cough, 8 from scarlet fever, 3 from diphtheria, and 1 from enteric fever. Diseases of the respiratory organs caused 56 deaths. Two accidental deaths were registered, and in 48 instances the causes of death were unclassified. The deaths from all causes corresponded to an annual rate of 34.6 in a thousand.

Scotland.—The deaths registered in eight principal towns during the week ending November 19th corresponded to an annual rate of 22 in a thousand of the population, which is estimated at 1,299,000. The lowest mortality was recorded in Leith, viz., 17, and the highest in Aberdeen, viz., 24.4 in a thousand. The aggregate number of deaths registered from all causes was 549, including 8 from measles, 16 from scarlet fever, 7 from diphtheria, 26 from whooping-cough, 11 from fever, and 6 from diarrhoea.

Germany.—The deaths registered in fifty-one cities of Germany, having an aggregate population of 6,696,196, during the week ending

November 5th corresponded to an annual rate of 20.3 in a thousand. The lowest rate was recorded in München-Gladbach, viz., 13.4, and the highest in Dantzic, viz., 32.5.

Malta.—The United States consul, in his dispatch dated November 16, 1887, states that "this island has been declared free from cholera or other contagious disease, and the local government commenced yesterday issuing clean bills of health. The British bark Brothers Apap, which called here from Alexandria, Egypt, with a cargo of rags, bound to New Haven, Conn., left for the latter port, without having communicated with this island, on the eve of the government declaring Malta free from cholera. The quarantine restrictions hitherto maintained against arrivals from southern Italy and Sicily have been raised, vessels from any port being now admitted here to pratique."

Gibraltar.—The secretary of the board of health, under date of November 16, 1887, states that "the board of health have decided to remove, from this date, the existing restrictions on arrivals at this port from southern Italy and Sicily."

Cadiz.—The United States consul, in his dispatch under date of November 14, 1887, states that "small-pox is prevailing quite extensively in this province and Seville, especially at Sanlúcar, at the mouth of the Guadalquivir, and somewhat in towns adjacent to Cadiz, but is not reported as having yet appeared here, though there are rumors to that effect, the city council having at its session of last Friday ordered precautionary measures by general vaccination and cleansing."

Florence.—The United States consul, in his cablegram dated December 2, 1887, states that "Agent Cagliari reports cholera at Terralba, Sardinia."

Santiago, Chili.—The United States minister telegraphed, under date of December 1, 1887: "Peru closes ports." "This is understood to mean that Peru closes her ports to all vessels coming from Chili, on account of cholera. Similar action, as appears from a dispatch sent from Lima, has been taken at Panama."

Havana.—Six hundred and fifty-eight deaths were registered during the month of November, 1887, including 24 from yellow fever, 6 from enteric fever, 239 from small-pox, 1 from bilious fever, 2 from intermittent fever, 7 from so-called pernicious fever, 2 from diphtheria, and 3 from croup. Small-pox is reported to be on the increase in Havana and adjacent towns.

Santiago de Cuba.—The sanitary inspector reports for the week ending November 26, 1887, 2 deaths from yellow fever on a Spanish man-of-war in the harbor; a third case is convalescing. At the military hospital there have been noted 10 cases, of which 9 died—3 were new arrivals and the rest had been in the country one year.

MORTALITY TABLE, FOREIGN CITIES.

CITIES.	Week ending	Estimated population.	Total deaths from all causes.	DEATHS FROM—						
				Cholera.	Yellow fever.	Small-pox.	Typhus fever.	Enteric fever.	Scarlet fever.	Infantile.
Paris	Novemb'r 19.	2,350,045	910	..	..	7	..	16	6	37
Glasgow	Novemb'r 19.	545,658	241	..	..	..	..	4	2	4
Warsaw	Novemb'r 12.	439,154	201	..	..	..	..	..	9	3
Cadiz	October 22.	432,219	242	21	..	..	..	..	..	..
Amsterdam	Novemb'r 19.	378,686	121	..	..	..	..	1	3	2
Rome	October 2.	373,356	202	..	..	7	..	12	1	3
Rio de Janeiro	October 8.	300,000	322	..	..	113	..	5	..	1
Rio de Janeiro	October 15.	300,000	252	..	..	96	..	2	..	2
Rio de Janeiro	October 22.	300,000	284	1	72	..	..	4	..	4
Copenhagen	Novemb'r 15.	200,000	173	..	..	..	..	1	10	3
Edinburgh	Novemb'r 19.	258,659	102	..	..	..	1	4	1	1
Palermo	Novemb'r 20.	250,000	93	..	..	..	..	2	..	4
Belfast	Novemb'r 19.	224,422	122	..	..	..	1	4	1	2
Genoa	Novemb'r 19.	179,526	103	..	..	16	1	..	1	..
Leipsic	Novemb'r 19.	170,000	51	..	..	..	..	2	1	3
Havre	Novemb'r 19.	112,054	59	..	..	1	..	7	..	..
Perambuco	November 8.	111,000	65	..	..	..	1	1	..	..
Reims	Novemb'r 19.	95,303	38	..	..	..	..	1	..	2

UNITED STATES.

Tampa, Fla.—Yellow Fever.—The sanitary inspector reported, under date of December 5, 1887, as follows: "Since 30th ultimo, 10 cases; 2 deaths. To-day, no new cases; 1 death. The one remaining patient in hospital will be cared for by city authorities, and hospital will be closed."

Sapelo Quarantine Station.—The medical officer in charge reports,

under date of December 9, 1887, relative to the bark Umberto, as follows: "Only suspected; no sickness; disinfected and released. Two more barks expected from Sicily."

ANSWERS TO CORRESPONDENTS.

No. 107.—We have read two of the articles to which you allude, and we think that they bear internal evidence of having been written, or at least inspired, by a woman. We agree with you that in the main they are "sensational," but nevertheless they contain some testimony of positive value (although founded on little else than the feelings of a single person) on certain questions of great importance.

No. 108.—Thus far, ten volumes have been published.

No. 109.—1. There are now several vacancies in the medical corps of the navy—in the neighborhood of fifteen, we think. 2. See our answer to No. 106 in the last number of the Journal. 3. Unless a change has been made recently, the pay of a newly appointed assistant surgeon is at the rate of \$1,000 a year when on leave or waiting orders, \$1,400 when on shore duty, and \$1,700 when at sea.

No. 110.—The New York Eye and Ear Infirmary and the Manhattan Eye and Ear Hospital are separate institutions.

To Contributors and Correspondents.—The attention of all who purpose favoring us with communications is respectfully called to the following:

Authors of articles intended for publication under the head of "original contributions" are respectfully informed that, in accepting such articles, we always do so with the understanding that the following conditions are to be observed: (1) when a manuscript is sent to this journal, a similar manuscript or any abstract thereof must not be or have been sent to any other periodical, unless we are specially notified of the fact at the time the article is sent to us; (2) accepted articles are subject to the customary rules of editorial revision, and will be published as promptly as our other engagements will admit of—we can not engage to publish an article in any specified issue; (3) any conditions which an author wishes complied with must be distinctly stated in a communication accompanying the manuscript, and no new conditions can be considered after the manuscript has been put into the type-setters' hands. We are often constrained to decline articles which, although they may be creditable to their authors, are not suitable for publication in this journal, either because they are too long, or are loaded with tabular matter or prolix histories of cases, or deal with subjects of little interest to the medical profession at large. We can not enter into any correspondence concerning our reasons for declining an article.

All letters, whether intended for publication or not, must contain the writer's name and address, not necessarily for publication. No attention will be paid to anonymous communications. Hereafter, correspondents asking for information that we are capable of giving, and that can properly be given in this journal, will be answered by number, a private communication being previously sent to each correspondent informing him under what number the answer to his note is to be looked for. All communications not intended for publication under the author's name are treated as strictly confidential. We can not give advice to laymen as to particular cases or recommend individual practitioners.

Secretaries of medical societies will confer a favor by keeping us informed of the dates of their societies' regular meetings. Brief notifications of matters that are expected to come up at particular meetings will be inserted when they are received in time.

Newspapers and other publications containing matter which the person sending them desires to bring to our notice should be marked. Members of the profession who send us information of matters of interest to our readers will be considered as doing them and us a favor, and, if the space at our command admits of it, we shall take pleasure in inserting the substance of such communications.

All communications intended for the editor should be addressed to him in care of the publishers.

All communications relating to the business of the journal should be addressed to the publishers.

Original Communications.

CONSTITUTIONAL
CAUSES OF THROAT AFFECTIONS.*

By S. W. LANGMAID, M. D.,
BOSTON.

I THINK you will all agree with me that, outside of the consideration of certain nervous phenomena, hardly anything has been said in these meetings upon the subject of constitutional causes of morbid appearances in the throat and abnormal phenomena of sensation and function. That such causes have not escaped your notice I am well aware, since successful treatment is otherwise impossible. This short paper, then, is in no wise an exhaustive treatise, but is to be considered as simply suggestive of a large field for investigation and discovery.

While I would not be understood as undervaluing the minute and systematic description of morbid appearances and functional peculiarities of the upper respiratory tract, I would suggest that a most interesting and important lesson to be learned from such observation and description is, that all that is morbid in this region has underlying causes which *may* be external to the body but may be *intrinsic*, and the exhibition of natural or acquired idiosyncrasies of the individual.

An exhaustive discussion of such constitutional conditions means the consideration of all that is known of medicine and its kindred sciences; to be satisfied with less in the practice of our profession means deliberate intellectual suicide and gross injustice to our patients. That the members of this society are free from the stigma which is sometimes ignorantly applied to those who practice specially, the original and exhaustively learned papers which make up our archives bear witness.

It has sometimes seemed to me that our attention has been too commonly fixed upon the local morbid phenomena of diseased throats, and, again, that we are prone to consider climatic conditions as causes rather than factors in the production of such disease.

That atmospheric conditions do affect the respiratory mucous membrane no one doubts, but why such atmospheric conditions are operative at one time in the same individual, and innocuous at another time, is well worth our consideration.

That a pharyngitis may be the tell-tale of a poisoned or morbid condition of the general system is evident when we think for a moment of the pharyngeal exhibition of acute diseases, of scarlatina, of measles, of typhoid fever, of syphilis, of phthisis, of sewer-gas poisoning.

Who can deny that morbid conditions of the system which, although as yet not well understood, are known in some way to be due to wrong functioning in the chylipoietic system, may be the *fons et origo* of many intractable faucial inflammations? That such is the case, I have enough evi-

dence to direct successful treatment. The congested, excessively irritable pharynx of alcoholism is so well marked as to make a diagnosis unquestionable. Indeed, the hereditary succession of a son of one of the partners in a large mercantile house was prevented by my obstinate refusal to consider the condition of the throat as the result of anything but the daily ingestion of large amounts of alcohol, the truth of such belief on my part being in a few months placed beyond question by the appearance of abdominal ascites and general paralysis.

We must look further than the laryngoscope will enable us to see if we would rightly comprehend the causes of the congested naso-pharynx of the young adolescent. We must consider in young persons how much the process of the second dentition has to do with the stimulation of neighboring parts.

The enlarged submaxillary or cervical glands do not always indicate a scrofulous diathesis; at any rate, the abstraction of the decayed molar will frequently result in the disappearance of the obtrusive glands. And so it is with the enlarged tonsil; the cause of the enlargement will frequently be found in the widespread irritation set up in the process of dentition, and unless the respiration is seriously interfered with the surgical remedy need not be hastily undertaken.

I think I shall voice the experience of many when I say that one of the most intractable diseases which we are called upon to treat is chronic recurring coryza. In many cases the treatment first advocated by our own members—the destruction of the supersensitive areas in the nasal chambers, or the removal of obstructing erectile tissue—seems to constitute a cure, but in other cases no allowable destruction of the mucous membrane or underlying structures seems to more than modify the severity of the seizures and the frequency of their occurrence.

In such cases we must look beyond the mucous membrane, and we shall find that a disordered emotional temperament is at the bottom of the trouble, and, unless the treatment takes in all the circumstances of the life of such a sufferer, very little relief may be expected.

Those nasal or pharyngeal reflex propagating centers will sometimes become singularly dormant during banishment from a luxurious but care-inflicting home to a dusty, drought-seared prairie or amid tropical vegetation, but, in spite of cauterization by hot iron or chemical caustic, will quickly spring into activity as soon as the wanderer regains his former surroundings.

Let him who has tried to banish with sprays and pencils the long-existing sensation of a "lump in the throat, which rises and threatens to choke" his patient, try the exorcising power of a dose of castor-oil, and he will be surprised to learn that an overloaded colon has been trying to tell its story as stories are told—by the throat. How often will the paroxysmal cough be banished by the same procedure!

In my experience the magic effect of quinine upon an inflamed throat has been clearly shown in a few cases of former residents of a malarious climate, exhibited, I must

* Read before the American Laryngological Association at its ninth annual congress.

confess, as a *dernier ressort* when local applications had failed.

The familiar designation of one form of pharyngitis would seem to imply that Nature herself set the limit to unrestrained sermonizing. "Clergyman's sore throat" exists to-day and teaches its lesson to those of us who study it, although it has long ceased to masquerade in our nomenclature in clerical habiliments.

It is a pharyngitis with the descriptive prefix *follicular*, viz., long continued, chronic. But such a pharyngitis is not peculiar to the sacred teacher. Its origin is not by any means in the necessary use of the voice. The sedentary, studious life, with resulting disordered digestion, together with other conditions inseparable from the profession of the priest, are quite enough to produce a throat affection which has been considered peculiar to clergymen.

I should weary your patience by calling attention to many more forms of throat diseases whose origin is well known to be intrinsic—that is, constitutional. But I may be allowed to refer to just one other well-marked cause of some of the most distressing throat affections—I mean the rheumatic and gouty manifestations.

Many of the older writers considered that acute amygdalitis had a rheumatic origin, and the old treatment by guaiacum has its modern adherents. That the quickest method of relieving the suffering of an acute pharyngitis, tonsillar or otherwise, is through antirheumatic remedies I have good reason to believe.

So many cases of spasm of the glottis in gouty subjects have come to my notice that I have in two instances lately predicted that, sooner or later, spasm would occur—with unexpectedly speedy verification.

The temptation to enlarge upon the subject of this paper is almost irresistible, but I shall content myself with a final word.

Local treatment is in the nature of *repair*; the constitutional and hygienic treatment must be in the direction of renewal of normal processes. The swollen and congested mucous membrane, the hypertrophied tonsils, the elongated uvula, and the prominent follicles must be regarded as symptoms only. The pain and discomfort, the spasm of the glottis, or the recurring vocal disability will not be banished for any length of time unless the underlying constitutional abnormality is removed.

POTT'S FRACTURE COMPARED WITH THE FRACTURE OF THE FIBULA WHICH FOLLOWS ADDUCTION OF THE FOOT.*

By ROBERT T. MORRIS, M. D.

WHEN the foot is abducted with sufficient violence, the astragalus rotates from without inward on its antero-posterior axis, and at that instant the tibia assumes the position of an opposing lever, the short arm of which is represented by the internal malleolus, and the long arm by the tibia's shaft.

The fulcrum is composed of the astragalus and os calcis, which retain their relative positions with each other. The principal object which this lever acts upon is the deltoid ligament, and the ligament must either be torn across, or it must pull away a fragment of bone from the short arm of the lever. Ligamentous resistance being overcome, the external surface of the os calcis strikes the tip of the external malleolus, but transmits no important amount of force along the fibula. The fibula breaks because the weight of the body is transferred to it from the strong tibia, and the fracture usually occurs at the weak point, situated from two to four inches from the tip of the fibula's malleolus.

After the accident has happened, the foot has a tendency to remain in an abducted and everted position, by virtue of the action of the peroneus longus muscle; and the upper end of the lower fragment of the fibula lies to the inner side of the lower end of the upper fragment of that bone.

The injury described above, although differently described by Pott, is familiarly known as Pott's fracture, and, because the name is so well known, the majority of fractures situated near the distal extremity of the fibula and resulting from indirect violence are recorded at the hospitals and in physicians' note-books as cases of this particular variety.

When the foot is adducted with sufficient violence, a fracture of the fibula results, but the mechanism is quite different from that which produces the fracture described above. In this latter case the astragalus, which rotates from within outward on its antero-posterior axis, is limited in its rotation by the simultaneous impinging of its superior external border against the external malleolus, and of its inferior internal border against the internal malleolus. In order that the rotation may be continued, the two malleoli must have an increased distance between them, but the four ligaments—the inferior interosseous, the anterior inferior interosseous, the anterior inferior and posterior inferior tibio fibular, and the transverse—prevent separation at the inferior tibio-fibular articulation, and consequently the required space can be gained only through fracture of one or both of the bony barriers.

The fracture of both malleoli at the same instant sometimes occurs through the latter mechanism, as I have demonstrated at the "Dead-House." (In the experiments at the "Dead-House," the soft parts about the ankle, with the exception of the ligaments and tendons, were usually dissected away before an attempt at fracturing the bones was made. A stout piece of board of the size and shape of the sole of the foot was then bound very firmly to the sole, and a section of a broom-handle was passed transversely across the sole between the board and the skin. Fractures were then made by throwing the foot in either one or the other direction by means of the broom-handle grasped in my hands, or by standing the cadaver on the abducted or adducted foot, and applying force in a downward direction until bone gave way.) But more often the fibula alone suffers injury, and the point of fracture is usually less than three inches from the tip of the external malleolus—the larger number of fractures occurring through some part of the malleolus itself.

* Read before the Section in Surgery of the New York Academy of Medicine, December 12, 1887.

This fracture through the malleolus, or through the shaft of the fibula in its vicinity, is usually a transverse one, with little or no displacement of the fragments. Such a fracture is not easily demonstrable by ordinary methods of examination, *but if we pick out the points of local tenderness with the sharp end of a lead-pencil* it will not be difficult to locate the exact position of the crack. The same method of examination will show not only the situation, but also the direction of the line of fracture between the ends of fragments which are not widely separated in other parts of the skeleton, except in cases where the muscular covering is very thick.

When the shaft of the fibula is broken at a point sufficiently far from the malleolus, the ends of the fragments bear about the same relation to each other that they do after Pott's fracture, and there is a depression of the soft parts over the seat of the injury. A tilting outward of the malleolus gives to the front of the ankle at the same time a broadened appearance.

There is little displacement of the foot after this fracture by adduction, unless both tibia and fibula have suffered injury; but in the latter case the deformity is the same as that which accompanies Pott's fracture. There exists no point of marked local tenderness over the region occupied by the deltoid ligament after the fracture by adduction, a condition of things which is strikingly different from that which we find after fracture by abduction.

The treatment of a case of Pott's fracture and of a case of fracture by adduction in which tibia and fibula were both broken would be similar.* The leg should first be flexed to a right angle with the thigh in order to relax the muscles; and then the fragments can be easily replaced unless impaction has occurred. A light plaster-of-Paris splint applied over the leg and ankle and foot will retain the fragments in place; but in case of Pott's fracture, the foot must be held for three or four weeks in a position of adduction, in order to give the deltoid ligament an opportunity for good repair, thereby avoiding a splaying of the foot in after-years.

After the plaster-of-Paris splint has hardened, the leg should be flexed at an obtuse angle with the thigh, in order that muscular relaxation may continue; and in this position the leg should be slung by bandages or other apparatus from a bar over the bed. When the patient moves about in bed, the leg and foot can then move together as one piece.

Hardly any treatment could be more vicious than that by the almost universally employed fracture-box, because the foot is fastened to the box, and the movements of the patient in bed cause movements at the point of the fracture, the foot and box being fixed, and the rest of the body being free. Muscular spasm is not relieved by fracture-box treatment, because the leg remains in a position of extension, and patients suffer unnecessarily.

When repair is well under way, the patient may be allowed to get out of bed, if he will keep the leg elevated upon a chair during the day. After four weeks have elapsed

* Remarks on treatment are made for the purpose of comparison, and not for the purpose of volunteering information on this subject.

the plaster-of-Paris splint may be removed, and, if union is then firm, massage, passive motion, and hot and cold douching should be employed, in order to restore the ankle joint to a normal condition as soon as possible. Many months will often pass before the injured ankle is as strong as its fellow, and in some perfectly well managed cases the ankle may "feel wrong" for years afterward.

When there is an unusual amount of swelling about the ankle joint, or when the fracture is a compound one (*fracture compliquée*, Fr.; *complicirte Fraktur*, Ger., should be called "complicated fracture," instead of "compound fracture," in English), there can be no harm in freely incising the swollen tissues, under scientific antiseptic precautions, and suturing bony fragments in place. The dressing applied after such an operation should remain unchanged for at least a month, in order that suppuration may be avoided.

After the commonest fracture by adduction, in which the fibula alone is broken, it is not often necessary to sling the leg above the bed, a simple plaster-of-Paris splint for the leg and foot and ankle being all-sufficient. In some cases, however, the patient will complain until the leg has been elevated.

If there is much deformity about the ankle on account of the position of the fragments of the fibula, I should advise cutting down and suturing the ends of the fragments together with silk-worm gut, for, if the ankle joint is not a good hinge, it is not a good ankle joint.

The following nineteen consecutive cases of fracture near the ankle joint, following abduction or adduction of the foot, were treated by me at Bellevue Hospital, New York, in the winter of 1883-'84, during the visiting service of Dr. Fluhrer, Dr. Phelps, and Dr. Gouley. A comparison of the cases will be interesting as regards the proportion of fractures by adduction.

The different statistics of authorities on this point led to careful examination of the cases here referred to.

No.	Name	Sex.	Age.	Accident.	Direction of duction.	Side.
1	G. McE.	Male.	42	Slipped.	Adduction.	Right.
2	W. W.	Male.	37	Fell from wagon.	Abduction.	Left.
3	J. P.	Male.	36	Fell from car-step.	Adduction.	Right.
4	L. E.	Male.	43	Slipped.	"	"
5	J. M.	Male.	29	"	Abduction.	"
6	J. F.	Female.	28	"	Adduction.	"
7	M. F.	Female.	45	"	"	Left.
8	U. R.	Male.	19	"	"	Right.
9	D. McE.	Male.	45	"	"	"
10	A. D.	Female.	50	"	"	"
11	E. W.	Female.	44	"	Abduction.	"
12	P. O.	Male.	38	"	Adduction.	Left.
13	E. M.	Female.	32	"	"	"
14	M. C.	Male.	54	"	Abduction.	"
15	E. G.	Male.	29	"	Adduction.	"
16	L. A.	Female.	50	"	Abduction.	"
17	J. E.	Male.	55	"	Not described.	"
18	J. D.	Male.	27	"	Abduction.	"
19	H. L.	Male.	45	"	Not described.	"

"Slipped" means that the injury occurred while the patient was walking or running.

In cases 17 and 19 the two important points—the statement of the patient, and the degree of tenderness over the deltoid ligament—were of no help in getting at a diagnosis.

THE DANGER OF DELAY IN PROSTATIC TROUBLES.*

By R. D. WEBB, M. D.,
BIRMINGHAM, ALA.

I do not propose to give a systematic or exhaustive essay upon this subject, nor to enter into the different methods by which relief has been obtained by the knife or electricity in extreme cases. My object will be to point out the dangers of delay, and call attention to the method of dealing with this *opprobrium medicinae* in its earlier stages.

As is well known, this trouble is very common. Yet while many suffer from it, and not a few are brought by it to a premature death, a large number, by care and appropriate treatment, may live on to average old age, leading active and useful lives, without being forced to any of the more severe surgical means of relief. It is also known that death in these cases, where the enlargement of the gland is not malignant, is the result of inflammatory action transmitted through the ureters from the bladder to the kidneys, producing nephritis, with suppression of urine and uræmic poisoning, or pyo-nephritis, with a combination of uræmic and pyæmic sepsis.

Here, *par excellence*, as in many other of the ills of life, delay is the great trouble. Either from the fact that virtuous, moral men naturally shrink from making known the derangements of the generative organs, or from the fact that the trouble is slow and insidious in its approach, it is overlooked, or borne with long before medical aid is sought. Said a medical friend to me when speaking of these troubles of the generative organs, "If it were the arm it would not be so bad; we could then speak of it to others; but to be forced to secretly bear the trouble renders the annoyance doubly severe." Or it may be ignorance upon the part of the patient of the nature of the disease which threatens his life; or, possibly, that his medical attendant does not sufficiently early recognize the trouble and fully appreciate the danger of delay, and hence does not sufficiently warn his patient, or resort with the necessary persistency to the means of relief.

The result of this delay was strongly impressed upon me in my early medical life by my first case of prostatic trouble.

The patient, a high-toned old Virginia gentleman of seventy years, too proud and self-reliant to speak of the ills of his generative organs, had suffered this trouble to gradually encroach upon him until he was reduced, by the frequent painful effort at relieving the bladder, to a state of general debility. He did not then ask for medical aid until complete retention forced him to it. I found him with the distended bladder reaching almost to the umbilicus, and suffering severe pain from the retention and an inflamed bladder. With difficulty to myself and much pain to the patient, I passed a catheter and relieved the bladder of the accumulated urine, which was ammoniacal and highly offensive. But the inexperience of youth led me into an error which I should now avoid. I drew off at once the entire amount of urine. The result was, as often happens when a

largely distended bladder is suddenly emptied, a depression of the patient, followed by increased trouble of the bladder, already irritated to the point of inflammation. For a few days the urine was heavily loaded with muco-pus; pyo-nephritis, suppression of urine, and death soon followed.

Probably the kidney was already involved; but this depression seemed to hasten the death of the patient. Here the practice should have been to relieve the bladder only in part of its urine—about two thirds—and at the same time to have thrown into it a quantity of warm antiseptic fluid until it was refilled again to about three fourths of the state of distension. After the lapse of an hour, one half of this should have been drawn off, refilling the bladder again with the antiseptic fluid to about one half the state of distension, and then in half an hour or an hour to have completely emptied the bladder, washed it out with an antiseptic fluid, and left an ounce or two of this fluid in the bladder. In this way the shock to the system caused by the too sudden emptying of the bladder would have been avoided, and the danger of increased inflammatory action lessened.

The danger of delay in hypertrophy of the prostate is well pointed out by Dr. Gross in a clinical lecture before the class of young men in the University of Pennsylvania. After describing the case and emptying the bladder of its urine (there was no retention), he said in substance: "This patient has an enlarged prostate, with inflammation of the bladder. We may probably relieve the cystitis by appropriate treatment, unless the inflammatory action has extended to the kidneys. In that event the prognosis is very unfavorable."

This remark tells plainly the dangers of delay. The patient may be able to bear with the annoyance of frequent and difficult micturition for months, and suffer secretly the severe pain and straining to relieve the bladder, even to the extent of chronic cystitis with some chance of relief, but if he delays until the kidneys are involved, the "prognosis is very unfavorable."

A second case, which also occurred some twenty years ago, teaches the same lesson:

I was called to see a negro man of sixty-five or seventy, of remarkably stalwart frame. He was six feet two inches high, with large bones and powerful muscular development. He had been a sufferer for years from the insidious approach of prostatic enlargement, but, through ignorance of the inevitable result of delay, and disdaining, in the pride of his manly strength, to succumb to such a trouble, he bore with the annoyance until it told upon his herculean frame and stretched him an invalid upon his bed. In this condition I was called to his aid. I found him emaciated, with his strongly marked features wearing an expression of long-resisted pain. On inquiry, I learned that he had been for over a month in his bed, suffering, as he expressed it, from "gravel," an invariable name with the negro for all the ills of the bladder. I could at once detect the odor of ammoniacal urine. On examination, I found him with the penis in an open-mouthed bottle to catch the urine as it overflowed from the bladder. The scant secretion of urine was highly ammoniacal, and loaded heavily with muco-pus; and a microscopic examination of the urine revealed the ravages of diffused nephritis. He was beyond medical aid. In a few more days suppression of urine, with uræmic poisoning, brought to a close the life of this robust and stalwart man.

* Read before the Alabama Surgical and Gynecological Association, October 13, 1887. Communicated by Dr. W. E. B. Davis, of Birmingham, Ala.

Here ignorance of the real danger had caused the delay which resulted in death. With his physical strength and good constitution, fourscore, instead of threescore and ten, should have been the length of his days.

But there is yet a third class of delays. The condition of the patient is not realized by his medical attendant, and may be masked, so to speak, by other ills which may mislead the attending physician, and cause him to believe he has found the basis of the trouble in other organs; and, thus flattering himself, he neglects to inquire into the urinary troubles with sufficient detail. This the more readily occurs in the better class of patients, where there is a natural reserve upon the part of the patient to reveal his trouble; or, as Dr. Bangs, of New York, has pointed out, even to resent what he considers unnecessary inquisitiveness. The doctor under such circumstances is especially apt to omit the crucial test of a rectal examination.

A case of this character fell into my hands where the patient had been seen by several of the first physicians of the county, and his trouble variously diagnosticated as heart disease, hepatitis, chronic cystitis (correct to a certain extent), and even as hypochondria; but to no one of them, not even the one who diagnosticated the chronic cystitis, did it occur that hypertrophy of the prostate was the real cause of the trouble; and he was suffered to linger on and battle unaided with the disease for another year. At the expiration of this time I saw him. He had been an invalid most of this time, but, being of good constitution, had stood well his constant suffering; but I learned that within the last ten days he had gone down perceptibly, and he was now confined to his room, and most of the day to his bed. The evening before I saw him he had a rigor and severe pain in the region of the kidneys, followed by slight febrile excitement. He was now quite feeble; pulse 110, temperature 101°.

I could detect here, too, the urinous odor, and, on inquiry, found that he was having stilticidium whenever the urine accumulated in his bladder during sleep. While awake he passed his urine every hour or two, which prevented distension. There was decided tenderness on pressure over the hypogastric region. My mind at once adverted to hypertrophy of the prostate as the cause of his trouble. I learned that the passage of the urine had for several years been gradually growing more difficult and more frequent, and that now the calls to pass the urine were every hour or two, attended by painful straining and tenesmus of the rectum.

I at once proposed a rectal examination, from which at first he shrank, both from a natural modesty and from the fear of pain. I told him kindly, yet firmly, that it was absolutely necessary to a proper diagnosis of his case, and assured him the pain would be trifling. He reluctantly consented, and, on examination, I found the prostate enlarged to the size of a turkey's egg, but flattened and broad, the so called middle lobe not being enlarged to an equal extent with the lateral lobes. This accounted for his ability to still pass his urine without the use of the catheter.

I informed him frankly of the cause of his trouble, and told him my proposed treatment—viz., the use of the catheter to draw off the residual urine, with daily irrigation of the bladder. At this visit, however, I refrained from the use of the catheter on account of the inflamed condition of the bladder, and directed a saline purgative, with salicylate of sodium.

The next evening I introduced, without difficulty or pain, a Benas gum catheter just after he had urinated, and drew off nearly an ounce of residual urine of disagreeable, ammoniacal

odor, and by means of a two-way stop-cock and a Davidson syringe irrigated the bladder with a solution of glycerin and essence of gaultheria in warm water. It was very grateful to the patient, and he had a better night's rest than for several nights, not having to be up so often to relieve the bladder. But my patient was still growing more feeble, though we endeavored to sustain him with liberal diet. He had both to-day and last night rigors, with pain in the left side in region of the kidney. The next day the quantity of urine was less, and it was loaded with muco-pus. Microscopic examination revealed the presence of nephritis. The secretion of urine grew daily less and less till it amounted, after a week, to only twelve ounces in twenty-four hours, heavily loaded with pus. Semi-coma supervened, and in thirty-six hours more he had passed away.

Here was a valuable life shortened, no doubt, by a want of timely attention and remedies directed to the real condition. His medical attendants had been deceived by other indications, and his aversion to treatment had caused him to delay too long.

But the inquiries arise, How do these troubles commence? How are we to become aware of the danger? and How can we avoid it? In answering these questions I will continue the somewhat clinical style of this paper.

At from fifty-five to sixty, rarely as early as fifty, there is a slight prolongation of the time of passing the urine. There is no pain, no difficulty, only a prolongation of the time of emptying the bladder. It scarcely attracts the attention of the patient, and he goes on in his usual habits, giving himself but little concern about it. In a year, or probably two years, it becomes more perceptible, and at some time when he has been exposed on a cold, damp day, and has suffered his bladder to become somewhat fuller than usual, he finds considerable difficulty in voiding it, possibly attended by a sense of fullness or slight pain in the perineum. A return to the warmth of home and a warm pediluvium at night give relief, and, unmindful of the warning, he goes on as before. But he soon finds that the desire to urinate is becoming more frequent, and relief of the bladder becomes more prolonged, and begins to be attended by some straining effort and pain, which is not infrequently referred to the glans penis. He still is not alarmed at his condition, and disregards it. Another year is passed. He is now annoyed by the frequency of the calls to relieve the bladder. He is called up frequently at night for this purpose, and, if he is now exposed to cold and damp weather, he relieves his bladder with difficulty, and often he finds the act followed by a few drops of blood, or a prolonged exposure may cause a more decided congestion of the parts and retention of urine, which is not relieved until he is thoroughly warmed in his bed or has taken a warm bath. Like most men, he dreads the catheter, even if it occurs to him as a means of relief, and he still neglects or refuses to seek medical advice.

The trouble now becomes more pronounced. The patient is constantly annoyed by calls to relieve the bladder by day and by night. His urine is passed only after severe straining attended by tenesmus of the rectum, and frequently with loss of blood. He is annoyed by the idea of stone in the bladder. The case has now reached a point at which medical advice is sought, but, with the idea upper-

most in his mind that he has stone, or simply cystitis, he may mislead an unsuspecting physician. Now is the time that aid must be had, or soon the bladder, columniated and thickened by its abnormal muscular action, will force the urine, impeded in its outward exit, to flow back through the ureters, causing them to enlarge, and eventually result in disease of the kidneys. Once this chronic inflammatory condition of the bladder is fully established, and the ureters are enlarged by the reflex action of the bladder, the case is serious, it is but a little way to nephritis and death, and the boldest surgical measures are justifiable means of relief. The Mercier operation (or punching, so to speak, an artificial urethra through the obstructing gland), which its inventor alleges to have been wonderfully successful in his hands in Paris, has not been popular here or in England, but may now be resorted to. Dr. J. W. S. Gouley, of New York, has performed it successfully in eight or ten cases, but I saw in his collection of pathological specimens the bladder of a patient (a brother doctor) who had submitted to this operation at his hands. He is now more cautious, and hesitates to operate by this method in cases where the obstructing bridge or bar exceeds an inch in thickness. Gouley, Gross, Thompson, and Gant have resorted to perineal section for the chronic affection which attends hypertrophy of the prostate, and relief has been found and life protracted. Or, when there is entire retention of urine, artificial outlets, with tubation, through the perinæum and also through suprapubic section, have been made with some degree of relief.

An Italian physician has resorted in a few cases successfully to electro-cautery by means of a metallic catheter. It is somewhat similar in principle to the method of Mercier, but reached by different means. Sloughing of the parts in the tract of the instrument follows the cauterization, and an artificial urethra is formed through the obstructing part. The process is not without danger.

Dr. Robert Newman, of New York, has used electrolysis successfully in a number of cases, applying the current through the urethra, not as an actual cautery, but for a very short time only as an absorbent. It is a method that has much promise, and may be used in the earlier stages of the disease to prevent the progress of the enlargement to a dangerous extent.

Electrolysis, by puncturing the gland itself by a suitable galvanic needle, has not, so far as I am aware, been tried; but, from the well-attested success of this method in other tumors, it would seem worthy the attention of some bold innovator.

But all these measures, except that of Dr. Newman, are to be regarded as only applicable to extreme conditions. The object of this paper is to call attention to the trouble in its earlier stages, and avoid if possible these extreme measures. The insidious approach and danger of delay have already been pointed out, and I can not insist too strongly upon timely aid. The physician should ever be on the alert to detect it in its early stages, and ever ready to watch it with unceasing care.

Much relief is often obtained at this period by anodynes, the most potent of which are opium and belladonna, used

in the form of suppository. But, as the case may extend over years, caution should be used in prescribing opium, for fear of forming the opium habit. The acute paroxysms of congestion or inflammation are to be met on general principles. Of internal remedies only three have proved of any avail in my hands. These are quinine, ergot, and salicylate of sodium. Quinine is especially applicable to the engorged conditions following exposure to cold. It should be given in decided doses combined with Dover's powder. Ergot (Squibb's fluid extract), 25 drops every two or three hours, used for the same purpose, gives much relief. It has been thought by some to act specifically upon the prostate gland, but I do not see any good grounds for such an opinion. Its action is doubtless here, as under other circumstances, on the capillaries of the congested organ.

The salicylate of sodium, in from 10 to 20 grains every two or three hours, is better suited to the chronic inflammatory conditions of the bladder. I have preferred using an extemporaneously prepared article:

R Bicarbonate of sodium, āā 3 ij;
Salicylic acid, āā 3 vj;
Water..... 3 vj.

Mix in a mortar until effervescence ceases. Sig.: Tablespoonful every two hours.

I have seen more decided relief from this than from all other internal remedies. The antiseptic character of the remedy acts favorably upon the urine, as well as upon the irritable condition of the bladder. But we must not depend upon these remedies. No one of them, or all of them, can be relied upon for permanent relief. The catheter, judiciously used, with systematic and persistent irrigation, is the only means to ward off the inevitable results of the affection, and by a judicious use of these alone can life be prolonged and rendered comfortable. Other remedies may be used as adjuvants, but to this at last we must come.

The time for beginning the use of the catheter and irrigation must be determined by the symptoms of each case. So soon as the voiding of the bladder becomes much prolonged and painful, and there is reason to believe there is residual urine, or if the urine becomes from any cause ammoniacal, we should commence to use the catheter, and at least once in twenty-four hours empty the bladder thoroughly and wash it out with an appropriate solution. Many have been suggested, but for early use a solution of chloride of sodium will be found most generally serviceable. Later in the case bichlorate of sodium, boric acid, or salicylic acid may be used. The following is the formula recommended by Dr. Gouley. I have used it often with much relief:

R Bicarbonate of sodium..... 3 j;
Essence of gaultheria..... 3 ss.;
Glycerin..... 3 viij.

M. Sig.: Tablespoonful of above in pint of warm water, used once or twice a day.

Or a combination of boro-salicylate may be used. For this purpose I use boroglyceride, 3 ss.; glycerin, 3 vj. M. Sig.: Tablespoonful to pint of warm water. The method of using the injection requires tact and discretion. It should

be used in such a way as not to give pain, and to secure a thorough irrigation of the bladder.

The Politzer air-bag, with an attachment of a pointed rubber nozzle supplied with stop-cock, is a very convenient and effective method. With this instrument and a Benas catheter the operation may be painlessly and effectively accomplished.

The fountain syringe, or the Davidson syringe used as a siphon, connected to a catheter by rubber tubing, may also be conveniently used, but with these care should be taken not to throw the fluid in too rapidly. The kind of catheter used has much to do with the comfort of the patient and success of the treatment.

In the earlier stages the soft rubber catheter of Jacques, or as prepared by Tiemann & Co., may be conveniently used. But as the gland becomes more seriously enlarged these can not be introduced except by using a stylet, which is objectionable.

The Benas gum catheter, made of plaited silk and smoothly covered with gum, is the best and most convenient I have ever used. It is sufficiently flexible to prevent the danger of injury, and yet stiff enough to be easily introduced without the stylet. The patient may be taught to use it himself without the fear of injury.

I have thus hurriedly pointed out the dangers of delay in this disease, and if I have succeeded in arousing an interest in it that will direct to an earlier detection and a more persistent carrying out of the simple treatment necessary to ward off its baneful sequences, I am content.

REMARKS ON THE TREATMENT OF PUERPERAL CONVULSIONS.*

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PUERPERAL convulsions of the epileptic or apoplectic variety are fraught with consequences so momentous that definite rules are requisite for their proper management. Nowhere in the domain of medicine are sound judgment, accurate therapeutical knowledge, and prompt action placed under more exacting demands, for on the decision of the accoucheur hangs in a large measure the safety of the patient.

The subject of puerperal convulsions is so broad, and embraces so many questions of vital interest, that no effort will be made in the brief time at my disposal to consider its ætiology, except as related to appropriate treatment, nor to refer to the very important matter of preventive measures, except in passing to remark that grave responsibilities are placed in the hand of the physician who, by previous engagement, assumes the care and conduct of an approaching confinement.

It will therefore be my purpose to study the subject in its clinical aspect, with reference to its therapeutical management. Fortunately, puerperal eclampsia is relatively not a frequent complication of the puerperal state. According

to Churchill, in a record of over 200,000 cases, the ratio of puerperal convulsions to the whole number of cases was as 1 to 618 and a fraction, while Lusk estimates its frequency as at about 1 to 500. In my own experience, numbering 10 cases, the ratio was very much larger, being less than 1 to 200, and, while of no statistical value, is simply illustrative of the variation in individual experience.

Statistics show that puerperal convulsions occur most frequently among primiparæ and during early life, and that the percentage of fatal cases is from 15 per cent. to 32 per cent. It also appears, according to Fordyce Barker, that the proportion of deaths in cases occurring before and during labor and subsequent to labor is as 32 per cent. to 22 per cent. There is good reason to believe that a better knowledge of the ætiology of the disease, together with more rational methods of treatment, has lessened and will continue to lessen the mortality. Writers, particularly Bedford, refer to the causes as being of centric and excentric origin. This is an excellent classification, for, when studied from this standpoint, the conclusions reached are likely to be logical, and prepare the way for the adoption of rational principles of treatment.

The first duty of the accoucheur, when called to the responsible care of a case of puerperal convulsions, is to arrest the spasm, and definitely ascertain the cause. If labor has not been completed, two important inquiries must be instituted and correctly answered before sufficient knowledge will have been obtained to decide as to the wise management of the case—viz., the period of gestation and the stage of labor, if the parturient process has commenced. Should the history of the case disclose the fact that the patient had partaken heartily of food difficult of digestion, accompanied with gastric or intestinal uneasiness, or should inquiry give evidence of constipation, of uterine or vesical irritation, or of the presence of hysterical tendencies, these facts will serve as guides or suggestions as to the remedies to be employed. If the case is of the former class, an emetic or mild but prompt cathartic will be indicated; if of the latter class, antispasmodic remedies, such as are indicated in ordinary hysterical manifestations, especially the bromides in full doses, or chloral hydrate, and it may be morphine or anæsthetics. If the case is due to the retention of urine, and consequent distension of the bladder, or hydrops amnii, the use of the catheter or rupture of the bag of waters is indicated. Should doubt remain as to the cause of the convulsive seizure, a specimen of the urine should be promptly obtained, and tests be applied to determine whether evidences of uræmia are present. If albumin or albumin and casts are found, immediate effort should be directed to the relief of the system from the products of insufficient renal secretion, and at the same time to prevent recurrence of the spasm.

It is a well established therapeutical fact that, within certain limitations, the bowels may take on a vicarious function, that of eliminating urea. Here, if ever, drastic cathartics are not only admissible, but in many cases positively indicated. Nothing better fulfills the indication than croton-oil, administered in minim doses, at an interval of half an hour or an hour, until free catharsis is established.

* Read before the Medical Society of the County of Kings, May 17, 1887.

Elaeterium is less irritating, and perhaps equally efficacious.

While I am firmly of the opinion that no remedies are so often abused in general practice as cathartics, little or no fear need be entertained as to their prostrating influence under these circumstances. In the chronic albuminuria following scarlatina, a condition quite analogous, and one often associated with pronounced anæmia, I have repeatedly witnessed the most surprising salutary and curative results follow the administration of these remedies. I therefore repeat, if used with a fair degree of discretion, apprehension need not be entertained as to their depressing influence, for this exhaustion will be more than compensated for in the general relief to the system from the removal of effete products.

In general, it may be stated that the principles governing the treatment of uræmia from other causes and under other circumstances are applicable here. Dry cupping over the kidneys should play a prominent part in the measures employed to relieve renal congestion, and may be advantageously followed by counter-irritants, or the application of large hot poultices sprinkled with the powder of digitalis-leaves. Internally, unless the degree of blood-pressure contra-indicates, digitalis may be administered, preferably in combination with either vegetable or earthy alkaline salts, choice being given to the salts of lithium.

If the case is prolonged, and the patient can swallow, care will be taken to see that proper food is taken. Here milk with lime-water will be well borne, and better fulfill the indications than any other diet. If the patient can not take or retain food by the mouth, enemata of the peptonoids of beef and milk should be used as often as every six hours. Should great depression or blood-poisoning follow as a result of the repeated paroxysms, tonic doses of quinine and alcoholic stimulants are indicated.

The measures to be adopted to control the convulsion are of paramount importance. First, and perhaps the most valuable, is chloroform. Theory suggests and practical experience demonstrates that the wise and persistent use of this remedy alone will, in a certain proportion of cases, arrest and control the convulsion, whether due to uræmic or distinctively reflex causes, and afford the attendant time to take all the bearings and decide as to other remedies. It should be given with circumspection, the circulation and the respiratory movements being carefully watched, not forgetting the fact that while potent for good it has nevertheless very positive toxic powers.

Ranking, perhaps, next to chloroform is chloral hydrate. H. C. Wood concludes that its physiological action is that of a hypnotic upon the cerebrum, and that of a depressant upon the centers of the base of the brain and spinal cord, slowing and weakening the heart, probably due to vaso-motor paralysis, and in fatal doses producing paralysis of nerve-centers, first of the respiration, and finally of the heart in diastole. Thus, from a physiological standpoint, it would seem to meet two conditions often present in puerperal convulsion, that of excessive reflex excitability of the spinal cord and motor nerve-centers with high arterial tension. To be effectual it should be administered in sufficient

doses—say a scruple—until its hypnotic, antispasmodic, and depresso-motor power is visibly present. This is a remedy I have used with most satisfactory results by enema when the patient was too comatose from uræmic poisoning to swallow, or suffered from temporary paralysis of the muscles of deglutition from cerebral congestion, induced by the violence of the heart's action during the convulsion.

I recall the case of a multipara who, in the last preceding confinement, had suffered a serious attack of convulsions—which had seriously threatened her life—and in whom for several weeks I had been watching for and had found evidence of uræmic poisoning, and for which she was then under treatment. She had at the fifth month violent and repeated convulsions, which were not controlled by either chloroform or other remedies. Her condition appeared very precarious. There was pronounced coma, with slow and labored breathing and inability to swallow. Forty grains of chloral were dissolved in water and injected into the rectum. If I remember correctly—having no notes of the case, which occurred twelve or fifteen years ago—smaller quantities, of about twenty grains, were repeatedly used in the same manner. Labor progressed rapidly, she was promptly delivered, and there were no further convulsions. The comatose condition passed off during the succeeding day, though well-marked evidences of renal congestion with distressing frontal headache remained for weeks if not months.

Should the dose of chloral seem too positive in its effect from unusual susceptibility of the patient, its dangerous tendencies can largely be overcome by the use of atropine. Its paralyzing action on the cardiac inhibitory nerves when given in moderate doses and its power as a stimulant to the vaso-motor centers seem to meet the exact requirements. The bromides, particularly the bromide of potassium, which is more positively depressing than the other bromine salts, may serve as a valuable drug in these conditions. Its physiological action seems to lie principally in its power to lessen reflex activity. It appears to act upon the centers of reflex action, and also upon the afferent nerves leading to these centers. It should be administered in doses of not less than a drachm and repeated two or three times at short intervals, or as rapidly as absorption has taken place, until its effects are apparent.

One of the great dangers of eclampsia is that from cerebral plethora and its consequences. When the arterial tension is high and capillary resistance is strong, great care is needed to lessen the *vis a tergo* of the circulation.

Formerly, and with some at the present time, bleeding was considered not only the first remedy to be resorted to, but the sheet-anchor of successful treatment. Regarding its power to diminish ventricular cardiac action there is no question, but with a better appreciation of the physiology of the vaso-motor system and the nervous influences which control the circulation, associated with more exact and positive knowledge of therapeutical remedies and appliances, its general and routine use must be challenged.

This plethora of the nerve-centers not only acts as an influence to continue the spasm, but, if not overcome, it may eventuate in rupture of the arterioles and consequent hæmor-

rhage, or in the development of congestive apoplexy or intra-meningeal effusion and effusion into the ventricles of the brain. If the convulsive attack is of renal origin, the cerebral plethora thus induced adds vastly to the danger and to the liability of the development of uræmic coma.

In a fully developed convulsion of the epileptoid* type, two causes are present which operate most powerfully to the production of cerebral plethora—one, the rapid and violent action of the heart propelling the blood into the brain, and the other, the somewhat tonic spasms of the muscles of respiration and rigidity of the muscles about the throat, which tend to congestion of the right heart and retard a proper return of venous blood from the cranial cavity. If ever, it is here that venesection is admissible or indicated, and it is under conditions like these that the lancet has won its victories, and so commended itself to the esteem and confidence of those who use and approve of it. To be of use, the blood should be rapidly extracted so as to make an immediate and decided impression upon the cerebral vessels. In the strong and plethoric, and in the presence of active cerebral congestion, depleting measures of this kind may be tolerated, and I believe may be of advantage, and while I would not advocate its entire disuse, I beg its advocates to observe great caution in such an heroic measure.

I have used it with varying effect, and, while I have witnessed its failure, I believe I have observed its beneficial results. Let it always be remembered that excessive loss of blood most certainly favors cerebral anæmia, and that, from a physiological standpoint, cerebral anæmia is a most important factor in the causation of certain convulsive movements.

Another incidental advantage of bloodletting, which was formerly much dwelt upon by authors, is its general relaxing influence, which may within certain limits possess real value.

Fortunately, there are resources besides the lancet which exercise a controlling influence over the force and rapidity of the circulation perhaps fully equal to that of venesection, and which are devoid of similar dangers and objections.

The action of *veratrum viride* appears to meet this condition. The honor of prominently bringing the use of this drug before the profession is due to one of the members of the society, Dr. Herbert Fearn, in 1871. The practice he advocated was the use of fifteen minims or teaspoonful doses at very short intervals, until the pulse became soft or vomiting set in. These might be considered rather heroic doses, but it is a question of effect rather than quantity. Probably no other cardiac sedative is capable of producing such positive effects with so little risk of injury to the system. One of my former associates knew of a half-drachm dose being administered to a child of a few years of age, which was followed by vomiting and considerable vital depression, but was quickly recovered from; and text-books abound with the histories of cases in which patients had taken large doses and escaped without serious consequences.

* Reference to epileptoid or apoplectic seizures in this connection does not relate to either epilepsy or apoplexy *per se*, but to the form of the puerperal convulsion.

The antidotal powers of either alcohol or opium are such as to promptly overcome the toxic effects if properly watched and promptly administered. That frequently repeated doses, not too large, but administered sufficiently often to promptly reduce the frequency of the pulse, are of great value there can be no question. I have used it only once or twice, but with satisfactory results. As in other conditions attended with rapid and full pulse, its effect can be maintained for hours by repeated small doses without inducing pronounced cardiac weakness, and for the future, should opportunity offer, I shall in appropriate cases further test its power as a remedy from which great good may be expected.

To promptly lessen the risk of cerebral congestion or cerebral hæmorrhage, when the heart's action is strong and the convulsive movements are violent, pressure on the carotids during the convulsion will, by its effect in reducing the force of the circulation, diminish the danger. I remember a case occurring post partum, which I saw with a medical associate about twenty years ago (the most violent I ever witnessed where recovery followed), in which repeated bleeding and the use of other remedies failed to control the spasms; a resort to pressure on the carotids shortened the period both of the convulsion and of the coma following it, and was believed to have contributed materially to the favorable results which eventuated in recovery.

I shall mention as applicable to the treatment of this condition but one other drug—opium and its alkaloids. In the puerperal state, morphine used hypodermically possesses rare sedative and antispasmodic qualities, and in certain conditions, particularly those associated with both nervous and muscular exhaustion, it exerts a calmative influence unequaled by that of any other remedy, by restoring the correlation of the vital forces. The position morphine should occupy as a remedy can not be exactly stated from any *a priori* reasoning as to its physiological effect, nor from its ordinarily accepted therapeutical action alone, but rather from the results of actual use and clinical observation.

The commonly accepted doctrine that opium diminishes secretion and so retards excretion, particularly that of the kidney, is not regarded by accepted authorities as contra-indicative in the uræmia of pregnancy. Its value seems to lie in its power of rendering the system more tolerant of the blood poison, and its evident influence in some cases in producing diuresis and sometimes diaphoresis.

Personally, I have used it in but two cases of puerperal uræmia—to which I shall hereafter refer—in which the results seemed highly satisfactory. The propriety of repeating a moderate dose, in the presence of uræmic coma, where no apparently good effect follows its first administration, may well be doubted. With different observers the results of its use have been so diverse that it must be looked upon as a remedy which, while sometimes powerful for good, may be equally potent for evil.

It should be borne in mind that some of the remedies mentioned are more palliative than curative in their action, and that responsibility does not end with the administration of medicines which may have controlled the spasms. The important question as to delivery of the patient if

the attack is ante partum demands patient and careful study.

When convulsions occur during pregnancy, the shock to the system is so pronounced that it will most probably bring on uterine contractions, and, if of uræmic origin, the complication is very grave, and, should labor not occur spontaneously, the alternative lies, if the convulsions continue between the endeavor to relieve the system of the uræmic poisoning, in the hope of carrying the woman to the full term, and the induction of premature labor.

Brown declares that he has known but one patient to recover when abortion did not follow the attack when it happened between the fourth and sixth month. It is difficult to establish any dogmatic rule under these circumstances, and the course pursued must be decided upon by the attendant after carefully weighing all the surrounding circumstances of the case. When convulsions occur after the advent of labor, the indications are plain and the rule of procedure is never doubtful. Under these conditions the convulsions are so likely to continue until the labor is terminated that all the means known to the obstetric art compatible with the safety of the mother should be brought into requisition to hasten delivery.

If the head is at the superior strait and the soft parts are dilated or dilatable, some doubt may be felt whether the forceps should be applied or podalic version resorted to, but, as the uterine structures participate in the general muscular spasm, more than usual difficulty may be experienced in the introduction of the hand (which should be done under full chloroform narcosis), as well as risk of rupture of the uterus while version is being accomplished, though the possible danger mentioned should not exclude version as a most valuable expedient and capable of the highest good to the mother.

Under these circumstances, if there is no disproportion between the diameters of head and the pelvis, resort may be had to the forceps. The higher the head the more difficult the extraction is likely to be and the greater the tact required. Nowhere in the practice of the obstetric art are coolness, sound judgment, and operative skill more requisite, and nowhere are the results more brilliant and conservative. With the extraction of the fœtus the probabilities of a return of the convulsions are greatly diminished and the chances of the patient correspondingly increased.

But puerperal convulsions may not occur until after the termination of labor. I have witnessed several cases of this variety, two of which I have seen somewhat recently—one, my own case, and the other that of a well-known practitioner of this city and a former member of the society.

In my own case the first convulsion occurred ten hours after delivery, and there was but one recurrence of a spasm. It was promptly controlled by a hypodermic injection of one eighth of a grain of morphine and the administration of chloral. This was undoubtedly a case of renal origin, though repeated urinary examinations preceding labor had not given evidence that uræmia was then present. This was a case in which I had some years previously operated for laceration of the cervix in which a partial retearing had occurred, and, while I was unable to trace any relation be-

tween the new laceration and the occurrence of the convulsion, I mention it as having been a possible factor in the nervous disturbance.

In the latter case only one convulsion occurred, followed by prolonged sleep, and it was plainly a case of uræmic intoxication. A single hypodermic of one fourth of a grain of morphine, followed by twenty-five minims of the fluid extract of veratrum viride, prevented a recurrence, appropriate measures being taken to restore the renal secretion.

Another most unfortunate case was that of a young primipara, who was under the care of a practitioner of sectarian medicine, who had a single convulsion, which occurred about thirty-six hours subsequent to labor. I saw her just as she was coming out of the convulsion. She soon resumed consciousness, though the sensibilities were not acute, and, to judge of her condition from appearances only, it might have been inferred the symptoms were not of a serious character. Presuming, however, the cause to be centric, a catheter was passed, and a specimen of urine was obtained showing a large percentage of albumin. My only responsible relation to the patient ended a few moments later, when her physician arrived, who was informed of his patient's condition and the cause of the attack. The patient survived only a few hours.

In the treatment of eclampsia succeeding labor the same study of the case and careful analysis of the symptoms as related to the cause, whether of reflex or of toxic origin, can alone lead to rational treatment. Here, generally, the pressure from the renal veins being removed, the complication is not so dangerous, and the difficulty correspondingly less in re-establishing elimination through the kidneys. In the care of these cases the attendant will be importuned by anxious friends to give a positive prognosis. If of uræmic character, neither the severity of the convulsion, the urinary analysis, the apparent degree of blood poisoning, nor the general condition of the patient seems to bear any fixed and positive relation to the gravity of the situation as regards death or recovery, so that considerable latitude should be taken in the expression of opinion regarding the final issue.

645 MARCY AVENUE.

SUCCESSFUL REMOVAL OF A PIN FROM THE LARYNX TWO YEARS AFTER IT HAD BEEN SWALLOWED.*

BY S. W. LANGMAID, M. D.,
BOSTON.

ON April 23, 1885, Miss C., twenty-four years old, accountant in a large manufacturing establishment, consulted me for hoarseness, ill health, and loss of flesh. The cause of these symptoms was thought by Miss C. to be in some way connected with the swallowing of a pin three months previous to this visit.

The pin, a large one, used to secure bank-notes in bundles was held in the mouth and in some way was drawn into the throat. In the patient's words, "I came near choking to death. My face was so black (congested) that the blood settled under

* Read before the American Laryngological Association at its ninth annual congress.

the skin." The physician who was summoned employed the bristle probang without obtaining the pin. The voice became hoarse, then natural, and again hoarse. Eight or ten pounds of weight have been lost. There is occasional cough, but it is not a marked symptom. Slight difficulty is experienced in swallowing food.

Dr. F. I. Knight happened to be in my office and was kind enough to examine the throat of the patient with me. All that we found was a tumor, ovoid in shape, extending partly across the back wall of the pharynx, by my estimate half an inch above the level of the arytenoids. A view of the glottis was not obtained at that interview. I made at that time the above record, and at a subsequent visit the additional remark that "the tumor seems to be the result of excessive granulation." Subsequently, as this tumor disappeared under treatment by escharotics, the glottis was exposed, and it was found that the topography of the left side of the glottic and supraglottic region was lost. The vocal band could not be distinguished from the ventricular band on account of swelling and universal congestion. On the anterior portion of this swelling, in the region of the ventricular band, I found some small vegetations, which were removed by successive operations. The tumefaction gradually disappeared, the speaking voice was restored, and the former weight of body was regained. A small ulceration on the ventricular band remained, but the patient was so well satisfied with the result of treatment that, although somewhat hoarse, she would not have called upon me again had I not requested her to do so. By this it may be seen that the presence of a pin in the throat was not revealed by rational signs. But I was not satisfied, and I wondered at the persistent small but deep ulceration on the ventricular band, which was unlike anything I had ever seen, except in the pharyngeal tumor of the same patient, which has been described above, and which had disappeared.

Three months ago, at her last visit, there had been no change in the appearance of the larynx, except that a minute black point was seen in the center of the ulceration on the band. This I ascribed to some new point of necrotic process. On May 23, 1887, Miss C. appeared because I had asked her to do so, not because of any new symptoms. One look into the larynx revealed the presence of a pin protruding from the ulceration on the ventricular band obliquely backward and upward above the arytenoids toward the posterior wall of the pharynx, in which the point seemed to be imbedded, but which afterward was seen to move freely in the pharyngeal cavity.

Dr. Knight, being again asked to examine the larynx, agreed with me in the foregoing description. The accompanying cut, from a drawing by my friend, Dr. H. P. Quincy, accurately illus-



trates the position of the pin. At the first attempt at removal the pin was well grasped where it emerged from the band by Mackenzie's small forceps, but could not be extracted from lack of power in the forceps. The second attempt with Mackenzie's large laryngeal instrument was successful, a surprising amount of forcible traction being required. After removal it was found that almost exactly one half of the pin, which measured four centimetres, had been projecting above the surface of the ventricular band.

The resulting hæmorrhage was insignificant. One week after the operation the larynx was almost normal in color, the swollen ventricular band had receded to its normal position, and no lesion of the true cord could be discovered. The voice was in all respects normal.

With regard to the origin of the pharyngeal tumor, which was seen at the first examination of the patient's throat, whether or not this was the site of the entrance of the pin and what its migrations were, are entirely matters of conjecture.

IMPROVEMENTS IN APPARATUS FOR INHALATION OF COMPRESSED AIR.

BY SOLOMON SOLIS-COHEN, M. D.,
PHILADELPHIA.

I DESIRE to briefly describe two improvements in the apparatus for inhalation of compressed air, described in the "New York Medical Journal," October 18, 1884. They have been in use by me for two years in the one case, and for six months in the other case, and should be incorporated in all instruments now furnished by dealers.

1. The supply-valve of the bellows is covered with a cap and nozzle, to which a rubber tube of one-inch aperture can be attached; and the free end of the rubber tube being passed into the open air through a perforated window-board, all the air used is taken from the purest available source.

By using warm water in the gasometer, or by interposing a vessel containing heated water, or a vessel immersed in hot water between the bellows and the window, or between the bellows and the gasometer, the air may be heated, if necessary. The temperature should always be tested with a thermometer. By passing the air through a vessel containing calcium chloride it may be dried, if necessary.

2. The top of the air-cylinder is perforated (the opening being about an inch and a half in diameter), and a screw cap, with rubber washer, is adjusted to close the perforation air-tight. This cap carries a hook, on which a piece of sponge may be placed. When it is desired to medicate the inspired air by means of any volatile medicament—such as terebene, creasote, benzoin, etc.—a small quantity of the desired drug is dropped upon the sponge. Half a drachm of terebene, for example, will keep the air pleasantly charged with its vapor for a week. I find this better than the use of the Wolff bottle in most cases. The temperature of the air must, of course, be sufficient to volatilize the medicament employed.

NOTE.—A third improvement has been completed within the last few weeks, but has proved so satisfactory in practice that I am induced to depart from my habit of delaying for at least six months' trial the description of a new instrument—the more readily as the principle and the essential mechanism of the device in question have been subjected to proper tests in another connection. An expiratory resistance valve* has been fitted to the exit-tube of the two-way stop-cock controlling respiratory ingress and egress of air, so that it may be attached or detached, as desired. This enables continuous respiration of compressed air to be practiced when indicated. Though in my own experience the

* See "N. Y. Med. Jour.," Dec. 6, 1887, p. 625. The attachment is made by Codman & Shurtleff, Boston.

indications for this practice have been few and infrequent, I am glad to be able to offer a simple and inexpensive mechanism for the purpose to those who consider it more generally useful. With a double-cylinder* Cohen-Richardson apparatus and a pair of resistance-valves, the practitioner may now secure all the physiological and therapeutic effects possible with the most elaborate and expensive pneumatic apparatus. None of these devices is or will be patented.

Correspondence.

LETTER FROM PARIS.

Fresh Air in the Treatment of Consumption.—The "Optical Purity" of Expired Air.—A Phthisiological Congress.

PARIS, December 10, 1887.

PROFESSOR BROWN-SÉQUARD, of the *Collège de France*, is now president of the *Société de biologie*, and gives there the results of his experiments. One of the most interesting subjects that he has lately taken up is that relating to the influence of confined air on the development of pulmonary phthisis. Everything relating to this dire disease, that destroys so many thousands, naturally attracts the attention of all who practice the healing art. Dr. Brown-Séquard first explained to the Academy of Sciences the working of an apparatus that has been invented by M. D'Arsonval, his able assistant professor. This is composed of a bi-conical box that is placed at a certain distance from the patient's head, and is connected by a flexible tube with a chimney, which has a light burning in it making an outward draught, so that all the expiration of the patient is drawn into the box and carried off. Following this, an attempt was made to give inhalations of oxygen gas (pure), but it was found that this gas, given pure, was really a dangerous agent. This fact is not, as a rule, believed in, but it was seen, when given only two or three times a day, to do absolute harm in phthisis. On the contrary, these inhalations became of great use and without any danger when the oxygen gas was mixed with a certain proportion of carbonic-acid gas. In regard to the effects of confined air, it is well known, says the experimenter, that phthisis is most deadly in its action just where the population is the densest, and that where the population is small the mortality is very much less in proportion. It is just the same in factories that are closed up on all sides and contain a large number of workmen, so that confined air is an incessant danger. In 1869 M. Brown-Séquard made a series of experiments on animals which he inoculated with tuberculosis, and yet he did not lose a single one of them. In seeking to find out why this was so, he found that they had been kept in an open garden. These facts are confirmed by the observation, by Stokes, Blake, and himself, of several men who, being attacked by phthisis, decided to live in the open air only, merely entering the house for a few hours at night. One young man was cured completely, and he died twenty-eight years afterward of quite a different disease, so that the danger of confined air is fully demonstrated. Mention was made of certain cases of phthisis in men who were compelled to go into camp during the American war of secession, and of the considerable benefit they derived from camping out. The difficulties, however, experienced in putting the good

principle of open windows during day and night into practice are immense, but it is nevertheless certain that many persons with pulmonary cavities have been observed to be cured by this simple means. Still, it can not be denied that frequent accidents, such as bronchial troubles, come from the practice of keeping the windows open. It has also all along been supposed that the expired air was charged with microbes that were dangerous, but Professor (*agrége*) Straus, of Paris, now comes forward to say that there is an "*entire absence of microbes in expired air.*" Lister was the first to say that air introduced into the pleural cavity by a fracture of the ribs produced quite different effects from those resulting from pneumo-thorax in consequence of a penetrating wound of the chest. This fact was somewhat of a mystery until it was explained by the germ theory, when it seemed natural enough that the air was filtered by the bronchial tubes, whose mission it was to arrest all particles of dust, etc., and prevent their introduction into the pulmonary vesicles. Tyndall afterward showed that expired air was "optically pure"—that is to say, that when it was traversed by a ray of light it showed no particles in suspension. In order to verify this, Professor Straus has employed the modern bacteriological methods with glass tubes and sterilized soup, making the expired air pass through them, and keeping the whole at a temperature of 25° C. [77° F.], passing from 150 to 200 litres of expired air through. Afterward the tubes were kept for several days at 35° C. [95° F.], and, on careful examination, no microbes could be discovered. It seems proved that expired air does not contain microbes, several experimenters, such as Professor Grancher, M. Charrin, and others, having had the same results in regard to the expired air from tubercular patients. The lungs, then, probably act as a filter to air, so far as regards microbes. This is quite possible when we think of the intricate system of narrow canals in which the air circulates in the lungs, which are covered by a humid epithelium. This should be important in regard to the communication of phthisis from husband to wife, from patient to physician, and the like, but it does not weaken at all the proved fact, shown by Pasteur, that microbes are plentiful enough in crowded hospital wards, as well as in barracks, and wherever sick people are found; but it proves that the respiratory act (or at least the *expiratory* act) has nothing to do with contagion.

M. Verneuil, M. Grancher, M. Lannelongue, M. Cornil, and many others with them, are constantly pursuing studies in regard to tuberculosis, and they have decided to call a "congress of physicians," having for its object the scientific study of phthisis in Paris, from the 25th to the 31st of July next. The questions to be dealt with will be of two kinds: first, those chosen by the committee, and, secondly, independent questions relating to the subject that members may wish to present. Any physician (French or foreign) can become a member by sending ten francs (\$2) to M. Masson, treasurer, 120 Boulevard St.-Germain. This sum entitles him to a printed copy of the "Proceedings." All communications in regard to the congress should be addressed to Dr. L. H. Petit, secretary-general, No. 11 Rue Monge, Paris. Dr. Petit is one of the librarians at the Faculty of Medicine, and speaks all the European languages, including English. It is hoped that American physicians will take an interest in the congress. Some of the questions announced are as follows: What is the danger in using meat or milk coming from tuberculous animals, and what means are there of preventing it? The modes of introduction and propagation of tuberculosis in the human economy. Prophylactic measures against phthisis. The early diagnosis of tuberculosis in man and in animals, etc. Under the direction of the eminent men mentioned, it is hoped that some very important papers will be presented.

* The second cylinder being for expiration into rarefied air, the action being made continuous by a double bellows. The mechanism will be described in a future paper. The apparatus is now made by Richardson & Metzger.

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REVERIE, DREAMS, AND DELIRIUM.

THE acts, the states of mind, revealed by consciousness are like pictures on an arras-wall, succeeding each other as by magic, distinct, single, but momentary. The myriad moving threads which make up these pictures are unseen and unperceived; the causes which determine the act, state, in all their subtle play escape consciousness; it sees the single resultant, the simple sum of innumerable elements. Magnify this vision of consciousness by perpetual introspection, reverie, vivid dreams, or other cause, and straightway thought is paralyzed and delirium begins. A mental picture voluntarily produced, some pleasing or absorbing fancy, may come at length to dominate its author and secure firm faith in its reality. Mahomet, seeking his solitary cave on Mount Hara for religious contemplation, at length has a vision there of an angel, who commands him to recite what he shall say. When he is convinced at last that it is a holy angel, the revelations continue henceforth throughout his life. Jeanne d'Arc, humble and solitary shepherdess, given to mystic reverie on the quiet hills of Lorraine, hears solemn voices in the air, commanding her to arise and save the king. That Mahomet and the Maid of Orleans did great and noble things proves that they themselves were great and noble souls, obedient to fixed principles, and flexible in judgment. In countless other instances, however, usefulness and power have been utterly destroyed by this fatal tendency to introspection. "Dreams!" says Schonberg, in Hardy's "Wind of Destiny," "beware of them. Between dreaming and living there is a gulf fixed."

Voices and visions, duping those who hear and see them, will appear less surprising if we compare these sounds and sights to the vivid impressions of some dreams—dreams that refuse to be entirely banished by daylight, or the toil and moil of a work-a-day world. They haunt us all day long, they walk with us, they are in the sky, they are in the air, they rise with the leaping flame, and they glow in the smoldering embers. There is a pale, fair girl, standing alone, far, far away: how like to —! It is all magic, poor deluded fool! only the ghost of a dream that will not vanish though the cock crow and the clock strike. A lasting impression of this kind may become the source of delirium itself—a fact noted by such observers as Faïret, Brierre de Boismont, Moreau of Tours, Chaslin, and Lasèque. This latter insists upon its importance, particularly in alcoholic delirium, which he maintains is not true delirium, but a dream. In the mental wanderings of hysteria, dreams play an important part. Thus may be explained the varied character of hysterical delirium. The activity of the brain during sleep gives rise to

hallucinations and delusions that differ, according to the nature of the patient's dreams, from those of the day before. With the ending of imaginary revels in such cases, cloud-capped towers, gorgeous palaces, solemn temples, and unsubstantial pageants do not fade, do not dissolve, but leave many a rack behind. Sometimes the phenomena of dreams become so objective as to produce, after the manner of nervous shock, bodily troubles of strange persistency. Such a case—hysterical paralysis following a dream—is reported by Féré in "Brain," for January, 1887. There exists a close relationship between the baseless fabrics of imagination and the fantastic webs that are spun during sleep. The phenomena of these two distinct conditions are quite capable of producing similar results—results that may prove equally disastrous.

Take, for example, the following history, given by Féré in the "Revue de médecine," as an illustration of what uncontrolled and persistent reverie can lead to. A man, thirty-seven years old, a well-to-do French merchant named M., belongs to a somewhat neurotic family. He is well placed socially, happily married, and at the head of an influential business firm. His two children are strong and hearty, and have never presented neuropathic symptoms. M. is tall, thin, and pale, but muscular and generally well developed. During childhood, night terrors and fits of melancholy were of common occurrence; he was always a gloomy boy, preferring solitude to the society of his fellows, and lonely wanderings to active games. For some years past there have been neurasthenic symptoms, such as vertigo, headache, dyspepsia, etc. Malformations, sensitive spots, as well as anything that can be termed hysterical, are not present. Business received his most assiduous attention until 1886. Then M. began to have what were delicately termed "absences"—that is, he would suddenly stop in the midst of any business occupation whatsoever, stand motionless and smiling for a varying length of time, sometimes for fifteen minutes or so, until recalled to himself by abrupt speech or some loud noise. These "absences" steadily increased in frequency till January, 1887, when the family became alarmed by a lengthy one that took place at the dinner-table, and consulted a physician privately in regard to this curious state that had already made him less current in business and social circles. At this time his general appearance was that of resignation rather than unhappiness. Often his countenance assumed an expression of beatitude that had for years been foreign to it. During these "absences," which now occurred daily, the face became slightly congested but never pale. A stranger, coming into the counting-room about this time and asking for Mr. M., received from the gentleman himself this startling reply: "He is at Chaville." No sooner had the words escaped his lips than M. appeared terrified, and turned and fled. He was soon persuaded to enter his private room, where another "absence" followed. His family were on the point of informing him of his peculiarities, and trying to induce him to seek medical aid, when he suddenly announced his intention of consulting a physician, having apparently clothed himself in his right mind by a somersault-

kind-of process in attempting so unnecessarily to prove an alibi.

This is what he told the doctor: From earliest childhood, whatever others said and did he was disposed to take in bad part and as an insult, and in consequence hated everybody for the time being. Through fear of his father, who was somewhat severe, these antipathies were carefully concealed. He would steal away to some unfrequented part of the house and sit for hours alone, "nursing his wrath to keep it warm." Then, again, he would spend half the day wandering about by himself out of doors. During these long hours of solitude, M. began the practice of building castles in the air as a regular mental occupation, almost verifying eventually the lines of an old song that says:

"Hearts are broken, heads are turned,
By castles in the air."

At first the structures were ephemeral and replaced each day by new ones. By degrees they assumed more substantial and permanent proportions, until young M. grew fonder of his fictitious life than of that of family or school. In imagination he played by turn the rôle of soldier, sailor, warrior, statesman, and scholar, according to his mood. Lessons recited in his presence he did not hear, events transpired without his cognizance, and the only world he knew really well was that evolved out of his own imagination. College days over, life changed for him as the sands change their course in the hour-glass that is reversed. From solitude and dreams he plunged into active business life and domestic and social duties. No time now for introspection and reverie! Fortune smiled on M. and made him chief in the establishment that had formerly employed him. He could have counted himself a king of infinite space were it not— This is how it came about. The wife, *enceinte* at the time, began to suffer from some indisposition that disturbed her rest at night. Perhaps the other, by nature, was not a good sleeper. At any rate, insomnia claimed him for its own. At first the nocturnal waking hours were filled with ideas pertaining to business and domestic life. Then his former fanciful imaginings returned, at first hardly tangible and not absorbing, but soon assuming definite forms and taking complete possession of him. For nearly four years dream-life of the following order held him in sway: First, M. built (in the air) at Chaville a pretty pavilion surrounded by a little garden. This jaunty affair received additions from its architect until it assumed the proper proportions of an elegant mansion. The garden widened into a spacious park. Conservatories, orchards, stables, horses, attendants grouped themselves about the charming residence, and finally a beautiful woman was installed as its mistress, the priceless jewel of all this rich setting. More than that, two lovely children completed the joy of this ideal home. But a cloud hung over our happy dreamer—one alone, and that cloud was dark. The exquisite union that raised him to the heights of the empyrean had not the sanction of law, was all unblest of church or state! This constituted the only sorrow he knew, the only drop of bitterness in his overflowing cup of happiness.

Toward his wife M. manifested the greatest coldness and indifference, and seemed to forget the very existence of his children. Business lost all charms for him, and ran along on its old traditions, aided by the chance honesty of the subordinates. The past M. could recall but slightly, even though questioned in the most careful manner. "When that stranger came to me," he said, "I seemed to be in my (imaginary) house at Chaville, selecting hangings of a certain shade. But as soon as I answered his inquiry for Mr. M. by saying 'He is at Chaville,' I knew I must be crazy." He expressed himself as willing to try any means that would lift him out of his pitiable condition, realizing that he alone was responsible for his present miserable plight, yet recognizing at the same time his inability to escape unaided from these fixed ideas that he denied owed their origin to a dream.

Treatment produced marked benefit. It consisted in the application at stated hours night and morning of the cold-water douche, according to the method now in vogue in France, and in the administration of four drops of tincture of chloride of iron, together with eight drops of tincture of nux vomica, before each meal, and a dose of forty-five grains of bromide of potassium at night on going to bed. The former head of the firm was reinstalled, and added to his other duties that of recalling M. to real life whenever he seemed disposed to wander off into reverie. His wife was instructed never to leave him alone, and to see that he was sound asleep before indulging in slumber herself. The hallucinations were evidently visual in origin, for the sight of hangings, furniture, decorations, etc., would set him to work putting his air-castle into more complete order. The mental impression of color was strongly marked in M.'s case. Turning his eyes from any color to a sheet of white paper, he could see upon its blank surface the color complementary to the one he had just been looking at, a condition rare outside of hypnotism. In a month's time "absences" disappeared under treatment, hallucinations were few and far between, rapidly passing away by mental effort, and no longer deceiving him as to their real nature. In May last, the strict watch over him having been removed some weeks before, M. reported himself as cured of "absences" and hallucinations, and of all neurasthenic symptoms.

Reverie, then, and dreams as well, are really affairs of moment. They are capable of producing marked disturbances of intellect in persons thus predisposed, who lead a life of partial or complete solitude, away from the energizing and vitalizing influence of companionship. Jeanne d'Arc listens to the voices that break the silence of her pastoral loneliness, obeys the promptings of her heart that beats responsive to all great and noble deeds, rescues France, and dies a martyr. Mahomet spends the best part of five years in a cave, wrapped in mysticism and the contemplation of things spiritual. The visions and aspirations that shaped his career for him did so in strict accordance with the man's chief characteristics. Uniting vast generalship and religious fanaticism, together with the power of ruling himself and others, Mahomet founds with the edge of the sword a great religion that claims at the present time 160,-

000,000 followers. The Frenchman, M.—fair, delicate, and artist to the finger-tips, strangely moved by color and beauty, misunderstood when a lonely, sensitive child—finds his chief delight as a man in the imaginary companionship of a charming and sympathetic woman, whom he places in an environment possible only to those who have Aladdin's lamp. Weak of caliber, he but follows out the lines of his own nature when he elects to rest in the hollow Lotusland, where the best of life appears to be

"With half-shut eyes ever to seem

Falling asleep in a half-dream."

It is a question of degree rather than kind in all who fail to remember that between dreaming and living there is a gulf fixed. Reverie, dreams, and delirium have claimed all sorts and conditions of men, from the highest to the lowest, and ruined not a few. In virtue of the possible pitiable plight into which vain imaginings may bring humanity, let us in all seriousness steal an idea from "Punch," and say to those about to dream: "Don't!"

PRIVATE VENTURES IN "COLLECTIVE INVESTIGATION."

It is in every way commendable in a practitioner to publish accounts of cases out of the ordinary run that may occur in his practice. Moreover, it often adds to the interest of the narration, and emphasizes the deductions to be legitimately made from it, if he appends to the clinical history a pithy analysis of other men's observations in similar cases. Much of the most instructive medical writing is of this sort, and we know of nothing to be said against it. The case is far different, however, when an author, not content with commenting on what has already been published, sets about a sort of "collective investigation" of his own, founded on material that he may succeed in inducing his fellow-practitioners to supply to him. This procedure has grown so common of late that it has become a veritable nuisance. Men who have given genuine thought to a subject, and have had opportunities of observing phenomena bearing upon its elucidation, are generally in no haste to spread their impressions before the profession; and they are quite right in preferring to wait until generalizations seem warranted by the stock of observations accumulated and by mature reflection on their own part. But, careful as they are not to be precipitate themselves, they are in constant danger from the assaults made on their good nature by the privateersman in "collective investigation."

This individual is usually one who is not widely known. He may be one of considerable promise, but he is decidedly not the sort of person whom one would choose to digest and filter one's observations for the public. In general, he sets about his work by preparing a circular letter, often containing a blank form for his correspondents to fill out. This he sends to everybody who, he surmises, may be inveigled into joining in the work of fitting him out with a stock in trade; and he sometimes has the additional impertinence to inclose a postage-stamp, whereby, as he imagines, he lays his correspondents under some obligation to reply to his communication. It is

bad enough if his letter of inquiry is general in its terms; whoever is unwise enough to answer it finds that he must either write something exceedingly bald and unsatisfactory or else undertake a labor which, even if entered upon at his own convenience and in accordance with his own ideas of the fitness of things, would prove irksome. This he is asked to do to suit the purposes of some person who has no sort of claim upon him, but he is told that he will be given "full credit" in the intended publication—as if such credit (and we all know what it amounts to—mention of the victim's name, followed by the phrase "personal communication to the author") could in any way compensate a man for his loss of time, to say nothing of his having been tricked into making an unsatisfactory appearance before the profession. If, on the other hand, the apparent labor-saving device is adopted of furnishing him with a tabular form to fill out, the case is so much the worse, for he is then called upon to furnish such data as his persecutor thinks he can best manage, and not the sort of report that he himself would think it best to make if he were addressing the profession directly. We are quite willing to concede that it is not always by unworthy motives that those who concoct these circular letters are actuated; nevertheless, the course they pursue has an unpleasant semblance of assurance, and rarely if ever results in any substantial addition to our literature.

MINOR PARAGRAPHS.

COLLATERAL INNERVATION OF THE SKIN.

THIS term has been applied by R. Jacobi to a state of the cutaneous distribution of certain nerve-fibers comparable to decussation. For example, as he supposes, some of the fibers of the radial nerve are distributed to the region innervated by the median nerve, and *vice versa*. The author expounded this theory, not long ago, in the "Archiv für Psychiatrie." In a more recent article, in the "Berliner klinische Wochenschrift" (summarized in the "Centralblatt für klinische Medizin"), he gives the history of a case which he thinks shows the applicability of the theory in the explanation of a sensory phenomenon that supervened upon the spontaneous healing of the trunk of the radial and the cutaneous branches of that nerve and the median, after their division by an injury to the forearm; namely, that irritation applied to the area of the median nerve gave rise to a simultaneous sensation in that of the radial. Certain other sensory phenomena observed are explicable on the assumption of an incongruous union of the fibers in the healing process; but the one here mentioned is thought to require another explanation, and that the author looks for in his theory.

DR. JOSEPH TABER JOHNSON ON ABDOMINAL SURGERY.

THE president of the faculty of the Medical Department of Georgetown University, Dr. Joseph Taber Johnson, of Washington, who is also the professor of obstetrics and gynecology in the college, gave the introductory address to the students this year. At the request of the class, Dr. Johnson has published his address in the form of a pamphlet. After a few graceful generalities, the speaker entered upon a remarkably satisfactory historical and critical treatment of his proper subject, "Recent Advances in Abdominal Surgery." It was now generally admitted, he said, that abdominal surgery was fast becoming a department by itself, and he added this suggestive

remark: "Not only do many unusual things have to be done to become a successful abdominal surgeon, but many things in the busy life of the general physician or surgeon must be left undone." One does not need to be an ultra-specialist to take this view of the matter; the statement is self-evident. Nevertheless it is well that as much knowledge of abdominal surgery as possible should be given to the rising generation of medical men, and we therefore think that Dr. Johnson was quite right to make it the subject of an introductory lecture, especially as he succeeded in putting it before his audience so simply and so clearly. Appended to the address we find a tabular statement of the author's own results in laparotomy, forming a creditable addition to our general statistics.

THE CITY BOARD OF HEALTH.

THERE have been gratifying indications of late of a re-awakening in the Board of Health of something of the spirit that pervaded it twenty years ago. Not the least notable of them is a communication intended for the information of the Commission on Legislation affecting Tenement and Lodging Houses, which has been published in the form of a pamphlet entitled "The Tenement-House Problem in New York." The entire contents of the pamphlet are of surpassing interest to all intelligent and public-spirited New Yorkers, but we have been particularly pleased with the closing paragraphs, in which the board explains how its effectiveness would be increased, and the dupes of "skin builders" aided in avoiding unnecessary expense, by legislation giving the board the right to file a *lis pendens* when proceedings are begun against an owner for violation of the rules governing the construction of buildings, which would be found among the accessible records when the title was searched; also how defective plumbing, with consequent waste of water, would be reduced by legislation encouraging the co-operation of the Department of Public Works with the Board of Health. These measures must, we think, commend themselves to every citizen whose interests are entitled to consideration. We wish we could add that they were on that account reasonably sure of enactment.

LANOLIN AND OESYPUM.

ESSENTIALLY, the use of lanolin seems to be nothing new. Pliny informs us that oesypum ("the filth and sweat adherent to wool") furnished an extract which was used as a medicine, and Ovid says that it was employed by the Roman ladies to improve their complexion. Nearly two hundred years ago, a preparation termed *oesipus humida* figured in the pharmacy of the period, and minute directions for its preparation are to be found, according to the "Annales de la Société de médecine de Gand," in Lemery's "Pharmacopée universelle," edition of 1717. This product, the *asipe* of the French, was employed in emollient and resolvent plasters. It is interesting to trace the changes in its name, as well as its medicinal use; the Greek masculine *oïspnos* becomes the classical Latin neuter *oesypum* and the pharmaceutical Latin feminine *asipus*, and the modern preparation was termed *asipus humida* because it was always liquid.

VASSAR COLLEGE AND THE HARVARD ANNEX.

THESE two educational institutions for women—or rather their pupils—underwent comparison lately in the light of composite photographs, which were incidentally shown by Dr. Noyes at a meeting of the New York Neurological Society. The remark was made by two of the members present that the Vassar picture showed womanliness predominant, while the

Harvard picture figured an intellectual rather than a womanly being.

ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending December 20, 1887:

DISEASES.	Week ending Dec. 13.		Week ending Dec. 20.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever.....	16	6	14	4
Scarlet fever.....	127	23	128	18
Cerebro-spinal meningitis....	5	5	4	2
Measles.....	45	2	36	4
Diphtheria.....	185	45	195	56
Small-pox.....	0	0	3	1

A Suit for Malpractice, in which \$10,000 damages was claimed for alleged negligence and unskillfulness in performing a surgical operation, which was done without charge to the patient, has, after a third trial in Boston, been decided in favor of the defendant. The case has been twice appealed because of similar verdicts.

The Sloane Maternity Hospital and the Vanderbilt Clinic.—Exercises on the occasion of the opening of these adjuncts to the College of Physicians and Surgeons will be held in the lower lecture-room of the college building, No. 437 West Fifty-ninth Street, on Thursday, the 29th inst., at 3 o'clock P. M. An address will be delivered by Professor T. Gaillard Thomas. Seats will be reserved for ladies.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from December 11 to December 17, 1887:*

BANISTER, W. B., First Lieutenant and Assistant Surgeon. Ordered to proceed at once from Fort Lowell, Arizona, to Fort Wingate, New Mexico, and report to the commanding officer for duty. S. O. 128, Department of Arizona, December 1, 1887.

HARRIS, H. S. T., First Lieutenant and Assistant Surgeon. Ordered from Fort McIntosh to Camp Peña Colorado, Texas. S. O. 143, Department of Texas, December 12, 1887.

CLENDENIN, PAUL, First Lieutenant and Assistant Surgeon. Ordered from Camp Peña Colorado, Texas, to Fort McIntosh, Texas. S. O. 143, Department of Texas, December 12, 1887.

CABELL, J. M., First Lieutenant and Assistant Surgeon. Ordered for duty at Fort Niobrara, Nebraska. S. O. 286, A. G. O., December 9, 1887.

Society Meetings for the Coming Week:

MONDAY, December 26th: Medical Society of the County of New York; Boston Society for Medical Improvement; Lawrence, Mass., Medical Club (private); Cambridge, Mass., Society for Medical Improvement.

TUESDAY, December 27th: New York Academy of Medicine (Section in Laryngology and Rhinology); New York Dermatological Society (private); Buffalo Obstetrical Society (private); Boston Society of Medical Sciences (private).

WEDNESDAY, December 28th: New York Surgical Society; New York Pathological Society; American Microscopical Society of the City of New York; Medical Society of the County of Albany, N. Y.; Philadelphia County Medical Society (conversational); Auburn, N. Y., City Medical Association; Berkshire, Mass., District Medical Society.

THURSDAY, December 29th: Cumberland, Me., County Medical Society (Portland).

OBITUARY NOTES.

C. Dixon Varley, M. D., a highly respected physician of New York, died on Wednesday, the 21st inst. Dr. Varley was a graduate of the Medical Department of the University of the City of New York of the class of 1844, and a prominent member of the alumni association of the college, of which he was for several years the treasurer.

Letters to the Editor.

ANÆSTHETIZATION WITH VASCULAR COMPRESSION.

26 WEST FORTY-SEVENTH STREET, NEW YORK, December 19, 1887.

To the Editor of the New York Medical Journal:

SIR: In the "New York Medical Journal" for October 22, 1887, I published a brief account of my endeavors to abbreviate the time necessary to place a patient under the influence of an anæsthetic. The means to this end which I advocated—to wit, compression of *both arteries and veins* at the proximal portion of the extremities—was at once effective and safe.

Nearly two months having elapsed since the publication of that communication, Dr. L. M. Sweetnam comes forward as an advocate of a totally different method of obtaining the same end—viz., compression of the *veins alone* by the application of appropriately placed ligatures to the extremities. By the physiological principles called into action in the procedure advocated by myself (arterial and venous compression) the amount of blood circulating in the cerebro-spinal axis remains unaltered and there is consequently no danger of syncope. On the other hand, *venous* compression *alone*, which is extolled by Dr. Sweetnam, and which, he says, has been used by others, acts on the totally different principle of progressive exsanguination of the cerebro-spinal axis, or, in other words, on the principle of dry-cupping. The principle involved in this mode of inducing general anæsthesia is a very old story to me. As long ago as 1880 I experimented with a large Junod's apparatus provided with an appropriate air-pump. (See the subjoined cut of this appli-

cal vacuum had been produced, ether, chloroform, or nitrous-oxide gas was given to the patient, and anæsthesia usually supervened with gratifying rapidity. One day, however, while I was carrying on these researches, I produced so severe an attack of syncope in a patient that I became thoroughly alarmed for his safety. This event produced a powerful impression upon my mind, which will remain as long as life lasts. I then and there resolved never again to countenance the use of anæsthetics in conjunction with anything which savored of dry-cupping.

It must be borne in mind that, when the *veins alone* are compressed, the anæsthetic has free access through the unobstructed arteries to the blood-mass behind the ligaturé. Consequently all the blood in the body is contaminated; and, if the patient were to have an attack of syncope, and we were to attempt to revive him by removing the ligatures, as suggested by Dr. Sweetnam, we should merely bring new quantities of contaminated blood in contact with the patient's cardiac and respiratory centers, thus placing his life still more in jeopardy. It is necessary to think of these things where human life is at stake.

From this brief analysis it is clear that none of the objections mentioned apply to *conjoined venous and arterial* compression in the administration of anæsthetics, as advocated by myself. The inherent safety consequent upon this total sequestration and complete preservation of the blood mass (behind the ligature) from the contamination of the anæsthetic has been ably shown by Dr. David Webster in a suggestive communication to the "New York Medical Journal."

J. LEONARD CORNING.

Proceedings of Societies.

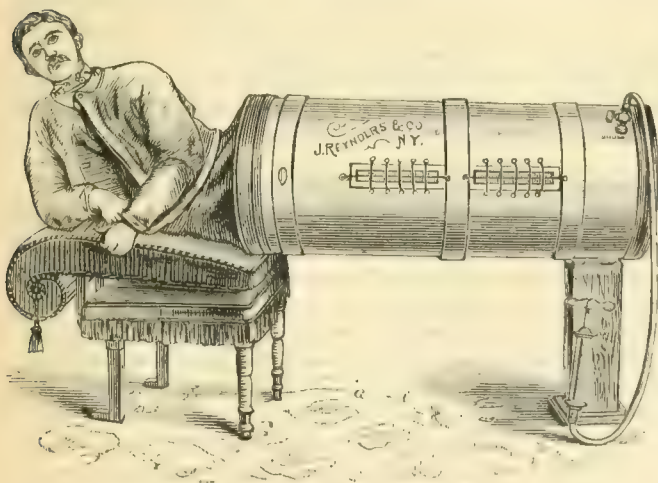
AMERICAN LARYNGOLOGICAL ASSOCIATION.

(Concluded from page 559.)

Constitutional Causes of Throat Affections.—Dr. S. W. LANGMAID, of Boston, read a paper on this subject (see page 703).

Dr. WILLIAM C. GLASGOW, of St. Louis: The constitutional nature of many pathological conditions of the throat is too often ignored in the great prominence given to the local lesions. The sentiment expressed by an absent colleague, who says "the laryngologist of the future must be more the rhinologist, and the rhinologist be more the surgeon than the physician," is, in my opinion, a false sentiment. It encourages the tendency of the times to an exaggerated consideration of the local lesions, and does not give due consideration to the underlying causes, which are often strictly constitutional. I believe that such views may do harm to the true growth of laryngology. I believe there is even at the present time too much surgical interference, and I believe a more conservative course to be the true one. I agree with Dr. Langmaid in considering many of the diseases of the throat to be of constitutional origin, depending on the various diathetic conditions. The favorable action of the emetics related by Dr. Cohen shows the dependence of the laryngeal condition on a disordered condition of the digestive organs, and I believe that a more thorough consideration of possible constitutional causes will lead to a more satisfactory knowledge of diseases of the throat.

Dr. J. SOLIS-CORON, of Philadelphia: There is one point which I should like to make with regard to the condition known as rheumatic sore throat. I have had my doubts at



ance taken from the appendix of my monograph on "Carotid Compression," published in March, 1882.) By the aid of this arrangement it was possible to engender venous stasis of the lower extremities while the anæsthetic was administered in the usual manner. This is precisely what I did. As soon as a par-

times whether the term rheumatic was correct or not. Affections which we call rheumatic are sometimes caused, as I have frequently seen, by local applications of the galvano-cautery to the pharynx and to the tonsils. That is to say, I have frequently had patients complain of pain in the trapezius muscle, for instance, from cauterization of the pharynx or the tonsil. Sometimes there will be torticollis. Sometimes they complain of pain in the ear. I have found the treatment by guaiac just as serviceable in these instances as in the treatment of amygdalitis, the result, as we suppose, of exposure to cold. Whether the cause is a nervous influence or not, I can not tell. As you all know, the spinal accessory nerve divides into two branches, one going to help form the pneumogastric and the other going to the trapezius muscle. Consequently there may be a reflex action in these cases. Certainly some of you must have observed these effects. They have occurred so frequently in my hands that I do not think the observation can be an isolated one. I always try to treat my patients constitutionally, and I do not know of anything better in this class of cases than the occasional use of a purge—say two or three times a week. You will find that in the first edition of my work, published in 1872, I spoke of a peculiar form of pharyngitis which occurs during adolescence, and which I considered the result of overfeeding. While it had not attracted any attention, I still thought it sufficiently important to devote rather more space to it than to other affections, and reprinted it in the second edition of ten years ago. I have found very little reason to modify those opinions. These cases are certainly better treated by purging and attention to the general health than by local applications.

Dr. D. B. DELAVAN, of New York: It has been my custom for several years in dispensary work to decline to treat a case of pharyngitis or laryngitis in the habitually intemperate. In a few cases I have persuaded the patients to give up the abuse of alcohol in view of the fact that the condition of their throats alarmed them. In the process of that reformation their local condition has improved. I think we pay too little attention in this country to the benefits of good hygienic surroundings, such as may be found at various baths abroad. The treatment pursued at many of them is extremely beneficial in a large number of cases of impaired digestion, disturbed portal circulation, and lithæmic diathesis. I have observed in gouty subjects with acute throat troubles great benefit from the administration of the salicylates. As to constipation, it is an almost constant accompaniment in many chronic conditions of the pharynx, and I have for some time been in the habit of prescribing in these cases the official compound pill of aloes and iron, one pill to be taken at bedtime with a copious draught of water.

Dr. LANGMAID: My paper is founded on actual experience, but I do not wish to consume time with the narration of cases. I remember the chapter in Dr. Cohen's book referred to by him, and I also remember that I was surprised to find it there. I think Dr. Cohen might have gone farther, and have found that many so-called cases of croup in children, spasm of the glottis, would be more quickly relieved by some cathartic than in almost any other way. A little investigation would bring out the fact that the children had disordered intestinal tract. Two or three years ago a lady was brought to me with disease of the upper jaw, the supposition being that I would remove the jaw. There was nothing to indicate the cause of the disease. I will only say that the operation was not performed and that the patient is in perfect health to day. I presume the treatment by some would have been to cut the bone away, but had it been done I do not believe the patient would be well yet, while, by taking into consideration constitutional causes, I saved the patient's jaw and my reputation.

A Foreign Body in the Larynx.—In the discussion of Dr. LANGMAID's paper on this subject, Dr. F. I. KNIGHT, of Boston, said: This case of Dr. Langmaid's was the most interesting one of foreign body which it has been my opportunity to see for a long time. My idea regarding the location of the pin is that it had worked out of its bed in the pharynx, and gone down into the larynx, entered the ventricular sinus, thence worked its way up through the ventricular band, and was found emerging from the ventricular band, pointing from before backward, as described by Dr. Langmaid.

NEW YORK ACADEMY OF MEDICINE.

Meeting of October 20, 1887.

The President, Dr. A. JACOBI, in the Chair.

Colorado Springs and Davos-Platz as Winter Health Resorts.—Dr. CLINTON WAGNER read a paper on this subject. Colorado Springs, he said, was located seventy-five miles south of Denver, near Pike's Peak, more than six thousand feet above the level of the sea. On the north and west it was sheltered by mountain ranges; on the south and east it was quite open. The atmosphere was so clear that one could see a distance of 130 miles without the aid of a glass. From September until the latter part of May there was no rain-fall; there was no mist, rarely frost, occasionally snow, which seldom remained longer than a day or a few days, disappearing by evaporation, or being carried before the wind or absorbed by the sandy, porous soil. The sun shone 330 days in the year. The temperature was warm and equable: during the winter the inhabitants sat on the piazzas without additional wraps. The difference between the temperature in the sun and in the shade was fifty degrees. This was due to the very free transmission of the sun's rays through the pure atmosphere. Were the surrounding air not cold and dry, the sun's rays would be intolerable. The temperature at night fell many degrees.

The most disagreeable feature of this climate was the winds. There was less wind, however, than at Davos-Platz. The author had seen many patients at Colorado Springs who had recovered from phthisis, and others were advancing toward recovery. In general it might be said that patients should be allowed to remain at great altitudes, provided improvement in their pulmonary and general condition had already taken place. For certain patients, however, such localities were contra-indicated—those having nasal trouble, phthisical patients of a nervous and excitable temperament, and those with circulatory disturbance. But certain cases of laryngeal phthisis had recovered at Colorado Springs. The town had hotels, libraries, schools, churches, a theatre, etc. There was excellent opportunity to establish good drainage, which had not yet been done.

Compared with Davos-Platz, Switzerland, Colorado Springs possessed the following advantages: The sun shone longer (about nine hours a day, at Davos Platz about five hours a day); it was suitable for residence the entire year; at Davos-Platz the sky was often obscured, and the south wind was warm, moist, and irritating; out-of-door life was possible only to those who could take active exercise. Of late years better sanitary arrangements had been established at Davos Platz.

Dr. A. L. LOOMIS said that, in a paper which he had read before the American Medical Association eighteen years ago, he took the ground that the custom of sending phthisical patients to a warm climate was wrong: that it was most important for them to be in a stimulating climate—one in which they would be able, although feeble, to take a certain amount of exercise in the open air. Since that time he had studied the climatological treatment of disease perhaps as carefully as any one subject

connected with medicine, and he had reached the conclusion that there was no one place *par excellence* for phthisical people. Two things were essential in any locality: First, a pure atmosphere, an aseptic atmosphere. We could not wash out lung cavities with antiseptic solutions; he doubted whether vapors could be introduced into the lungs which would destroy the causes of the disease. But if the lungs could be bathed constantly with an antiseptic air it seemed that that would be all that could be done in the way of local treatment of the disease. There were a good many things which operated to render air aseptic. Great altitude was one; but even here the soil, the number of people in the town, the foliage, etc., had to be considered. He doubted not that Colorado Springs and Davos had been aseptic, but when they became filled with large hotels and boarding-houses, where patients had to live, there they no longer breathed an aseptic air. The benefits to be derived from these places would diminish as the population increased, until finally they would be abandoned for newer health resorts. The second necessary element was a climate which conduced to out-of-door life. It was folly to send those suffering from phthisis to Colorado Springs or Davos-Platz to spend twenty of the twenty-four hours in the hotel. If they were not able to take out-of-door exercise they should not be sent to a health resort. They should remain at home and receive home care. That, he thought, was the reason why patients in the first stage of phthisis were benefited by climatic treatment. Those who were improved in a great altitude should not return to their former homes for three or four years, although apparently cured. He did not think it was necessary to send persons with phthisis so far as Colorado Springs or Davos.

Dr. RUFUS P. LINCOLN had visited Colorado Springs and Davos only during the summer, but he had watched patients who had been at those places, and had become convinced that Colorado Springs possessed advantages over Davos. The sun shone nearly twice as long daily at Colorado Springs, and consequently this health-giving element in the atmosphere was nearly doubled; the moisture was much less; and the soil was better suited to effective drainage. As to the wind, it traveled much more slowly at Colorado Springs than at New York. The sun failed to shine, on an average, only three days in the year at Colorado Springs. Dr. Holly, a resident physician there, had changed his mind regarding the effect of this climate upon patients with laryngeal phthisis; he now advised such patients to remain, and undergo local treatment of the laryngeal trouble. The speaker thought that the dry air and the wind caused a dry condition and more or less irritation in the healthy basal mucous membrane of some persons, but this effect was beneficial in those suffering from nasal catarrh with excessive secretion.

Dr. BEVERLEY ROBINSON sent a letter in which he stated that more of his patients in the first stage of phthisis had regained their health in Colorado than at any other health resort.

Dr. KRESCHMAR, of Brooklyn, gave Bremer the credit of having first called attention to the advantage of great altitudes in phthisis, having written on the subject in 1852, since which time his sanitarium had received about thirteen thousand phthisical patients, histories of whom had been kept. Only about one patient died of phthisis in five years. The speaker did not believe that any one place possessed all the advantages for consumptives. The most important elements were immunity from phthisis among the natives, absence of moisture, plenty of sunshine, no rapid change of temperature, absence of dust, accessibility, parks, distance from large cities, supervision of the patient by a careful physician, the best of nourishment, together with the moderate use of wine, and a perfect hygienic arrangement of the dwellings. The most important of these were pres-

ent in either Davos or Colorado Springs. The greatest objection to Davos was the mixture of pleasure-seekers and patients. The latter were not strong enough morally to resist injurious customs established by the former. Davos was almost an ideal place as a prophylactic against phthisis, and it had the advantage of educational institutions for young men and ladies.

The PRESIDENT alluded to statistics going to show that altitude would not give immunity from phthisis, for persons at work in factories, and living in crowded quarters, were subject to phthisis at great altitudes as well as elsewhere. But farmers, and those living out of doors, remained free from pulmonary phthisis. An element going to make an atmosphere advantageous to the phthisical, not mentioned by the speakers, was ozone, and this existed where there was plenty of sunlight, on the ocean, at the sea-side, and in evergreen forests.

MEDICAL SOCIETY OF THE COUNTY OF KINGS.

Meeting of May 17, 1887.

The President, Dr. WILLIAM WALLACE, in the Chair;
Dr. C. E. DE LA VERGNE, Secretary.

On the Treatment of Puerperal Convulsions.—Dr. W. B. CHASE read a paper on this subject (see page 709).

Dr. CHARLES JEWETT remarked that if he understood the author of the paper correctly, he had included under the term puerperal convulsions some kinds of convulsion that, in the opinion of the speaker, should not be so classified. In other words, not every convulsion in childbed was a childbed convulsion. That was to say, such convulsions as those due to hysteria or to epilepsy or apoplexy should not be so classed, but only those which were due to childbed conditions. With reference to the ætiology of puerperal eclampsia, nothing conclusive could, he thought, be said at the present time. The ætiology of puerperal eclampsia was not fully settled. This was quite apparent in reading the authorities on the subject. Lusk, whose teachings had deservedly exerted so great an influence in this country, had taken a firm stand upon the uræmic theory. This theory, however, had not yet been established. Professor Schroeder, who represented a fair share of the best German opinion upon this matter, stated, in the last edition of his work [1886], that uræmic convulsions and eclampsia were not identical. French and English opinions were equally unsettled. The experience of most of us would no doubt seem to show that in the main uræmia furnished the background of puerperal convulsions. No other theory so well explained the facts in the vast majority of cases. True, Ingerslev and others had collected large numbers of cases in which an autopsy—after death by puerperal eclampsia—showed the kidneys to be entirely healthy—at least, to present no structural lesion. This, however, did not necessarily establish the fact that the eclampsia in those cases was not uræmic, for, as believed by many, the uræmia often might be the result merely of acute spasm of the vessels of the kidneys. And this was the more probable when we bore in mind the intimate nervous relation between the uterus and the renal organs. One theory indorsed by Schroeder, and a very important one in its practical bearings, was this: He adopted the theory that the immediate cause of the eclamptic seizure was cerebral anæmia due to spasm of the cerebral vessels. Without undertaking to say what was the cause of this vaso-motor spasm, this was valuable in its practical bearings, for it taught that the treatment for eclampsia was to be found in measures that tended to relieve the vaso-motor spasm, and this was in keeping entirely with what was known of the value of the different remedies in vogue. This led to the consideration of the remedies that were useful. Certainly one of the first and foremost was chloroform. This

was the readiest method of treatment and one of the most effective. The first thing to do, finding a patient in puerperal convulsions, was to put her under the influence of chloroform. This immediately overcame the trouble and provided time for the administration and for the effect of other measures. And yet this method of treatment was unsuitable for long-continued use. Chloroform narcosis, if long continued, was of itself injurious; and other measures must be substituted after a time. Two very good ones were those which had been mentioned by the author—chloral and the bromides. Many other drug measures had been advocated, such as nitrite of amyl, nitroglycerin, nitrite of sodium, etc. As to venesection, while it had been condemned as an unphilosophical mode of treatment, nevertheless, clinically, its results were fairly good. But one of the most useful measures in the therapy of convulsions was another drug also alluded to in the paper, *veratrum viride*, the Brooklyn treatment, as it had been called, and a treatment which Brooklyn practice ought to foster. This was one of the most reliable arterial relaxants and was one with which the speaker had had a considerable experience. He had used it in a large number of cases with a special view to determine its value. The method was well known. It consisted in the employment of the drug until the pulse was reduced to something below sixty, and the eclamptic convulsion was said never to occur while the pulse was below that number. It certainly never had occurred in his experience. He recalled one case in which it had been impossible to reduce the pulse so low, but that patient had been almost moribund after a large number of convulsions. In all cases in which the drug had been administered before six or eight convulsions had taken place, the reduction of the pulse had been very prompt—within twenty to thirty minutes—and the results very satisfactory. The dose that he had administered had been ten to twenty minims of Squibb's fluid extract. He had commenced with that and had used no other preparations, with one or two exceptions. He preferred decidedly to give it by the hypodermic method. By the stomach its action was much slower, and, moreover, it was quite uncertain whether it would be absorbed at all; so that the method of administration under the skin was, the speaker thought, the only one that should be advised. Ten or twenty minims might be given for the first dose, the subsequent doses being determined by the pulse, enough being used to maintain the pulse below sixty. There was a strong prejudice on the part of some practitioners against the use of this drug. The patient went into a condition of collapse sometimes, or now and then one was seized with distressing vomiting at the end of half an hour or more. And yet this collapse was not so bad as it seemed. He had never known any injury to result from the use of the drug to the extent of inducing collapse; and, as the author of the paper had said, it was readily overcome by stimulants. The usual indications, moreover, which had been laid down for the use of *veratrum viride* as distinguished from other measures had always been disregarded by the speaker. It had generally been supposed that the use of *veratrum* should be confined to those cases in which the pulse was hard and bounding. And yet he had used it without regard to the character of the pulse except its frequency, and he had even used it in the uramic convulsions of children after scarlet fever. He was persuaded that in more than one case patients of that class had finally recovered who would have died but for the aid derived from this drug, although this was not the only treatment. It was worthy of mention that Winckel relied largely on diaphoresis—by the hot bath—in eclampsia. Cathartics, too, were also important and rarely to be omitted.

Dr. S. SHERWELL recalled a case to which he had been called in 1871, shortly after Dr. Fearn's first paper had been read. It had been one of severe puerperal convulsions occurring in a

robust, plethoric young woman. Remembering Dr. Fearn's paper, he had administered eight minims of *veratrum hypodermically*, the first instance, he believed, of its use in that manner. The patient, who was at full term, did well, as did also the child. As the patient had, however, been bled to the extent of a pint and a half, had had claterium administered, and been given a hot-air bath, the speaker was in doubt as to which element of treatment had had the most effect.

Dr. H. FEARN said that he had seen cases of asthmatics in which the pulse had been reduced to 38 in the minute by the use of a drachm of the tincture of *veratrum viride*. Dr. Chase had not stated the rule for the administration of *veratrum* exactly as the speaker had given it in 1869. He commended the *veratrum* treatment as strongly as ever, and he did not know that he had ever seen a case in which the patient had died as the result of the treatment. He sometimes employed chloroform, but it was only as a temporary resort, until the patient could be brought under the influence of *veratrum*. In its administration he was governed by the character of the case, some cases requiring from fifteen minims to a drachm of the tincture. He had seen cases in which the smaller dose, frequently repeated, had had the effect of controlling the convulsions. He had used *veratrum* many years, not only in the class of convulsions under consideration, but also in those occurring in children, and he considered it a much safer remedy than chloral, as it seemed to him more easy to regulate in its effects. He did not think that it was good for everything, but its influence over the circulation had the desired effect on the kidneys. He had frequently observed that after its administration the kidneys acted in a very short time, when they had not done so for twenty-four hours previously. In regard to the preliminary treatment, he considered that we had a good agent in the bitartrate of potassium, not only from its action on the kidneys, but by its effects as a laxative, especially during the last months of pregnancy. He could recall several cases in which convulsions would, probably, have occurred if it had not been used. He thought that chloroform was useful in the first stages when a speedy action was desired, but that its effect was not so decided as that of *veratrum* in preventing a recurrence of the convulsions.

Book Notices.

On the Operative Surgery of Malignant Disease. By HENRY T. BUTLIN, F. R. C. S., Assistant Surgeon and Demonstrator of Surgery, St. Bartholomew's Hospital, etc. Philadelphia: P. Blakiston, Son, & Co., 1887. Pp. viii-408. [Price, \$4.]

For years Mr. Butlin has been making the pathological and clinical history of malignant diseases a study. Some of the results of his work are already before the profession, and the present volume adds another valuable contribution to our knowledge of this terrible disease.

The scope of the work is expressed by the author in his preface, where he says that he hopes that the volume may attain one or other or all of the following ends: "1. Indicate the class of cases and parts of the body which may be treated by operative means with the best prospect of success. 2. Encourage the performance of operations in suitable cases at the earliest possible period. 3. Discourage the repetition of useless and dangerous operations. 4. Raise the question of the propriety of the removal of entire organs for the cure of cancers of limited extent." He further states that "the general plan of each chapter of this work is to give, first, a short outline of the

usual course of the malignant diseases of the part of the body of which it treats, without entering on pathological questions further than is absolutely necessary. The best methods of operating are then described; and, when the operation has been practiced in many instances and successfully, by an individual surgeon, his method is described as far as possible in his own words. The results are then considered—first, with a view to discover how far the operations have been dangerous to life; next, how far they have been successful in permanently ridding the patient of the disease; and, last, in a few of the sections, how far patients who have not been permanently relieved have nevertheless been benefited by operations." After an introductory chapter, malignant disease affecting the muscles, the bones, the lymphatic glands, and the spleen is considered; then cancer of the head and face, the mouth, the throat and neck, the alimentary canal, the urinary organs, the male genital organs, and the female genital organs. Space will not allow of an extended notice of any of these interesting chapters. The volume is the result of an immense amount of labor, and is filled with extremely useful and valuable information. It is a book that deals with *results*, and we know of no work that covers the same ground in so thorough a manner. We can not speak too warmly in its praise. It will have an influence on the operative treatment of malignant disease in that it will aid surgeons in discerning cases in which relief may be expected from operations, and at the same time point out the hopelessness of operating in other cases.

The Physician's Visiting-List (Lindsay & Blakiston's) for 1888. Philadelphia: P. Blakiston, Son, & Co.

The "Medical World" Visiting-List. Philadelphia: The "Medical World."

THE first of these pocket-books is so well known that little more than an announcement of its issue seems to be called for at our hands. Its tasteful appearance and handy arrangement are maintained, and it deservedly holds a high place among publications of its class.

The "Medical World's" publication differs from all others of the sort with which we are acquainted in the fact that it consists of a cover with a number of removable books, one for each month. This makes it far less bulky to carry—an important consideration with the practitioner. It is a pocket account-book pure and simple, without the miscellaneous information given in most of the lists.

BOOKS AND PAMPHLETS RECEIVED.

Cyclopaedia of Obstetrics and Gynaecology. Volume Five. Gynaecological Diagnosis, General Gynaecological Therapeutics. By R. Chrobak, M. D., Professor of Gynaecology at the University of Vienna. Electricity in Gynaecology and Obstetrics. By Egbert H. Grandin, M. D., Obstetric Surgeon to the New York Maternity Hospital. With One Hundred and Sixty-five Wood Engravings. Pp. v-3 to 390. The same, Volume Eight. Diseases of the Ovaries. By Dr. R. Olshausen, Professor of Obstetrics and Gynaecology at the University of Halle. With Thirty-six Fine Wood Engravings. Edited by Egbert H. Grandin, M. D., Obstetric Surgeon to the New York Maternity Hospital, etc. Pp. v-414. The same, Volume Eleven. Sterility: Developmental Anomalies of the Uterus. By P. Müller, M. D., Professor of Obstetrics and Gynaecology at the University of Berne. And, The Menopause. By E. Borner, M. D., Professor of Obstetrics and Gynaecology at the University of Graz. With Fifty Fine Wood Engravings. Edited by Egbert H. Grandin, M. D., Obstetric Surgeon to the New York Maternity Hospital, etc. Pp. v-3 to 383. The same, Volume Twelve. Diseases of the Tubes, Ligaments, Pelvic Peritoneum, and Pelvic Cellular Tissue; Extra-uterine Pregnancy. By L. Bandl, M. D., Professor of Obstetrics and Gynaecology at the University of Prague. And, Diseases of the External Female Genitals; Lacerations of the Perineum. By P. Zweifel, M. D., Profes-

sor of Obstetrics and Gynaecology at the University of Erlangen. With One Chromo-lithograph Plate and Eighty-eight Fine Wood Engravings. Edited by Egbert H. Grandin, M. D., Obstetric Surgeon to the New York Maternity Hospital, etc. Pp. iv-3 to 366. New York: William Wood & Co., 1887.

Practical Microscopy. A Course of Normal Histology for Students and Practitioners of Medicine. By Maurice N. Miller, M. D., Director of the Department of Normal Histology in the Loomis Laboratory, University of the City of New York. Illustrated with One Hundred and Twenty-six Photographical Reproductions of the Author's Pen Drawings. New York: William Wood & Co., 1887. Pp. xv-217.

An Index of Materia Medica, with Prescription-writing, including Practical Exercises. By Charles H. May, M. D., Instructor in Ophthalmology, New York Polyclinic, and Charles F. Mason, M. D., Assistant Surgeon, U. S. Army. New York: William Wood & Co., 1887. Pp. vi-267.

Bericht über die neunzehnte Versammlung der ophthalmologischen Gesellschaft. Heidelberg, 1887. Redigirt durch F. C. Donders, W. Hess, u. W. Zehender. [Beilageheft zu den "Klinischen Monatsblättern für Augenheilkunde."] Mit zwei lithographirten Tafeln. Stuttgart: Ferdinand Enke, 1887. Pp. 228.

An Introduction to the Study of the Influence of Diet in the Production and Treatment of Skin Diseases. By James C. White, M. D., Professor of Dermatology, Harvard University. Read at the Eleventh Annual Meeting of the American Dermatological Association. [Reprinted from the "Journal of Cutaneous and Genito-urinary Diseases."]

L'iodisme. Par Elisabeth N. Bradley, Docteur en médecine de la Faculté de Paris; Membre de la Société zoologique de Paris. Paris: G. Steinheil, 1887. Pp. iv-168.

The Throat and its Diseases, including Associated Affections of the Nose and Ear. With One Hundred and Twenty Illustrations in Color and Two Hundred Engravings. Designed and executed by the Author, Lennox Browne, F. R. C. S. E., Senior Surgeon to the Central London Throat and Ear Hospital, etc. Second Edition, rewritten and enlarged. Philadelphia: Lea Brothers & Co., 1887. Pp. xviii-614. [Price, \$6.]

The Physician's Visiting List (Lindsay & Blakiston's) for 1888. Thirty-seventh Year of its Publication. Philadelphia: P. Blakiston, Son, & Co.

Precocious Gummata. By R. W. Taylor, M. D., Surgeon to Charity Hospital, New York. [Reprinted from the "American Journal of the Medical Sciences."]

Recent Advances in the Treatment of Pulmonary Consumption. A Paper read before the Medical Society of the State of Pennsylvania, at Bedford Springs, Pa., June 30, 1887. By Solomon Solis-Cohen, M. D., Consulting Physician to the Jewish Hospital, Philadelphia, etc. [Reprinted from the "Transactions of the Medical Society of the State of Pennsylvania."]

Reports on the Progress of Medicine.

CUTANEOUS AND VENEREAL DISEASES.

By GEORGE THOMAS JACKSON, M. D.

Methods for the Improvement or Hindering of Cicatricial Deformities.—Lassar describes in the "Berliner klinische Wochenschrift," No. 37, 1887, his method for preventing ugly and deforming cicatrizations, and for removing those that already exist. His article is fully illustrated both with clinical histories and photographs of cases that he has operated upon. He believes that success depends upon lengthening the time of healing of a wound. In cases of burns, or where there has been a fresh loss of substance from accident or operation—such as scraping with the sharp spoon—his method of procedure is the following: First he puts on an iodotannic or sublimate dressing. After a few days he carefully removes the same, and washes away by irrigation the fine epithelial film which is creeping over the wound surface. If any

of this resists the water, it will be that which is along the edge of the wound. This must be removed by a fine knife or curette. The granulations being thus flattened down, the surface of the wound is to be penciled with a solution of silver nitrate, washed off with a carbolic or sublimate solution, and covered with loose sublimate gauze. Generally this procedure should be carried out once or twice a week. If small islands of cicatricial connective tissue form, they are to be removed. Thus the natural process of healing is entirely prevented, and the epidermis at the edges will have time and opportunity to grow over the wound, and supply in large measure the defect left by the loss of the skin of the part. The time required for this manner of healing varies much in different individuals. It proceeds most rapidly in regions well supplied with hair-follicles or sebaceous glands.

Erysipeloid.—By this term Rosenbach ("Archiv f. klin. Chir.") designates erysipelas chronicum, or erythema migrans, a purely local process, attended with some burning sensation, but without constitutional symptoms. It is an infectious disease, originating in a wound from contact with some dead animal substance already in process of putrefaction, but is never directly contagious from one person to another. It affects chiefly those who have to do with dead animals—for instance, cooks, butchers, fish-mongers, and merchants who handle cheese and smoked fish. It occurs mostly on the fingers. From the point of inoculation the inflammation spreads as a dark-red, often livid swelling, with sharp border. It proceeds slowly, creeping along over the affected region without special pain, and stops spontaneously after one to three weeks' duration, the part that was first attacked becoming pale. All then returns to the normal condition. The disease depends upon a special form of microbe, the exact nature of which is not determined. It is best cultivated upon gelatin. Inoculations with pure cultivations produce the disease.

Erythema.—In an exceedingly interesting study upon erythemas, Dr. Polotebnoff gives us ("Monatshft. f. prakt. Dermat.," Ergänzungs-Heft ii) a description of their course, ætiology, and treatment, and a résumé of the literature of the subject. He thinks it a mistake to separate erythemas into hyperæmic and exudative forms, and that whether we have a simple hyperæmia or polymorphous erythema, with papules, tubercles, etc., depends solely upon the amount and continuance of the exciting cause. Nor does he concede to erythema nodosum the right to an independent position, but regards it as only a pronounced form of erythema exsudativum. Often a papule will change into a node, and nodes will appear alongside of other forms of erythema. He regards all erythemas as forming a single disease—inflammatory erythema. Many causal factors have been advanced to account for the disease—such as certain foods, chlorosis, atmospheric and telluric influences, irritations from the side of the genito-urinary organs, disease of the liver and kidneys, tuberculosis, rheumatism, syphilis, pyæmia and septicæmia, angioneuroses, and external irritants. Our author allows the possibility of tainted food causing erythema; he holds that chlorosis is not a disease in itself, and therefore can not cause an erythema; he regards telluric-atmospheric influences as active ætiological factors in some cases; he has seen erythemas accompany pregnancy, follow parturition, and precede menstruation; he believes that irritations from the side of the genito-urinary organs may produce erythemas by reflex nervous action; he has met with erythema multiforme in connection with Bright's disease and icterus; at present he can not trace any connection between tuberculosis of the lungs and erythema, but has seen the occurrence of the latter with basilar meningitis of tubercular origin; he denies that rheumatism *per se* will cause an erythema in the majority of cases, but grants that an acute rheumatism of the joints may give rise to it as part of a general infectious disease; in one case he saw an erythema papulatum et vesiculosum fade away and give place to syphilodermata, and teaches that pure angioneuroses may cause erythemas, but all erythemas are certainly not due to them.

The author makes the following varieties of erythema: 1. That arising from external irritation, the erythema being restricted to the irritated region. 2. Reflex forms which may arise either from an external and local irritation which spreads beyond the irritated region and may involve the whole body (as a universal erythema from painting a knee with iodine), or from irritation of some internal or other organ. 3. Central erythema, from irritation of the nervous centers—as from

tuberculosis, possibly from drugs, and with renal diseases. 4. Infection erythemas, which appear with any infectious disease. Prodromal symptoms are present excepting in central and reflex erythemas and slightly developed cases. These are such as a feeling of lassitude, dullness of intellect, some loss of appetite, disturbed sleep, and nervousness. In nearly all cases there is a slight rise of temperature. After one to fourteen days of prodromata the erythema develops. The gravity and duration of these prodromal symptoms are the same whether the erythema assumes the papular, nodose, or any other particular form. The erythema lasts from a few hours to many days in spite of treatment. During its continuance the symptoms of the prodromal stage continue, and burning, itching, and the like sensations, of greater or less intensity, are sometimes added to them, excepting in erythema nodosum. The mucous membranes are not infrequently involved in the erythematous process, only in the nodose form they are seldom attacked. This gives rise to pain in eating, loss of appetite, vomiting, icterus, constipation or diarrhoea, and catarrhal inflammation of the conjunctiva and air-passages. Pleurisy, croupous pneumonia, endocarditis, enlargement of the spleen and liver, renal disorders, swelling of the lymphatics and their glands, epistaxis, and critical sweating are sometimes observed as parts of the disease. Only such cases as run an acute and typical course—that is, have marked prodromal symptoms, last ten to twenty days, and do not relapse—are complicated by diseases of the internal organs. With the outbreak of the exanthem many of the complications may disappear.

Sometimes erythema occurs epidemically, and in one epidemic in Paris in 1828 it received the name of erythema acrodynia. This was marked by loss of appetite, vomiting, colic, constipation or diarrhoea, great muscular weakness, specially in the hands and feet, and pain in the palms and soles with thickening of the epidermis. In some cases the skin was black. The thickened epidermis shed itself in large pieces. The disease attacked the palms and soles principally, but was met with also upon the abdomen, chest, axillæ, and under the mammæ. There was fever in some cases, and also headache. Our author reports a case of erythema attacking the hands and feet in which the whole epidermis of soles and palms was shed entire. Other epidemics of erythema have been reported from time to time, but are to be regarded rather as erythema accompanying infectious diseases. In fact, erythema may accompany any infectious disease, in which cases it is not a disease *sui generis*. In most cases it is a general disease, implicating the whole organism. Most erythemas have symptoms corresponding to those of any infectious disease occurring at the time. They occur most frequently in spring and fall, and attack most often young men and women. It is probable that, instead of regarding erythema as an independent infectious disease, we should look at it as a symptom of many infectious diseases, and speak not of its prodromes and complications, but of the prodromes and complications of the infectious disease itself.

Erythemas have been known to last many years in spite of treatment. Our author, contrary to the teaching of Hebra, has seldom observed erythema multiforme appear first on the backs of the hands. Pemphigus acutus is a form of erythema. It has nearly the same symptoms as erythema; in most cases of so-called acute pemphigus various forms of erythema are present; its blebs are only the highest grade of vesicles, as the nodes of erythema nodosum are only the highest grade of papules; that its blebs appear upon sound skin is only due to a greater degree of irritation and to individual peculiarity. [The whole of this able treatise should be read. The foregoing is but an outline of the great amount of information contained in the pamphlet.—Ed.]

Pityriasis Rosea of Gibert.—This disease is the same as the pityriasis maculata et circinata of Duhring. Brocq gives us here ("Annales de dermat. et de syph.") a study of the primitive lesion of the disease. It begins most often on the trunk, particularly at the level of the waist-band, anteriorly and a little to one side, and upon the front of the chest, a little above the breasts; it may also occur upon the sides of the neck, and probably on the arms. It increases slowly at its edges while fading in the center, and may attain a size of two or more centimetres in diameter. It is more or less oval in shape, and may be circular. It either gives rise to no subjective symptoms, or causes some itching. It remains alone for some four or five days, and then suddenly many other

lesions appear simultaneously, constituting the secondary eruption. These generally are smaller than the primitive plaque. The latter, after some days or weeks, fades away or loses its identity. It is not to be found in every case that presents the secondary eruption. The disease may be parasitic, but the parasite is not the *trichophyton tonsurans*.

Treatment of Psoriasis.—Vidal ("Jour. de méd. et de chir.") believes that the oil of cade is the most efficacious remedy for psoriasis, and employs the following formula:

Glycerole of starch.....	100;
Green soap.....	5;
Oil of cade.....	100. M.

The patient is directed to rub this in every morning, sleep in a flannel gown, and wash the medicament off in the morning.

Treatment of Pruritus Senilis.—For the treatment of this obstinate affection Machiavelli recommends ("Gaz. med. ital.") external remedies as most efficacious. As general measures, baths medicated with sulphate of potassium, and the avoidance of all excess in diet. The patient must abstain from scratching, and when a paroxysm of itching comes on, he should dab on the pruriginous spots a one- to two-per-cent. solution of carbolic acid in water. If papules appear and the pruritus is worse at night, cloths soaked with the same solution are to be bound on. An itching scrotum is to be worn in a suspensory bandage enveloped in absorbent cotton. In persistent itching, specially of the female genitals, repeated bathing with the following—

Carbolate of sodium.....	25 grammes;
Cologne-water.....	75 "
Glycerin.....	100 "
Water.....	300 " M.

—will be useful, especially if followed by compresses soaked in the following:

Distilled water.....	300 grammes;
Alcohol.....	100 "
Hydrochloride of cocaine.....	75 centigrammes. M.

When the patient can not resist the impulse to scratch and does scratch unconsciously at night, the parts are to be painted with

Ammoniate of mercury.....	1 gramme;
Oxide of zinc.....	4 grammes;
White vaseline.....	40 "
Cocaine.....	25 centigrammes. M.

Treatment of Pruritus Vulvæ.—Simson recommends ("Lancet") for this annoying affection the application at night to the vulva of cocaine, 15 gr.; aquæ dest., q. s.; lanolin, 3 ss., and bathing the parts in the morning with lotio hydrarg. nigra.

Pruritus Cutaneus cured by Salicylate of Sodium.—Icard ("Gaz. des hôp.") reports a case of general pruritus of eight months' duration which was cured after taking forty-five grains of salicylate of sodium for two days. The case had not yielded to arsenic, bromide of potassium, atropine, etc.

Pemphigus Chronicus.—Dähnhardt, of Kiel ("Deutsche med. Woch.") has found in the blebs of chronic pemphigus, diplococci. These he succeeded in cultivating upon agar-agar. The same cocci were found by him in the blood of the patient. Attempts at inoculation upon guinea-pigs and rabbits were negative.

The Question of the Contagiousness of Alopecia Areata.—Thibierge has collected a large number of cases of apparent contagion of alopecia areata and contributes to the "Annales de dermatologie et de syphiligraphie" an elaborate article upon the question of the contagiousness of the disease. [It is a notable fact that all those observers, with one or two exceptions, who are quoted as reporting instances of the contagiousness of the disease are Frenchmen.] These cases tend to show that the disease sometimes attacks a great number of subjects living together in school or barracks; from the school or barrack the disease may be carried and set up other foci of contagion. The author believes that the disease is both contagious and parasitic, though he grants that the contagiousness is much less than that of trichophytosis, and that the parasite has not yet been found. He believes, further, that certain cases of alopecia areata are of nervous origin, and that in course of time we shall learn to distinguish cases of this sort from those of parasitic origin.

Mycosis Fungoides and its Relations to other Similar Forms of

Disease.—From a study of seven personal cases, Kaposi ("Wien. med. Woch.") is led to believe that there are at least three forms under which this disease may present itself. In the first form it develops from erythematous and eczematous patches. These are scaly, sharply defined, at first pale, afterward red, in size varying from that of a ten-cent piece to the palm of the hand, and located for the most part upon the trunk and upper extremities. This stage corresponds to the first stage of Bazin and Vidal. This stage may last many months or years, the patches spreading peripherally and sometimes clearing up in the center to form rings. Sometimes they become moist like eczema madidans. Itching may or may not be present. After a while infiltration takes place; the edge becomes raised, and the surface of the patch becomes uneven and covered with papules of lentil to bean size. This is the second stage, corresponding to the *période lichénoïde* of Bazin. Here and there, either on the surface of the patch or in part of the edge, little hillocks and bunches appear separated by furrows. These changes, once begun, take place rapidly. In places, instead of the development of raised places, a sinking-in takes place and a bluish-brown spot appears. New eczematous patches develop and undergo the same changes. Now the third stage begins, which is marked by the appearance of fungous tumors. These develop from the previous tubercles or spring up in previously normal skin. These may be as large as a lemon, bright or bluish red, smooth, often pedunculated, of soft, elastic consistence, and painless. They are most frequent on the trunk and upper extremities, then on the scalp and face. They have been seen on the pharynx and vaginal wall. They come and go within a few days. Finally, the stage of ulceration sets in, and the patient becomes cachectic and dies.

The second form of development begins with the appearance of flat, scarcely raised, finger-nail to silver-dollar sized, pale-red or yellowish-white, hard macules, without antecedent eczematous lesions, and itching. These are more common on the trunk at first. After some months there takes place a thickening of the corium similar to scleroderma, of blue-red color, increased luster, and markedly hard consistence. These have at times a central depression so that they appear ring-shaped. In course of time the lesions advance toward each other and form an irregular network. They may entirely disappear, leaving either no trace, or an atrophic spot. After months or years the stage of fungous tumors begins and the further course is the same as in the previously described form. At times these two forms occur together.

In the third form the fungous tumors develop upon the sound skin.

In no case do fever or other disturbances of the general health accompany the development of the tumors. Only in the ulcerative stage, or when a complication from the side of the lungs or otherwise arises, do constitutional symptoms show themselves. As an exception, marasmus and death may appear in the infiltration stage, or even in the eczematous stage.

Kaposi uses the term "mycosis fungoides" only on account of its general acceptance, but believes the disease to be a form of sarcoma cutis. He questions if the eczematous appearances met with in some of the cases may not be but predisposing moments for the development of sarcoma. The form of sarcoma assumed in this disease is mostly that of "*sarcoma glomédulæ*."

Leprosy.—Besnier holds ("Gaz. hebdom. de méd. et de chir.") that leprosy is a specific disease of the human race alone, and always depends upon a determined bacillus for its propagation, that it is both hereditary and inoculable, though the tendency to transmission by heredity is less pronounced than it has been thought to be.

Micro-organisms of the Normal Male Urethra and Normal Urine, together with those in the Urine of Acute Bright's Disease.—Lestgarten and Mannaberg have rendered an important service by examining the secretions and cells of the normal urethra, as well as the urine of healthy individuals and those with Bright's disease, in order to determine what micro-organisms may be present in them. ("Verh. d. f. Derm. u. Syph."). Their findings will serve to put other microscopists on their guard, and prevent them from regarding as pathological and of grave import the presence of certain bacilli and cocci normally present. The investigations seem to have been made under proper precautions, and to have been carried out with great care. The contents of the urethra of various individuals corresponded very closely with each other, and were the following. Large and small flat cells with

dark-colored nuclei from the fossa navicularis, and succulent round cells from the deeper parts, which often were distinguished with difficulty from leucocytes.

Besides these cells there were a great variety of bacteria partly lying free and partly in the cells. The following forms could be distinguished: 1. Very long, slender threads. 2. Bacilli of the size and form of smegma bacilli, most of them bearing spores. 3. Short, plump bacilli, one end of which were swelled into a knob, the other end tapering, with a clear space in the middle of the body of many of them. These occurred in pairs, either parallel to each other or at an acute angle, and often they formed colonies. 4. Sharply contoured delicate bacilli, of about the size of lepra bacilli, but also bowed or comma-like. 5. A very fine, completely round coccus, which most often lay packed in zooglea. 6. Diplococci composed of round members. 7. Diplococci whose members were more oval and already approaching the bacillus form. These lay with their small sides toward each other. 8. Diplococci whose members were flattened, and which lay with their broad sides close to each other; they were often very plump and large. 9. Diplococci with a small indentation on the sides of the members where they faced each other. These bore a strong resemblance to gonococci. 10. Streptococci formed of round members; their single members were often closely bound together two by two; their chains never had more than fifteen members. The cocci were more frequently met with than the bacilli. The latter were most frequent in individuals with an unclean preputial sac rich in smegma. The bacteria could be distinguished with certainty only in the bodies of the cells. The cells often contained only single bacteria, mostly at their periphery and parallel to it; or they contained little heaps of various bacteria, which concentrated at one pole; or they were completely filled with bacteria. The bacilli were relatively more frequent outside of the cells, while the streptococci were more often inside of the cells.

Of these forms the most important are those resembling if not identical with the smegma bacillus, and those in the form of gonococci. The smegma bacilli are not to be distinguished from the tubercle and syphilis bacilli either in form or reaction to staining fluids. Matterstock and others have noted this and cautioned observers to always cleanse the preputial sac carefully, so that the urine to be examined for the tubercle bacillus may not become contaminated with the smegma bacillus in its passage. But here we have the same bacillus from the deeper parts of the urethra. The diplococci of the form of gonococci could not be distinguished from the latter either by the microscope or their reaction to coloring agents. Cultivations upon agar-agar were made of the various bacteria. They succeeded in making pure cultivations of the more known cocci, the *Staphylococcus aureus* and the yellowish-white diplococcus of elytritis as described by Bumm. Of the bacilli only No. 3 was obtained in pure culture. Eight other forms of cocci were cultivated, full descriptions of which are given, and will be of interest to those engaged in bacteriological investigations.

The authors next turned their attention to the examination of normal urine. Up to the present time the opinion has been that there were no micro-organisms in the normal urine. To determine the question the urine of the healthy persons was examined, every precaution being exercised to avoid the entrance of accidental bacteria into the specimens to be examined. From the specimens fifteen cultivations were made on agar-agar, and the following bacteria were developed: The *Streptococcus giganteus urethrae*, seven times; the *Micrococcus subflavus*, once; the short club-shaped bacillus, four times; various urethral diplococci, twenty-two times. It seemed that the urine was not the proper element for these bacteria to live in, for, after the specimens had been kept for a time, they all disappeared. In the urine of several patients suffering with acute Bright's disease round streptococci were found. In one case they disappeared from time to time, to appear again with every exacerbation of the disease. They are regarded as holding an ætiological relation with acute Bright's disease, and also probably with chronic parenchymatous nephritis. In the urine of one of the patients a diplococcus was found which was nearly if not quite identical with the gonococcus, which on that account was named the *pseudogonococcus*.

Therapeutic Value of the more recent Additions to the Genito-urinary Pharmacopœia.—Fenwick has been experimenting with a

number of new remedies for genito-urinary diseases, and reports ("Lancet") upon them in this paper as follows:

Kola (*Sterculia acuminata*) contains 2.3 per cent. of caffeine, and also theobromine. In the form of chocolate, useful in tertiary syphilis where large doses of potassium iodide have to be given. Administered as a paste—kolatina—one to two drachms in a teacupful of water, or as stick kola-chocolate in same dose.

Salix niger (black willow).—A sexual sedative of decided value in ovarian hyperæsthesia, prostatorrhœa, spermatorrhœa, excessive seminal emissions, and enforced continence. Dose, half a drachm to a drachm.

Lycopodium clavatum.—Of value in frequent micturition, irritable bladder, and cystospasmus, where not dependent upon actual disease or foreign body. Also in spasmodic retention in children. Dose of the tincture, fifteen minims to a drachm.

Kava-Kava (*Piper methysticum*).—Of benefit in pyelitis, cystitis, and urethritis. Dose of the fluid extract, half a drachm to a drachm, on a full stomach.

Stigmata maidis (corn-silk).—Of great value in pyelitis and renal colic, and chronic and subacute cystitis. Dose of the fresh infusion, a wineglassful; of the extract, half a drachm to a drachm.

Papaw, Papayotin, Papaine (*Carica papaya*).—Of marked benefit in syphilitic ulcers of the tongue and throat, especially if mixed with cocaine. Mix with glycerin and water so as to form a paste, add a little bicarbonate of sodium, and brush the ulcers with the same thrice daily. Worthy of a trial as a preventive and reducer (?) of renal calculi. Dose, one to three grains, in pill or powder, with the meals.

Pine or Spruce Extract (*Abies excelsa*).—Of use as a liniment in gonorrhœal rheumatism. Of benefit in gleet. Dose, one drachm in water.

Chaulmoogra Oil (oleum gynecardiæ).—Of value as a liniment in gonorrhœal rheumatism and the osteocopic pains of syphilis, specially when mixed with lanolin. Of service in some forms of adenitis and in secondary syphilis. Dose, five to ten minims, on a full stomach.

Caraba (*Jacaranda tomentosa*).—Of some value in secondary and tertiary syphilis. Dose, a drachm.

Treatment of Elytritis and Gonorrhœa.—Vidal ("Jour de méd. et de chir.") uses gurjun balsam by preference as a topical application in elytritis, and does this by means of tampons soaked in a mixture of two parts of hot water and one part of the balsam. In gonorrhœa he gives the balsam by the mouth, and employs the following:

Gurjun balsam.....	4 parts.
Gum arabic.....	4 "
Simple syrup.....	12 "
Infusion of burdock.....	40 " M.

(Dose not given.)

Treatment of Gonorrhœa.—Ledetsch very warmly recommends ("Prager med. Woch.") quinine as a remedy for gonorrhœa, and uses the following formula:

Quinine bisulph.....	1 part:
Glycerin	25 parts;
Aq. dest.....	75 " M.

At the beginning, this is to be injected three times a day, then, after a time, twice a day, and later but once a day.

Hutchinson's Teeth produced by Scrofula.—Vaquez ("Ann. de derm. et de syph.") reports a case of Hutchinson's teeth in a young woman who gave no evidence of hereditary syphilis, but who had acquired the disease. There was a complete absence of syphilitic history in the young woman's family. Vaquez agrees with Fournier in viewing Hutchinson's teeth as due to a general disorder that interferes with the development of the body, resulting often, but not exclusively, from hereditary syphilis.

The Contagium of Syphilis.—Dr. Disse, of Tokio, has found in the blood of syphilitic individuals small cocci, surrounded by a capsule, which float free in the plasma, and respond to the coloring method of Gram ("Deutsche med. Woch."). Cultivations of these were made and diplococci produced. With the pure cultivations, rabbits, dogs, and sheep were inoculated, and pathological alterations were produced in the heart, liver, lungs, and kidneys. Further, the disease thus produced was passed on to the young of the females, whether the mothers were inoculated before or after impregnation. The alterations in the above-mentioned

organs were as follows: 1. Chronic inflammatory processes, mostly interstitial, in lungs and liver. 2. Formation of tumors, consisting of vascularized round-cell tissue, which were inclined to fatty degeneration, in lungs, liver, and kidneys. 3. Multiple disease of the arteries, which ended in fatty degeneration and rupture of the vessels, in heart, lungs, and kidneys. 4. Degeneration of the parenchyma of the heart and kidneys. The place of inoculation showed no change. The cocci were found in the blood of the diseased animals, in the walls of the vessels of the diseased organs or their neighborhood, in the urine, and in the pericardial serum. They were also found in the placenta. The author thinks that the disease produced in these animals was syphilis, but that it differed from the disease as seen in men by an absence of initial lesion and exanthem.

New Inventions, etc.

PRESENTATION OF INSTRUMENTS

AT THE NINTH MEETING OF THE AMERICAN LARYNGOLOGICAL ASSOCIATION.

Dr. E. CARROLL MORGAN, of Washington, D. C., exhibited a *Universal Scoop Powder-blower* suitable for office work or outdoor practice, which can be worked at pleasure by either rubber bulbs or the compressed-air office receiver.

The instrument is of hard rubber, has removable screw-tips for antero-nasal, post-nasal, pharyngeal, laryngeal, aural, vaginal, rectal, and other work. These various tips have threads, and can be screwed to the instrument, thus securing perfect safety. The scoop is secured to the handle by a bayonet fitting. The air-blast which propels the powder is under the control of a trigger-valve, the spring of which can be made of any desired resistance, from a hair trigger up.

A pair of rubber bulbs are to be attached to the bayonet fitting seen in the cut, at the end of the handle, and to the right of the trigger.

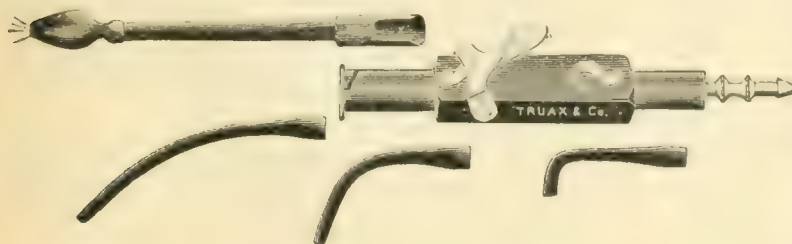
To work the instrument, select and screw on the required tip, and take up the desired amount of powder by the scoop, which is to be slipped into the handle.

Work the bulbs until they are sufficiently distended. The trigger-valve will prevent the escape of air until you have the instrument in position and are ready to discharge it by pressing the trigger.

By means of the shovel or scoop the exact quantity of powder which it is desirable to apply to a diseased part can be readily measured and as accurately insufflated.

It will be seen that in using this powder-blower no sucking up of mucus and caking of powder in the end of the tube, so common in other insufflators, can possibly occur.

Again, the instrument being really an air-gun charged with compressed air and loaded with a known quantity of medicine, by simply touching the trigger the powder is discharged. It is not necessary to make sudden pressure upon a bulb, which results often in throwing the end of the insufflator, and thus the powder, away from the diseased part, and, in case the bulb is allowed to expand prior to withdrawal, in the filling of the extremity of the insufflator with foul secretions.



When the instrument is to be worked by the office air-receiver the ordinary cut-off is simply attached to the metallic fitting provided on the handle, the cut-off being locked back and the air-blast controlled

by the trigger as when using the bulbs. The small hook on the handle beneath the trigger is to lock it also if desired.

This instrument has in a modified form the better qualities of several insufflators and some original points, which render it the most desirable powder-blower procurable. It is made by Charles Truax & Co., Chicago, and can be obtained with a straight handle as shown in the cut, or with the handle placed at an angle of 45° to the staff of the instrument.

Dr. Morgan next presented a *Vascular Hemostatic Clamp*, an improvement on the novel device (a shirt-sleeve clip) with which he succeeded in controlling the dangerous and protracted bleeding following a staphylectomy in March, 1885. The particulars of this, as well as of twenty-



three similar cases collected by Dr. Morgan, are published in the "New York Medical Journal," October 16 and 23, 1886, and in the "Transactions of the American Laryngological Association" for 1886. The accompanying cut explains the instrument, and it is only necessary to add that the clamps are made with springs of three strengths, that the small perforation seen where the arms join is for the attachment of a safety thread, and that the clamp may occasionally aid in performing posterior rhinoscopy.

The unfortunate accident demanding the employment of this instrument may not occur in a life-time, and, though efficient, it is not destined to have a wide field of usefulness.

AN ASEPTIC UNIVERSAL NEEDLE FORCEPS.

BY GEORGE R. FOWLER, M. D.,
BROOKLYN.

EVER since the introduction of the excellent form of flat needle known as the Hagedorn, surgeons have regretted the apparent necessity for a needle-holder of considerable complexity of mechanism, in order to grasp this form of needle firmly. The device of Hagedorn for accomplishing this purpose is open to the very serious objection of having a number of "stow-away" places for dirt, and consequently



infectious material. It requires the services of a mechanic, when it is cleaned, in order to take it apart and put it together again properly. F. Haslam & Co. have made, at my suggestion, a needle forceps which combines three very desirable qualities. In the first place, it is thoroughly aseptic, being composed of but two parts, which unlock and come apart by means of what is known as the "French lock." Secondly, its jaws are of hard steel, instead of being faced with soft copper, as is the case in the Hagedorn forceps, and consequently are more durable; and, lastly, it is so arranged as to grasp firmly a needle of any shape, whether flat, round, or three-cornered. The above cut represents the needle holder grasping a Hagedorn needle, which can be placed at any angle between its jaws. A shallow groove upon the face of one of its jaws enables it to hold with equal security a round or a three-cornered needle. The advantages of possessing a needle-holder capable of grasping any sort of needle will be apparent to every surgeon.

Miscellany.

The American Rhinological Association.—At the fifth annual meeting of this association, officers were elected as follows: Dr. C. H. von Klein, of Dayton, O., president; Dr. R. S. Knode, of Fort Wayne, Ind., and Dr. A. G. Hobbs, of Atlanta, Ga., vice-presidents; Dr. John North, of Keokuk, Ia., secretary and treasurer; and Dr. N. R. Gordon, of Springfield, Ill., librarian. It is announced that the next meeting will be held in Cincinnati, in September, 1888.

The "Brooklyn Medical Journal."—It is announced that a monthly journal with this title is to make its appearance next month. Its publication is authorized by the Medical Society of the County of Kings, and it is to be edited by a committee consisting of Dr. Joseph H. Raymond, Dr. Alexander Hutchins, Dr. Joseph H. Hunt, Dr. Glentworth R. Butler, and Dr. Fred D. Bailey. It will contain the society's proceedings and those of several other Brooklyn societies, together with matter of various kinds suitable to a journal of general medicine.

Railway Surgery in Boston.—The Boston "Traveller" states that Dr. George W. Galvin has opened an accident room in the United States Hotel, under the auspices of the New York and New England, the Old Colony, and the Boston and Albany railways, for the purpose of rendering speedy treatment in cases of emergency among the passengers and employees. The "Traveller" says: "The office is not only very cozy, but exceedingly tasteful in all its appointments. It has a fine surgical case with all necessary instruments. An ambulance is ready at a moment's notice, also a telephone, No. 1210. A special ambulance is being built, so that nothing will be wanting when an accident occurs. The advantages of this room can not be overestimated, and minor operations are daily performed. Many cases of fractured limbs are treated. Since the public has been notified of the existence of this place it has availed itself of the privileges, and some days as many as a dozen patients receive treatment. The patients requiring home treatment are visited at the expense of the road. Other accidental cases are brought from steamboats, wharves, and large business stores for surgical aid. Dr. Turnbull, connected with the Boston Dispensary, assists Dr. Galvin in the work. And in this way nothing is left undone to give speedy assistance to the sufferer."

Lessons from Specialists.—In an editorial article with this title, the "British Medical Journal" says:

"Specialism, no doubt, is open to great evils, and medical education should never be specialized. The man, however, who works at a specialty is often in a position to work to the point alone, the only sound way of proceeding on a new track. Teaching pupils is of great advantage to the general surgeon. Lecturing on a subject which will be thrown aside as soon as the lecturer can afford to forego the emoluments of the chair, and to vacate it in accordance with some hospital rule, may not be an unmixed evil, yet it is probable that many specialists have been doing all the better for working at their subject alone, free from the honorable burden of instructing youths who often take little interest in their labors; and most assuredly the same specialists have enjoyed the advantage of freedom from uncongenial drudgery at lectures on matters of secondary importance to them. We are convinced that many a young surgeon has been prevented, through the heavy burden of tutorial duties, from devotion to original research.

"That everything good does not come directly out of a medical school the introduction of anaesthetics amply testifies. Dr. Ephraim McDowell, whose biography Dr. Alexander Simpson has sketched in his recent lecture published in these pages, performed a once desperate operation in a backwood town. Here, however, let us be fair to the schools, for the father of ovariectomy had been well taught, and had also taught himself well at Edinburgh, as Dr. Simpson explained in his introductory lecture. McDowell's early exploits sound like the legends attributed to Eastern sages. In his youth Buddha won races and studied learned books. In his youth McDowell beat a champion foot-racer, and conned books of travel and treatises on chemistry. He left college,

sought no lecture chair, but took to practice, and gained a reputation as an operator. Most interesting is it for us to note that he was thirty-eight years old when he performed his first ovariectomy. He was then mature, and had ripened on surgery; he had worked, in fact, to the point for years. Turning to Hodge, we find that he practiced for fifteen years before taking an appointment as lecturer; but the professorship which he held for forty years was entirely congenial to his tastes; it implied the teaching of the subject which he loved, and by which he made his bread.

"The invention of the lever-pessary was no small matter; it was the result of years of patient observation matured by a happy thought. Pessaries have been modified almost to infinity; but this fact shows how actively the study of displacements has been pursued, a fact equally demonstrated by the violent attacks against pessaries made by men of high authority. If pessaries are to be abolished, it is only by proof of their uselessness compared with other methods of treatment, and this proof must be based on further study. Some very particular persons seem to despise pessaries because they are distinguished by inventors' names; but this evil has arisen far more through the love of convenience of nomenclature than through personal vanity. The pupil and the instrument-maker, not the gynecologist, is generally to blame.

"The early struggles of Marion Sims deserve to be remembered. No man ever did so much original work untrammelled by academic duties, yet he made a bad start in life through defective academic instruction. 'Our indiscretions often serve us well when our best plots do pall,' as Hamlet said; and the failure of Dr. Marion Sims to cure babies with infantile diarrhoea made him throw his door-plate down a well in disgust; then he went to a medical school again for a year; thence he fled once more to the wilderness, and practiced in a little town in Alabama. His learning did him yeoman's service. He had learned to observe. In a very short time he had reformed plastic surgery, and discovered the singular phenomena associated with the genupectoral posture.

"Such an example should not be forgotten by those who have the advantage of education at some venerable British university, and of membership of a staff of a great hospital, with its infinite resources. Let them not find out faults in Marion Sims; no, let them excel him in his merits—if they can."

The Health of Boston.—During the week ending Saturday, December 17th, the following numbers of cases and deaths from infectious diseases were reported to the Board of Health: Diphtheria, 28 cases and 9 deaths; scarlet fever, 65 cases and 5 deaths; typhoid fever, 21 cases and 3 deaths; measles, 8 cases. There were also 39 deaths from consumption, 18 from pneumonia, 1 from whooping-cough, 9 from heart disease, 8 from bronchitis, and 2 from marasmus. The total number of deaths was 208, against 202 for the corresponding week last year.

Government Health Reports.—By direction of the Secretary of the Treasury, Dr. John B. Hamilton, Surgeon-General of the Marine-Hospital Service, has issued the following abstract of sanitary reports received during the week ending December 16th:

(Published in accordance with Section 4, act approved April 29, 1878.)

England and Wales.—The deaths registered in twenty-eight great towns of England and Wales during the week ending November 26th corresponded to an annual rate of 23.5 in a thousand of the aggregate population, which is estimated at 9,244,099. The lowest rate was recorded in Leicester, viz., 13.8, and the highest in Blackburn, viz., 34.4 in a thousand. Small-pox caused 16 deaths in Sheffield and 1 in London.

London.—One thousand eight hundred and sixty-one deaths were registered during the week ending November 26th, including 1 from small-pox, 27 from measles, 53 from scarlet fever, 31 from diphtheria, 75 from whooping-cough, 18 from enteric fever, and 18 from diarrhoea and dysentery. There were 560 deaths from diseases of the respiratory organs. Different forms of violence caused 56 deaths, and 5 suicides were registered. The deaths from all causes corresponded to an annual rate of 23 in a thousand. In greater London 2,325 deaths were registered, corresponding to an annual rate of 22.4 in a

thousand of the population. In the "outer ring" 7 deaths from diphtheria, 20 from measles, 11 from scarlet fever, and 13 from whooping-cough were registered.

Ireland.—The average annual death rate represented by the deaths registered during the week ending November 26th in the sixteen principal town districts of Ireland was 28.3 in a thousand of the population. The lowest rate was recorded in Lisburn, viz., 0, and the highest in Drogheda, viz., 33.8 in a thousand.

Dublin.—Two hundred and twenty-nine deaths were registered during the week ending November 26th, including 8 from measles, 6 from whooping-cough, 1 from typhus, 11 from scarlet fever, 3 from diphtheria, 1 from enteric fever, and 2 from dysentery. Diseases of the respiratory organs caused 54 deaths. Four accidental deaths and 1 suicide were registered, and in 45 instances the causes of death were uncertified. The deaths from all causes corresponded to an annual rate of 33.8 in a thousand.

Scotland.—The deaths registered in eight principal towns during the week ending November 26th corresponded to an annual rate of 23.5 in a thousand of the population, which is estimated at 1,299,000. The lowest mortality was recorded in Dundee, viz., 18.8, and the highest in Paisley, viz., 35.8 in a thousand. The aggregate number of deaths registered from all causes was 588, including 13 from measles, 11 from scarlet fever, 4 from diphtheria, 30 from whooping-cough, 12 from fever, and 8 from diarrhoea.

Germany.—The deaths registered in fifty-three cities of Germany, having an aggregate population of 6,831,222, during the week ending November 19th corresponded to an annual rate of 19.8 in a thousand. The lowest rate was recorded in Erfurt and Mainz, viz., 13, and the highest in Hamburg, viz., 29.6.

During the week ending November 12th the deaths registered corresponded to an annual rate of 19.5. The lowest rate was recorded in Mainz, viz., 11.5, and the highest in Münster, viz., 34.5.

Buenos Ayres.—One thousand and ninety-four deaths were registered during the month of September, including 92 from small-pox, 16 from enteric fever, 2 from scarlet fever, and 33 from diphtheria.

Gibraltar.—The secretary of the board of health reports, under date of November 21, 1887, as follows: "With reference to the board of health order of the 15th instant, it has been decided to remove the quarantine restrictions at this port on arrivals from Malta with clean bills of health and health on board."

Havana.—Seven deaths from yellow fever and 67 from small-pox are reported for the week ending December 3d.

MORTALITY TABLE, FOREIGN CITIES.

CITIES.	Week ending—	Estimated population.	Total deaths from all causes.	DEATHS FROM—							
				Ch. den.	Yellow fever.	Small-pox.	Typhus fever.	Enteric fever.	Scarlet fever.	Diphtheria.	
Paris	Novemb'r 26.	2,260,045	...	...	...	7	...	32	3	32	
Glasgow	Novemb'r 26.	545,678	246	...	...	...	...	...	...	...
Warsaw	Novemb'r 19.	439,171	238	...	...	23	...	...	10	13	
Amsterdam	Novemb'r 26.	378,686	164	...	...	...	...	...	...	3	
Copenhagen	Novemb'r 22.	200,000	133	...	...	...	...	1	6	3	
Munich	Novemb'r 12.	269,000	111	...	...	...	...	...	...	6	
Edinburgh	Novemb'r 23.	258,629	118	...	...	...	...	1	1	...	
Palermo	Novemb'r 27.	250,000	...	...	...	...	...	...	...	6	
Belfast	Novemb'r 26.	221,122	125	...	...	...	...	3	2	1	
Genoa	Novemb'r 26.	179,537	85	...	...	10	1	...	...	...
Leipsic	Novemb'r 26.	170,000	59	...	...	...	...	...	2	3	
Trieste	Novemb'r 12.	150,157	90	...	...	20	...	...	3	3	
Trieste	Novemb'r 19.	150,157	73	...	...	7	...	2	3	...	
Toronto	December 3.	120,000	31	...	...	...	...	...	...	1	
Toronto	December 10.	130,000	24	...	...	...	...	...	...	2	
Stuttgart	Novemb'r 26.	125,510	43	...	...	...	...	...	...	1	
Bremen	Novemb'r 24.	119,000	38	...	...	...	...	...	1	...	
Havre	Novemb'r 26.	112,074	71	...	...	...	...	7	...	1	
Barmen	Novemb'r 26.	108,000	29	...	...	...	...	...	...	2	
Leith	Novemb'r 26.	72,297	28	...	...	...	...	...	1	1	
Cienfuegos	Novemb'r 28.	35,461	22	...	...	3	11	...	...	...
Callao	Novemb'r 12.	34,000	...	...	...	...	...	...	...	1	
Guayaquil	Novemb'r 17.	30,000	46	...	...	15	...	...	...	...

UNITED STATES.

Delaware Breakwater Quarantine Station.—The acting assistant surgeon in charge reports that the American brigantine Rocky Glen, from Guadaloupe, via Turk's Island, loaded with salt, and bound to Boston, towed into the Delaware Breakwater on the 8th instant, and

it was reported that four of the crew were sick with yellow fever, and that one man had died during the passage. He immediately visited and inspected the vessel, and found that the men were suffering from malarial fever, not yellow fever.

Tampa, Fla.—Yellow Fever.—The quarantine inspector reports the hospital closed, but that there are still a few cases of the disease in Tampa.

The Rush Medical College, of Chicago.—The faculty and trustees announce that Dr. Charles T. Parkes has been chosen to succeed the late Dr. Moses Gunn in the professorship of surgery; also that Dr. Arthur D. Bevan, of the Medical Department of Willamette University, Portland, Oregon, has been elected to the professorship of anatomy.

THERAPEUTICAL NOTES.

Iodoform in the Treatment of the Obstinate Vomiting of Pregnancy.—Dr. John B. Stone, an acting assistant surgeon in the army, writes to us from Fort Maguinnis, Montana, as follows: "I have had several cases where iodoform, suspended in glycerin, applied on cotton against the os uteri, has controlled obstinate vomiting in pregnancy. The treatment is to be continued daily for a week or so, and then stopped, and in some cases there will be no further vomiting for many days. The treatment might, of course, often be objected to by patients."

A Snuffing-powder for Coryza.—M. Pierre Vigier ("Gaz. hebdom. de méd. et de chir.") considers a powder composed of equal parts of powdered starch, boric acid, and tincture of benzoin to possess certain advantages, especially that of not being too light. The mixture should be triturated for a moment, then dried with a gentle heat, and put into a box, without pushing the powdering process too far. The rapidity of the effect is proportionate to the amount of the powder used and the frequency with which it is employed.

Sodium Sulphobenzoate as an Application to Wounds is highly recommended by M. Heckel, of Marseilles (*ibid.*), who has employed it in the Hôpital St.-Mandrier, at Toulon. Stress is laid upon the fact that it is free from the occasional unpleasant effects of many other antiseptics used for the same purpose.

The Turpentine Treatment of Consumption.—At a recent meeting of the Paris *Société de thérapeutique* (*ibid.*), M. Brémont, after referring to his previous teachings concerning the benefit to the general nutrition resulting from ozonification of the air of patients' rooms by means of oil of turpentine, reported that he had lately tried the plan with phthisical patients. All of them had gained flesh in proportion to the duration of the treatment, and their general and local condition had improved, as shown especially by a very notable diminution of the number of bacilli in the sputa. In certain arthritic patients also very favorable results had been observed.

Antiseptic Rules for Monthly Nurses.—In a paper introducing a discussion on the prevention of puerperal fever, at the Section in Obstetric Medicine of the British Medical Association ("Brit. Med. Jour."), Dr. W. S. Playfair laid down the following "antiseptic rules for monthly nurses": 1. Two bottles are supplied to each patient; one contains a solution of chloride of mercury, of the strength of one part to one thousand of water, tinted with litmus (called the 1 in 1,000 solution), the other carbolic oil (1 in 8). 2. A small basin containing the 1 in 1,000 solution must always stand by the bedside of the patient, and the nurse must thoroughly rinse her hands in it every time she touches the patient in the neighborhood of the genital organs, for washing or any other purpose whatsoever, before or during labor, or for a week after delivery. 3. All sponges, vaginal and rectal pipes, catheters, etc., must be dipped in the 1 in 1,000 solution before being used. The surfaces of slippers, bed-pans, etc., should also be sponged with it. 4. Vaginal pipes, enema tubes, catheters, etc., should be smeared with the carbolic oil before use. 5. Unless express directions are given to the contrary, the vagina should be syringed twice daily after delivery with warm water, with a sufficient quantity of Condy's fluid dropped into it to give it a pale pink color. 6. All soiled linen, diapers, etc., should be immediately removed from the bedroom.

Tanacetic Rabies.—The "British Medical Journal's" Paris corre-

spondent says: "A note upon the 'Biological Effects of the Essence of Tanacetum, and Tanacetic or Pseudo-rabies,' by M. M. H. Peyraud, was lately read at the *Académie de médecine*. In the course of his biological researches on a series of isomeric essences the author noticed an essence which has not yet been classed exhaling an odor resembling that of absinthe. This essence, from which Bruylants obtained tanacetic camphor, was extracted from the *Tanacetum vulgare*, and has an atomic constitution similar to that of essence of absinthe and Japanese camphor, $C_{20}H_{16}O_2$. Putzeys, of Liège, was the first to study the biological effects of tanacetic camphor. M. Peyraud gave venous injections of two drops of essence of tanacetum to rabbits, with the following results: In twenty minutes the animal was seized with violent convulsions; it bounded backward and forward, and fell down, generally on its left side; its teeth chattered; it bit its tongue; it foamed at the mouth, the foam being occasionally tinged with blood; the mucous membranes were discolored; the faces and the urine escaped; the respiration was spasmodic and hurried (115 inspirations a minute). The convulsions ceased, and recommenced with redoubled violence. The animal started at any sound close to its ear; it bit the ground and its own paws; when placed on the opposite side to that on which it had fallen, it recovered its previous position by the aid of its teeth. This tanacetic convulsion lasted an hour or more, according to the quantity of essence injected. If the dose was more than four drops, the animal died of asphyxia. The convulsions were succeeded by coma of two or three hours' duration; the animal then recovered its normal condition. During the convulsions it continually uttered a hoarse cry, like that heard in the epileptic convulsions caused by essence of absinthe and Japanese camphor. The attack produced by tanacetum differs from those produced by these substances in the following respects: there is no loss of consciousness; there is only one attack which is followed by a long period of coma; the sensorial functions are excited rather than suspended. The glycogenic function of the liver is not arrested; the liver examined immediately after death was found to contain a remarkable proportion of glucose. Bromide of potassium does not prevent the attacks. Like essence of absinthe, essence of tanacetum raises the temperature. The rectal temperature of M. Peyraud's rabbits was 39.9° C. (103° F.) before the operation, and 40.2° C. (104.2° F.) after it. The injections give rise to congestive patches on the lung, with a tendency to inflammation of the pleura, and blood infarcts in the liver. The trachea and the bronchial tubes were found to contain frothy, blood-stained mucus. M. Peyraud concludes that the character of tanacetic convulsions approaches that of the convulsions caused by rabies. The following phenomena are observed in both cases: hallucinations, convulsions without loss of consciousness, opisthotonos, spasms in the muscles of the pharynx, larynx, and throughout the thorax; abundant salivation, sensorial excitability, a desire to bite, a hoarse characteristic cry, frothy sanguinolent mucosities in the trachea and bronchial tubes, subpleural hæmorrhage, blood infarcts in the liver."

The Time for the Administration of Acids, Alkalies, etc.—A correspondent of the "British Medical Journal" says: "My teacher, Sir Robert Christison, as far as I can remember, taught us the following rules: Alkalies should be given before food. Iodine and the iodides should be given on an empty stomach, when they rapidly diffuse into the blood. If given during digestion, the acids and starch alter and weaken their action. Acids, as a rule, should be given between the digestive acts, because the mucous membrane of the stomach is in a favorable condition for the diffusion of the acid into the blood. Acids may be given before food when prescribed to check the excessive formation of the acids of the gastric juice. By giving it before meals you check the osmosis stomach-ward of the acid-forming materials. Irritating and dangerous drugs should be given directly after food, such as the salts of arsenic, copper, zinc, and iron, except where local conditions require their administration in small doses before food. Oxide and nitrate of silver should be given after the process of digestion has ended; if given during food, chemical reactions destroy or impair their special attributes, and defeat the object for which they were prescribed. Metallic salts, especially corrosive sublimate, also tannin and pure alcohol, impair the digestive power of the active principle of the gastric juice, so should appear in the stomach during its period of inactivity. Malt extracts, cod-liver oil, phosphates, etc., should be given with or

directly after food, so that they enter the blood with the products of digestion."

Lemon-juice in the Treatment of Epistaxis.—M. Geneuil, of Mont-guyon, writes to the editor of the "Bulletin général de thérapeutique" that he has met with great success in the treatment of epistaxis, even when all other hæmostatics had failed, by injecting lemon-juice into the nasal passages. He uses a glass urethral syringe, with which he first clears away clots by injecting cold water, and then throws in briskly a syringe-ful of freshly expressed lemon-juice. If the bleeding does not cease, the injection is repeated in a minute or two, but ordinarily one is enough.

ANSWERS TO CORRESPONDENTS.

No. 111.—An institution bearing that title was chartered in 1856, and became extinct in 1866.

No. 112.—The preparations are to be had of Messrs. E. Fougere & Co., 30 North William Street, New York.

No. 113.—A very good way to take a pill is to place it behind the lower incisor teeth, and then swallow a large mouthful of water.

No. 114.—The anomalous muscle you describe was probably the rectus sternalis.

To Contributors and Correspondents.—*The attention of all who purpose favoring us with communications is respectfully called to the following:*

Authors of articles intended for publication under the head of "original contributions" are respectfully informed that, in accepting such articles, we always do so with the understanding that the following conditions are to be observed: (1) when a manuscript is sent to this journal, a similar manuscript or any abstract thereof must not be or have been sent to any other periodical, unless we are specially notified of the fact at the time the article is sent to us; (2) accepted articles are subject to the customary rules of editorial revision, and will be published as promptly as our other engagements will admit of—we can not engage to publish an article in any specified issue; (3) any conditions which an author wishes complied with must be distinctly stated in a communication accompanying the manuscript, and no new conditions can be considered after the manuscript has been put into the type-setters' hands. We are often constrained to decline articles which, although they may be creditable to their authors, are not suitable for publication in this journal, either because they are too long, or are loaded with tabular matter or prolix histories of cases, or deal with subjects of little interest to the medical profession at large. We can not enter into any correspondence concerning our reasons for declining an article.

All letters, whether intended for publication or not, must contain the writer's name and address, not necessarily for publication. No attention will be paid to anonymous communications. Hereafter, correspondents asking for information that we are capable of giving, and that can properly be given in this journal, will be answered by number, a private communication being previously sent to each correspondent informing him under what number the answer to his note is to be looked for. All communications not intended for publication under the author's name are treated as strictly confidential. We can not give advice to laymen as to particular cases or recommend individual practitioners.

Secretaries of medical societies will confer a favor by keeping us informed of the dates of their societies' regular meetings. Brief notifications of matters that are expected to come up at particular meetings will be inserted when they are received in time.

Newspapers and other publications containing matter which the person sending them desires to bring to our notice should be marked. Members of the profession who send us information of matters of interest to our readers will be considered as doing them and us a favor, and, if the space at our command admits of it, we shall take pleasure in inserting the substance of such communications.

All communications intended for the editor should be addressed to him in care of the publishers.

All communications relating to the business of the journal should be addressed to the publishers.

Original Communications.

THE TREATMENT OF ABSCESES.*

By G. DE N. HOUGH, M.D.,
NEW BEDFORD, MASS.

ACUTE suppuration is always due to the entrance of micro-organisms into the tissues. This assertion is based upon the following facts:

1. In at least 98 per cent. of all abscesses examined microbes have been found, and as experience in bacteriological work increases the number of cases in which they are not found diminishes.
2. Inoculation of the tissues with pure cultivations of the organisms found in suppurative processes produces suppuration.
3. The injection into the tissues of chemical irritants freed entirely from micro-organisms never produces suppuration.

Cold abscesses are of tubercular origin, as is proved:

1. By their always containing tubercle bacilli or their spores.
2. By the fact that inoculations with tubercle bacilli produce cold abscess.

Whether the abscesses of actinomycosis are due to the actinomyces or to the ordinary organisms of suppuration is at present unsettled. Abscesses are made ichorous by the bacilli of putrefaction, which alone can not produce suppuration. How the organisms produce suppuration we do not yet know; certainly not by any mechanical effect; and Brieger has lately shown that the commonest of the pus cocci develop no ptomaine in their cultivation media, the *Staphylococcus pyogenes aureus* producing only ammonia, the *Streptococcus pyogenes*, trimethylamine, neither of which substances can produce suppuration.

It is a very recent advance in surgery to base the treatment of abscesses upon exact knowledge of their etiology, and such treatment, by no means as yet adopted by the general practitioner, has hardly come into general use among surgeons. The object of our procedure is to convert the suppurating focus into an aseptic wound which shall heal by first intention. Disinfect the skin over the part to be operated upon and for some distance round by thorough scrubbing with soft soap, hot water, and a nail-brush for from five to ten minutes, shaving clean, and then scrubbing with chlorine-water (aque chlori, aque destillat., partes æquales) or carbolic acid (5-per-cent. solution). The chlorine-water is preferable, but too expensive (\$4 a gallon). My own hands and forearms and those of my assistant are scrubbed in the same way. Instruments are cleaned, disinfected by heat or strong antiseptic solution, and immersed in hydro-naphthol solution (1 to 1,200), hot. The parts to be operated upon are surrounded by towels wet in 1-to-1,000 hot sublimate solution. A free incision is now made into the abscess, not at the place of pointing, but through sound in-

tegument, and its walls are thoroughly scraped with a sharp spoon till healthy tissue seems to be reached, irrigating freely meanwhile with as strong a sublimate solution as is thought safe, usually 1 to 1,000. If trabeculae cross the abscess (very common in the female breast), break them down and make a single smooth-walled cavity.

In glandular abscesses, such as those associated with tubercular glands of the neck or axilla or with buboes, it is best to treat the diseased mass as a tumor and, if possible, extirpate it without opening the abscess; but if the skin over the glands is involved I take care to make the incision through healthy integument at one side of the mass of glands, advance behind it and work to the surface on the opposite side, opening the abscess itself as late as possible and taking every precaution to prevent the pus from coming in contact with healthy tissues.

Having thoroughly removed all suspicious tissues and, by scraping and irrigation, obtained an aseptic wound, the introduction of sutures and drains follows. I take great pains to apply sutures so as to obliterate the entire cavity, and, if this is possible, prefer to use horsehair drains. Finally, a firmly compressing dressing of sublimated absorbent gauze (prepared by soaking in a 1-to-500 sublimate solution containing 10 per cent. of glycerin) and Am Ende's sublimated paper wool is applied. Within twenty-four hours the temperature usually rises to 100° or 100.5°, but in twenty-four hours more it falls to normal, and there remains unless elevated by some cause unassociated with the operation.

Twenty-four to seventy-two hours after the operation, according to the size of the abscess, I change the dressing and remove the drains. The second dressing remains on for a week as a rule. It is rare for more than three to be required.

This paper was originally intended to be read at a meeting of the South Bristol District of the Massachusetts Medical Society in November, 1886. Owing to my having typhoid fever, this was not done. The brief histories which I shall give are those of cases treated prior to that time. It is hardly necessary to state that during the year which has since elapsed I have had many more cases, and I can assure you that the results have been fully as satisfactory as formerly. I make this statement that you may not suppose that I report only selected cases, particularly successful. Further, I shall only include cases treated in private practice, mostly in tenement houses, because the objection has been made that it is impossible to carry out the antiseptic details save in a hospital. Judge for yourselves how true this is!

First, let me present the most favorable class of cases, viz., those where the skin was not affected and obliteration of the cavity was possible.

CLASS I.—1. Neck. Capacity, eight ounces. Situated along the posterior border of the sterno-mastoid, extending downward from the mastoid process for three inches and forward under the sterno-mastoid along the great vessels two inches. Acute. Operation, March 29th. Healed in fifteen days; three dressings.

2. Neck. Capacity, three ounces. In front of the mid-

* Read before the Society of the Alumni of Bellevue Hospital, November 2, 1887.

dle of the sterno-mastoid. Acute. Operation, May 17th. Healed in seven days; two dressings.

3. Neck. Capacity, two ounces. About midway between the acromion and the mastoid and an inch and a half behind the anterior border of the trapezius. Acute. Operation, June 10th. Healed in seven days; two dressings.

4. Suppuration in the olecranon bursa. Capacity, an ounce and a half. Acute. Operation, September 6th. Healed in fourteen days; three dressings.

5. Suppuration in the prepatellar bursa. Ichorous. Capacity, nine ounces. Operation, August 10th. Healed in seven days; two dressings.

6. Suppurating hæmatoma at the inner side of the knee. Capacity, three ounces. Operation, January 14th. Healed in eight days; two dressings.

7. Suppurating hæmatoma under the glutæus maximus. Capacity, a pint. Operation, September 3d. Healed in sixteen days; three dressings.

8. Enlarged glands in the neck for two years. Abscess began four weeks before operation. Side of the neck in front of the sterno-mastoid. Capacity, six ounces. Operation, November 6th. Healed in eight days; two dressings.

9. Neck. Glands enlarged six months. Abscess forming for six weeks. Mass of the size of a goose's egg. Operation, November 15th. Healed in eleven days; three dressings.

10. Neck. Glands enlarged for years. Abscess first noticed about six weeks before. Mass of the size of a small orange. Operation, January 23d. Healed in nine days; three dressings.

11. Neck. Abscess had been growing at least a month. Capacity, an ounce. Operation, May 5th. Healed in ten days; three dressings.

12. Neck. Submaxillary region. Capacity, two ounces and a half. Had existed three months. Operation, September 9th. Healed in seven days; two dressings.

I have had twenty-one more cases which belong here, in which equally good results have been obtained.

CLASS II.—You will remember that in describing the operation I stated that I made the incision not at the place where the abscess was pointing, but as far from that place as possible. This is to insure primary union of the incision. Of course, the affected integument is thoroughly scraped and, if there is no hope of saving it, excised. The importance of this point was impressed upon me by the following case:

34. Inguinal bubo from chancroid, of the size of an orange. Just about to rupture spontaneously. Incision at the place of pointing. Operation, December 18th. At the second dressing I found that a piece of skin three inches by an inch had sloughed, the entire wound was gaping widely, and the whole cavity had to heal by granulation, which required fifty-three days.

Now compare with this the following, precisely similar:

35. Inguinal bubo, chaneroidal, of the size of an orange—pointing. Here I made the incision properly, and (as in all cases ought to be done), fearing a skin slough, sewed the flap down to the subjacent tissues in such a manner that, should the slough take place, there would be only a superficial granulating surface, not a deep cavity. The sloughing took place as largely as in

Case 34, but the whole was soundly healed in thirty-three days.

In twelve other cases I have observed more or less sloughing of the skin.

36. Neck. Capacity, twenty drachms. Acute. Slough of the size of a quarter. Operation, January 15th. Healed in sixteen days.

37. Axilla. Mass of the size of a hen's egg. Chronic slough as large as a nickel. Operation, May 12th. Healed in seventeen days.

Cases 38 to 47, inclusive, show similar results.

CLASS III.—In certain cases the cavity can not be obliterated. This is especially apt to be the case when there is extensive induration of the surrounding tissues and in the female breast. Here we may obtain primary union of the skin, but the cavity must granulate; hence a drainage-tube must be used for a long time and healing is slow.

48. Acute inflammation of a sebaceous cyst of the face. Size, that of an English walnut. Surrounding tissues indurated. Operation, October 16th. Healed in twenty-four days.

49. Breast. Intraglandular. Capacity, an ounce. Operation, October 23d. Healed in twenty days.

50. Breast. Subglandular. Capacity, twelve ounces. Operation, June 12th. Healed in sixty-five days.

51. Breast. Intraglandular. Capacity, six ounces. Same patient as Case 50, the other breast. Operation, June 12th. Healed in seventy-nine days.

52. Breast. Both intraglandular and subglandular. Capacity, a pint. Operation, October 4th. Healed in forty-two days.

53. Glandular of the neck. Lanced a year before and had been running ever since. A chain of enlarged glands occupied the submental, submaxillary, and parotid regions. Incision from the median line to the mastoid process; submaxillary gland involved. The cavity was obliterated save at the site of the submaxillary gland, where a place remained about as large as a hen's egg. The remainder united by first intention, but this cavity only after forty-three days.

I have had four more cases of this class.

CLASS IV.—Cellulitis of the leg, hand, or forearm. The method in its entirety I have not yet dared to apply here (although in the last thirteen of my sixteen cases I have been able to eradicate suppuration by one operation), *i. e.*, I do not close the wounds and try to get primary union, but leave them open to heal by granulation.

I have known of two cases where closure of the wounds was attempted. In both the inflammation recurred with greater severity than at first, and one patient lost his arm.

My procedure is the same as in ordinary abscesses, with this addition: After removing all necrotic tissue and gaining free access to all parts of the inflamed area, I wash it out very thoroughly with a solution of zinc chloride (1 in 16), and then, by irrigating with a weak sublimate solution, remove the excess of zinc chloride. In all the cases so treated no further pus formation has occurred. I believe that the zinc salt penetrates the tissues for some little distance, say a quarter of an inch, is converted into zinc albuminate, which is an antiseptic, and destroys the micro-organisms not reached in the usual way. Moreover, the zinc solution almost entirely checks the oozing, which is apt

to be quite free. The wounds are packed with antiseptic gauze and a firmly compressing bandage is applied. After one or two days the dressing is changed and compression no longer employed. As soon as granulation begins I resort to strapping and do my utmost to hasten healing.

CLASS V.—Abscesses in the immediate vicinity of the rectum or vagina—ischio-rectal abscesses and suppurating glands of Bartholin. In a few cases of the latter sort I have obtained primary union, but, as a rule, suppuration can not be eradicated at one operation in these localities.

CLASS VI.—Empyema thoracis. For obvious reasons the operative procedure above described is not applicable here in ordinary cases, but when, after the utmost possible expansion of the lung and retraction of the chest-wall, a suppurating cavity still persists and Estlander's operation is required, this method can give primary union. One such case I have treated. There was no suppuration after the operation, but, as I did not remove enough bone to allow of close contact of the soft parts and obliteration of the cavity, healing of the cavity was slow.

CLASS VII.—Abscesses connected with chronic bone or joint disease. If at one sitting the abscesses can be treated and the causal disease removed, we can be as sure of success as in any other cases; but often, owing to the extent of the abscesses, more than one operation is necessary; or perhaps the diseased bone can not be removed, as in caries of the vertebræ or of the anterior surface of the sacrum. The former condition is probably most frequent about the hip. Here we should first provide for perfect drainage of the diseased focus and then treat those abscesses most remote from the focus, and gradually, from time to time, as the condition of the patient permits, work nearer and nearer to it until finally the original disease is itself removed. At each operation the suppurating area is diminished, and finally the patient is cured.

I have nothing new to offer in regard to the treatment of abscesses associated with diseased vertebræ, but would like to suggest that those connected with disease of the anterior surface of the sacrum should be treated as in the following case, a method which, so far as I can ascertain, has never before been attempted.

Annie H., aged six, German, was run over by a beer-wagon and sustained a lacerated wound of the face, fracture of the inferior maxilla, and contusions of the back, buttocks, and hips. From this time she gradually ran down in health, and after two or three months began to walk lame and complain of pain in her right hip. Finally she became confined to bed, developed fever, and for several weeks before I saw her had a discharge of pus from the rectum. Tonics, stimulants, syrup of iodide of iron, and cod-liver oil had been administered freely, but with no benefit. I found her lying on her back, with the right thigh strongly abducted, emaciation extreme, the face of waxy pallor, the temperature high, the pulse very weak and rapid; and she screamed at the slightest touch. Under ether I found the movements of the hip perfect and without grating, no prominence of vertebræ, no swelling about the hip or thigh or the iliac fossæ. Diagnosis: Caries of the sacrum with abscess which had ruptured into the rectum. Evidently the rectal opening was not properly draining the abscess, or the contents of the rectum entered the abscess more or less, or both, and in consequence a chronic septicæmia was slowly killing the little patient. The problem was

to drain the abscess and close the opening into the rectum. I at once cut down upon the tendon of the pyriformis muscle and followed it through the great sacro-sciatic foramen into the pelvis. Just at the foramen I found coming down along the muscle some of that gelatinous granulation tissue which we so often see in sinuses leading to dead bone. Evidently nature had already set about draining the abscess in the same way that had seemed best to me. Pushing my finger on, I inserted it into the abscess and could feel the carious patch on the sacrum. The entire cavity was thoroughly curetted, the carious patch scraped, a rubber drain introduced, and an antiseptic dressing applied. Three times a day and after every stool the rectum was thoroughly washed with Thiersch's solution by means of two large soft catheters. No more pus was discharged from the rectum. The rectal washings were discontinued after two weeks. The child was running about out of doors in less than three weeks, as healthy, apparently, as she ever had been. Through the tube there was a little lymphatic discharge, but no pus. The antiseptic dressings were continued for two months, when the mother declined to allow further treatment, considering the child well enough.

I have ascertained that soon after my dismissal the discharge became purulent again and still (a year and a half since the treatment ceased) continues, though very small in amount.

REMARKS ON THE TREATMENT OF CLUB-FOOT BY OPEN INCISION.*

By NEWTON M. SHAFFER, M. D.

THE fact that the treatment of club-foot by open incision is advocated very strongly by Dr. Phelps, and is practiced almost exclusively by him in a class of cases described as "inveterate," coupled with the fact that there are a considerable number of surgeons who maintain that even tenotomy, in the same class of cases, is frequently unnecessary, leads one to think that the principles underlying the treatment of this deformity are not yet fully understood. And no rule has yet been formulated which affords us the least aid in deciding between these two extremes. It seems as if there ought to be some safe medium course.

It has been my own experience to see many cases which Dr. Phelps would describe as "inveterate" yield completely and even rapidly to simple traction, and I have seen apparently simple cases, which promised to yield to traction, require operative measures. If we could say positively and definitely when a club-foot presents to us for treatment that open incision was necessary, or that osteotomy would be required, or that traction with or without subcutaneous tenotomy or syndesmotomy would answer, we should be much nearer the solution of a difficult problem. But surgeons look at this matter from widely different standpoints, and, depending upon their education and their successes and failures with the conventional methods, they are inclined, I think, to adopt a pessimistic view when they contemplate the indifferent results so frequently obtained by the methods which have been very generally taught since the days of Stromeyer.

* Read before the Surgical Section of the Academy of Medicine on the occasion of the discussion of Dr. Phelps's paper, December 12, 1887.

I think I can very safely say that it is quite exceptional, in both my private and public practice, to find a case of congenital club-foot which has not been operated upon once or oftener before it came under my care. It seems to be safe to say that *failure is the rule after tenotomy and the use of conventional methods*; or, to put the matter in other words, as success is not very often obtained by the methods advised in our standard works, it is not surprising that osteotomy and open incision in the treatment of club foot should have been among the developments of modern and progressive surgery.

My experience leads me to say that, in the great majority of cases, neither open incision nor osteotomy is required. And I base this opinion *not* upon the failure of others, but upon my own failures and successes in my attempts to test and perfect a new method of mechanical treatment based upon a study of the mechanics of the normal foot, and a further study of the changed relations which occur in the conditions under consideration. In making these tests, and in estimating the effects of properly applied traction, I have used my apparatus in some instances where there was more than a legitimate doubt as to its propriety, and have failed on some occasions; but in some cases that had been condemned to osteotomy or open incision, and in one case where amputation was proposed, perfect results have been obtained without even tenotomy by the use of the simple traction apparatus. These results—failures and successes—were secured while I was experimenting, and during that which might be called provisional work. I feel now that I can crystallize my experience somewhat, and formulate it so that it may, perhaps, be of benefit to others.

We can divide congenital club-foot into three distinct varieties, as applied to the question of surgical and mechanical treatment: (1) *Muscular club-foot*, when there is little or no ligamentous shortening, and no considerable change in the bones of the tarsus; (2) *ligamentous club-foot*, when the ligaments are the principal opponents to a reduction of the deformity; and (3) *osseous club-foot*, when the chief obstacle lies in a greater or less deformity of the tarsal bones, but principally in the astragalus.

Can we distinguish clinically between these three conditions? I am sure we can not always do so. Even if we could, I am prepared to say that the extreme measures of osteotomy and open incision would be called for very rarely. We can not determine, even in a case described by Dr. Phelps as "inveterate," that the cause of the deformity can not be removed by simple traction, or by traction and subcutaneous tenotomy, or by traction, subcutaneous tenotomy, and subcutaneous syndesmotomy. We can perhaps gauge the muscular resistance, but we can not duly estimate either the ligamentous or the bony resistance until after we have either elongated the muscular tissue by stretching it, or gained position by lengthening the tendons by cutting them; and if the muscular resistance, and especially if the muscular and ligamentous resistance, has been removed subcutaneously, the condition is a very rare one (under the age of fourteen years), in my experience (the same opportunity being given for observation that exists after open incision

has been performed), that does not yield to subsequent traction.

I think it a safe rule to make the diagnosis of muscular, ligamentous, or bony club-foot by exclusion. Use an efficient traction apparatus (which is the best one I know of to follow up subcutaneous tenotomy and syndesmotomy) for a sufficient length of time to determine whether the deformity will yield to traction alone. It will do so in many so-called "inveterate" cases. If traction fails, divide the tendons and ligaments subcutaneously, and follow up the operation by vigorous traction, applied systematically, as laid down in my paper on "Traction,"* already published.

If these rules are consistently followed, I think even the most skeptical will be convinced that "open incision" and "osteotomy" are operations very rarely called for in the treatment of club-foot.

28 EAST THIRTY-EIGHTH STREET, NEW YORK, December 11, 1887.

A NEW FORM OF HOOKS FOR THE TREATMENT OF SIMPLE FRACTURE OF THE PATELLA.

By WILLIAM K. OTIS, M. D.

FROM a mechanical standpoint, the hooks of Malgaigne have long been recognized as the most perfect of all the various devices for approximating and retaining in position the fragments in simple fracture of the patella, and have held a prominent place among the recognized methods of treating this accident. A serious objection to their use, however, has been the fact that the points of the hooks, imbedded in the tissues about the patella, always excited a certain amount of inflammatory action, sometimes followed by the more serious forms of septic infection, so that, notwithstanding their manifest advantages, they were for the time practically abandoned. Though the advances made in antiseptic surgery entirely obviated this objection, it was not until 1886, when Mr. Frederick Treves published an account of a series of six cases successfully so treated, that the attention of surgeons generally was attracted to the renewed advantages of this method.†

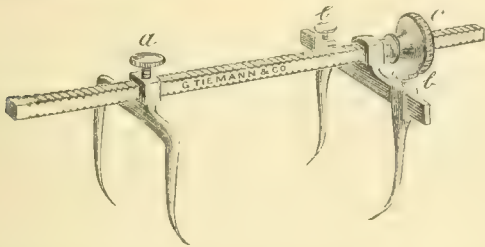
Even before the appearance of this article many prominent American surgeons were inclined to look favorably upon the adoption of the hooks, especially as the conservative element was becoming more and more averse to the operation of wiring in cases of simple fracture. About a year ago, while I was assisting Dr. Charles McBurney in the application of Malgaigne's hooks in two cases successfully so treated by him in St. Luke's Hospital, my attention was called to several prominent defects in the mechanism of the original instrument, which, though simple in construction, was exceedingly difficult of application.

It was not easy to adjust the hooks accurately and hold them in position while a long screw connecting-rod was being introduced by means of a key—a proceeding which added greatly to the amount of pain experienced by the patient.

* See "New York Medical Journal," March 5 and 12, 1887, "The Use of Traction in the Treatment of Club-foot."

† See "Brit. Med. Jour.," July 24, 1886, "The Treatment of Fractures of the Patella," by Frederick Treves, F. R. S.

The hooks being fixed at a given distance apart from each other laterally, if any considerable difference existed between the size of the fragments, the larger was not held firmly, and occasionally a fragment was met with so small as to pass entirely between the hooks. So great was this defect that the English surgeon, Levis, devised a modification on this account alone, dividing the hooks into two separate pairs, and applying them at an obtuse angle to each other. This, while it accomplished the object, added greatly to the difficulties of application. The curve of the hooks made them difficult to adjust, and tended to tilt the fragments, or slip over their surface. The connecting bar was placed too near the integument, often causing an erosion of its surface. The weight of the hooks was considerable, and a small amount of corrosion in the thread of the screw made removal difficult, so that on one occasion I was obliged to cut through the hooks with a file in order to accomplish it. To remedy these defects as far as possible, I have had constructed an instrument radically different from that formerly used, at the same time I think without losing any of its advantages.



This instrument consists of two light cross-bars, which carry the hooks, and slide easily upon the main or connecting-bar, at right angles to it, by means of square slots raised somewhat from the top of each cross-bar. The main bar is a narrow, square rod, smooth on the sides, but having a screw-thread cut on the corners. One of the cross-bars may be clamped firmly at any point on the main bar by means of a small set-screw (*a*). The other cross-bar is without a set-screw. Behind it is placed a thumb-screw (*c*), running on the screw-thread cut in the corners of the main bar, which serves to push the cross-bar powerfully forward along the main bar. In regard to the hooks themselves—to which a very different curve from those originally used has been given—one pair is solidly fixed to its cross-bar, the other pair being arranged to slide upon the cross-bar and clamp by means of small set-screws (*b, b*), so that the hooks may be brought near to or away from each other, and thus adjusted to fit any fragment.

Application.—An ordinary straight posterior knee-splint having been applied, and the knee and instrument rendered thoroughly aseptic, the movable pair of hooks are adjusted to fit one fragment and firmly clamped to the cross-bar. Four punctures are made with a tenotome, or small bistoury, through the integument down to the bone, at points corresponding to the insertion of the hooks. The hooks having the set-screw (*a*) are removed from the bar and adjusted, the points being passed through the punctures and pressed into the bone. The second pair are applied to the other fragment in a similar manner, it being unnecessary

to remove the main bar. The fragments are now brought together as near as possible by manual force; the main bar is slipped through the slot on the cross-bar of the first pair of hooks, and clamped in position by a turn of the set-screw (*a*). Any separation which may still exist between the fragments may be overcome by the thumb-screw (*c*), making the approximation exact. The operation is not excessively painful, and in ordinary cases the use of ether is unnecessary.

The instrument is complete in itself, needing no wrench or key. The connecting-bar is raised a sufficient distance to prevent its touching the integument. It is exceedingly light, and loses in a great measure the forbidding aspect pertaining to the original instrument. The practical working of the mechanism of this instrument has been demonstrated by its application by Professor R. F. Weir in a case in which, owing to the inequality of the fragments, the instrument of Malgaigne was found impracticable.

I have experienced considerable difficulty in getting the instrument properly constructed, and owe its present completeness to the efforts of Messrs. Tiemann & Co., who at present possess the only satisfactory model.

48 WEST FORTY-NINTH STREET, December 12, 1887.

ALBUMIN IN URINE.

RECENT SWEDISH, NORWEGIAN, AND ITALIAN ESTIMATES.*

By F. B. STEPHENSON, M. D., M. M. S. S.,

U. S. NAVY

ALBUMIN in urine has long been looked upon as indicative of serious renal disease, but its importance *per se* as a symptom thereof is gradually lessening. Once thought to be pathognomonic of morbid alteration portending speedy death, it is now believed to occur also in a number of more or less temporary conditions compatible with general health.

There is, indeed, an apparent or false albuminuria, due to admixture of discharges from tissues with which the urine comes in contact after secretion; this should be recognized and not taken into account. True albuminous urine, it is stated, may be physiological; but may we not rather suspect the alleged health? On the other hand, we read that admixture of albumin and urine is in every instance a pathological phenomenon, though not always due to kidney disease. Urine secreted by persons in typical conditions of health is free from albumin and from sero-albumin. Mild albuminuria in those apparently well arises from a disproportion of the normal constituents of urine, particularly a large morbid increase of uric acid; in several such individuals renal calculus has subsequently been noticed. Every tenth man, it is estimated, in his time, passes albumin with the urine; and certain persons—children, youth, or adults—free from local or organic disease, may, for a short time or during a term of years, show a slight intermittent or permanent albuminuria, usually under 0.1 per cent. Such cases occur independently of any perceptible exciting cause, and may originate in great effort of body or mind.

* Holstr. Bull. Scandol. Edcom.

nervous headache, heavy eating or drinking (red wine causing it less than beer), febrile disturbance (from high temperature alone), "catching cold," debilitating diseases, anæmia, and poisons (arsenic, lead, opium, etc.). It is noteworthy, however, that all severe efforts of body or mind, febrile disturbance, etc., do not give rise to the alarming appearance; so, when present, it is of the more prognostic importance, especially as pointing toward that diathetic habit in virtue of which persons are apt to become affected by certain diseases. Heredity seems to be of great causative influence, although probably not able alone to produce albumin in the urine. Albuminuria is met with in purely obstructive cardiac disease, but less pronounced, relatively, than when synchronous with kidney trouble unaccompanied with heart disturbance. The albumin of true Bright's disease differs from that seen with cardiac lesion or amyloid kidney. Gastric ulcer has been discovered to be co-existent with albumin in the urine. One reported case showed 0.5 per cent. of albumin, which afterward disappeared. In another patient, a young man, who seemed to be in good health, though under depressing mental disturbance, 0.6 per cent. of albumin was excreted. In one instance (that of a man, aged thirty), where there was slightly albuminous urine, and the circulatory and nervous perturbation denoted advanced Bright's disease, yet, four years later, the urine was normal and the person's general condition much better. We note one example in which bodily exertion was repeatedly followed by mild transient albuminuria, whereas none was found while the lad lay abed with varicella, measles, and gastric catarrh successively.

Albumin in the urine may sometimes be regarded as of anæmic origin, all pathological indications at last passing away; it may be the consequence of an acute attack in the course of a chronic disorder, being the only symptom of such possible condition. Often it seems to depend upon more or less nervous irregularity, inasmuch as no other explanation is evident; if recognized in time, recovery might here follow, without organic change.

Alcohol, *experimenti causa*, has been given to various persons showing albumin in the urine, some of whom had renal disease and some had not; as a general result, the albumin was not noticeably increased. (Here is a chance for study as to how far appreciation of temperament and diathesis may aid in diagnosis and prognosis.)

Cases like the foregoing do not always show the peculiar retinal changes, yet these are often the first discovered signs of the dread enemy, being seen most frequently with the granular form of kidney. Ophthalmoscopic observations should be "controlled" by urinary testings.

The greater part of these examinations refer to men; it is more than likely that much light would be thrown on this difficult problem—albumin in the urine—if extended series of observations could be made with women, on account of peculiarities in their ailments.

The chief symptoms of advanced stages of diseased kidney include cardiac disturbances, severe colic, shock, epileptoid seizures, etc. May we not make, tentatively, a side-group—a pendant to the direful picture—placing therein multiform phases of nervous complaints, anæmia,

etc., together with various slightly albuminuric and suspicious cases—all to be comprehended by the expression "latent renal atrophy"? Instances are known where the only subjective symptoms have been indefinite feelings of uneasiness and weakness, sometimes with urine containing a small quantity of albumin, death taking place eventually from granular disease of the kidney. On the other hand, such structural lesion may exist a shorter or longer time without excretion of albumin. When albuminuria, even mild and temporary, or intermittent, appears in any of these doubtful cases, it is thought by some to indicate the first degrees of renal atrophy. Nevertheless, small amounts of albumin have been noticed far oftener than diseased kidney; and persons who formerly had passed albumin have afterward, for years, been free therefrom, and otherwise seemed perfectly well. Albumin in the urine may be symptomatic of, but is not essential to, Bright's disease.

Considering the vast number of observations and the confusion among current explanations (or the absence of explanation) of cyclic or temporary albuminuria, as well as of the permanent form, it is argued that there are radical defects in our methods of research. The true scientific spirit and the application of exact logic are needed in place of the endeavor to make a few apparent facts support some cherished theory.* We have many experimental and clinical data, but they lack synthetic union. Facts should be observed by logical thinkers, not mere reporters. It is an error to affirm that a morbid process may have many and diverse anatomico-pathological appearances. If these appearances vary, this means that to the principal element others are added. Another important fact is that albuminuria must have a causal relation to the changes of all the factors of physiological renal action. From physiology and from clinical observation we learn that this disease appears in three forms: the dyscrasial, due to chemical change in the blood; the mechanical, originating in the pressure-state of liquids in the body; and the irritative, owing to direct excitement of renal secretory tissue. Among these, however, besides the differences of histological lesions accompanying each, there is a classic distinction as to nosography, founded on the quantity and quality of albumin eliminated. The amount is greatest in dyscrasial (true) albuminuria (Bright's disease), less in that from turgescence, and least in those forms arising from local irritation, experimental or natural, of the kidneys. In the first two varieties albumin is precipitated in caseous, grumous masses, whereas in the last it rests suspended, rendering the urine turbid, rather.

It may be said that at present our chief reliance should be placed upon the results of methodical, frequent, and long-continued investigation of the urine, with inquiry concerning the circulatory and nervous systems. The permanence of albumin in somewhat large quantity under such conditions is very significant of serious renal disease. A patient is often seen in whom the lesions are owing to several associated factors. Such cases require the physician accustomed to calm, logical thought, not the rabid scientist, for

* Of interest in this connection are the remarks of Fauvelle and of Giordano Bruno anent errors of reasoning in anthropology, and those of Semmola on bacteriology.

the separation of the accessory from the essential, and for finding a way to rational treatment.

While an exact early knowledge is thus difficult, it is not a question of mere scientific interest, but one of utmost importance to the patient. If anywhere amid the perplexities of medicine, then here may we apply the Hippocratic aphorism.

Diagnosis and prognosis become of practical value when life-insurance is in question; their bearing on military affairs is manifest. In private life we have to keep in mind the relation of the patient's condition to personal hygiene, to choosing a vocation, and to marriage.

Regarding the significance of albuminuria, the profession seems to have passed from a position of partial knowledge with confident assertion to one of doubt and research. Perhaps scientific accuracy awaits the persevering inquirer of the future.

A CASE OF COMPLETE PROLAPSE OF THE UTERUS AND BLADDER

OF FIFTEEN YEARS' STANDING.

THIRTY VESICAL CALCULI REMOVED.*

By AUGUSTIN H. GOELET, M. D.

MISS MARY McC., aged fifty-eight years, consulted me in August last for a severe acute bronchitis, and complained incidentally of a complete prolapsus of the uterus of fifteen years' standing, the inconvenience and annoyance from which were greatly enhanced by her constant cough. The lung affection being so severe (amounting almost to a double catarrhal pneumonia), little more than a casual examination was made of the prolapse, which was found to be complete and the projecting uterus enormous.

A soothing application was ordered and my main attention was directed to the bronchial affection and the disturbance of the stomach, which appeared to be greatly irritated by the cough and the superinduced pain in the prolapsed uterus. It was with some difficulty that the stomach was made to retain even small quantities of peptonized food, and indeed, at first, everything was rejected. The convalescence was necessarily very slow.

Owing to an absence from the city, a thorough examination of the uterus was postponed until about the middle of September, when it was discovered that not only was the uterus completely prolapsed, but the bladder also had been dragged down and constituted the anterior half of the protruding mass, and contained one or more calculi of large size. This examination produced notable disturbance of the stomach which continued for twenty-four hours.

Three days later she was seen by my friend, Dr. H. T. Hanks, and we succeeded in replacing the uterus and bladder within the pelvis, where it had not been before for fifteen years. It was retained by cotton tampons and the recumbent posture. Several stones were distinctly felt at this time grating against each other.

This manipulation was followed by a more marked gastric disturbance which lasted for forty-eight hours.

A few days later, September 27th, ether was administered with a view of doing a lithotrity. A stone (next to the largest of the specimens exhibited), measuring $1\frac{1}{8}$ by 1 inch and weigh-

ing 176 grains, was found just within the neck of the bladder and obstructing the entrance. After careful dilatation of the urethra it was removed with the forceps. Using the finger of the left hand in the vagina as a guide, and to press forward the calculus within easy reach of the forceps, the manipulation of the interior of the bladder was very much lessened. In this manner thirty calculi were removed, varying in size from that of a small pea to the largest, which measures $1\frac{1}{8}$ by $1\frac{1}{16}$ inch, and weighs 218 grains. The total weight is 1,352 grains, or 2 ounces, 6 drachms, and 32 grains.

There are eighteen good-sized stones, which were removed with the forceps, and the others were washed out. Some of them were imbedded in the mucous membrane of the bladder, which almost enveloped them, and were very difficult to dislodge.

The bladder was washed out with a solution of boric acid in warm water, and the patient was given a hypodermic of morphine in the epigastrium.

The reaction was prompt, and the patient suffered no inconvenience for the first twenty-four hours. She showed only slight disturbance of the stomach for the first three days, but on the fourth day she developed a sharp cystitis, and immediately the stomach showed serious disturbance. There was no increase of temperature. The nausea and retching were frequent and excessive, and not permanently relieved by the remedies which usually yield results in these conditions. The cystitis persisted and grew worse under every effort to control it. It is true that the condition of the stomach allowed little to be done in the way of internal medication beyond what could be given hypodermically.

The rectum early refused to retain nutrient enemata, and this forlorn condition went from bad to worse, and the patient succumbed on the sixteenth day after the operation with symptoms of dilatation of the stomach.

No autopsy was allowed.

243 WEST FIFTY-FOURTH STREET.

REPORT OF OPERATION FOR REMOVAL AND RADICAL CURE OF A STRANGULATED OBLIQUE INGUINAL HERNIA, WITH LIGATURE OF NECK AND REMOVAL OF SAC.

RECOVERY.

By T. J. MCGILLICUDDY, M. D.,

SURGEON TO THE YORKVILLE DISPENSARY AND HOSPITAL FOR
WOMEN AND CHILDREN.

V. K., aged forty, laundress. In the evening when I first examined this patient I found a hard, tense swelling in the left inguinal region, tympanitic on percussion and irreducible by all the means ordinarily employed—*i. e.*, taxis, hot bath, morphine, and taxis under ether. All these being futile, I left her for the night under the influence of morphine, with the parts in a relaxed position. Twelve years before, rupture had occurred on the right side which had become strangulated; a physician had been summoned, and by the use of taxis had reduced it. Since that time she has been free from any trouble arising from the hernia excepting discomfort by its protrusion. She declined to wear a truss, and the canal being very large, she can replace the swelling quite easily.

For one week before I was called to see her she had the swelling in the left groin, accompanied by a constant aching pain, and there had been nausea and vomiting for three days. The day before I saw her, from the description given, she had stercoraceous vomiting and a small passage from the lower

* Read before the Section in Obstetrics and Diseases of Women and Children of the New York Academy of Medicine, November 23, 1887.

bowel; she complained also of slight fever and loss of appetite. The next morning she had fever, thirst, small and rapid pulse, nausea, occasional vomiting, and an anxious look. I operated, and on opening the sac, which contained no fluid, I found the seat of the stricture was in the neck; the stricture was relieved and the bowel returned, the neck ligatured, and the whole of the sac removed. The canal was obliterated by a firm suture and the wound closed. After the operation the patient rallied and said she felt comfortable, with the exception of some pain in the left side. In the evening she vomited once, and the egesta were "dark and ill-smelling," probably fecal. Localized peritonitis set in on the second day, and succumbed to the following treatment, which consisted of three drachms of the U. S. P. solution of morphine every three hours for three consecutive days, and gradually diminished as the peritonitis subsided. Warm poultices also were used, and the patient was sponged with a mixture of alcohol and warm water. She had retention of urine, which was drawn by catheter. One drachm of whisky and two ounces of milk were given every two hours, and a small quantity of farinaceous food occasionally. On the ninth day an enema of a pint of hot soap-suds and an ounce and a half of castor-oil was given and a good evacuation obtained. After the sutures were removed there was some slight suppuration. The patient was seen nearly a year after the operation, and there had been no return of the hernia.

With our present results in abdominal surgery following on strict antisepsis, kelotomy for the radical cure of strangulated hernia ought to give the best of results. The great fear of opening into the abdominal cavity no longer possesses our surgeons, and, when practicable, the radical operation should always be performed. There is nothing formidable in removing the hernial sac if it is small, and if it is large I should recommend the removal of at least some of the upper portion of it, with coaptation of the sides of the cavity by firm, deep sutures to secure adhesion of its walls. Leaving the sac in position favors the return of the hernia, only a slight portion of the canal being obliterated.

THE APPLICATION OF ALCOHOLIC STIMULANTS TO MEDICINE.

HAVING SPECIAL RELATION TO THE
THERAPEUTICS OF ALCOHOL IN DISEASE.*

BY EDWARD N. LIELL, M.D.,

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THE subject of the application of alcoholic stimulants to medicine is of such vast importance, and the expression of opinion among medical men as to its application and utility in disease so varied, that a few words upon my part, I trust, will not be amiss in endeavoring to place the matter before you in, as I deem it, its true sphere of usefulness. I shall have reference, and concern myself in this paper only, to the indications presented for its use in disease; in fact, to deal with the therapeutics of alcohol in disease, leaving out of consideration all other questions pertaining to it. There are those who to this day will be found en-

joining the practice of abstention, believing the administration of alcohol to be wholly unnecessary; others are more guarded in the matter, in that they believe it useful in certain forms of disease; still others, and at the present time by far the greater number, take a more pronounced view, and advocate the administration of alcohol or the principle of judicious stimulation to be legitimate and the only rational course to pursue, especially in acute febrile disease.

But why should these varied opinions or disagreement as to facts exist among the members of our profession, they who, as regarded by the laity, are specially trained to observe, because of intimate contact among their fellow-men?

In the words of Sir Dyce Duckworth ("On the Medical Injunction of Stimulants in Disease and Health," "Brit. Med. Jour.," Nov. 10, 1886) "there is no middle course to pursue; either stimulants are all right if they be rightly used, or they are all wrong if they be used at all, or in any degree."

No routine practice can be made in the use of alcohol in disease, nor are we to understand was such intended; the same clinical acumen is called for in determining the necessity for its use as for any other drug.

The injudicious or indiscriminate use of alcohol is certainly to be opposed, but to condemn it entirely because of its abuse seems to me an argument that would condemn for the same reason most, if not all, of our reliable and more or less so-called dangerous remedies.

We are told by some that the practice of alcoholic stimulation frequently aggravates trains of morbid symptoms, establishing new centers of irritation, and thus proving somewhat disastrous in its effects upon disease; also leading to the undermining of the morals of the patient.

Such, no doubt, is the fact where stimulants are administered indiscriminately, either in excessive doses or unnecessarily; when properly and judiciously administered, however, their action is highly favorable, increasing the power of resistance to disease.

The remarkable statement has but lately been made that "the range of the use of alcohol in disease is very restricted, and its use in disease with the object of keeping up the strength of the patient is certainly unscientific; it is but adding another complication to the disease already existing, and frequently antidotes other remedies."

Let us see if there is any proof for this statement by asking what is the property of alcohol in relation to animal heat, muscular power, and nervous energy; is it utilized in the animal economy?

There are certain points of interest that bear directly upon its administration in disease, in that the true therapeutics of its employment has reference to its tolerance and the limitations as to quantity; the individual case and stage of the disease, age, sex, etc. Most of us, no doubt, are familiar with the fact that, in the febrile state, the relations between health and disease, as regards the quantity of alcohol taken, are entirely changed, in that in disease a much larger quantity can be administered without producing any morbid phenomena. The fact is evident, and there is little need, therefore, to state that, because of the moral and physical evils attending the abuse of alcohol

especially as a beverage, prejudice against its use in disease has naturally been excited.

In the employment of remedial measures we should look beyond the immediate results of treatment, and have due regard to the remote effects of certain remedies, as not infrequently we are brought face to face with the fact of the injurious remote effects of measures which are immediately beneficial; frequently, therefore, in our anxiety to keep up the strength of the patient, we allow ourselves to forget certain precautions necessary in our treatment.

To defend the administration of alcohol, especially in acute febrile disease, requires some conception of its action upon the human organism.

Regarded as a stimulant when given in moderate doses, its immediate action is upon the sympathetic, combined with a sedative influence upon the vaso-inhibitory nerves, thus increasing the frequency and force of the heart action, and causing dilatation of the capillaries, diffusing a temporary warmth throughout the body, at the same time increasing the supply of blood to the nerve-centers.

The existence of high temperature includes active destructive metamorphosis with excessive oxidation of tissue, constituting, generally, one of the most dangerous symptoms of disease. The researches of Anstie ("Practitioner," xiii, 1874), Binz (*ibid.*, iii, 1869), Ringer ("Proc. of the Roy. Med. and Chirurg. Soc.," Lond., 1866, v), Riegel ("Deut. Archiv f. klin. Med.," xii, 1874), and others, prove that alcohol, in moderate doses, causes a small, and in larger doses a considerable, reduction of temperature, the diminution in temperature being proportionate to the amount of alcohol ingested; this reduction, however, is but temporary, lasting, after moderate doses, but a few hours; the quick, tense pulse almost invariably becomes slower and at the same time stronger.

On therapeutical grounds, the large proportion of hydrogen contained in alcohol, when oxidized in the body, would seem to augment the temperature; practically, however, as proved by Binz, "the fact has been overlooked that the influence which checks other oxidation processes is more powerful than the effect of its own oxidation, accounting, therefore, for the reduction of temperature in the administration of alcohol; alcohol is, therefore, apyretic in its action, as also paratriptic, in protecting the tissues from oxidation by its own powers of oxidation." Another influence which alcohol possesses is its sedative and hypnotic effect, due to its action upon nerve-tissue, calming the restlessness and erratic movements of an excited brain—in other words, lessening excitement and calming delirium; this can be brought about more quickly by moderate doses of alcohol, repeated more or less often, than by any other means; the parched and dry tongue and skin also become moist.

From these practical observations, therefore, not easily controverted, is shown the fact that alcohol, when introduced into the system, creates and evolves heat, due to its rapid decomposition; in other words, alcohol feeds organic combustion, thus creating and evolving heat. Too free alcoholic stimulation leads to interference with endosmosis and exosmosis in the lung capillaries, and thus with the free oxidation of the agent in the system.

In acute febrile and inflammatory disease the organs essential to the digestion and absorption of food are to a great extent affected; under the circumstances, the matter of a supporting treatment is to be strongly considered, and it is here that alcohol plays an important part, having a special and favorable influence as well upon digestion, in that it decidedly increases both the acidity and flow of the gastric juice; if given in such amount as not to be fully utilized and disposed of, its action is that of a veritable poison, in that the reverse of its favorable action is the case.

Does alcohol undergo combustion when introduced into the system, and thus act as a food, aside from its stimulant action? In other words, can alcohol be considered a food as well as a medicine in relation to disease, or is it eliminated in greater part unchanged by the various emunctories? The experiments of Lallemand, Duroy, and Perrin ("On the Rôle of Alcohol and Anæsthetics in the Organism," Paris, 1860), as also those of Richardson ("Med. Times and Gazette," 1869, ii), showed that, when taken into the system, alcohol was freely eliminated as alcohol, apparently unchanged, and could therefore in no sense be termed a food. These experiments were not conclusive, however, in that actually they showed that but a part of the alcohol was excreted and eliminated, the quantities administered at a time being excessive, so that its oxidation was impossible within the time limited.

The researches of Liebig and Bandot ("Union médicale," xx, 1863; xxi, 1864), and, later on, those of Anstie ("Practitioner," xii, 1874), Dupré (*ibid.*, viii, 1872), Brunton (*ibid.*, xvi, 1876), Thudichum, H. C. Wood, and other physiologists, however, tend to prove satisfactorily that, when administered in moderate quantities and at the same time judiciously, it is practically wholly consumed in the system and not eliminated as alcohol, showing, therefore, its actual value as a food. In the excellent paper by Dupré, on "The Elimination of Alcohol," is shown the fact that there exists normally in the human urine a substance which, on distilling the urine with an acid, gives the reaction ordinarily employed for the detection of small quantities of alcohol. This has, no doubt, as stated by Dupré, led some experimenters to the belief that the elimination of alcohol continued much longer than in reality it did.

In the words of Brunton, "we may conclude that, in moderate doses, alcohol undergoes combustion in the body, supplying energy, yielding warmth, and tending to sustain life in the same way that sugar would do, and is therefore to be reckoned as a food, greatly increasing its utility in disease."

The apparently unphysiological and hurried acceptance of the conclusions of Lallemand, Duroy, and Perrin, as regards alcohol not being a food, seems to pervade still, after many years, the minds of many medical men. Furthermore, if alcohol is to be reckoned as a "mere stimulant," incapable of adding substantial aid and force to the body, how are we to explain its happy action in acute febrile disease? Its action as a "mere stimulant" is, as stated by Anstie, "merely to encourage its use in states of chronic feebleness marked by outward signs which are the reverse of those of the febrile state, and more especially for condi-

tions of nervous exhaustion, complicated with mental depression."

In acute febrile disease, alcohol undergoes combustion itself, instead of the tissues; in other words, though not adding to the growth of any tissue, it certainly protects it against oxidation by its own oxidation, thus retarding tissue change incident to the vital processes.

This combustion and apparent entire consumption of alcohol in the system is at the expense of the oxygen to be applied for the natural heating of the body, being, as stated, a process of oxidation, this chemical change taking place only in proportion to the amount of oxygen existing in the blood; whereas, in the experiments of Lallemand, the amount of alcohol ingested being excessive, or the percentage of oxygen in the blood lessened, a rather greater proportion of the alcohol may be recovered from the excreta.

In numerous instances of disease, where the danger of failing heart-power is to be averted for a few days or even longer, or where the patient either refuses or rejects any form of nutriment, the administration of alcohol will be found of great service, tiding the patient over the worst stages, being therefore the agent by which he is kept alive and his recovery made possible.

We are all aware that in acute febrile disturbances the increase of temperature produces not only a lack of desire for ordinary food, but more or less arrest of the muscular acts necessary to digestion. Alcohol here seems to fulfill the wants of the system in this respect. The quantity of alcohol appropriate, therefore, will depend almost entirely upon the nature of the disease and the strength of the patient to resist it, having special reference to the rapidity of oxidation of the tissues of the body. With greatly increased temperature and rapid oxidation of the tissues, its employment is especially beneficial, acting both as a medicine and a food, the latter especially, because it replaces the tissues of the body, in that it affords material for the oxidation processes to feed upon.

It may perhaps be stated in a concise way that the meagerness of its nutritious properties is often made up for in usefulness by the rapidity of its assimilation; also that it requires the least expenditure of digestive and assimilative force, at the same time being an element of heat and force to the system.

Finally, in the words of Dujardin-Beaumetz ("On the Beverages in Common Use," *Therap. Gaz.*, Nov., 1886), "alcohol is a food—a waste-restraining food—which, instead of energizing the combustions, slows them by robbing the hæmoglobin of the blood-corpuscles of a certain quantity of oxygen. The character of alcohol as an aliment, therefore, may not improperly be included in a therapeutical sense."

Caution is certainly required in its employment, especially when employed for a prolonged time.

Many of us have been made aware, however, of the fact that apparently unlimited quantities of alcohol may be given in some forms and stages of disease, which otherwise appear hopeless, without any untoward effects; in such cases the carrying of its use to intoxication is what is required.

The physician should have due regard for, or be guided

greatly by, the feelings or desires of his patient, if any sense of discomfort is expressed from its previous administration; in fact, when a peculiar idiosyncrasy to its effects exists.

He should not fail to ascertain for himself that the dosage required during the illness of the patient is relinquished when the occasion for its employment has ceased; also that the amount administered in the acute stages of disease is gradually lessened toward convalescence. A failure to perform this duty not infrequently leads to a craving for alcoholic stimulants.

The question of alcohol being generated in the animal organism through the digestive processes, especially in the combustion of the carbohydrates, is one still undecided and open to further research; the probability of such an occurrence, however, is highly suggestive.

Not infrequently the unfortunate impulse to alcoholic excesses is due to the indiscriminate and careless prescribing of alcohol in diseases nervous in character, especially in women. This is a melancholy fact, and to expose them to such a temptation is certainly to be decried, when we are familiar with the fact that their power of mental resistance under the circumstances is generally weak. Persons are met with, however, not infrequently who are so constituted that they are utterly unable to bear any mental strain whatever, succumbing almost immediately to its effects; relief is certainly afforded by having recourse to temporary alcoholic stimulation.

In reference to the assertion that the employment of alcoholic stimulants in acute febrile disease is apt to lead to subsequent excesses, on the contrary, a more or less rapid intolerance is observable very early in its administration, due to the quantity indicated and ingested in the short space of time. The reverse, however, is evidently the case in chronic and nervous diseases.

In the application of alcoholic stimulants, to enumerate the various diseases in which its administration is deemed advisable would consume too much time; I shall content myself with referring to the main indications and morbid conditions presenting themselves.

To choose the proper moment for their employment is essential. We are not to administer them too early in the disease, where no special indication presents itself, especially in severe general inflammations, where a dilatation of the arteries and obstruction of the capillaries exists.

First of all, we are to take into consideration the fact of the resistance of the patient to the disease, whatsoever the latter may be. It is argued by some that their administration is to be deferred until the appearance of adynamia, but it may be stated, as a general rule, that we are not to wait until signs of danger arise, but rather to anticipate them, resorting to stimulants with little hesitation when necessary.

In acute febrile disease we are to take into consideration, aside from the fact of warding off threatened asthenia, the intensity of the pyrexia, the cerebral symptoms, and the state of the digestive and assimilative processes. The existence of pyrexia in itself, uncomplicated by any other signs, does not call for the employment of alcohol; once, however, the indications arise and are recognized, measures should be immediately taken to counteract or avert any threatening

danger. Under whatever circumstances it is deemed necessary, its administration should never be left to the hands of the patient. Let me state here also that in the insufficient and thus imperfect administration of alcoholic stimulants in acute febrile disease, especially when accompanied by symptoms of adynamia, we permit the tendency to danger to increase; this would be obviated by a stricter attention to the indications presented for their employment in the course of the disease; again, not infrequently the injudicious and excessive administration of alcohol, especially in the form of brandy or whisky, undiluted, leads to a gastritis, more or less complicating the disease. Let the fact that alcohol requires no digestion be kept in view. It is rapidly diffused throughout the system, this diffusibility being more rapid when it is given undiluted; the indications for administering it in an undiluted form are, however, few.

The stronger alcoholics, when diluted to from five to ten times their bulk with water, in febrile disease, act both as diuretics and as diaphoretics, in that the activity of the kidneys and sudorific glands is markedly increased.

As the febrile condition advances, the quantity of alcohol is to be proportionately increased, the reverse being the case upon the gradual decrease of the pyrexia and toward convalescence; when, however, with the decrease in the pyrexia, asthenia supervenes more or less rapidly, as in the later stages of typhoid fever, pneumonia, and diphtheria, stimulants are to be administered freely and often without reserve; the appearance of adynamia, in these cases especially, frequently precludes efforts at nourishing the patient, in consequence of a decided lessening or failure in the power of the gastric juice to form peptones. To support the failing powers, therefore, our main dependence must be on the employment of stimulants.

In persons ill with acute disease, and previously anæmic and reduced in strength, the necessity for alcoholic stimulants is more urgent than in those previously healthy and plethoric.

In phthisis and other wasting diseases, the indications for an alcoholic stimulant are undoubted; aside from its property of retarding waste of tissue, I believe its happy action is due partly to its solvent action on fats, rendering them more easy of digestion and assimilation.

In sudden collapse or great prostration from recent hæmorrhage, or shock due to severe injuries or surgical operations, or from whatever cause, with feeble or labored heart action and preponderance of blood in the venous system, it is especially indicated, and should be administered in the form of brandy or whisky, undiluted, its analeptic action being desired.

In septic disease, where the powers of life are actually oppressed, as also in puerperal sepsis, the resisting powers of the organism, combined with a sedative and hypnotic action, are best maintained by the administration of alcohol in large doses, frequently repeated; in puerperal sepsis, tepid baths should also be given in this connection, as but recently recommended by Runge, of Dorpat.

In the grave forms of dysentery, with accompanying adynamia, we have an immediate indication for resorting to its use.

In diphtheria, with its tendency to rapid heart failure, little danger exists in what may seem free stimulation; it is indeed surprising to what extent stimulation by alcohol may be carried in severe cases, without producing any ill effects or even signs of intoxication; it is especially in cases marked by toxæmia that, aside from its stimulating property, alcohol is of great value as a food.

In this connection quite recently the question has been propounded as to whether the sudden deaths after diphtheria may not be due to thrombosis or embolism of the pulmonary artery, through the power of alcohol to coagulate the albumin of the blood, induced by free stimulation? The question is no doubt an appropriate one, but I have failed to find any record of such an occurrence, and in my own mind I doubt it very much, in so far as it may be induced by alcohol, as numerous cases have been reported of sudden death from diphtheria where no alcohol was administered in the course of the disease.

In the later periods of life the necessity for stimulants is always greater, and in whatever febrile disease, where the patient is addicted to the free use of alcohol, the latter should never be withheld.

In nervous diseases great care and discrimination should be exercised, there being but little indication for the application of alcoholic stimulants.

Where there exists an aversion to liquors, the dry or what are termed stronger wines, because of their richness in alcohol, are also indicated in febrile disease and states of prostration.

In chronic diseases with more or less anorexia, the giving of the red or lighter wines, because of their tonic character, will be found beneficial in increasing the appetite and aiding the digestion of food; again, in individuals possessing but feeble powers of resistance, especially in the aged, the administration of lighter or even the stronger wines in moderate doses will prove especially beneficial.

In this connection I would refer to the effervescent or sparkling wines, especially champagne; containing but a small percentage of alcohol and because of the presence of the carbonic acid, it is especially serviceable, not only as a quick stimulant and restorative in cases of exhaustion, but in allaying gastric irritability and obstinate vomiting, it being retained where other measures of treatment are rejected and prove futile; in numerous instances I have found it the best and only diffusible stimulant to be employed, its rapidity of action and exhilarating power being in all probability due to a vinous ether diffused by the liberated carbonic acid.

In all cases in which it is necessary to support life by nutritious enemata the addition of alcoholic stimulants will be found of service, as also in accelerating their absorption.

Its use hypodermically, in sudden collapse or shock after surgical operations, is so well known that I refrain from any further mention of it.

In this connection it would be well to state that in affections of the bladder and urinary organs, especially the various forms of Bright's disease, in the various hepatic af-

fections, and in cases of gout and rheumatism uncomplicated by severe endocarditis or pericarditis, alcohol is contra-indicated.

Finally, that the adulteration of liquors and wines has a distinct bearing upon a discussion of the therapeutics of alcohol seems to me evident, inasmuch as in its employment we apply the various liquors and wines, greatly because of their bouquet and flavor, in place of alcohol in its pure state; when desiring its true physiological effects, therefore, we are to be careful always to ascertain and select a pure article.

A résumé of the preceding may be tersely given as follows:

1. In alcohol we have one of the most powerful and substantial agents in the treatment of disease, combining, aside from its stimulant effect, antithermic, paratriptic, alimentary, and tonic properties.

2. The mechanism of its favorable action upon the animal organism and its utility in disease, more especially acute febrile disease, may be explained in several ways: (a) by its dynamic action, particularly in greatly lowered arterial tension, in increasing and sustaining the vital powers, through its action upon the vascular system and nerve-centers; (b) by its antithermic or apyretic property, in causing a reduction of temperature apparently proportionate to the amount of alcohol ingested; (c) by its alimentary and paratriptic property, due to its own combustion and oxidation, thus retarding disintegration and oxidation of the tissues.

3. No routine practice can be followed in the use of alcohol in disease; each case should be treated upon its merits and the indications presented; because of the advantages accruing in most, its unqualified recommendation in all diseases is not to be thought of; in this way it should be prescribed like any other drug or therapeutical measure.

4. Finally, measures adopted with the view of modifying or protecting any changes that take place in the tissues in disease are certainly legitimate and rational in procedure.

HYDROPHOBIA

AS A CANINE STATE OF URÆMIC POISONING.

BY WILLIAM G. ASHBY, M. D.,

ALEXANDRIA, VA.

"*Valutificus vermis suffulitque ora veneno.*"—FRACASTORIUS,
"Alcon, sive de cura canum venticorum."

"*Est vermiculus in lingua canum qui vocatur a Græcis lytta.*"
—PLINY, "Historia naturalis," Book xxix, chap. 32.

Definition.—Hydrophobia in man is a disease of the nervous system due to the inoculation of a specific poison contained in the saliva of rabid animals of the canine and feline race. In animals of the genera *Canis* and *Felis*, comprising those animals whose skins have no excreting functions, the disease is a disease of the blood, with consequent nervous phenomena. Urea, the alkaloid of the animal kingdom, is transferred from the blood to the secretions of the mouth, and is there developed by a fermentative change, under the influence of the disordered nervous system, into the ptomaine constituting the virus of the animal.

History.—Of the antiquity of hydrophobia there can be no doubt, though all attempts to establish the exact period when the disease first made its appearance seem fruitless. The subject is probably mentioned by Hippocrates, for we find in the first book of "Prorrhetics," text 16, the following passage: οἱ φρενιτικοὶ βραχυπῶται ψόφω καταπλόμενοι τρομώδες, and in the "Coace Prænotiones," text 96, the same word βραχυπῶται. Galen explains that by βραχυπῶται Hippocrates means those fever patients who drink seldom and in small quantities; but the rest of the sentence ψόφω καταπλόμενοι τρομώδες, showing that some patients, "drink- ing little," are thrown into convulsions and tremors by a slight noise, should throw some doubt on Galen's statement.

Pausanias, in his "Travels in Greece" (Book ix, chap. 11), alludes to the story of Actæon being torn into pieces by his fifty hounds in punishment of surprising Diana at the bath, and thinks that the foundation of the story rests upon the fact that Actæon's dogs were rabid. As far back as the "Iliad" we find Homer employing the figure of canine rage to represent the fierce and uncontrolled passions of the warriors, thus showing that the disease was known in his day.

He alludes to the baleful influence exerted by the dog star, or "Orion's Dog," upon the health of mankind. In the "Eighth Iliad" we read where Teucer calls Hector "κύνα λυσσητήρα," literally a "mad dog," and in the "Ninth Iliad" we find that the wily Ulysses, speaking of Hector, says "violent madness," λύσσα, seized him, and tells how he raged frantically, gnashing his teeth.

Again, in the "Thirteenth Iliad," Hector is called "Λυσσώδης" by Neptune. It must be observed that the words λύσσα and λυσσώδης mean this particular state which we term hydrophobia, and were used to denote the madness of dogs by Aristotle, Galen, Plutarch, and others. Andreas, of Caryste, a physician of the Alexandrian school, left a work upon the disease, called "Κυνόλυσσος." Artemidones, of the same school, also treated the disease, locating it in the stomach. When we come to Democritus and Aristotle, in the fourth century B. C., we find reference made to the disease. Aristotle, in his "Historia animalium," described it, using the same name, λύσσα, and, strangely enough, maintains that man, by inoculation, is exempted from the general susceptibility to the disease. Celsus, three centuries after Aristotle, made the disease his particular study, and held an opinion that the bites of all animals were dangerous from the presence of a virus. Vergil, in his "Georgics" (Book iii, 496), classes rabies among the diseases of cattle, and holds it is induced by an unhealthy state of the air. Scribonius Largus, in the time of Claudius, writes of the malady, and asserts that recovery is impossible.

Gratius Faliscus, a contemporary of Ovid, held the disease to be favored by an abnormal condition of the tongue, and by the development of "sublingual lyssa." Pliny, in his "Historia naturalis" (Book xxxix, chap. 32), maintains this same opinion, and in the same chapter writes of a sediment from the saliva being found under the dog's tongue.

Ovid states that hydrophobia is an incurable disease. Caelius Aurelianus, a native of Numidia, who lived in the

time of Trajan and Hadrian, treats of the affection in a better manner than other ancient authors.

Pedanius Dioscorides, of Cilicia, takes note of the disease in his "Materia medica" about this period, and says cauterization is the means to prevent the onset of the malady. Plutarch and Le Clerc assert that it first appeared in the time of the Asclepiades, who practiced medicine in Rome about the sixty-second year of the Christian era. In the third century Claudius Aelianus, of Præneste, Claudius Galenus, of Pergamus, and Olympius Nemesianus, a poet of Carthage, described hydrophobia. In the fourth century, Oribasius, of Pergamus, physician to Julian the apostate, wrote of the malady, and held it to be fatal ("Synopsis," Book viii, chap. 13). In the sixth century, Theonnestus, in his "Geoponica," and Aetius, of Mesopotamia, both treat of the affection. Paulus Aegineta, in the seventh century, writes of it in his "Re de medicinæ" (Book v, chap. 3). The first mention of hydrophobia in England is in the revival of the code of laws of Howel the Good of Wales in the year 1026 A. D. ("Gwentian Code," Book ii, chap. 32). The disease and remedies are also mentioned in another early Anglo-Saxon work of the eleventh century, and entitled "Medicina de quadrupedibus."

Thus do we see that the disease has prevailed almost from time immemorial, and it is but reasonable that those lower animals who are subject to the disease, having existed from the beginning, must have been as liable then as now to a disease that follows the unchangeable laws of animated nature.

Causes.—To name a disease from one of its symptoms is always improper, as it is apt to mislead in the investigation of more important considerations, and, although the term hydrophobia is seemingly true of a symptom, yet it is in truth a misnomer.

Therefore in this investigation I shall take the liberty of calling the malady "The Canine State of Uræmic Poisoning."

Such, to my mind, is the disease developed in the dog, and the phenomena of the nervous system expressed in convulsions, etc., are the effects of a morbid condition of the blood and not a disease of the nervous system *per se*. Animals of the canine and feline race are known to have no cutaneous perspiration, it being commonly said that they perspire by the tongue. This time legend finds itself by chance nearly to agree with the data of science. In dogs we know that the normal respiration is from twenty to thirty a minute, but, if they are allowed to exercise violently or placed in a great heat, the respiration is accelerated to three hundred and fifty or more a minute. This quickening of respiration of animals that do not perspire has clearly for its end a compensative action for the want of cutaneous perspiration by the pulmonary evaporation and consequent refrigeration of the body, the salivary glands also playing a very important part in accomplishing the same end. In man and the other animals the eliminating function of the skin is of undeniable importance and bears a very close relation to the offices of the kidneys.

Development takes place from the general to the special, in man the mesoblast forming both the cutis and the internal genito-urinary organs, and, though the functions of both

may seem to differ, yet both retain functions of their common property. So the occurrence of urea and other salts in both excretions is not a mere analogy, but a fact showing that under certain abnormal conditions the skin and kidneys possess the power of acting for one another. All disease is not due to inflammation or pus formation, but a toxic agent, pretty sure to be written CHNO, with varying equivalents, circulating in the blood gives rise to systemic or blood diseases.

Urea, $\text{CH}_4\text{N}_2\text{O}$, the animal alkaloid, being unduly retained in the blood from an arrest of or inadequate functions of the kidney, creates that morbid condition known as uræmia, acting by a ptomaine as the ptomaines typhotoxine ($\text{C}_7\text{H}_{17}\text{NO}_2$), tetanine ($\text{C}_{12}\text{H}_3\text{N}_2\text{O}_4$), choline ($\text{C}_5\text{H}_{15}\text{NO}_2$), and cadaverine ($\text{C}_5\text{H}_{16}\text{N}_2$) act, they having the same reaction as their analogues the vegetable alkaloids, strychnine ($\text{C}_{21}\text{H}_{22}\text{N}_2\text{O}_2$), morphine ($\text{C}_{17}\text{H}_{19}\text{NO}_3$), and atropine ($\text{C}_{17}\text{H}_{23}\text{NO}_3$). The composition of the urine of the human subject gives urea 15 to 20 parts and the solid constituents from 30 to 60 parts per 1,000, the proportion being less in the *Herbivora*. In the canine and feline races the amount of urea and of the other salts is very largely increased, being in the dog 30 parts of urea or 67 parts of the solid constituents to the 1,000 parts, while in the cat urea shows 132 parts to the 1,000. The kidney in these animals is an organ essentially vascular in its texture, and, though small, is prone to dangerous inflammations from its vascularity and from the frequency and rapidity with which its secretions are performed. Thus, having noted in these animals the mutual want of dependence between the skin and kidneys, the formation of the kidney, and the composition of the urine, it seems but reasonable that in animals of this class the state of uræmia should be prone to occur, and, from these considerations, I am induced to adopt the opinion that hydrophobia in the dog is a state of uræmic poisoning, the ptomaine being produced by a fermentative action of the disordered nervous system. The deleterious influence exerted upon the secretions by the disordered nervous system has long been observed, and numerous familiar instances are quoted in works on physiology, such as convulsions in the nursing after violent anger or fatigue on the part of the mother, both in the human race and in the lower animals, death from the bite of an angry man or an angry rat, and other examples unnecessary to enumerate.

When hydrophobia follows a bite by a rabid animal there is a period of incubation, and I can see nothing fanciful in reasoning that during this time of incubation a poison is being elaborated which, by its absorption, acts upon the spinal cord and medulla oblongata by a selective action, producing nervous phenomena resembling poisoning by the vegetable alkaloids. There seems scarcely a prominent phenomenon of this disease in the dog but admits of an explanation by the corresponding phenomena of uræmia in man.

Symptoms in the Dog.—Identity of cause always implies identity of effect, and so the effects upon the nervous system are expressed in strikingly similar phenomena, as the brain, nerves, or muscles are affected in uræmia in man and in hydrophobia in the animal.

Bouley, with a discretion better than valor, says a sick dog is always to be suspected.

Three forms of rabies are known in the dog—viz., the furious, the paralytic, and the lethargic. A morbid appetite is present, showing, by a characteristic post-mortem appearance, thread, straws, and such other foreign bodies in the stomach. Optical illusions, and often complete amaurosis, are present which, in uræmia in man, constitute important symptoms. Both diseases materially affect the lungs, often to the extent of causing death by asphyxia in both. The stomach in hydrophobia is congested and is the seat of blood extravasations and erosions, while in uræmia the same appearances are to be seen, being due in both cases to the effort to eliminate the accumulated toxic urinary constituents through the gastro-intestinal mucous membrane, and so giving rise to a regular symptom of both diseases, vomiting. Reynal has insisted upon the value of the vacuity of the bladder as a sign of rabies in the dog, and in fifty-three cases noted by Lafosse there was but one exception. The kidneys are hyperæmic, and show the same changes in structure as in uræmia. The small amount of turbid urine passed gives a great amount of albumin. In uræmia, paralysis of sensation appears in the extremities, and in hydrophobia paralysis attacks the extremities, the animal staggering about and often falling. Contraction or spasm of certain muscles is observed to precede convulsions in uræmia, being in hydrophobia a prominent and characteristic symptom.

The fauces are congested and swollen greatly and the salivary glands show great inflammatory changes, due, from the state of the kidneys, to overwork in eliminating urea from the blood, and so giving rise to the characteristic attempts to dislodge some offending substance from the mouth, the taste of the urea in the saliva. These symptoms, together with a high irritability of temper, are followed by paroxysms of fury ending in convulsions and death.

Period of Incubation.—Cælius Aurelianus observes that some fall ill sooner after the bite than others, but that most persons perceive it after forty days, though some are a year or more before they are sensible of its effects. Galen is much of the same opinion, while Paulus and Actuarius agree with him.

The period of incubation varies in the dog from six days (Pasteur) to two hundred and forty days (Bollinger); but, as a rule, it ends in the majority of cases in from twenty to fifty days. Pasteur, by inoculating directly into the brain, reduced the period from twenty to six days. In man it is more prolonged. In five hundred and fourteen cases collected by Trollet, Tardieu, and Hawkins, three hundred and fifty-three had developed the disease within three months from the reception of the bite, and only twenty after six months had elapsed. In 6 per cent. of all cases it is from three to eighteen days; in 60 per cent., from eighteen to sixty-four days; and in 34 per cent. it exceeds sixty-four days (Hamilton, Thamhain). All cases of prolonged incubation are very doubtful, and it is safe to say that if a year has elapsed from the reception of the bite without any effects manifesting themselves, the patient is perfectly safe from the disease.

These protracted cases are probably simply cases of phobo-hydrophobia, being the result of fear, especially in debilitated constitutions, and yield to no treatment save by a moral cauterization of the mind.

The period of incubation is shorter in the young—being about forty-five days as an average—than in the old, where it is about seventy days, and is, moreover, shortened by constitutional excesses, extremes of heat, fatigue, etc.

Diagnosis.—In cases of hydrophobia the diagnosis is comparatively an easy one, the symptoms being, as a rule, well marked and so linked as to make the diagnosis a positive chain of evidence. Perhaps the most difficult is that between hydrophobia and phobo-hydrophobia, and the practical physician will be as loath to encounter one as the other, as the imaginary disease is as fatal as the real. There is always a history of a bite, the cicatrix becoming inflamed and painful, and followed by the same train of symptoms in both cases.

Hydrophobia resembles tetanus, in both the reflex functions of the spinal cord being greatly excited, and peripheral irritation causing spasms. The primary cause of both is a wound, and both are produced by the action of a ptomaine. In hydrophobia mental symptoms are present; in tetanus they are absent. The convulsions of hydrophobia are clonic in character, while those of tetanus are tonic. In tetanus there is trismus and the act of swallowing is difficult; in hydrophobia it is impossible. The period of incubation of tetanus is shorter than that of hydrophobia, and a considerable number of patients recover, while the prognosis of hydrophobia is very far worse. From hysteria the diagnosis is very simple, as the difficulty of swallowing constitutes the only common symptom. Other hysterical symptoms and the absence of a history of a bite clear the diagnosis. From acute mania the diagnosis is made by the hydrophobic symptoms of both the difficulty of breathing and of swallowing, and by the intervals of consciousness between the paroxysms.

The convulsions of epilepsy are in themselves the diagnostic features, as they are not produced by noise, attempts at swallowing, or movement.

Treatment of Bites.—It is of the first importance to give immediate attention to the bite, as the delay of every minute in the operation of excision or cauterization is attended with self-multiplied risk. If the bite is on a limb, the tourniquet (a handkerchief in an emergency) should be placed about it, and suction by the lips of the wounded person be made. A cupping-glass must be used if the situation of the bite will not allow of suction by the patient. The lips of a second person should never be placed to the wound, as there is not positive proof that the poison may not be absorbed through a mucous membrane, and there is always danger of a slight abrasion of the lips or of a decayed tooth. After suction for half an hour, a piece of wood dipped in ink should be applied to the wound and all the tissue stained by the ink should then be excised. The wound is to be kept opened by a blistering agent. In a badly lacerated member amputation is advisable.

Therapeutic Treatment.—Almost every agent in the Pharmacopœia has been employed as a remedy, but beyond

relieving this or that symptom has done no permanent good, and has been retired to give place to other preparations. It is not necessary to notice the empirical advice of Galen, Pliny, Celsus, and others that were accredited at their time, but passed away with their authors. It is necessary, though, for a rational plan of treatment, to know the characteristics of the poison, and so how best to meet its advance. During the period of incubation this poison is being elaborated, which presently acts powerfully as a toxical agent upon the spinal cord and medulla oblongata, and it is necessary, therefore, that the nervous system be withheld from the arena of action by the most oblivious rest until the poison is exhausted or neutralized.

Therefore the most profound narcotism compatible with life should be long continued by means of the potent nerve sedatives and antispasmodics. Of these, there may be mentioned as the most important curara, cannabis indica, chloroform, and chloral hydrate. The inhalation of nitrite of amyl overcomes the spasms of the muscles, so allowing food and drink to be taken.

Professor Youatt placed great faith in lunar caustic, and successfully used it in four hundred and five cases of bites from rabid animals, but to fall at last a supposed victim to the dread malady.

The non-medical therapeutic measures constitute a most important factor in the treatment of hydrophobia. Perfect seclusion, darkness, and quiet must be maintained. The bed should be hung with heavy curtains to exclude light, all small sounds, and waves of air. The attendants should discard all stiff and consequently rustling garments, and avoid all such sounds as the pouring of fluids.

While the prognosis of hydrophobia is most unfavorable, no well-authenticated case of it having ended in recovery, yet much may be done for the relief of the patient. It is a most acute disease for which we have no specific, unless by Pasteur's inoculations with the modified virus we find the true cure for so dread a malady.

Correspondence.

LETTER FROM LONDON.

Mr. Jonathan Hutchinson on a Form of Epithelial Cancer attributed to the Prolonged Internal Use of Arsenic.—The late Sir George Burrows, Bart., F. R. S.

LONDON, December 13, 1887.

At the last meeting of the Pathological Society, that indefatigable worker, Mr. Jonathan Hutchinson, read a paper on "Arsenic Cancer." His proposition was that the internal administration of arsenic in large doses over long periods of time might produce a form of cancer which was of the epithelial variety and presented certain peculiarities. He showed a drawing of the foot of a gentleman who had taken arsenic for psoriasis for many years; a corn on the sole of the foot ulcerated, and at first had the appearance of a perforating ulcer. Perfect immobility was not followed by any improvement; the palms of the hands also became affected, and small corns developed. The growth in the foot was excised, and the patient recovered.

The microscopical examination was inconclusive. He also showed drawings of the hands of an American physician who had taken arsenic for a long time in considerable doses. A rough condition of the palms and soles developed, though the psoriasis was cured. [The early growths in these cases were corns, and not warts, and were never papillary.] A growth then formed on the front of the left wrist, in the subcutaneous tissues, the other hand also became affected, and the growths perforated the skin and became fungous. They had the appearance of syphilitic growths, but the patient had never had syphilis. The growths were scraped away and excised. Microscopical examination was at first inconclusive, but afterward the opinion that the disease was cancer gained ground. Antisyphilitic remedies were fairly tried, but without benefit, and both hands were amputated. The patient died eighteen months later. Nodules of epithelial cancer were found in the axillary glands on the left side, in both lungs, in the suprarenal capsules, and elsewhere.

Mr. Hutchinson also showed drawings from another case of a lesion of the palms exactly resembling the corns seen in the above-mentioned cases. This patient had a cancerous growth in his neck, and took arsenic in large doses for months together. The skin became muddy and thick, and patches like psoriasis developed upon the elbows and other parts, but in the palms and soles the corny masses were not followed by cancer. In another, the patient, a lady aged twenty-five, who had taken arsenic for pemphigus for many years with intermissions, developed an ulcer on the crest of the ilium; the glands enlarged, and a tumor formed in the thigh, resulting in her death. And in another instance a man, aged thirty-four, who had taken arsenic for a long time for psoriasis, presented a number of corns on his hands and feet, and subsequently developed epithelial cancer of the scrotum.

Mr. Hutchinson thought that the facts he had brought forward warranted the opinion that the arsenic was the cause of the cancer in the cases given. The chief points brought forward by subsequent speakers in opposition were that cancer was not particularly common in the fen districts, where arsenic was taken in very large quantities for the cure of ague, and that cancer was not especially prevalent among the inhabitants of Styria, whose propensity for eating arsenic was so well known. Sir James Paget thought it could not be doubted that arsenic had the power, in persons predisposed to it, to determine the development of cancer. Mr. Hutchinson, in reply, briefly pointed out that the early diagnosis of cancer by the microscope was very misleading, and called attention to the fact that eruptions produced by arsenic were never symmetrical.

Sir George Burrows died two days ago, at the great age of eighty-seven. Like many other distinguished medical men, he was educated at Caius College, Cambridge, where he took very high mathematical honors and obtained his fellowship. Having determined to follow his father's profession (for his father was a medical man, at one time engaged in the treatment of the insane), he entered at St. Bartholomew's Hospital, where he soon made his mark, and was thought so highly of by the authorities that he was appointed on the staff when they decided to make a new appointment of assistant physician to the hospital: before that time there had only been physicians, and no persons were treated as out-patients. Dr. Burrows's duties were at first confined to treating those who had been in the wards, but who required further medical advice. Eventually he rose to the very highest distinctions in the profession, being president of the College of Physicians and of the General Medical Council. He was a courteous and accomplished physician, well able to sustain the reputation of the profession in the high position he was called upon to fill.

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NEW YORK, SATURDAY, DECEMBER 31, 1887.

CADAVERINE AND SUPPURATION.

EVER since Brieger's important discovery of the ptomaines, a number of acute observers have been investigating the relation of those alkaloids to the various micro-organisms and to the causation of morbid processes. Prominent among them is Grawitz, whose recent article in the "*Archiv für pathologische Anatomie und Physiologie und für klinische Medicin*," on the significance of cadaverine in the production of suppuration, is both instructive and interesting. He found that the pure alkaloid contained no bacilli, and, further, that from two-and-a-half to five-per-cent. solutions of it completely destroyed the *Staphylococcus aureus* within an hour. Another series of experiments showed that an exceedingly small addition of cadaverine to cultivation gelatin was sufficient to delay the growth of pus cocci or to prevent it entirely. Cadaverine, therefore, belongs to those alkaloids of putrefaction which, even in the smallest quantity, destroy the nutritive qualities of cultivation media for other bacteria. The producers of cadaverine must, in consequence, be looked upon as antagonistic to the *Staphylococcus aureus*.

On the other hand, cadaverine of itself is capable of exciting suppuration; for the author found, in a series of experiments, that the subcutaneous injection of solutions of the alkaloid free from any germs was followed, according to the quantity and the strength of the solution, either by inflammation and subsequent suppuration, or by inflammatory œdema ending in absorption and simple recovery. Rats and mice were found poorly adapted for these experiments; on account of the thinness of their skin, sloughs were readily produced. Even in rabbits and guinea-pigs the results were not satisfactory, for in them the subcutaneous injection was followed either by a caustic effect or, if the solution was very weak, by simple absorption. But the best results were obtained with dogs, in which from 0.3 to 0.5 c. c. of a five-per-cent. solution caused suppuration, which was observed as early as the third day.

In another series of experiments Grawitz made subcutaneous injections of the cadaverine solution containing the *Staphylococcus aureus* or the *Streptococcus*, with the result of producing a severe phlegmon in the surrounding tissues, followed by necrosis of the skin. The pus from this phlegmon was found to contain, in addition to various other cocci, those that had been contained in the solution. From these experiments it follows that cadaverine has the property of setting up suppurative inflammation, and that, in instances where living pus cocci are present, these cocci increase the suppuration and cause it to extend to the neighboring tissues. Of all chemical compounds, the alkaloid seems most to resemble ammonia in its local action.

MINOR PARAGRAPHS.

ANTIPYRINE IN SEPTIC FEVER.

PROFESSOR VERNEUIL, of Paris, as our Paris correspondent informs us, calls attention to an important action of antipyrine in surgical septic fevers, as illustrated in two cases lately observed in his service at the *Pitié*. The first was that of a man who was suffering from osteitis of the superior extremity of the humerus. M. Verneuil performed resection, but, notwithstanding this operation, the general state of the patient remained bad. His temperature ranged between 38° and 39° C. [100.4° and 102.2° F.], he had no appetite, and the digestive tract would not tolerate any form of medication; so that the man was in a dying state, when a rectal injection of two grammes [half a drachm] of antipyrine was given, night and morning, with the result that the fever fell, and at present the man is in a very fair way to recover. The second case was that of a woman who, following a carbuncle of the neck, had an abscess of the iliac region, which was opened, drained, and treated with perfect antiseptis with apparent success, but her general condition remained bad, and she had a high temperature, etc. The same form of treatment with rectal injections of antipyrine cured her also. This seems to indicate an important mode of action of this drug in surgical or septic fevers.

THE PERITONEAL COAT OF THE CÆCUM.

WE have been much interested in a letter to the editors of the "*New Orleans Medical and Surgical Journal*," by Dr. Rudolph Matas, of New Orleans, to whom we are indebted for a copy in pamphlet form. Dr. Matas shows conclusively, by citations from the writings of Luschka (whose first article on the subject was published in 1861), Hyrtl, Henle, Langer, and Heitzmann, that the views now getting to be largely entertained that the cæcum has in most instances an entire peritoneal investment, and that cæcal herniæ have a sac like that of a typical hernia, should not be credited to Mr. Frederick Treves alone. It is undoubtedly true that Mr. Treves arrived at his conclusions by original observations, and that it is to his graphic teaching that the views maintained a quarter of a century ago by Luschka, and by Bardeleben before him, are now in a fair way to be generally accepted in other countries than Germany. The occasion of Dr. Matas's letter is the credit given to Mr. Treves alone in the last edition of Gray's "*Anatomy*." He not only gives an exceedingly interesting and convincing account of the facts in the case, but furnishes a notable example of clear and courteous writing.

THE DILATATION OF STRICTURES OF THE RECTUM WITH
BARNES'S BAGS.

A RECENT number of the "*Canadian Practitioner*" contains an interesting abstract of a communication made to the Canadian Medical Association by Dr. L. M. Sweetnam, of Toronto, on "*Stricture of the Rectum*." In two cases that had resisted long-continued treatment with bougies, it occurred to Dr. Sweetnam to use Barnes's uterine dilators. At first he found that, although some dilatation was accomplished, but little impression was made upon the symptoms, even when a number of bags were introduced one after another. At length, however, he ascertained that much of the force of the injection was expended in dilating only a portion of the bag—the part where there was least resistance. He then conceived the ingenious idea of limiting the dilatability of the bags by means of an oiled-silk covering, thus securing equable dilatation. The adoption of this device not only produced relief that had persisted

up to the time of his report, more than six months, but also made the use of the bags less painful. The advantages of Barnes's dilators for this purpose seem to Dr. Sweetnam to be that they are easily placed in position; that they may be carried a great distance into the bowel; that a high degree of force may be employed with comparative safety; that all the power is directed to the dilating of the stricture; that there is no severe stretching of the anus; that no irritation is produced in attempting to insert the instrument into the stricture; that the pressure is exerted in parallel lines; that the dilator is economical; and that it may be made of any desired length or diameter.

ANTIPYRINE IN THE TREATMENT OF BRONCHITIS.

IN the "Therapeutic Gazette" for December, attention is called to the action of antipyrine in controlling catarrh of the air-passages, both in its simple form and when it occurs as a complication of scarlet fever. Credit for first having brought this therapeutical point to the notice of the profession is given to Dr. Julius Friedländer, who published an article on the subject in the "Therapeutische Monatshefte" for August of this year. Our contemporary is mistaken in assigning priority in this matter to the German author. In our issue for July 24, 1886, Dr. B. F. Westbrook, of Brooklyn, in a lecture on "The Diagnosis and Treatment of Diseases of the Chest," recommended antipyrine in the following words: "Another agent which, in my hands, has appeared to have a very beneficial effect in simple inflammatory capillary bronchitis and broncho-pneumonia, the only forms in which I have used it, is antipyrine. I have given it dissolved either in water with the syrup of Tolu, or in equal parts of an elixir of calisaya and Curaçoa cordial. In small doses, say two or three to five grains, every three hours, to a child under five years old, it appears not only to reduce the temperature, but to allay the local inflammation. It may be alternated with some mild alcoholic stimulant. If the secretion is not too copious, the iodide of ammonium is valuable. It may be combined with a small dose of paregoric, just enough to soothe the nervous system and quiet the cough if it is harassing and ineffectual; and the aromatic spirit of ammonia, glycerin, and water complete the mixture."

SMALL-POX IN ALABAMA.

THE State Board of Health of Tennessee, in its "Bulletin" for December 15th, mentions a recent outbreak of small-pox at Morganville, Alabama, a town a little south of Montgomery, on the Louisville and Nashville Railroad. The "Bulletin" remarks upon the very frequent and intimate intercourse between Alabama and the three divisions of Tennessee, and warns the local officials that the responsibility will rest upon them if a destructive epidemic of the disease visits any portion of the State. It thinks that perhaps seventy-five per cent. of the people of Tennessee are not protected by vaccination.

ITEMS, ETC.

The Health of New York City.—During the five weeks ending Tuesday, December 27th, the following numbers of cases and deaths from infectious diseases were reported to the Sanitary Bureau of the Health Department: 74 cases of typhoid fever and 27 deaths; 599 cases of scarlet fever and 90 deaths; 18 cases of cerebro spinal meningitis and 14 deaths; 230 cases of measles and 24 deaths; 895 cases of diphtheria and 267 deaths; 5 cases of small-pox and 3 deaths.

The Health of Boston.—During the week ending Saturday, December 24th, the following numbers of cases and deaths

from infectious diseases were reported to the Board of Health: Diphtheria, 26 cases and 8 deaths; scarlet fever, 63 cases and 19 deaths; typhoid fever, 11 cases; measles, 11 cases and 1 death. There were also 19 deaths from consumption, 15 from pneumonia, 3 from whooping-cough, 13 from heart disease, 15 from bronchitis, and 3 from marasmus. The total number of deaths was 172, against 187 during the corresponding week last year.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending December 27, 1887:

DISEASES.	Week ending Dec. 20.		Week ending Dec. 27.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever.....	14	4	12	5
Scarlet fever.....	128	18	117	26
Cerebro-spinal meningitis....	4	2	4	3
Measles.....	36	4	70	8
Diphtheria.....	195	56	138	58
Small-pox.....	3	1	1	1

The Kings County Medical Association will meet in Brooklyn on January 3d. A discussion on "Fever" will be opened with papers by Dr. McCollum and Dr. Rochester, who will review and analyze Dr. Austin Flint's address on that subject read at the recent International Medical Congress. It is expected that Dr. Flint will be present and take part in the discussion.

Intestinal Antisepsis.—The following is M. Dujardin-Beaumetz's method: Into a vessel containing over a pint put 400 grammes [6,000 grains] of water, 25 grammes [375 grains] of sulphide of carbon (pure), and 50 drops of essence of mint. Shake the mixture and allow it to settle. The sulphide of carbon will remain at the bottom; use only the liquid part. Of this sulpho-carbonated water he gives from eight to ten teaspoonfuls in twenty-four hours, in hourly doses, in half a glass of milk or lemonade, in all cases of typhoid fever.

A Recruit's Varices.—An amusing and true story is told in Paris of an army surgeon who was examining some recruits, and, not wishing to strip them, asked one of them if he had varices. Yes, he said, he had, but he had forgotten to bring them.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from December 18 to December 24, 1887:*

BLAIR, VICTOR, Captain and Assistant Surgeon. Relieved from further duty in the Department of Dakota. S. O. 293, A. G. O., December 17, 1887.

SWIFT, EUGENE L., First Lieutenant and Assistant Surgeon. Ordered for duty at Fort Spokane, Washington Territory. S. O. 293, A. G. O., December 17, 1887.

Naval Intelligence.—*Official List of Changes in the Medical Corps of the United States Navy during the week ending December 17, 1887:*

HUDSON, A., Medical Inspector. Ordered to the Trenton

BATES, N. L., Medical Inspector. Detached from the Trenton, and placed on waiting orders.

Marine-Hospital Service.—*Official List of Changes of Stations and Duties of Medical Officers of the United States Marine-Hospital Service for the week ending December 19, 1887:*

MURRAY, R. D., Surgeon. Granted leave of absence for fourteen days. December 8, 1887.

GASSAWAY, J. M., Surgeon. Granted leave of absence for fifteen days, [to take effect when relieved. December 17, 1887.

IRWIN, FAIRFAX, Surgeon. Relieved from duty as acting chief clerk, Office Supervising Surgeon-General, and to await orders.

CARRINGTON, P. M., Assistant Surgeon. Ordered to examination for promotion. December 14, 1887.

BROOKS, S. D., Passed Assistant Surgeon. Granted leave of absence for thirty days, to take effect when relieved. December 15, 1887.

McINTOSH, W. P., Assistant Surgeon. To proceed to Wilmington, N. C., for temporary duty. December 13, 1887.

MAGRUDER, G. M., Assistant Surgeon. Granted leave of absence for twenty-one days. December 19, 1887.

Society Meetings for the Coming Week:

MONDAY, *January 2d*: New York Academy of Sciences (Section in Biology); Medico-surgical Society of German Physicians; Morrisania Medical Society (private); Brooklyn Anatomical and Surgical Society (private); Utica Medical Library Association; Boston Society for Medical Observation; St. Albans, Vt., Medical Association; Providence, R. I., Medical Association; Hartford, Conn., City Medical Association; Chicago Medical Society.

TUESDAY, *January 3d*: New York Obstetrical Society (private); New York Neurological Society; Elmira, N. Y., Academy of Medicine; Buffalo Medical and Surgical Association; Ogdensburg, N. Y., Medical Association; Medical Societies of the Counties of Broome (quarterly) and Niagara (semi-annual—Lockport), N. Y.; Hudson, N. J. (Jersey City), and Union, N. J. (quarterly), Medical Societies; Androscoggin, Me., County Medical Association (annual—Lewiston); Chittenden, Vt., County Medical Society.

WEDNESDAY, *January 4th*: Harlem Medical Association of the City of New York; Medical Society of the County of Richmond (Stapleton), N. Y.; Penobscot, Me., County Medical Society (Bangor); Bridgeport, Conn., Medical Association; Philadelphia County Medical Society (regular).

THURSDAY, *January 5th*: New York Academy of Medicine; Society of Physicians of the Village of Canandaigua, N. Y.; Boston Medico-psychological Association; Obstetrical Society of Philadelphia; United States Naval Medical Society (Washington); Washington, Vt., County Medical Society (annual—Montpelier).

FRIDAY, *January 6th*: Practitioners' Society of New York (private).

SATURDAY, *January 7th*: Clinical Society of the New York Post-graduate Medical School and Hospital; Manhattan Medical and Surgical Society (private); Miller's River, Mass., Medical Society.

OBITUARY NOTES.

Alonzo B. Palmer, M. D., of Ann Arbor, Mich., professor of theory and practice of medicine, and dean of the faculty, of the Medical Department of the University of Michigan, died on Friday, the 23d inst., in the seventy-third year of his age. Dr. Palmer was a native of Richfield, Otsego County, N. Y., and obtained his professional education at the College of Physicians and Surgeons of the Western District of New York, from which he took his degree in 1839, the year before the college became extinct. In 1850 he settled in Tecumseh, Mich., but soon moved to Chicago, where in 1852 he became city physician. In the same year he was appointed professor of anatomy in the University of Michigan, where he afterward occupied successively the chairs of materia medica and therapeutics and of diseases of women and children, until his transfer in 1860 to the professorship which he held at the time of his death. In 1864 he was

appointed to the corresponding chair in the Berkshire Medical Institution and to that in the Medical School of Maine.

In all these positions he was an efficient and successful teacher, and a few years ago he wrote an excellent treatise on the practice of medicine. The deceased was a man of positive convictions, and he was accordingly powerful in shaping the opinions of those with whom he came in contact.

Letters to the Editor.

PROFESSOR FAUVEL ON THE VIN MARIANI.

13, RUE GUÉNÉGAUD, PARIS, *December 8, 1887.*

To the Editor of the New York Medical Journal:

SIR: Will you kindly have it announced in your Journal, in justice to myself before the medical profession, that the various notices appearing in journals and circulars quoting my name in connection with coca are entirely false and in every respect a prevarication. The only preparation of coca employed by me with undoubted and uniform success has been the so well-known *vin Mariani*, which, since 1865, I have had occasion to prescribe daily in my *clinique*, as well as in private practice. My opinion of this valuable medicament, together with those of many of my *confrères*, has during many years been frequently made known for the benefit of the profession in various writings, and it is but just to this worthy preparation that it receive all honor due. I thank you for compliance with my request.

CH. FAUVEL.

Proceedings of Societies.

PHILADELPHIA COUNTY MEDICAL SOCIETY.

Meeting of November 23, 1887.

The President, Dr. J. SOLIS-COHEN, in the Chair.

The Nature of Labor.—Dr. HENRY LEAMAN read a paper on this subject, which, he said, did not purport to offer a solution of all the theories and problems of labor, but was simply an attempt to throw some light on the phenomena of labor, with special reference to everyday work. In speaking of labor, we understood physiological or natural, not pathological labor. The author proceeded as follows:

“Harvey said that the kind of birth in which the fetus was born enveloped in its coverings appeared to him by far the most natural; it was like the ripe fruit which dropped from the tree without scattering its seed before the appointed time. This statement is doubtless physiologically correct. But in experience the separation of the elements of the ovum generally occurs, the waters preceding and the placenta succeeding the fetus, the true process of labor being in no manner altered or changed thereby. Any presentation or position that can be terminated without assistance may be called natural.

“There are only two stages in labor. The first embraces all the phenomena that immediately precede or occur during the dilatation of the cervix. The second embraces all the phenomena that occur during the expulsion of the contents of the uterus. This includes the so-called third stage. If labor has pursued a natural course and due time has been allowed, the

placenta will be found loosened by the pains and ready to be removed immediately after the birth of the child. If the placenta is adherent or there is an irregular contraction, the hand can be passed into the cavity to remove it. The duration of the first stage is a very indefinite period, lasting from a few hours to several days or even weeks. The duration of the second stage is a more definite period, varying from half an hour to four hours. The only positive sign that the expulsion of the uterine contents is about to take place is the dilatation of the distended cervix accompanied by regular contracting pains not relieved by opium. Dilatation is not complete until the cervix has expanded enough to allow the exit of the presenting part. Then begins the second stage of labor, and the advancing mass now comes in contact with the pelvic wall.

"The nature of labor consists particularly in the manner in which the uterus expels its contents, not in the mechanism of the pelvis. The fetal contents are passive in delivery. The life of the ovum in viviparous animals is part of the mother's life, connected through the uterus and placenta, and identified by a mutual growth and development. The uterus is the outer contractile layer of the ovum. When their cyclical development is complete or has been terminated in any way, differentiation or birth takes place. This is accomplished through contractility of the uterus, which gives to the fetus a series of amorphous movements that cause it to advance through the pelvic opening. The fetal mass moves under the persuasive action of flexion and rotation produced by the uterus alone; and, in virtue of its adaptation to its surroundings, overcomes great obstacles. The overcoming of obstacles is due not to the amount of force, but to the adaptation of the fetus to the pelvis. Dr. D. B. Hart, in the 'Obstetrical Transactions,' Edinburgh, vol. v, in a paper on 'The Bearings of the Shape of the Fetal Head on the Mechanism of Labor,' says: 'It will be seen that the shape of the fetal head, face, and breech is, to a certain extent, a preparation for the emergencies of birth. In a normal head case in a normal pelvis, flexion and rotation are favored by it. Should the pelvis be rickety, the head, either first or last, still has the shape which favors its passage through the contracted conjugate; and even for minor deviations of face cases and badly rotated occipito-posterior cases, we have the shape of the face and head markedly fitted for the best means of delivery.' The explanation of flexion by Lohs is an advance over the previous theory of articulation of the spine to the occipital bone. Deeper than these phenomena of the mechanism of labor are the force which the uterus exerts and the manner in which it is applied. The abdominal muscles take no part directly in the expulsion of the uterine contents. Their action is to sustain and conserve the uterine contractions. They can not be applied in an effective manner in expulsion. Dr. Hart concludes the paper above referred to with these words:

"Future observations are still needed as to the shape of the head after labor, as bearing on any peculiarity of mechanism, and I hope that this communication will direct the attention of obstetricians to an interesting field."

"These moldings which the head undergoes not only teach us the peculiarity of the mechanism, but also enable us to understand the manner in which the force is applied, and also something of the nature of its action. The caput succedaneum found over the parieto-occipital region, which disappears in twenty-four or forty-eight hours, is similar in its formation to the extreme elongation of the occiput in great flexion of posterior rotation or the elongation of the frontal region in frontal presentation, and shows the manner in which the fetus makes its way by elongation under moderate and gradually applied force.

"This closer study of the mechanism of labor, the study of the placenta, and the changes which the uterus undergoes dur-

ing gestation and immediately preceding birth, belong more particularly to the gynecological concept of labor. The progress by which our present standpoint has been reached has been gradual. The first concept was midwifery, which concerned itself with the most external phenomena of labor, such as holding the hands, making pressure on the stomach, administering drinks, comforting the mind of the patient, placing her in a certain position, endeavoring to dilate the vagina; and when nature could not complete the delivery, the surgeon was called to destroy the child and save the mother. The second concept was the obstetrical, and had its origin with the introduction of the forceps, in the early part of the eighteenth century. This has led to the closer study of the mechanism of labor, occupying its time mostly, however, in the study of the fetal head and pelvis. The third concept dates from the introduction of ovariotomy in the early part of this century."

Abdominal Section for Disease of the Uterine Appendages.—Dr. CHARLES B. PENROSE read a paper on this subject, founded on eleven cases, all successful. The operations had all been performed in 1887, and the patients were at present well and able to attend to their various duties.

In five of the cases the appendages were removed on only one side. In one of these (a case of pyosalpinx and cystic ovaries) the author had found it impossible to remove the left tube and ovary. They were firmly adherent in a knot on the side of the uterus, and the uterus was bound down in the hollow of the sacrum. In the other cases of unilateral removal he had intentionally left the appendages upon one side. Except in the case of dermoid cyst, the women were young and desirous of having children; and at the time of operation he could discover no sign of any pathological condition in either the tube or ovary. He was aware of the fact that in cases of tubal disease it was often unwise to perform a unilateral operation and to leave even an apparently healthy tube, as, in many cases, it subsequently became diseased from an infecting focus in the uterus.

Though sufficient length of time has not yet elapsed to come to any definite conclusion with regard to his cases, yet so far he had had no cause to regret having left the sound tubes; and in one case the patient had become pregnant since the operation.

A point of interest in connection with the first case (salpingitis and cirrhotic ovaries) was the length of time during which the patient was fed by the rectum. She began to vomit as she recovered from the influence of the ether, and she continued to vomit everything which was administered by the mouth for thirty-six days after the operation. There was no apparent cause for this excessive vomiting. The operation was simple, and was not followed by any obvious symptoms of peritonitis. The rectal injections, by means of which this woman was nourished for over a month, consisted of pancreatized milk, eggs, and whisky. Two thirds of a quart of milk, one egg, and three ounces of whisky were administered in four or five doses during the twenty-four hours. During this prolonged course of rectal feeding she lost many pounds in weight. No food at all was taken by the mouth; the very small quantities which were occasionally administered experimentally were always rejected immediately. When she finally became able to take food by the mouth it was necessary to give it in the form of twenty-drop doses of soup or beet tea. In the table he had made no distinction among the different forms of non-purulent inflammation of the Fallopian tubes. All thickened, enlarged, adherent tubes which did not contain pus he had put down as cases of salpingitis.

In all the cases of pyosalpinx there was a history of repeated attacks of pelvic pain and inflammation, which often confined

the patient to bed for several weeks. In two of the cases of pyosalpinx there was also ovarian abscess. In these cases the abscess cavity in the tube communicated directly with the abscess cavity in the ovary, and the origin of the ovarian abscess was obvious. In Case VII (salpingitis and abscess of the ovary), however, there was no pus in the tube. The tube was enlarged and adherent, and its fimbriated extremity was closed; and it did not communicate with the cavity of the ovarian abscess. The ovarian abscess contained about half an ounce of pus and had a distinct pyogenic membrane. The author thought that abscess of the ovary was of more frequent occurrence than works upon gynaecology admitted. And, though it probably was in general due to oophoritis caused by inflammation of the tube, yet it was not always associated with pyosalpinx. In two cases of double pyosalpinx (Cases V and IX) a thin purulent fluid was found in the peritoneal cavity, and the intestines were found to be deeply congested when the abdomen was opened. The patients had probably been suffering for some time with general chronic peritonitis excited by the escape of pus from the distended tubes. The symptoms, however, before operation had not pointed to general peritonitis, the patients having only complained of pelvic pain and pain in the back. The chance that such a condition might occur in connection with pyosalpinx was a strong argument in favor of removing these abscesses by abdominal section, instead of evacuating them by the vagina, as was so often done.

The danger of assuming any case of peritonitis in a woman to be idiopathic, without a thorough vaginal examination, was obvious. He had the report of a case which had occurred recently, where the patient was treated for several weeks for idiopathic peritonitis, and an operation done a few hours before death revealed double pyosalpinx and a ruptured ovarian abscess.

In six of the cases reported, an abdominal drainage-tube was used. The average time of convalescence in these cases was no longer than in the cases where a tube was not introduced; and the severity of the symptoms following the operation—the elevation of temperature, the rapidity of pulse, and the pain—were much less marked in the drainage-tube cases than in the others. The absence of pain in the drainage-tube cases was probably in part due to the fact that most of them were cases of pyosalpinx, where the tissues which were ligated and cut were so far degenerated that their sensibility was much diminished. He thought that the danger of abdominal hernia following the use of a drainage-tube had been exaggerated. In one of his cases there was now a small hernia, but it had occurred above the position of the tube and was probably due to some error in introducing the sutures. In some thirty drainage-tube cases which he had seen in the practice of Dr. Joseph Price, there had, as yet, been no hernia. It was probable that hernia was due more frequently to a long or a high incision and careless suturing than to a drainage-tube. The average length of time before the glass drainage-tube was removed in his cases had been about five days, the shortest two days, and the longest eight days. In but one case had the discharge from the tube become purulent. The use of a cotton rope to act as a capillary drain added greatly to the value of the glass drainage-tube. It prevented any fluid from remaining in the bottom of the tube, and it removed the deposits of fibrin from the perforations in the glass.

One case was reported at length on account of the interesting phenomena attending the development and the subsidence of the peritonitis, and because it was treated throughout by sulphate of magnesium and rectal injections, and not by opium. And, indeed, he had not found it necessary to use opium in any of the cases reported.

NEW YORK NEUROLOGICAL SOCIETY.

Meeting of December 6, 1887.

The President, Dr. C. L. DANA, in the Chair.

Professional Cramp.—Dr. WAITZFELDER related the case of a man, thirty-eight years of age, who had been a cigar-maker for twenty years. He was first seen by the speaker six months ago. Six months before this he had begun to notice a stiffness and awkwardness in forming the head of a cigar. This required a rotary motion of the thumb and index-finger. At first he was able to substitute his middle finger in this manoeuvre, but subsequently the stiffness extended to this, and finally to the little finger. When he was first seen there was some anaesthesia of the skin, with tonic spasm of the flexors of the fingers. These contractures were partially relieved by rest, although they never entirely disappeared. They were aggravated by any effort to work at his trade and by changes in temperature. A short time ago the patient had tried varnishing, work which required only coarse motions of the hand, but had been obliged to give it up. He had been under treatment for six months, with galvanism, faradism, strychnine, etc., without improvement. Regarding the lesion as central, the speaker suggested stretching the radial nerve with the object of inducing atrophy in the central cells, which might be considered the source of irritation. As Dr. Seguin had seen the case, his opinion was requested.

Dr. SEGUIN saw nothing which would distinguish the case from one of aggravated professional spasm. He regarded such dyskineses as of central origin, and would not favor nerve stretching. His experience had, in fact, been discouraging in any treatment for professional cramp. A case of waiter's cramp had come under his observation. He mentioned it because it was rare. The man had been a waiter for fourteen years, carrying plates after the manner of his class, until he reached a stage in which he broke dishes and spilled their contents.

Three Cases of Hemianopsia of Peripheral or Neural Origin, with a Study of the Symptom Hemipic Pupillary Inaction, its Diagnostic Value, etc.—Dr. SEGUIN read a paper with this title. All the patients were supposed to have a neural, peripheral lesion. All presented the pupillary reaction hinted at by von Graefe and described by Wernicke as the hemipic pupillary reaction, a symptom never before observed or described in this country.

CASE I.—The patient was first seen October 26, 1887, having been referred from the Eye Department of the Manhattan Eye and Ear Hospital by Dr. Webster. Six years previously he had begun to suffer from headache, mostly frontal, also nausea and vomiting. Two years previously he had suffered from more or less constant pain. For the last few months the headache had been less, but he had lost vision in the left eye. No history of syphilis was obtained. On examination, the right visual field showed temporal hemianopsia outside the point of fixation. The visual field of the left eye was completely blind. Vision was at this time R. E. $\frac{5}{60}$, L. E. 0. Light thrown into the left eye caused no reaction in either pupil. If it was thrown into the right eye in the visual axis, good reaction in both pupils occurred. If the light was moved toward the nose, reaction was obtained in both pupils, also if it was moved toward the temple within an angle of 60 degrees. If it was thrown farther toward the temporal, or blind, side, no reaction occurred in either pupil. The centripetal portion of the arc controlling pupillary reaction was complete only in the right eye, while the centrifugal portions were perfect in both eyes. On November 21st the same reactions were obtained. If light was thrown at an angle of 90 degrees, from the nasal side at any angle, or from the temporal side up to an angle of 70 or 60 degrees, reaction occurred in both pupils, but if the light entered the eye from the temporal side at an angle of 60 to 40 degrees from the horizontal, no reaction was obtained. Vision was

now found as follows: L. E. 0, R. E. 100° , showing progressive loss during the month.

The lesion in this case, said the author, was probably one of the chiasm, destroying both fasciculi for the left eye, and the fasciculus cruciatus for the right eye.

CASE II was one of typical temporal hemianopsia with darkness also of the lower nasal quadrant upon the left side. The patient, forty-one years of age, had been referred to the author by Dr. David Webster. In 1886 he had noticed occasional headaches, with increasing failure of the left eye. There was diplopia at that time. If two objects were present, he saw three; if four, five, etc. Light attacks of vertigo were complained of. There was no history of syphilis in the case. The patient was first seen by the author November 11th. The right eye showed the vertical line of separation passing through the point of fixation. This was the first case in the author's experience, of either central or peripheral origin, of which this had been true. There was right hemiopic pupillary reaction. If light was thrown from the temporal side at an angle more oblique than 60 degrees, no reaction occurred. If thrown from the nasal side or directly into the eye, reaction of both pupils was obtained. In the left eye slight reaction occurred only to central illumination. Vision: R. E. $\frac{3}{40}$, L. E. $\frac{2}{40}$.

The latter was an interesting finding, as the left eye, with the better vision, had a smaller field than the right eye, showing that vision was not measured by the geometrical extent of the field, but rather by the general state of nutrition of the optic nerve. The lesion in this case involved both fasciculi cruciati and the ventral or inferior half of the fasciculus lateralis of the left eye.

CASE III was that of a person, twenty-five years of age, also referred to the author by Dr. Webster, from the Eye Department of the Manhattan Eye and Ear Hospital. The patient was first seen October 10th. He had begun to suffer from loss of vision two years previously. At the date of examination the right eye was completely blind. There was general loss of strength, but no history of injury or of syphilis. There was no paralysis, and there was no loss of equilibrium. The dynamometer showed 23° in the right hand, 20° in the left. The left eye showed typical temporal hemianopsia. At a subsequent examination he could read No. 1 Jaeger type at seven inches.

The lesion in this case involved the fasciculus cruciatus for the left eye and irregularly both fasciculi for the right eye.

The author then referred especially to the symptom common to the three cases, called by Wernicke hemiopic pupillary reaction, but which he would designate as hemiopic pupillary inaction; and to its diagnostic value in hemianopsia of central or peripheral origin. The optic arc, he said, consisted of the retina, especially the macula, and the optic nerves for its centripetal portion; and of the anterior group of the corpora quadrigemina, with the nuclei of the motor oculi nerves, the motor oculi, the ciliary nerves, and the iris, for its centrifugal portion. Contraction of the whole iris followed stimulation, because the termination of the ciliary nerves was plexiform in arrangement. The path might be broken by lesion of the centripetal portion, by lesion of the reflex center or the optic lobes, or by lesion of the centrifugal paths. The termination of this—the iris—might be immobile from iritis. In the cases reported, the symptoms had been restricted to hemianopsia. If a pencil of light were directed in the optic axis or moved toward the nose so as to strike upon the temporal half of the retina, good reaction was obtained; also if moved toward the temple up to an obliquity of 60 or 70 degrees; but if it entered at an angle of from 40 to 60 degrees from the horizontal, no reaction was obtained. The light experiment was not exact, because it was impossible to focus the pencil of light exactly. On focusing nearly in the optical axis, crossing of the rays and diffusion with reception upon the temporal or sensitive portion of the retina occurs. Without this diffusion, inaction of the pupil would be noted as

soon as the rays of light struck the nasal side of the field, and the experiment would be as exact as the perimeter test. In the examination, the patient should be in a dark room, with the gas-jet or lamp behind him in the usual position for an ophthalmological examination. He should be directed to look toward the farther side of the room, and a faint light from a plane or large concave mirror held out of focus thrown into the eye. Relative relaxation of the iris was thus obtained. A beam of light focused by the ophthalmological mirror was then thrown into the pupil from the optical center and from various angles and the reaction noted. It was especially important that the patient should look at a distant object; the same was true of ophthalmological examinations in tabes, etc.

The author then added a number of rules for determining the location of the lesion in cases of hemianopsia.

Bitemporal Hemianopsia.—Dr. GREME M. HAMMOND showed a patient for Dr. C. H. BROWN. A woman, thirty-seven years of age, who, on August 10th, was suddenly seized with pain in the right eye, the sight of which was lost. The pain spread to the left eye, and in three minutes she was totally blind. The pain continued spreading over the head to the base of the skull. The patient was in bed six weeks. On November 15th she began to walk a little, and under the iodide-of-potassium treatment vision returned so that she could see an object if within two feet of the eye. She could now read newspaper headings, but efforts to do more than this gave pain. Examination showed obscuration of the nasal half of the field, covering the point of fixation in both eyes.

The PRESIDENT had seen the fields drawn by Dr. Francis Valk, and the obscuration was very marked.

Dr. SEGUIN was able to give a satisfactory demonstration of hemiopic pupillary inaction in this patient.

Dr. BRILL proposed three divisions for cases of hemianopsia: those of prosencephalic, mesencephalic, and peripheral origin. Where the pupillary reaction was retained, the two latter would be thrown out, and the lesion would pertain to the cortex or the subcortical expanse.

Dr. STARR suggested that the society owed its thanks to Dr. Seguin for a series of three observations upon so interesting a subject. To make accurate diagnosis possible by the working out of a single symptom was an enviable result. The symptom had been known and its lesions tabulated, especially by Wernicke in his "*Gehirnkrankheiten*," but not before in the English tongue. The symptom had to be searched for carefully. Unless the physician used the correct method, it would not be found. In many published cases it had undoubtedly been present, but not been discovered. The speaker referred to the fact that Ferrier, in "*Brain*," vol. vi, had made the escape of the macula a diagnostic point, stating that, where the lesion was located in the chiasm and tract, central vision was impaired; that, where it was located in the cortex or between the thalamus and the cortex, central vision was not impaired. He had formed his new diagram, in the second edition of his "*Functions of the Brain*," upon this theory, according to which central vision should have been impaired in all of the reported cases. The speaker did not agree with Dr. Brill as to the practicability of classification according to the fetal development of the brain. The optic nerve was derived from the thalamencephalon, and the retina from the mesencephalon; thus two portions of the neural tube were concerned in the peripheral apparatus.

Dr. LESZYNSKY had examined two of the patients referred to in Dr. Seguin's paper. The examination was not difficult, though it required care. He considered the head-mirror of assistance in the manoeuvre. The term inaction of the pupil he thought misleading.

Dr. BIRDSALL thought Dr. Seguin's classification practicable and likely to be of service.

Dr. BRILL referred to the fact that von Gudden had obtained reaction of the pupil by the use of intense sunlight after division of the optic nerve, showing ganglionic elements in the iris itself, which were able to act independently.

Dr. SEGUIN found clinical records opposed to Ferrier's classification, for the dividing-line hardly ever passed through the point of fixation in any form of hemianopsia, and he failed to find light on the escape of the macula by any theory of decussation. He was rather inclined to think it dependent upon the structure of the macula, which was somewhat ganglionic in character and decidedly different from that of the remainder of the retina. Before von Gudden, Brown-Séquard had demonstrated the existence of a local mechanism for the contraction of the iris in the lower animals, but there was no evidence that such a mechanism came into play in the human eye.

SOCIETY OF THE ALUMNI OF BELLEVUE HOSPITAL.

Meeting of November 2, 1887.

The President, Dr. HERMANN M. BIGGS, in the Chair.

Treatment of Abscesses.—Dr. G. DE N. HOUGH, of New Bedford, Mass., read a paper on this subject (see page 731).

Dr. ROBERT F. WEIR opened the discussion by stating that he had not had much personal experience with the method of treatment recommended by the author of the paper, but it seemed to him that the plan of treatment for large abscesses in the region of the neck was rather heroic, and he would not advise its adoption by men who had not had considerable experience in surgery, on account of the danger of wounding one of the large vessels in that locality. The treatment of abscesses in the groin by complete excision he had tried in a few cases with success. Where abscesses were connected with diseased bones, of course it was impossible to effect a radical cure unless the diseased bone was removed, and in many cases this was impracticable; for example, in abscesses connected with caries of the vertebræ. Here the seat of the disease could not be reached. Much good could be done by establishing thorough drainage early.

He had devoted considerable attention to the treatment of two varieties of abscesses—viz., cerebral and perityphlitic. In cases of abscess following otitis media he advised drilling through the mastoid process until a flow of pus indicated that the abscess had been reached. In other cases, when the probable site of the abscess had been determined, it was feasible to remove a button of bone, and, if pus was not found between the dura mater and the skull, to separate the membrane from the petrous portion of the temporal bone and, if fluctuation was felt, incise the membrane. If the abscess was deeper and situated in the brain substance, a director might be carefully introduced into the brain until the abscess was reached, and the opening thus made be carefully enlarged afterward. He had long believed, in regard to perityphlitic abscesses, that it was advisable to open them early—much earlier than was laid down in the text-books—and that as soon as it was reasonably certain that pus was present an incision should be made, as the danger of delay after that time was great. He had had some success in treating glandular abscesses of tubercular character by aspirating the contents, and then injecting a small quantity (about a drachm) of a solution of iodoform in ether. An objection to this method was the great pain which the distension of the cavity caused. He had also employed the solution of iodoform in glycerin.

Dr. J. E. WEEKS said that the researches of Ogston, Rosenbach, Paset, Cheyne, and others had established, beyond a doubt, the fact that pyogenic germs were found in the pus of all acute

abscesses, and the results of the experiments of many investigators proved that inoculation of pure cultivations of these germs into the tissue under favorable circumstances produced suppurative processes. Ogston had examined sixty-nine cases of acute abscess, in all of which pyogenic germs were found. In regard to cold abscesses, the researches of Rosenbach, Cheyne, and Garré, coupled with the admirable clinical observations of Volkmann and König, made it very certain that nearly all, if not all, abscesses of this class were due to the presence of the tubercle bacillus. Rosenbach had examined the pus from two cases of abscess accompanying the development of echinococcus cysts without finding any micro-organisms; however, other observers had found pyogenic germs in like abscesses.

It was also known that echinococcus cysts might develop, perish, and become sealed up in the tissues without producing pus. The production of pus accompanying the development of actinomycosis in the tissues was probably due to the entrance of pyogenic germs along the track of the development of the growth, since this development began from the surface, usually of the gums. Israel had stated that the development of actinomycosis might take place in the tissues without the development of pus. The experiments of Councilman, Kocher, Klemmerer, Knapp, and others made it certain that mechanical irritation alone would not produce suppuration. Numerous clinical observations of the long retention of bullets, pieces of steel, wood, etc., in the tissues without the production of pus bore out this statement.

Could pus be produced by chemical irritation alone? The experiments of Klemmerer, Councilman, and Knapp tended to prove that it could not. Rosenberg and Grawitz had apparently proved that it could. By injections of metallic mercury in quite large quantities into the subcutaneous tissue, Riedel, Rosenbach, and Orthmann had produced abscesses, from the pus of which no growth of germs of any kind could be produced. Grawitz had produced abscesses by the injection of aqua ammoniæ and turpentine-oil into the subcutaneous tissue of dogs; also by the injection of liquids in which certain forms of bacteria had developed, after these liquids had been sterilized at a low temperature, employing the discontinuous method, and by the injection of a 10-per-cent. solution of cadaverine in water. Cadaverine was one of the non-poisonous ptomaines isolated by Brieger. Grawitz was of the opinion that pus was produced by the action of ptomaines, and not by the direct action of the pyogenic germs on the tissues. All abscess formation met with chemically was undoubtedly due to the direct or indirect action of pyogenic germs.

The speaker could not see why Dr. Hough used chlorine-water to cleanse the surface at the seat of operation, since there was a much more reliable antiseptic in the bichloride solution (1 to 2,000). Chlorine-water was a very good antiseptic when freshly made, destroying the vitality of pyogenic germs in exposures of about one minute and one third, but, as shown by recent investigations made by the speaker, the results of which had been embodied in a paper read before the section in Ophthalmology and Otology of the New York Academy of Medicine, October 17, 1887, chlorine-water was very unstable. If corked in the ordinary manner and left at the temperature of the room for twenty-four hours, it required an exposure of four to five minutes to destroy the vitality of germs. If loosely corked for twenty-four hours, exposures of one to two hours were required to destroy vitality. The bichloride of mercury in a solution of 1 to 2,000 was just as quick in the effect produced as the newly prepared chlorine-water, and changed but little on standing; the addition of a little sodium chloride prevented change. A solution of 1 to 20,000 of the bichloride was effective in exposures of fifteen to twenty minutes. Carbolic acid (1 to 40) required

an exposure of one minute to destroy the vitality of pyogenetic germs; it acted very slowly on the spores of the spore-forming bacilli. Nitrate of silver (1 to 100) and salicylic acid (1 to 700) were very active germicidal agents. Hydrogen dioxide possessed about the same germicidal effect as chlorine-water, but was even more unstable. If pyogenetic germs were mixed with iodoform or iodol powder and allowed to remain twelve hours, their vitality *was not* destroyed. The only effect that these substances had was to retard growth. Boric acid was not germicidal, nor would it retard growth if the germs were placed in a nutrient food medium after being exposed to its action. Calomel was germicidal in exposures of three minutes. For disinfecting the seat of operation he thought that mechanical cleansing by the use of soap and previously boiled water, to remove coarse dirt and oily substances, followed by the thorough use of a solution of the bichloride of mercury (1 to 2,000), was the most reliable method that we now had.

The speaker presented many cultivations of germs obtained after exposures of varying lengths to the action of antiseptics, principally iodoform.

Dr. CHARLES F. STOKES said that there were certain suppurative processes which he should always endeavor to abort and cause the absorption of the inflammatory products, or treat by a method of which Dr. Hough had not spoken. He had treated a number of cases of suppuration, the result of tuberculous glandular enlargement, when there had been every known sign of the presence of pus, and had succeeded in causing the absorption of the products of inflammation without break in the skin (case referred to Dr. Bull and now under treatment). The plan of treatment consisted in the internal administration of chloride of calcium, gr. v to x, three or four times daily, using compound syrup of the hypophosphites as a menstruum. Locally, he used inunction with a 5-to-10-per-cent. solution of oleate of mercury (diluted with vaseline or lanoline), as well as gentle elastic pressure by means of cotton batting and an evenly applied bandage. He thoroughly appreciated the good effects of operative treatment upon the general health and condition of the patient when extensive suppuration and gland involvement existed.

In the treatment of circumglandular suppuration accompanying syphilis, so often seen in the groin, he had employed a method of operating which he had seen practiced for some time by Dr. C. H. Wilkin, of the New York Hospital, and which consisted in the aspiration, frequent irrigation, and draining of the abscess cavity, resulting many times in a cure, a small punctate cicatrix marking the point of entrance of the instrument. The fluid for irrigation might be the sublimate solution (1 to 1,000), alcohol, or iodine. A few strands of horsehair would drain and keep open the aperture. An antiseptic gauze dressing should be applied. A moderate amount of pressure was a useful adjunct. The importance of avoiding scarring in the genital region was beyond dispute. He had employed a method of treatment similar to Dr. Hough's in a few cases. In one case of suppurating inguinal glands (non-venereal) primary union was obtained. There resulted a concavity (where the glands had been) of some depth at the time of the patient's dismissal from the hospital. This disfigurement and disability which his method of operating caused would make the speaker hesitate before employing it in some localities. There would seem theoretically to result a considerable loss of substance, first, on account of the inflammatory process; secondly, on account of the curetting.

Dr. J. J. GARMAN coincided in the treatment as applied to cold abscesses, if in certain situations, but he objected to the use of the term "render aseptic," as he contended that a cold abscess *was* aseptic. In regard to the scraping of acute abscesses, he said that it was not necessary, as the walls of such would adhere if the cavity was drained antiseptically in as short

a time as in Dr. Hough's reported cases. Concerning the treatment of collections of pus, as in cases of Pott's disease, he maintained that the first treatment should be directed to the source; hence he advocated an opening in the loin and the subsequent treatment, if necessary, of the abscesses in the thigh, etc.

Dr. HUBBARD stated that while he agreed with Dr. Hough in the main, yet in some points he differed with him. He thought the idea of converting an abscess into an aseptic wound was correct, but did not think it was always necessary to do the quite formidable operation advised by Dr. Hough. He had seen a number of abscesses of comparatively small size heal completely in three or four days by evacuating the contents and thoroughly washing out the cavity with an antiseptic solution. This method of treatment he had described and illustrated by cases in a paper read before the society last year, and he still had so much confidence in the method that he felt almost sure of curing an acute abscess in four or five days. An additional advantage was the formation of little or no scar.

In chronic abscess the cure depended very much upon the cause. If the cause was carious bone, as in Pott's or joint disease, it was impossible to cure the abscess unless the diseased bone was removed, which in many cases was not possible. In his experience, chronic abscesses in connection with joint disease did better if left alone until they opened spontaneously, unless they caused trouble from pressure or burrowing, or became acute in character. He had seen many large abscesses of this character disappear with rest and support to the joint, and he had never seen the slightest constitutional trouble result from the formation of a chronic abscess until after it had been opened. Moreover, it was almost impossible to apply and keep in order a complicated antiseptic dressing, and still allow the patient to go about with an apparatus.

Dr. R. H. SAYRE agreed in the main with Dr. Hough, but in large abscesses, and especially those connected with joint diseases, the condition of the patient was often so precarious as to prevent the long operation necessary to insure that thoroughness in the removal of the septic matter which was so essential if the wound was to be sewed up, and in such cases he would simply drain the abscess from the most dependent point, and irrigate with antiseptic solutions as often as necessary until the abscess healed, or the patient's condition justified a thorough cleansing of the cavity. In certain cases also the abscess extended so deep between bones that it was impossible to approximate the walls of the abscess cavity, and in such cases, when the patient was feeble, he would advise packing the wound and delaying closing it until the cavity had so filled up with healthy foundations that its walls could be brought into apposition.

In closing the discussion, Dr. Hough said that Dr. Weir had objected to laying bare the great vessels of the neck and scraping them with a sharp spoon. Now, in cases where pus was burrowing along these vessels, it was known that there was some danger of perforation. He would prefer laying them bare and carefully scraping their sheath, with the certainty of speedy healing, to taking any chances of spontaneous perforation. If the vascular wall was so far eroded that the necessary scraping gave rise to perforation and hemorrhage, it was certainly better for this to take place under the surgeon's eye, when everything was ready to avert the impending danger, than perhaps late at night, with the surgeon miles away.

He had been surprised at the experimental demonstration by Dr. Weeks of the intility of zinc chloride as an antiseptic, and, to account for its good effects in the cases of cellulitis, was obliged to suppose that the coagulum of albuminate of zinc mechanically prevented further migration of microbes into the tissues—i. e., that this coagulum, extending into the surround-

ing tissues for a distance of about a quarter of an inch, held within itself any organisms present within that area, and carried them away with itself when it was thrown off. The only real objection that he could see to his mode of procedure was in cases where it was of very great importance to leave no scar, for, though usually the scar was small and not noticeable after a few months, this was not always the case. Some such method as that described by Dr. Hubbard might then be preferable.

Wiring of the Patella.—Dr. GARMANY related the history of the following case:

J. C., aged forty, was admitted into the Ninety-ninth Street Hospital, June 22, 1887. He had sustained a compound fracture of the right patella from a fall off a ladder a distance of about thirteen feet. The wound, which was situated internally and below the lower border of the patella, was dressed antiseptically. The operation of wiring was performed the same afternoon. The tissues in the exposed joint were contused, and were trimmed by means of scissors. The fracture was nearly transverse, the fragments were widely separated, and the lower cartilaginous surface was softened. A single large wire held the pieces in apposition. The wound healed under two antiseptic dressings in two weeks without constitutional disturbance. A posterior splint was retained for two weeks longer, when the patient was discharged the fifth week with considerable motion in the joint. He returned in three weeks with improved motion. The present condition showed that the motions of the joint scarcely differed from those of the unaffected side.

Thoracic Aneurysm.—Dr. WILLIAM T. JENKINS presented two specimens with the following histories:

The specimens had been removed from the bodies of two persons who had died suddenly within the last forty-eight hours. They were interesting by contrast; one was so large that it had produced changes in the surrounding tissues by pressure and absorption during its growth, the other so small that one almost wondered why it should have ruptured and produced death.

The first specimen shown was that of a large aneurysm from the body of a woman of uncertain age, though reputed to be thirty-three years old, married, a laundress. She had carried a large basket of clothes to the roof, and while hanging them up suddenly sank down and expired within a few minutes. The only history that could be obtained was from a woman who assisted her in the laundry, who stated that several times the deceased, while working, had said to her, "Place your hand here," indicating the right chest-wall just above the right mamma, where she felt what she described as a "throbbing tumor," which deceased said was the result of turning a heavy wheel with a crank in some former employment. No further history was obtainable, but the manner of death and the character of the tumor as described made the speaker suspect aneurysm. The autopsy revealed cylindrical dilatation of the ascending aorta, a large sacular aneurysm arising from the junction of the ascending and transverse portions. The sac was four inches in diameter; a portion of the anterior wall, which was missing, had been attached to the second and third right costal cartilages and the sternum; the portion of wall remaining had been attached to the eroded second and third ribs. There was a rent in the posterior wall about an inch in length, through which the hæmorrhage took place into the right pleural cavity, which was filled with clotted and fluid blood, causing compression of the lung. The right lung remained attached. This had purposely been left to show the relations to the aneurysm and rupture. The speaker made it a rule to remove the lungs with aneurysms which had ruptured into a pleural cavity, and especially those which had ruptured into the left pleural cavity, for he had found in three cases that the sac was adherent to the left lung, and had ruptured into the lung as well as the pleural

cavity, in one case having dissected up the visceral pleura for some distance around. By pursuing the ordinary method—viz., breaking up adhesions and removing the lung—the relations were destroyed, and it was thereby made very difficult to explain the condition found. There had, of course, been hæmoptysis in these cases, as well as hæmorrhage into the pleural cavity. In reading the pathological reports of thoracic aneurysm in the "Medical Times and Gazette," of London, he had found quite a number of cases where there was hæmorrhage from the mouth, with the comment that the cause of the hæmorrhage was not made clear. He thought such comment would be unnecessary if the method he suggested was carried out—namely, removing the lung, the heart, and the aorta together. This suggestion might have been made by some one else, but he had not seen it.

The second specimen was that of an aneurysm of the first part of the arch of the aorta, or the ascending portion, just above the aortic valves. It was from the body of a man, aged forty-one years, white, native of the United States, single; occupation, fireman. He was said to have indulged in all kinds of excesses, and was prematurely aged; he had never complained of any symptoms pointing to aneurysmal or heart trouble, so far as the reporter had been able to learn. To visit friends he had gone out twice, which had rendered the ascent of one flight of stairs necessary, but he did not suffer any apparent inconvenience from it, and was writing a note, when he exclaimed, "I am sick," sank back on the sofa, gasped several times, and expired. His friends, thinking he had fainted, summoned a physician, who responded immediately and pronounced him dead. From the suddenness of the death and his appearance, the speaker had suggested aneurysm. A section of the sternum was removed, with the second, third, and fourth costal cartilages, making a quadrilateral opening in the chest and exposing the pericardium, which was found to be distended with fluid and clotted blood. Through the opening in the chest-wall the heart and a portion of the aorta (the arch) were removed; the small sacular aneurysm shown was found just above the aortic valves. The sac was about an inch in diameter, and in it was a pin-hole rupture.

The speaker simply desired to direct attention, in conclusion, to the difference in size, which was so marked, and to the fact that, although he was not able to get the history in the case of No. 1, the subjective symptoms from pressure during life must have existed, as well as the objective, from the superficial position of the sac and the thinning of the chest-wall, and to the difficulty of diagnosis in the latter case on account of the small size of the aneurysm and the probable absence of inconvenience or symptoms during life. These cases represented a large number of sudden deaths which had come under his observation as coroner's physician in which autopsies had been obtained. A physician, when summoned to a case of sudden death, and without any clinical or other history, as a placebo to friends gave the diagnosis apoplexy or heart disease.

In conclusion, he desired to say that he believed, from experience, that the greater number of those cases of actual sudden death were from aneurysm of the arch of the aorta, and not from either apoplexy or heart disease. Apoplexy, as a rule, did not cause death without an appreciable length of time except in extremely rare cases, and heart disease would most often present premonitory symptoms.

Asiatic Cholera.—Dr. R. J. CARLISLE said that on a recent visit to Swinburne Island Hospital he had seen the following cases of Asiatic cholera: One in an adult in the stage of invasion, or prealgid stage; three in infants in the algid stage; one in a boy and five in adults in the stage of reaction—in all, ten cases.

He had made the following short notes:

Stage of Invasion.—A man, sick for about ten hours, had had three movements during the previous night and two during the morning. He reported himself as not at all sick. The absence of symptoms was all there was to note in this case.

Stage of Collapse.—The patients were infants, sick for about ten hours. They were lying in an apathetic state, with hollow eyes, pinched nose, dry and parched skin, and face of a leaden hue—in short, the Hippocratic countenance—eyes all but closed, sordes upon the teeth and upon the nose, emaciation extreme, extremities markedly cyanosed—all the symptoms, in fact, of death itself. One had to look intently to see if the patient was really alive. Respirations very shallow and not frequent; so far as this symptom went, the patient might be thought to be in a peaceful sleep. Expired air icy cold. Pulse very small and very weak and surprisingly slow, hardly more than 60, and this in a child of eighteen months. Temperature, axillary, 94° ; rectal, $95 + ^{\circ}$ F. The condition of the second child was not so desperate. It could be aroused. It was given a little milk, which was immediately ejected by projectile vomiting. The symptoms in this stage to be particularly noted were the very slow, gaseous pulse, the low temperature of the expired air, and the appearance of the countenance.

Stage of Reaction.—The patients had been sick about thirty-four hours. The reporter had been astonished at their good condition, considering that on the previous day they had been as bad as any he had seen to-day. The boy, while running across the room the day previous, had suddenly fallen down, and passed his dejecta on the floor. He was soon in collapse, but now was practically well. Two patients were passing into a typhoid state—one with suffused conjunctivæ and dusky face, a good deal like the facies of typhus fever; the other, slightly delirious; both with a temperature a little elevated above normal, and the pulse somewhat increased. The patients in this state of reaction took notice of everything transpiring about them, and when told to protrude the tongue did so without difficulty. It was slightly moist, and covered with a whitish coat. The most distressing subjective symptom was an intense thirst. The patients complained a little of abdominal pain. As regards the dejections, the reporter would have had a more correct idea of their appearance had he heard them compared to oyster- or clam-soup, rather than to rice-water.

Iodoform Poisoning.—Dr. SAYRE reported a case of iodoform poisoning following packing of a large abscess cavity with iodoform gauze, no loose iodoform being used. On the third day the patient's temperature rose, she had nausea, great depression attesting iodoform, and her kidneys, which had not been in very good condition before, in consequence of long-continued suppuration, began to fail. Ether had been used as an anæsthetic, and this perhaps might have caused the congestion of the kidneys. The change of iodoform gauze to sublimate gauze in the wound-packing was followed by disappearance of all symptoms except the edema, which still persisted. In spite of treatment, the patient was now passing only from eighteen to thirty ounces of urine daily, of a sp. gr. 1.006, loaded with albumin, but with very few casts. He wished to call attention to the danger of ether as an anæsthetic where there was any kidney complication, and also to the fact that iodoform intoxication could occur from the packing of a wound with iodoform gauze when no loose iodoform had been used.

The PRESIDENT presented some specimens of the *Cholera Spirillum* and called attention to its diagnostic value in doubtful cases of Asiatic cholera. (See "N. Y. Med. Jour.," November 12, 1887.)

Dr. SAYRE asked the president if there was not danger, in the careless handling of cultivation tubes, that the cholera germs

might be scattered broadcast and give rise to a serious epidemic.

The PRESIDENT said that this possibility had been considered so probable and so serious by the German government that a law had been passed preventing any but specially authorized persons from making cholera cultivations.

Book Notices.

The Principles of Theoretical Chemistry, with Special Reference to the Constitution of Chemical Compounds. By IRA REMSEN, Professor of Chemistry in the Johns Hopkins University. Third edition, enlarged and thoroughly revised. Philadelphia: Lea Brothers & Co., 1887. Pp. xi-13 to 318. [Price, \$2.]

It is a healthful sign when we see a demand for a third edition of such a book as this. It shows a widening study of the more scientific part of chemistry, as well as an appreciation of the most fascinating metaphysics of molecular change and constitution.

This edition is larger than the last by about seventy-five pages, and much of it has been rewritten, thus bringing it fully abreast of the latest investigations and chemical abstractions.

In our busy age, when there is so much reading required to keep the student well informed, it is fortunate that a man so well fitted for the task as Dr. Remsen is willing to lay down his own work and condense the thoughts and theories of others for our use.

All the authors to which he refers us are very voluminous, and in the case of M. Patterson Muir so full of detail as to be wearisome.

Even to a person not specially interested in chemistry or chemical physics this little book would be interesting as showing the gradual and sure evolution of a science.

The constantly increasing number of combinations discovered makes a classification necessary; and classification calls for reasons. The offering of reasons makes fresh classification necessary, and directs observation into new paths.

We commence with the simple law of definite proportion, where Dalton's investigations led to that of multiple proportions, with his atomic theory, which is now the oldest theory of our modern chemistry, all before having been found inadequate.

Full reference is made to the work of Gay-Lussac, Avogadro, Dulong, and Petit, with the natural grouping and arrangement of the elements by Mendelejeff and L. Meyer. The chapter on valence is full and clearly written. The remainder of the book is given up to the consideration of the constitution of molecules, or rather the structure of chemical compounds. This method of considering chemical compounds is the most fascinating part of the study of chemistry, and one can not fail to be interested in the ingenuity displayed. One is also surprised to observe how these theories of structure have led to fresh discoveries.

It is strange that, so far as we know, no attempts have been made by medical men to use these theories of structure to account for the action of certain remedies, and to reason as to potency by replacing members of certain classes by those of higher or lower molecular weight or modifications of radicals, forming a part of the remedy.

The medical reader will recognize under scientific names many bodies known to him only in pharmaceutical jargon.

BOOKS AND PAMPHLETS RECEIVED.

The Practice of Medicine and Surgery, applied to the Diseases and Accidents Incident to Women. By W. H. Byford, A. M., M. D., Professor of Gynecology in Rush Medical College, Chicago, etc., and Henry T. Byford, M. D., Surgeon to the Woman's Hospital of Chicago, etc. Fourth Edition. Revised, rewritten, and very much enlarged. With Three Hundred and Six Illustrations. Philadelphia: P. Blakiston, Son, & Co., 1888. Pp. xxiii-17 to 820. [Price, \$5.]

Annual Report of the Supervising Surgeon-General of the Marine-Hospital Service of the United States for the Fiscal Year 1887.

The Rectum and Anus: their Diseases and Treatment. By Charles B. Ball, M. Ch. Univ. Dub., F. R. C. S. I., Surgeon to Sir Patrick Dun's Hospital, etc. With Fifty-four Illustrations and Four Colored Plates. Philadelphia: Lea Brothers & Co., 1887. Pp. viii-410. [Price, \$2.25.]

Health Lessons. A Primary Book. By Jerome Walker, M. D., Lecturer on Hygiene at the Long Island College Hospital, and on Physiology and Hygiene at the Brooklyn Central Grammar-School, etc. New York: D. Appleton & Co., 1887. Pp. 4-7 to 194.

Los Antojos en 1623. Por el Dr. A. de la Peña, Medico Oculista, Director de un dispensario oftalmológico, etc. Madrid: Tipografía del hospicio.

A Case of Gastrostomy for Cancer of the Oesophagus. By J. Collins Warren, M. D., Associate Professor of Surgery, Harvard University, etc. [Reprinted from the "Medical Record."]

A Contribution to the Sectional Anatomy of Advanced Extra-uterine Gestation. By D. Berry Hart, M. D., F. R. C. P. E., etc., and J. T. Carter, F. R. C. S. E., F. F. P. S. G., etc. (Read before the Edinburgh Obstetrical Society, July 13, 1887.) [Reprinted from the "Edinburgh Medical Journal."]

Sixth Annual Report of the Hospital for Women and Children, Newark, N. J., together with the Certificate of Incorporation and By-laws of the Board of Managers, November, 1887.

Reports on the Progress of Medicine.

SURGERY.

By MATTHIAS L. FOSTER, M. D.

Osteoplastic Resection of the Tarsus.—Link ("Ctbl. f. Chir.," No. 38) describes the following operation as applicable in certain cases of disease of the anterior tarsal bones where the posterior bones are quite or nearly free from disease, and the metatarsus also is not involved. In many points it resembles the operation lately described by Bardenheuer. Two parallel incisions are made across the dorsum of the foot, the first corresponding to the incision for Chopart's amputation, the second over the bases of the metatarsal bones. The ends of these are then connected by longitudinal incisions along the inner and outer borders of the foot. The first incision is then deepened, and the head of the astragalus sawn through in its greatest diameter, in a direction backward and downward. If this bone is involved beyond this section, the diseased portion must be scraped away. The ligaments between the cuboid and os calcis are then cut, and the tarsal bones dissected free from the soft parts as far forward as the bases of the metatarsal bones. The metatarsal bones are then sawn through near their bases in a direction forward and downward, and the tarsal bones so separated are removed. The diseased portions of the soft parts must be carefully removed with scissors and the sharp spoon. The sawn surfaces of bone are then drawn into apposition, if possible, and secured, and the soft parts are coapted. A patient operated on in this manner is reported by the author as cured three months and a half after operation. He maintains that the retraction of the soft parts over the heel obviates the formation of a transverse ridge across the sole of the foot.

Cysts of the Female Urethra.—De Bary ("Arch. f. path. Anat. u. Physiol. u. f. klin. Med.," Bd. cvi, p. 65; "Ctbl. f. Chir.," No. 29) de-

scribes two cysts of the female urethra examined by him. One was the occasion of an operation on a child two years old; the other was found during an autopsy on a woman twenty-three years of age. In both cases the swelling was near the external orifice of the urethra on its posterior wall. In the first case the tumor hung from the vagina; in the second it was situated in the tissue between the urethra and vagina, causing retention of urine with dilatation of the bladder, the ureters, and the pelves of the kidneys. In the child the cyst measured three cm. in diameter; in the other case it was as large as a hen's egg. The contents in the one case were purulent, in the other clear and tenacious. In each the epithelial lining was similar to that of the urethra. De Bary considers that both of them probably originated as retention cysts of the lacunæ of the mucous membrane of the urethra.

Extraperitoneal Exploratory Operations.—Bardenheuer ("Deutsche med. Wochenschrift"; "Ctbl. f. Chir.," No. 34) recommends extraperitoneal incisions to be made for exploratory purposes, instead of intraperitoneal, as is now to a considerable extent customary. He maintains that through these incisions the abdominal organs can be plainly felt without opening the peritoneal cavity. These incisions he makes in one of three places—in the loins, over the symphysis, or along the lower border of the thorax. In the loin the incision may extend from the eleventh rib to the middle of the crest of the ilium, or it may be parallel to the last rib, extending beyond the vertebral column, or it may be along the crest of the ilium. Over the symphysis the incision is made horizontally, and may extend right or left as needed. Along the lower border of the thorax one can dissect as far inward as the tendinous portion of the diaphragm.

Chloroform and Oxygen as an Anæsthetic.—Kreutzmann ("Ctbl. f. Chir.," No. 35) reports the use of a mixture of chloroform and oxygen for the purpose of anesthesia. He paints its advantages in glowing colors, stating that the needful amount of chloroform is small, that the patients quickly pass under its influence, with a very slight, if any, period of excitement, that any required degree of narcosis can be obtained, and that the patients awake from its influence with no nausea, stupefaction, or other unpleasant symptom. In its action it bears many points of resemblance to the mixture of nitrous-oxide gas and chloroform. It has not yet been tried sufficiently to determine its safety as compared with other methods of administering chloroform, but Kreutzmann observed that in deep anesthesia the frequency of the pulse was lessened.

Hydrocele.—McArdle ("Dublin Jour. of Med. Sci.," Sept., 1887), after an analysis of reported cases of hydrocele treated by injection, incision (Volkmann), partial resection (Julliard), and complete resection of the parietal tunica vaginalis (Bergmann), shows that the length of time required for a cure by any method differs only a little from that required by any other. The dangers attending injection appear to be fully as great as those of other methods. Recurrence happened in one case out of eight treated by injection, in one out of forty-seven treated by incision, and not at all after excision. Finally, the author considers injection the most generally useful method, but that when this has failed the hydrocele should be laid open. Then, if there exists periorchitis, with a great thickening of the sac, complete resection of the parietal portion of the tunica vaginalis is best. If the sac is thick and freely movable, and there is no periorchitis, partial resection may suffice. If the membrane is very thin, partial resection may result in temporary relief only, and had better be avoided.

Laparo-colotomy.—Ball ("Dublin Jour. of Med. Sci.," Aug., 1887) urges the adoption of abdominal instead of lumbar colotomy as affording the following advantages: A thorough exploration of the peritoneal cavity is permitted, the large intestine is easily and certainly found, the opening is certain to be made above the seat of obstruction, a shorter distance of intestine intervenes, as a rule, between the opening and the seat of disease, the lower lumen can be more readily closed when this is thought best, a more radical operation is allowed when practicable, the skin and mucous membrane can be more closely coapted, and the position of the wound is a more convenient one for the patient. The sole disadvantage is the wounding of the peritonæum. Extensive meteorism he considers the only contra-indication, as it furnishes a serious complication to the manipulative details of laparo-colotomy by causing prolapse of the small intestine.

Urethral Calculus.—Mr. W. H. Brown ("Lancet," Sept. 24, 1887) reports the removal of an oval calculus, two inches and a quarter long, two inches and a half in circumference at the widest part, weighing 265 grains, from the penile portion of the urethra of a man thirty-six years old. The patient had had pain and difficulty in micturition for ten years, and for several years had noticed a swelling extending backward from the glans. Contrary to what might have been expected, it appeared to have afforded no hindrance to sexual intercourse, and until that time had not caused sufficient pain to induce the patient to seek relief.

Thyroidectomy.—A case of thyroidectomy, performed for hypertrophic goitre, in a girl fourteen years old, in 1884, is reported in the "Lancet" for Sept. 24, 1887. Three years after the operation the patient was quite well, and presented no symptoms of myxœdema.

Epithelioma of the Penis.—Dr. Boone recommends ("Lancet," Oct. 1, 1887), as a modification of Pearce Gould's method of amputation of the penis, a division of the operation into two, forming the new urethra prior to the removal of the penis. When the patient is feeble, it is a distinct gain to have no danger of trouble about the urethra at the time of the principal operation.

Detection of Renal Calculus.—Lloyd ("Practitioner," Sept., 1887) suggests the following method of exploration for renal calculi as more reliable and quite as easy as needling or palpation: The kidney being exposed by a lumbar incision, a puncture is made at its lower end into the lowest of the calices with a tenotome. Through this opening is passed a child's bladder-sound, with which the entire pelvis, tubes, and calices may be investigated.

Nephrorrhaphy.—The same author (*ibid.*), in securing wandering kidneys in position, excises a portion of the capsule of the kidney in order to obtain more abundant and stronger adhesions by the involvement of the kidney itself in the resulting cicatrix than is obtained through the loose and more lowly organized fibrous tissue surrounding the kidney.

Intussusception.—Mr. Bell ("Edin. Med. Jour.," Sept., 1887) records a case of intussusception in which he states that a natural cure took place on the twenty-fourth day, a piece of dead ileum nine inches long being passed from the rectum. Unfortunately, the patient died the next day with symptoms of cerebral embolism.

Old Fractures of the Patella.—Von Bergmann ("Deutsche med. Wochenschrift"; "Centrbl. f. Chir.," No. 34) recommends chiseling off the tuberosity of the tibia in old cases of fractured patella in which the fragments can not be approximated sufficiently to suture. The fragments can then be secured in apposition, while the tuberosity is held in position by the surrounding soft parts.

Intestinal Suture.—Halsted ("Am. Jour. of the Med. Sci.," Oct., 1887) has demonstrated by experiments on dogs that in suturing the intestine it is necessary to include in the suture a portion of the submucosa, which is the toughest of the various layers. If only the serous and muscular layers are included, the sutures tear out easily and can not be trusted to. Before resection of a portion of intestine he recommends that five or six presection sutures should be inserted to counteract the eversion of the mucous membrane, which otherwise is troublesome. The plain quilt suture, which he describes, he considers preferable to Lembert's, for the reasons that one row is sufficient, they tear out less easily, constrict the tissues less, and secure more accurate apposition of the peritoneal surfaces. For irrigating purposes during the operation he considers that solutions of corrosive sublimate stronger than 1 to 20,000 should not be employed.

Contusion of the Abdomen and Rupture of the Intestine.—Curtis (*ibid.*) makes a valuable contribution to abdominal surgery under this heading. It consists mainly of an experimental study on dogs and the cadaver, concluding with an analysis of reported cases. His conclusions are that rupture of the intestine is produced by the intestine being crushed between the contusing body and the bony parts, and that partial distension, especially of a large portion of the intestine, diminishes the danger of rupture. The most common causes of death after contusion of the abdomen are hæmorrhage and shock. Some patients with otherwise fatal hæmorrhage, threatened gangrene, and rupture of the intestine can be saved by immediate operation. Still, the treatment of contusion of the abdomen should be expectant until symptoms

of internal injury have appeared, or until the full extent of time within which they may be expected has passed. The appearance of symptoms of hæmorrhage or grave visceral injury indicates immediate laparotomy, unless the patient is in collapse. In rupture of the intestine it is better to make an artificial anus, which may be closed subsequently, than to subject the patient to the additional shock of a resection.

Miscellany.

The Philadelphia "Press" and the "Medical Register."—Under date of December 21st, Mr. W. B. Merrill, the managing editor of the "Press," wrote to Dr. John V. Shoemaker, the editor of the "Medical Register," as follows:

"I regret to see that the 'Medical Register,' which did not make public a correction which I sent it nearly three months ago, in regard to Dr. I. Minis Hays, has in its last issue repeated its original misstatement and added another. It is true that the 'Press' declined the proffered services of a well-known physician of this city to report the recent International Medical Congress, but it is untrue that it wrote to him that arrangements had been made with Dr. I. Minis Hays. The statements of the 'Register,' both in the first instance and now, are, as far as Dr. Hays's responsibility for the 'Press' dispatches is concerned, wrong in every particular. I hope that the earnestness and plainness with which this fact is stated does not seem discourteous. I need not add that the 'Press' has no interest or concern in the matter beyond the desire to relieve Dr. Hays of a responsibility which does not in the remotest way belong to him."

The New York Neurological Society.—At the next meeting, January 3, 1888, Dr. James J. Putnam, of Boston, the president of the American Neurological Association, will read a paper on "Epilepsy in the Adult."

Government Health Reports.—By direction of the Secretary of the Treasury, Dr. John B. Hamilton, Surgeon-General of the Marine-Hospital Service, has issued the following abstract of sanitary reports received during the week ending December 23d:

(Published in accordance with Section 4, act approved April 29, 1878.)

England and Wales.—The deaths registered in twenty-eight great towns of England and Wales during the week ending December 3d corresponded to an annual rate of 22.5 in a thousand of the aggregate population, which is estimated at 9,244,099. The lowest rate was recorded in Brighton, viz., 15.5, and the highest in Newcastle-on-Tyne, viz., 35.6 in a thousand. Small-pox caused 25 deaths in Sheffield and 1 in Bristol.

London.—One thousand seven hundred and four deaths were registered during the week ending December 3d, including 26 from measles, 53 from scarlet fever, 28 from diphtheria, 67 from whooping-cough, 1 from typhus, 23 from enteric fever, and 14 from diarrhoea and dysentery. There were 455 deaths from diseases of the respiratory organs. Different forms of violence caused 64 deaths, and 3 suicides were registered. The deaths from all causes corresponded to an annual rate of 21.1 in a thousand. In greater London 2,151 deaths were registered, corresponding to an annual rate of 20.7 in a thousand of the population. In the "outer ring" 15 deaths from diphtheria, 13 from measles, 9 from "fever," and 18 from whooping-cough were registered.

Ireland.—The average annual death rate represented by the deaths registered during the week ending December 3d in the sixteen principal town districts of Ireland was 22.5 in a thousand of the population. The lowest rate was recorded in Armagh, viz., 5.2, and the highest in Newry, viz., 42.1 in a thousand.

Dublin.—Two hundred and thirty-seven deaths were registered during the week ending December 3d, including 8 from measles, 4 from whooping-cough, 13 from scarlet fever, 1 from diphtheria, 2 from enteric fever, and 2 from diarrhoea. Diseases of the respiratory organs

caused 61 deaths. Three accidental deaths were registered, and in 36 instances the causes of death were uncertified. The deaths from all causes corresponded to an annual rate of 35 in a thousand.

Southend.—The deaths registered in eight principal towns during the week ending December 3d corresponded to an annual rate of 25 in a thousand of the population, which is estimated at 1,299,000. The lowest mortality was recorded in Greenock, viz., 17.1, and the highest in Paisley, viz., 37.6 in a thousand. The aggregate number of deaths registered from all causes was 624, including 12 from measles, 13 from scarlet fever, 5 from diphtheria, 28 from whooping-cough, 9 from fever, and 10 from diarrhoea.

Montevideo.—Four hundred and twenty-seven deaths were registered during the month of September, 1887, including 44 from small-pox and 6 from enteric fever.

Bordeaux.—Four hundred and seventy-one deaths were registered during the month of November, 1887, including 4 from small-pox and 11 from enteric fever.

Marseilles.—Seven hundred and twenty-eight deaths were registered during the month of November, 1887, including 2 from small-pox and 32 from enteric fever. The United States consul reports the arrival, on November 30th, of the British steamer Rohilla, on board of which a Lascar fireman had died of cholera four days before reaching Marseilles. The Rohilla was detained in the outer roadstead several hours by the health officer, but a thorough inspection made it apparent that every precaution had been taken on board, and the steamer was permitted to enter this port, complete her cargo, and clear for London.

Athens.—The United States consul reports, under date of November 26, 1887, that "the quarantine on arrivals from Malta and Sicily (except from the port of Messina) has been reduced to a quarantine of observation of five days."

Santiago de Cuba.—The sanitary inspector reports for the week ending December 10th, 3 deaths from yellow fever and 2 cases remaining under treatment at the military hospital. In the town no cases have been reported, and the harbor is free from yellow fever at present. Small-pox and scarlet fever have entirely disappeared. The inspector says he has news that the "Thomas Brooks, which sailed from there to Guantanamo, and thence to the United States, had to put into Nassau for medical assistance on account of yellow fever and small-pox on board."

MORTALITY TABLE, FOREIGN CITIES.

CITIES.	Week ending—	Estimated population.	Total deaths from all causes.	DEATHS FROM—							
				Cholera.	Yellow fever.	Small-pox.	Typhus fever.	Enteric fever.	Scarlet fever.	Diphtheria.	Other.
Pari.....	December 3.	2,260,045	949	.....	.....	8	.....	38	8	23	.....
Glasgow.....	December 3.	545,078	261	.....	.....	.....	.....	.....	2	4	.....
Warsaw.....	November 26.	439,174	221	.....	.....	13	.....	.....	6	9	.....
Calcutta.....	November 5.	433,219	243	12	.....	.....	.....	.....	.....	.....	.....
Rome.....	September 30.	373,356	205	.....	.....	14	.....	2	.....	.....	.....
Rome.....	October 22.	373,356	204	.....	.....	6	.....	9	1	2	.....
Rome.....	October 29.	373,356	194	.....	.....	7	.....	7	1	.....	.....
Rome.....	November 5.	373,356	202	.....	.....	8	.....	6	.....	4	.....
Copenhagen.....	November 29.	290,000	135	.....	.....	.....	.....	1	5	2	.....
Munch.....	November 19.	260,000	118	.....	.....	.....	.....	.....	.....	8	.....
Edinburgh.....	December 3.	258,629	109	.....	.....	.....	.....	2	2	1	.....
Palermo.....	December 4.	250,000	124	.....	.....	.....	.....	.....	1	4	.....
Bristol.....	November 19.	223,695	83	.....	.....	.....	.....	.....	1	.....	.....
Bristol.....	November 26.	223,695	102	.....	.....	1	.....	1	9	.....	.....
Bristol.....	December 3.	223,695	94	.....	.....	1	.....	2	5	.....	.....
Havana.....	December 10.	208,040	147	1	53	.....	.....	.....	.....	.....	.....
Genoa.....	December 3.	179,517	101	.....	.....	8	.....	.....	1	1	.....
Leipsic.....	December 3.	170,000	58	.....	.....	.....	.....	1	2	4	.....
Trieste.....	November 26.	150,157	97	.....	.....	12	.....	.....	2	3	.....
Havre.....	December 3.	112,071	60	.....	.....	3	.....	5	.....	.....	.....
Pernambuco.....	November 15.	111,000	57	.....	.....	1	.....	.....	.....	.....	.....
Reims.....	November 26.	97,003	35	.....	.....	.....	.....	.....	.....	.....	.....
Reims.....	December 3.	97,908	52	.....	.....	.....	.....	.....	.....	5	.....

UNITED STATES.

Tampa, Fla..—A few scattering cases, mild in character, are reported as still remaining at Tampa, and, as the quarantine has been raised, refugees are returning.

The Health of San Francisco.—According to the Health Department's "Condensed Statement of Mortality," for November, 534 deaths were reported during the month, including 2 from cholera morbus, 9 from cholera infantum, 29 from croup and diphtheria, 7 from dysentery,

5 from diarrhoea, 2 from erysipelas, 17 from typhoid fever, 1 from malarial fever, 1 from measles, 3 from pyæmia, and 4 from small-pox.

The Circular Letter Nuisance.—We have received a letter from a distinguished physician of New York in which, referring to the subject of which we spoke last week, in an article entitled "Private Ventures in Collective Investigation," he says: "But lately I had to write to such a pirate. I had no 150 hours to waste on such as him, but they turn up all the time. If your article is not salvation, it is certainly consolation, for it proves that you know our sufferings and take pity on us."

ANSWERS TO CORRESPONDENTS.

No. 115.—The assertion, often heard, that infectious diseases attack only those who stand in undue dread of them is not worth serious refutation. Still, you will sometimes find yourself in a position where it is a positive duty to convince the timid of its fallacy. The best argument that we know of for the purpose is to call attention to the fact that infants and the domestic animals are not exempt from those diseases.

No. 116.—Only two of the men you mention are still living.

No. 117.—The glycerin acts by abstracting water from the tissues.

To Contributors and Correspondents.—The attention of all who purpose favoring us with communications is respectfully called to the following:

Authors of articles intended for publication under the head of "original contributions" are respectfully informed that, in accepting such articles, we always do so with the understanding that the following conditions are to be observed: (1) when a manuscript is sent to this journal, a similar manuscript or any abstract thereof must not be or have been sent to any other periodical, unless we are specially notified of the fact at the time the article is sent to us; (2) accepted articles are subject to the customary rules of editorial revision, and will be published as promptly as our other engagements will admit of—we can not engage to publish an article in any specified issue; (3) any conditions which an author wishes complied with must be distinctly stated in a communication accompanying the manuscript, and no new conditions can be considered after the manuscript has been put into the type-setters' hands. We are often constrained to decline articles which, although they may be creditable to their authors, are not suitable for publication in this journal, either because they are too long, or are loaded with tabular matter or prolix histories of cases, or deal with subjects of little interest to the medical profession at large. We can not enter into any correspondence concerning our reasons for declining an article.

All letters, whether intended for publication or not, must contain the writer's name and address, not necessarily for publication. No attention will be paid to anonymous communications. Hereafter, correspondents asking for information that we are capable of giving, and that can properly be given in this journal, will be answered by number, a private communication being previously sent to each correspondent informing him under what number the answer to his note is to be looked for. All communications not intended for publication under the author's name are treated as strictly confidential. We can not give advice to laymen as to particular cases or recommend individual practitioners.

Secretaries of medical societies will confer a favor by keeping us informed of the dates of their societies' regular meetings. Brief notifications of matters that are expected to come up at particular meetings will be inserted when they are received in time.

Newspapers and other publications containing matter which the person sending them desires to bring to our notice should be marked. Members of the profession who send us information of matters of interest to our readers will be considered as doing them and us a favor, and, if the space at our command admits of it, we shall take pleasure in inserting the substance of such communications.

All communications intended for the editor should be addressed to him in care of the publishers.

All communications relating to the business of the journal should be addressed to the publishers.

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